Proposed Significant Changes to the *Proposal & Award Policies & Procedures Guide* (PAPPG), anticipated effective date, January 2014

Significant changes are highlighted in yellow throughout the document

PAPPG Part 1, *Grant Proposal Guide*

- **Chapter I.A, NSF Proposal Preparation and Submission**, has been revised to describe, at the beginning of the chapter, proposal preparation and submission via FastLane and Grants.gov.

- **Chapter I.G.3, Requirements Relating to Data Universal Numbering System (DUNS) Numbers and Registration in the System for Award Management (SAM)**, has been updated to include language that SAM will become the NSF system of record for organizational financial information as of October 1, 2014. The section also emphasizes that organizations are responsible for updating SAM registration information as it changes.

- **Chapter II.B, Format of the Proposal**, has been revised to add instructions that, upon entering the proposal preparation module in FastLane, the PI will be prompted to select the type of proposal being developed.

- **Chapter II.C.1.e, Proposal Certifications**, includes an addition to the Certification Regarding Conflict of Interest. The language states that if research proceeds without the imposition of conditions or restrictions when a conflict of interest exists, this must be disclosed to NSF via use of the Notifications and Requests Module in FastLane.

- **Chapter II.C.2, Sections of the Proposal**, has been augmented to include a list of required sections for a full proposal submitted via FastLane. The section also clarifies that, if the submission instructions do not require a section to be provided, the proposer should insert text or upload a document in that section of the proposal that states, "Not Applicable."

- **Chapter II.C.2.b, Project Summary**, clarifies that a Project Summary containing special characters that is submitted as a PDF file in the Supplementary Documentation section must be formatted with separate headings for the overview, statement on intellectual merit, and statement on broader impacts.

- **Chapter II.C.2.d(iii), Results from Prior NSF Support**, has been amended to make clear that in the summary of results of the completed work, the accomplishments related

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to Intellectual Merit and Broader Impact activities must be separately described under two distinct headings.

- **Chapter II.C.2.d(iv), Unfunded Collaborations**, has been revised to explain that any substantial collaboration with individuals not included in the budget should be described in the Facilities, Equipment and Other Resources section of the proposal and documented in a letter of commitment from each collaborator.

- **Chapter II.C.2.f(i)(c), Products**, has been supplemented with language stating that, if only publications are included, the heading "Publications" may be used for this section of the Biographical Sketch.

- **Chapter II.C.2.g(v), Participant Support**, has been revised to emphasize that indirect costs are not allowed on participant support costs.

- **Chapter II.C.2.g(vi)(f), Other**, has been updated to include guidance on the allowability of visa costs on an NSF proposal.

- **Chapter II.C.2.g(xi), Cost Sharing**, has been amended to state that, for purposes of budget preparation, the cumulative cost sharing amount must be entered on Line M of the first year's budget.

- **Chapter II.C.2.j, Special Information and Supplementary Documentation**, has been revised to: move language regarding letters of support to be co-located with information on letters of commitment; amend language regarding NSF compliance with federal environmental statutes, including that a proposer may be requested to submit supplemental post-proposal submission information to NSF in order that a reasonable and accurate assessment of environmental impact by NSF may be made; and update language on information to be provided regarding international activities.

- **Chapter II.D.4.b, Submission of a collaborative proposal from multiple organizations**, has been supplemented to clarify required sections of the proposal for lead organizations versus non-lead organizations.

- **Chapter II.D.5, Proposals for Equipment**, has been revised to explain what information should be included in different sections of the proposal.

- **Chapter II.D.8., Proposals for Conferences, Symposia and Workshops**, has been augmented to explain that such proposals should include a description of plans to identify resources for child care and other types of family care at the conference site to allow individuals with family care responsibilities to attend.

- **Chapter II.D.13, Projects Requiring High-Performance Computing Resources, Large Amount of Data Storage, or Advanced Visualization Resources**, has been updated to describe NSF-supported resources at University of Illinois, Urbana/Champaign, and National Center for Atmospheric Research, which are in addition to XSEDE.

- **Exhibit II-8, NSF Environmental Impacts Checklist**, has been added.

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PAPPG Part 2, *Award & Administration Guide*

- **Chapter II.B.2.d(ii), Long-Term Absence of the PI/PD or co-PI/co-PD**, has been revised to describe the steps that should occur in the event that the PI/PD or co-PI/co-PD will be temporarily working for NSF as an IPA or VSEE.

- **Chapter II.E, Annual and Final Project Reports**, has been amended to emphasize that annual and final project reports are not cumulative and should be written specifically for the most recently completed budget period, as well as add that reports should be submitted electronically in Research.gov.

- **Chapter III.C.2, Payment Policies**, has been modified to state that, when completing a payment request, awardees must certify that all disbursements have been made or will be made within 3 days of the receipt of the payment for the purposes and conditions of the awards.

- **Chapter III.C.6, Grantee EFT Update**, has been updated to make known that SAM will become the NSF system of record for organizational financial information as of October 1, 2014. Once a grant is awarded, failure to maintain current and complete financial information within SAM could prevent the awardee from receiving funds.

- **Chapter III.D.1, Final Unobligated Balance**, has been revised to state that, based on final payment amounts submitted through the Award Cash Management Service (ACM$), the final unobligated balance will be computed by NSF and deobligated from the award amount.

- **Chapter III.E, Final Disbursement Reporting**, has been modified to clarify procedures under ACM$. For any award listed on the ACM$ Payments screen, the awardee will enter the final payment amount in the Payment Amount Requested column. If final disbursements change by $1.00 or more from the amount at the award financial closeout, the awardee should submit an Adjustment to a Financially Closed Award through the ACM$ payment process. Awardees have the option of using ACM$ to designate awards for financial closeout prior to the scheduled close out date.

- **Chapter IV.A.6, Conflict of Interest Policies**, has been updated to add language regarding awardee notification to NSF of situations where research will proceed without the imposition of conditions or restrictions when a Conflict of Interest exists.

- **Chapter V.B.8.a, Participant Support Costs, General**, has been revised to add that, for colleges and universities, participant support costs may include fellowships, scholarships, and other forms of student aid; and to emphasize that indirect costs are not allowed on participant support costs.

- **Chapter V.C.3, Rental or Lease of Facilities or Special Purpose Equipment**, has been updated to add that rental costs of facilities owned by the awardee or under

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common control by related parties may be limited to the actual cost of ownership as opposed to fair market rental value

- **Chapter V.C.4, Relocation Costs**, has been updated to add guidance regarding inclusion of visa costs.

- **Chapter V.D.1(ii)(b), Provisional Rate**, has been added to define a provisional rate as a temporary rate established to permit funding and reporting of costs pending establishment of a final rate.

- **Chapter VI.A.1., Non-Discrimination Statutes**, has been amended to include that Executive Order 13166 requires government agencies to take steps to provide meaningful access to its programs and activities to members of the public who are limited in their English proficiency (LEP).

- **Chapter VI.L, Environmental Compliance**, has been added to affirm that, prior to making an award, NSF considers the anticipated environmental impacts associated with the activities described in the proposal. If, while performing the work required by the award, the awardee learns of any potential or actual unanticipated environmental impacts, the awardee shall immediately notify NSF of such impacts and cease all work anticipated to cause or causing such impacts until NSF has had a reasonable opportunity to assess the situation, comply with all relevant environmental laws, and provide further direction to the awardee.

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Chapter I: Pre-Submission Information

A. NSF Proposal Preparation and Submission

Unless specified in an NSF program solicitation, proposals submitted to NSF must be submitted electronically via use of either the NSF FastLane System or Grants.gov. Further information on each system is provided below.

- **Proposal Preparation and Submission via the NSF FastLane System.** The policy and procedural guidance contained in the *Grant Proposal Guide* relates specifically to proposals submitted via the NSF FastLane System. Fastlane may be used for proposal preparation, file update, submission and status checking, and post-award administrative activities. All FastLane functions are accessed by using a Web browser on the Internet. Detailed information about the FastLane System is available from the FastLane website at https://www.fastlane.nsf.gov.

- **Proposal Preparation and Submission via Grants.gov.** The policy and procedural guidance contained in the *Grants.gov Application Guide* relates specifically to proposals submitted via Grants.gov. Grants.gov was established as a governmental resource to electronically find grant opportunities as well as to apply for federal awards. Grants.gov is a central storehouse for information on over 1,000 grant programs from the 26 Federal grant-making agencies and provides access to approximately $500 billion in annual awards. Detailed information about Grants.gov is available from the Grants.gov website at https://grants.gov.

Contact with NSF program personnel prior to proposal preparation and submission is encouraged. Some NSF programs have program solicitations that modify the general provisions of the GPG and/or the *Grants.gov Application Guide*, and, in such cases, the guidelines provided in the solicitation must be followed. (See GPG Section C.4 below for further information on NSF program solicitations.)

B. NSF Programs and Funding Opportunities

NSF does not normally support technical assistance, pilot plant efforts, research requiring security classification, the development of products for commercial marketing, or market research for a particular project or invention. Research with disease-related goals, including work on the etiology, diagnosis or treatment of physical or mental disease, abnormality, or malfunction in human beings or animals, is normally not supported. Animal models of such conditions or the development or testing of drugs or other procedures for their treatment also are not eligible for support. However, research in bioengineering, with diagnosis- or treatment-related goals, that applies engineering principles to problems in biology and medicine while advancing engineering knowledge is eligible for support. Bioengineering research to aid persons with disabilities also is eligible. For further information about the National Science Foundation, see the *Proposal & Award Policies & Procedures Guide* Introduction Section A, *About the National Science Foundation*.

The NSF website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this website by potential proposers is strongly encouraged. In addition, "NSF Update" is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" is available on NSF's website at: https://public.govdelivery.com/accounts/USNSF/subscriber/new?topic_id=USNSF_179.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

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C. Categories of Funding Opportunities

NSF utilizes a variety of mechanisms to communicate opportunities for research and education support, as well as to generate proposals. A brief description of each category of funding opportunity follows.

1. Dear Colleague Letter

Dear Colleague letters are intended to provide general information to the community, clarify or amend an existing policy or document, or inform the NSF proposer community about upcoming opportunities or special competitions for supplements to existing awards. In addition, they are often used to draw attention to an impending change in NSF policies or programs.

2. Program Description

The term "program description" includes broad, general descriptions of programs and activities in NSF Directorates/Offices and Divisions. Program descriptions are often posted on Directorate/Division websites to encourage the submission of proposals in specific program areas of interest to NSF.

Program descriptions, like program announcements, utilize the generic eligibility and proposal preparation instructions specified in the *Grant Proposal Guide (GPG),* as well as the National Science Board (NSB) approved merit review criteria. See GPG Chapter III for additional information.

3. Program Announcement

The term "program announcement" refers to formal NSF publications that announce NSF programs. Program announcements utilize the generic eligibility and proposal preparation guidelines specified in the GPG and incorporate the NSB approved merit review criteria.

4. Program Solicitation

The term "program solicitation" refers to formal NSF publications that encourage the submission of proposals in specific program areas of interest to NSF. They generally are more focused than program announcements, and normally apply for a limited period of time. Competition among proposals is more precisely defined than with program announcements, and proposals received compete directly with each other for NSF funding. Program solicitations are issued when the funding opportunity has one or more of the following features:

- Provides supplemental proposal preparation guidance or deviates from the guidelines established in the *Grant Proposal Guide*;
- Contains additional specially crafted review criteria relevant to the program;
- Requires submission of a letter of intent or preliminary proposal;
- Deviates from (or restricts) the standard categories of proposers specified in Section E. below;
- Limits the number of proposals that may be submitted by any organization and/or researcher/educator;[1]
- Specifies additional award conditions or reporting requirements;
- Anticipates use of a cooperative agreement; or
- Permits inclusion of the payment of fees to awardees, when appropriate.

[1]Unless otherwise specified, the term “organization” refers to all categories of proposers.

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D. Types of Submissions

1. Letter of Intent

Some NSF program solicitations require or request submission of a letter of intent (LOI) in advance of submission of a full proposal. The predominant reason for its use is to help NSF program staff to gauge the size and range of the competition, enabling earlier selection and better management of reviewers and panelists. In addition, the information contained in a LOI is used to help avoid potential conflicts of interest in the review process.

A LOI normally contains the PI's and co-PI's names, a proposed title, a list of possible participating organizations (if applicable), and a synopsis that describes the work in sufficient detail to permit an appropriate selection of reviewers. A LOI is not externally evaluated or used to decide on funding. The requirement to submit a LOI will be identified in the program solicitation, and such letters are submitted electronically via the NSF FastLane System.

2. Preliminary Proposal

Some NSF program solicitations require or request submission of a preliminary proposal in advance of submission of a full proposal. The two predominant reasons for requiring submission of a preliminary proposal are to:

- reduce the proposers' unnecessary effort in proposal preparation when the chance of success is very small. This is particularly true of exploratory initiatives where the community senses that a major new direction is being identified, or competitions that will result in a small number of actual awards; and

- increase the overall quality of the full submission.

The NSF program solicitation will specify content and submission requirements when preliminary proposals are to be utilized. Preliminary proposals are prepared by the PI using the Proposal Preparation Module in FastLane. On the Cover Sheet, the PI clicks on the "Preliminary Proposal" check box. The PI completes only the sections appropriate to the preliminary proposal. The PI then forwards the proposal to his/her Sponsored Projects Office, which then submits the preliminary proposal to NSF.

One of the following two types of decisions may be received from NSF upon submission of a preliminary proposal. The program solicitation will specify the type of decision to be rendered for a particular program.

a. Invite/Not Invite Decisions

This type of mechanism is used when the NSF decision made on the preliminary proposal is final, affecting the PI's eligibility to submit a full proposal. Only submitters of favorably reviewed preliminary proposals are invited and eligible to submit full proposals. Invite/Not Invite decisions are generally used where large, complex, or limited-award competitions are contemplated, such as those used for "Centers." The PI and the organization's Sponsored Projects Office will be electronically notified of NSF's decision to either invite submission of a full proposal or decline NSF support.

b. Encourage/Discourage Decisions

This type of mechanism is used when the NSF decision made on the preliminary proposal is advisory only. This means that submitters of both favorably and unfavorably reviewed preliminary proposals are eligible to submit full proposals. Encourage/Discourage decisions are typically used when the preliminary proposal is very short, focused on the activity to be proposed, and where use of the preliminary proposal is intended to improve the overall quality of the full proposal. The PI and the organization's Sponsored Projects Office will be notified of NSF's decision to either encourage or discourage submission of a full proposal.

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3. Full Proposal

The full proposal should present the (1) objectives and scientific, engineering, or educational significance of the proposed work; (2) suitability of the methods to be employed; (3) qualifications of the investigator and the grantee organization; (4) effect of the activity on the infrastructure of science, engineering and education; and (5) amount of funding required. It should present the merits of the proposed project clearly and should be prepared with the care and thoroughness of a paper submitted for publication. The requisite proposal preparation instructions are contained in GPG Chapter II. Sufficient information should be provided to enable reviewers to evaluate the proposal in accordance with the two merit review criteria established by the National Science Board. (See GPG Chapter III for additional information on NSF processing and review of proposals.)

NSF expects strict adherence to the rules of proper scholarship and attribution. The responsibility for proper scholarship and attribution rests with the authors of a proposal; all parts of the proposal should be prepared with equal care for this concern. Authors other than the PI (or any co-PI) should be named and acknowledged. Serious failure to adhere to such standards can result in findings of research misconduct. NSF policies and rules on research misconduct[2] are discussed in the AAG Chapter VII.C, as well as 45 CFR Part 689.

The Metric Conversion Act of 1975, as amended, and Executive Order 12770 of 1991 encourage Federal agencies to use the Metric System (SI) in procurement, grants and other business-related activities. Proposers are encouraged to use the Metric System of weights and measures in proposals submitted to the Foundation. Grantees also are encouraged to use metric units in reports, publications and correspondence relating to proposals and awards.

Proprietary or Privileged Information

Patentable ideas, trade secrets, privileged or confidential commercial or financial information, disclosure of which may harm the proposer, should be included in proposals only when such information is necessary to convey an understanding of the proposed project. Such information must be clearly marked in the proposal and be appropriately labeled with a legend such as,

> "The following is (proprietary or confidential) information that (name of proposing organization) requests not be released to persons outside the Government, except for purposes of review and evaluation."

Such information also may be included as a separate statement. If this method is used, the statement must be submitted electronically as a single-copy document in the Proposal Preparation Module in the FastLane system. (See also GPG Chapter II.C.1 for further information regarding submission of single-copy documents.)[3]

The box for "Proprietary or Privileged Information" must be checked on the Cover Sheet when the proposal contains such information. While NSF will make every effort to prevent unauthorized access to such material, the Foundation is not responsible or in any way liable for the release of such material. (See also GPG Chapter III.G.)

E. Who May Submit Proposals

NSF welcomes proposals on behalf of all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to participate fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination, under any program or activity receiving financial assistance from NSF, although some programs may have special requirements that limit eligibility.

[2] Research misconduct refers to fabrication, falsification, or plagiarism in proposing or performing research funded by NSF, reviewing research proposals submitted to NSF, or in reporting research results funded by NSF. Institutions involved in international collaborations might find materials provided by the Organisation for Economic Co-operation and Development (OECD) "Research Integrity: preventing misconduct and dealing with allegations" useful. See: http://tinyurl.com/l76p3b

[3] Detailed instructions for submission of proprietary or privileged information is available on the FastLane Website at http://www.fastlane.nsf.gov/help/proprietary.htm.

Scientists, engineers and educators usually initiate proposals that are officially submitted by their employing organization. Before formal submission, the proposal may be discussed with appropriate NSF program staff. Graduate students are not encouraged to submit research proposals, but should arrange to serve as research assistants to faculty members. Some NSF divisions accept proposals for Doctoral Dissertation Research Grants when submitted by a faculty member on behalf of the graduate student.

Categories of Proposers

Except where a program solicitation establishes more restrictive eligibility criteria, individuals and organizations in the following categories may submit proposals:

1. Universities and Colleges — Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the U.S., acting on behalf of their faculty members. Such organizations also are referred to as academic institutions. Institutions located outside the U.S. fall under paragraph 6. below.

2. Non-profit, non-academic organizations — Independent museums, observatories, research laboratories, professional societies and similar organizations located in the U.S. that are directly associated with educational or research activities.

3. For-profit organizations — U.S. commercial organizations, especially small businesses with strong capabilities in scientific or engineering research or education. An unsolicited proposal from a commercial organization may be funded when the project is of special concern from a national point of view, special resources are available for the work, or the proposed project is especially meritorious. NSF is interested in supporting projects that couple industrial research resources and perspectives with those of universities; therefore, it especially welcomes proposals for cooperative projects involving both universities and the private commercial sector.

4. State and Local Governments — State educational offices or organizations and local school districts may submit proposals intended to broaden the impact, accelerate the pace, and increase the effectiveness of improvements in science, mathematics and engineering education in both K-12 and post-secondary levels.

5. Unaffiliated Individuals — Scientists, engineers or educators in the U.S. and U.S. citizens may be eligible for support, provided that the individual is not employed by, or affiliated with, an organization, and:

- the proposer has demonstrated the capability and has access to any necessary facilities to carry out the project; and
- the proposer agrees to fiscal arrangements that, in the opinion of the NSF Division of Grants & Agreements, ensure responsible management of Federal funds.

Unaffiliated individuals should contact the appropriate program before preparing a proposal for submission.

6. Foreign organizations — NSF rarely provides support to foreign organizations. NSF will consider proposals for cooperative projects involving U.S. and foreign organizations, provided support is requested only for the U.S. portion of the collaborative effort.

7. Other Federal agencies — NSF does not normally support research or education activities by scientists, engineers or educators employed by Federal agencies or Federally Funded Research and Development Centers (FFRDCs). Under unusual circumstances, other Federal agencies and FFRDCs may submit proposals directly to NSF. A proposed project is only eligible for support if it meets one or more of the following exceptions, as determined by a cognizant NSF Program Officer:

- Special Projects. Under exceptional circumstances, research or education projects at other Federal agencies or FFRDCs that can make unique contributions to the needs of researchers elsewhere or to other specific NSF objectives may receive NSF support.

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- National and International Programs. The Foundation may fund research and logistic support activities of other Government agencies or FFRDCs directed at meeting the goals of special national and international research programs for which the Foundation bears special responsibility, such as the U.S. Antarctic Research Program.

- International Travel Awards. In order to ensure appropriate representation or availability of a particular expertise at an international conference, staff researchers of other Federal agencies may receive NSF international travel awards.

Proposers who think their project may meet one of the exceptions listed above should contact a cognizant NSF Program Officer before preparing a proposal for submission. In addition, a scientist, engineer or educator who has a joint appointment with a university and a Federal agency (such as a Veterans Administration Hospital, or with a university and a FFRDC) may submit proposals through the university and may receive support if he/she is a bona fide faculty member of the university, although part of his/her salary may be provided by the Federal agency. Preliminary inquiry should be made to the appropriate program before preparing a proposal for submission.

F. When to Submit Proposals

Proposers should allow adequate time for NSF review and processing of proposals (see GPG Chapter I.H for further information). Many NSF programs accept proposals at any time. Other programs, however, establish due dates for submission of proposals. The following types of due dates are utilized by NSF:

1. **Target Dates:** dates after which proposals will still be accepted, although they may miss a particular panel or committee meeting.

2. **Deadline Dates:** dates after which proposals will be returned without review by NSF. The deadline date will be waived only in extenuating circumstances. Such a deviation may be authorized only in accordance with GPG Chapter II.A.

Special Exceptions to NSF's Deadline Date Policy

In the event of a natural or anthropogenic disaster that interferes with an organization's ability to meet a proposal submission deadline, NSF has developed the following guidelines for use by impacted organizations.

Flexibility in meeting announced deadline dates because of a natural or anthropogenic disasters may be granted with the **prior approval** of the cognizant NSF Program Officer. Proposers should contact the cognizant NSF Program Officer in the Division/Office to which they intend to submit their proposal and request authorization to submit a "late proposal." Such contact should be via e-mail (or telephone, if e-mail is unavailable). Proposers should then follow the written or verbal guidance provided by the cognizant NSF Program Officer. Generally, NSF permits extension of the deadline by 5 business days. The Foundation, however, will work with each impacted organization on a case-by-case basis to address their specific issue(s).

3. **Submission Windows:** designated periods of time during which proposals will be accepted for review by NSF. It is NSF's policy that the end date of a submission window converts to, and is subject to, the same policies as a deadline date.

These target dates, deadlines, and submission windows are published in specific program descriptions, program announcements and solicitations that can be obtained from pubs@nsf.gov or electronically through the NSF website.[4] Unless otherwise stated in a program announcement or solicitation, proposals must be received by the specified date. If the deadline date falls on a weekend, it will be extended to the following Monday; if the date falls on a Federal holiday, it will be extended to the following business day. Unless otherwise specified in a program solicitation that has an identified deadline date, proposals must be received by 5 p.m. submitter's local time on the established deadline date.[5]

[4] A listing of upcoming target dates and deadlines, sorted by date and by program area is available electronically on the NSF Website at: http://nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date.

[5] Letters of intent or preliminary proposals, unless otherwise specified, also follow the 5 p.m. submitter's local time standard.

G. How to Submit Proposals

1. Electronic Requirements

Proposals to NSF must be submitted electronically via the NSF FastLane System or via use of Grants.gov. For proposals prepared and submitted via Grants.gov, the guidelines specified in the NSF *Grants.gov Application Guide* apply.

For proposers who cannot submit electronically, an authorization to deviate from the electronic submission requirements must be approved in advance of submission of the paper proposal in accordance with GPG Chapter II.A.

2. Submission Instructions

The same work/proposal cannot be funded twice. If the proposer envisions review by multiple programs, more than one program may be designated on the Cover Sheet. The submission of duplicate or substantially similar proposals concurrently for review by more than one program without prior NSF approval may result in the return of the redundant proposals. (See GPG Chapter IV.B for further information.)

Research proposals to the Biological Sciences Directorate ONLY (not proposals for conferences or workshops) cannot be duplicates of proposals to any other Federal agency for simultaneous consideration. The only exceptions to this rule are: (1) when the proposers and program officers at relevant Federal agencies have previously agreed to joint review and possible joint funding of the proposal; or (2) proposals for PIs who are beginning investigators (individuals who have not been a principal investigator (PI) or co-principal investigator (co-PI) on a Federally funded award with the exception of doctoral dissertation, postdoctoral fellowship or research planning grants). For proposers who qualify under this latter exception, the box for "Beginning Investigator" must be checked on the Cover Sheet.

In submission of a proposal for funding, the Authorized Organizational Representative (AOR) is required to provide certain proposal certifications. (See GPG Chapter II.C.1.e for a listing.) This process can occur concurrently with submission of the proposal for those organizations where the individual authorized to submit a proposal to NSF also is a designated AOR, or as a separate function for those organizations that choose to keep the certification process separate from the submission function. For those organizations that designate separate authorities in FastLane for these functions, the AOR must provide the required certifications within 5 working days following the electronic submission of the proposal.[6]

A proposal may not be processed until NSF has received the complete proposal (including the electronic certifications from the AOR.)

3. Requirements Relating to Data Universal Numbering System (DUNS) Numbers and Registration in the System for Award Management (SAM)

The Office of Management and Budget (OMB) issued a policy directive (September 14, 2010, 75 FR 22706) which requires proposers[7] to provide a Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number when applying for a new award or renewal of an award under Federal grants or cooperative agreements. In accordance with this mandate, each proposer must have a DUNS number prior to submitting a proposal to NSF.

Each proposer must also be registered in the System for Award Management (SAM) database prior to submitting their proposal. The SAM is the primary registrant database for the U.S. Government. SAM collects, validates, stores, and disseminates data in support of agency acquisition missions, including Federal agency contract and assistance awards. This SAM registration must be maintained with current information at all times

[6] Further instructions for this process are available on the FastLane Website.
[7] Unaffiliated individuals are exempt from both the requirement to obtain a DUNS number as well as to register in SAM.

during which the organization has an active award or a proposal under consideration by NSF. Failure to comply with the SAM registration requirement prior to proposal submission may impact the processing of the proposal. To register in the SAM, go to https://www.sam.gov. Proposers are advised that entity registration will become active after 3-5 days when the IRS validates your Tax ID Number.

Effective October 1, 2014, SAM will become the NSF system of record for organizational financial information. Banking information contained within FastLane will not be used after September 30, 2014. The Legal Business Name and Physical Address information are automatically input into the proposer's SAM registration from D&B, and it is the organization's responsibility to keep this information updated at D&B.

The organization also is responsible for updating all SAM registration information as it changes. Once an award is made, failure to maintain current and complete financial information within SAM will affect the correct account from receiving funding. To maintain an active status in SAM, an organization's registration must be renewed and revalidated at least every 12 months from the date of the previous registration. If the registration is not renewed, it will expire. An expired registration will impact the organization's ability to submit proposals or receive grant payments.

4. NSF ID

The NSF ID is a unique numerical identifier assigned to FastLane users by NSF. It is a random nine-digit number beginning with three zeroes. (Note: actual Social Security Numbers (SSNs) do not begin with three zeros.) The NSF ID will be used throughout FastLane as a login ID and identification verification.

SSN submission will only be requested where it is necessary for business purposes, e.g., financial reimbursement. SSN is solicited under NSF Act of 1950, as amended.

5. Proposal Receipt

Once the proposal is submitted, PIs can access the number assigned to the proposal via the "Submitted Proposals" list in the FastLane Proposal Preparation Module. If a proposal number is not reflected in the FastLane System, contact the FastLane Help Desk at (800) 673-6188 or (703) 292-8142 or by e-mail to fastlane@nsf.gov.

Cognizant program information is available through the FastLane "Proposal Status Inquiry" function for PIs and through the "Recent Proposals" report for sponsored projects offices. Communications about the proposal should be addressed to the cognizant Program Officer with reference to the proposal number. Proposers are strongly encouraged to use FastLane to verify the status of their submission to NSF.

H. Proposal Processing

Proposers should allow up to six months for programmatic review and processing (see GPG Chapter III for additional information on the NSF merit review process). In addition, proposers should be aware that the NSF Division of Grants and Agreements generally makes awards to academic institutions within 30 days after the program division/office makes its recommendation. Grants being made to 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, and other unusual arrangements may require additional review and processing time. Proposals that are time-sensitive (e.g., conference, group travel, and research involving ephemeral phenomena) will be accepted for review only if, in the opinion of the cognizant Program Officer, they are received in sufficient time to permit appropriate NSF review and processing to support an award in advance of the activity to be supported. Every effort is made to reach a decision and inform the proposer promptly. Until an award is made, NSF is not responsible for any costs incurred by the proposing organization.

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Chapter II: Proposal Preparation Instructions

Each proposing organization that is new to NSF or has not had an active NSF assistance award within the previous five years should be prepared to submit basic organization and management information and certifications, when requested, to the applicable award-making division within BFA. The requisite information is described in the *NSF Prospective New Awardee Guide*. The information contained in this Guide will assist the organization in preparing documents which the National Science Foundation requires to conduct administrative and financial reviews of the organization. This Guide also serves as a means of highlighting the accountability requirements associated with Federal awards.

To facilitate proposal preparation, Frequently Asked Questions (FAQs) regarding proposal preparation and submission are available electronically on the NSF website.[8]

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years (FY) 2011-2016*[9]. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the core strategies in support of NSF's mission is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students, and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the variety of learning perspectives.

Another core strategy in support of NSF's mission is broadening opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in science, technology, engineering and mathematics (STEM) disciplines, which is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

A. Conformance with Instructions for Proposal Preparation

It is important that all proposals conform to the instructions provided in the GPG or *Grants.gov Application Guide*. Conformance is required and will be strictly enforced unless an authorization to deviate from standard proposal preparation requirements has been approved. NSF may return without review proposals that are not consistent with these instructions. See GPG Chapter IV.B for additional information. NSF must authorize any deviations from these instructions in advance of proposal submission. Deviations may be authorized in one of two ways:

1. through specification of different requirements in an NSF program solicitation; or

2. by the written approval of the cognizant NSF Assistant Director/Office Head or designee. These approvals to deviate from NSF proposal preparation instructions may cover a particular program or programs or, in rare instances, an "individual" deviation for a particular proposal.

Proposers may deviate from these instructions only to the extent authorized. Proposals must include an authorization to deviate from standard NSF proposal preparation instructions has been received in one of the following ways, as appropriate: (a) by identifying the solicitation number that authorized the deviation in the appropriate block on the Cover Sheet; or (b) for individual deviations, by identifying the name, date and title of the NSF official authorizing the deviation.[10] Further instructions are available on the FastLane website.

[8]FAQs regarding FastLane proposal preparation and submission also are available electronically on the FastLane Website.
[9]The NSF Strategic Plan is available at: http://www.nsf.gov/news/strategicplan/nsfstrategicplan_2011_2016.pdf
[10]Requests for approval of a deviation from NSF's electronic submission requirement must be forwarded to the cognizant NSF program for review and approval prior to submission of the paper proposal.

B. Format of the Proposal

Prior to electronic submission, it is strongly recommended that proposers conduct an administrative review to ensure that proposals comply with the proposal preparation guidelines established in the GPG or *Grants.gov Application Guide*. GPG Exhibit II-1 or *Grants.gov Application Guide*, Chapter VII contain a proposal preparation checklist that may be used to assist in this review. The checklist is not intended to be an all-inclusive repetition of the required proposal contents and associated proposal preparation guidelines. It is, however, meant to highlight certain critical items so they will not be overlooked when the proposal is prepared.

Upon entering the proposal preparation module in FastLane, the PI will be prompted to select the type of proposal being developed from one of the following options:

- Research;
- Conference, Symposia, Workshop;
- Equipment/Instrumentation;
- Fellowship;
- International Travel; or
- Facility/Center.

This information will be used by FastLane to determine what proposal preparation business rules must be followed and check for compliance prior to submission to NSF.

1. Proposal Pagination Instructions

Proposers are advised that FastLane does not automatically paginate a proposal. Each section of the proposal that is uploaded as a file must be individually paginated prior to upload to the electronic system.

2. Proposal Margin and Spacing Requirements

The proposal must be clear and conform to the following requirements:

a. Use one of the following typefaces identified below:

- Arial[11], Courier New, or Palatino Linotype at a font size of 10 points or larger;
- Times New Roman at a font size of 11 points or larger; or
- Computer Modern family of fonts at a font size of 11 points or larger.

A font size of less than 10 points may be used for mathematical formulas or equations, figures, table or diagram captions and when using a Symbol font to insert Greek letters or special characters. PIs are cautioned, however, that the text must still be readable.

b. No more than six lines of text within a vertical space of one inch.

c. Margins, in all directions, must be at least an inch.

These requirements apply to all uploaded sections of a proposal, including supplementary documentation.

While line spacing (single-spaced, double-spaced, etc.) is at the discretion of the proposer, established page limits must be followed. Individual program solicitations, however, may eliminate this proposer option by requiring other type size, margin or line spacing requirements.

3. Page Formatting

Proposers are strongly encouraged to use only a standard, single-column format for the text. Avoid using a two-column format since it can cause difficulties when reviewing the document electronically.

[11] In addition to the typefaces identified above, Macintosh users also may use Helvetica and Palatino typefaces.

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The guidelines specified above establish the **minimum** type size requirements; however, PIs are advised that readability is of paramount importance and should take precedence in selection of an appropriate font for use in the proposal. **Small type size makes it difficult for reviewers to read the proposal; consequently, the use of small type not in compliance with the above guidelines may be grounds for NSF to return the proposal without review.** Adherence to type size and line spacing requirements also is necessary to ensure that no proposer will have an unfair advantage, by using smaller type or line spacing to provide more text in the proposal.

C. Proposal Contents

1. Single-Copy Documents

Certain categories of information that are submitted in conjunction with a proposal are for "NSF Use Only." As such, the information is not provided to reviewers for use in the review of the proposal. With the exception of proposal certifications (which are submitted via the Authorized Organizational Representative function[12]), these documents should be submitted electronically via the Proposal Preparation Module. A summary of each of these categories follows:

a. Information About Principal Investigators (PIs)/Project Directors (PDs) and co-Principal Investigators (co-PIs)/co-Project Directors (co-PDs)

NSF is committed to providing equal opportunities for participation in its programs and promoting the full use of the Nation's research and engineering resources. To aid in meeting these objectives, NSF requests information on the gender, race, ethnicity and disability status of individuals named as PIs/co-PIs on proposals and awards. Except for the required information about current or previous Federal research support and the name(s) of the PI/co-PI, submission of the information is voluntary, and individuals who do not wish to provide the personal information should check the box(es) provided for that purpose.

b. Authorization to Deviate from NSF Proposal Preparation Requirements (if applicable)

Instructions for obtaining authorization to deviate from NSF proposal preparation instructions are provided in GPG Chapter II.A.

c. List of Suggested Reviewers or Reviewers Not to Include (optional)

Proposers may include a list of suggested reviewers who they believe are especially well qualified to review the proposal. Proposers also may designate persons they would prefer not review the proposal, indicating why. These suggestions are optional. GPG Exhibit II-2 contains information on conflicts of interest that may be useful in preparation of this list.

The cognizant Program Officer handling the proposal considers the suggestions and may contact the proposer for further information. However, the decision whether or not to use the suggestions remains with the Program Officer.

d. Proprietary or Privileged Information (if applicable)

Instructions for submission of proprietary or privileged information are provided in GPG Chapter I.D.3.

e. Proposal Certifications

With the exception of the *Disclosure of Lobbying Activities (SF LLL)* identified below, the procedures for submission of the proposal certifications differ from those used with other single-copy documents. The AOR must use the "Authorized Organizational Representative function" in FastLane to electronically sign and submit the proposal certifications. It is the proposing organization's responsibility to assure that only properly authorized individuals sign in this capacity.[13]

[12]Further instructions for this process are available electronically on the FastLane Website.
[13]Detailed instructions for completion of this process are available electronically on the FastLane Website.

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The required proposal certifications are as follows:

- **Certification for Authorized Organizational Representative (AOR) or Individual Proposer:** The AOR is required to complete certifications regarding the accuracy and completeness of statements contained in the proposal, as well as to certify that the organization (or individual) agrees to accept the obligation to comply with award terms and conditions.

  Certification Regarding Conflict of Interest: The AOR is required to complete certifications stating that the organization has implemented and is enforcing a written policy on conflicts of interest (COI), consistent with the provisions of AAG Chapter IV.A.; that, to the best of his/her knowledge, all financial disclosures required by the conflict of interest policy were made; and that conflicts of interest, if any, were, or prior to the organization's expenditure of any funds under the award, will be, satisfactorily managed, reduced or eliminated in accordance with the organization's conflict of interest policy. Conflicts that cannot be satisfactorily managed, reduced or eliminated, and research that proceeds without the imposition of conditions or restrictions when a conflict of interest exists, must be disclosed to NSF via use of the Notifications and Requests Module in FastLane.

- **Drug-Free Workplace:** The AOR is required to complete a certification regarding the Drug-Free Workplace Act. See GPG Exhibit II-3 for the full text of the Drug-Free Workplace Certification.

- **Debarment and Suspension:** The AOR is required to complete a certification regarding Debarment and Suspension. See GPG Exhibit II-4 for the full text of the Debarment and Suspension Certification.

- **Certification Regarding Lobbying:** When the proposal exceeds $100,000, the AOR is required to complete a certification regarding lobbying restrictions. The *Certification for Contracts, Grants, Loans and Cooperative Agreements* is included in full text on the FastLane submission screen as well as in GPG Exhibit II-5. The box for "Disclosure of Lobbying Activities" must be checked on the Cover Sheet only if, pursuant to paragraph 2 of the certification, submission of the SF LLL is required.[14]

- **Certification Regarding Nondiscrimination:** The AOR is required to complete a certification regarding compliance with NSF Nondiscrimination regulations and policies. See GPG Exhibit II-6 for the full text of the Nondiscrimination Certification. This certification sets forth the nondiscrimination obligations with which all grantees must comply. These obligations also apply to subrecipients, subgrantees, and subcontractors under the award. The proposer, therefore, shall obtain the NSF Nondiscrimination Certification from each organization that applies to be, or serves as a subrecipient, subgrantee or subcontractor under the award (for other than the provision of commercially available supplies, materials, equipment or general support services) prior to entering into the subaward arrangement.

- **Certification Regarding Flood Hazard Insurance:** Two sections of the National Flood Insurance Act of 1968 (42 USC §4012a and §4106) bar Federal agencies from giving financial assistance for acquisition or construction purposes in any area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards unless the:

  (1) community in which that area is located participates in the national flood insurance program; and
  (2) building (and any related equipment) is covered by adequate flood insurance.

  By electronically signing the Certification Pages, AORs for prospective grantees located in FEMA-designated special flood hazard areas are certifying that adequate flood insurance has been or will be obtained in the following situations:

  (1) for NSF grants for the construction of a building or facility, regardless of the dollar amount of the grant; and

[14] Detailed instructions for submission of the SF LLL are available on the FastLane Website.

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(2) for other NSF grants when more than $25,000 has been budgeted in the proposal for repair, alteration or improvement (construction) of a building or facility.[15]

Prospective grantees should contact their local government or a federally-insured financial institution to determine what areas are identified as having special flood hazards and the availability of flood insurance in their community.

- **Certification Regarding Responsible Conduct of Research (RCR)[16]:** The AOR is required to complete a certification that the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research.

  Additional information on NSF's RCR policy is available in the AAG, Chapter IV.B. While training plans are not required to be included in proposals submitted to NSF, institutions are advised that they are subject to review upon request.

- **Certification Regarding Organizational Support:** The AOR is required to complete a certification that there is organizational support for the proposal as required by Section 526 of the *America COMPETES Reauthorization Act of 2010.* This support extends to the portion of the proposal developed to satisfy the Broader Impacts Review Criterion as well as the Intellectual Merit Review Criterion, and any additional review criteria specified in the solicitation. Organizational support will be made available, as described in the proposal, in order to address the broader impacts and intellectual merit activities to be undertaken.

- **Certification Regarding Federal Tax Obligations:** When the proposal exceeds $5,000,000, the AOR is required to complete a certification regarding Federal tax obligations. By electronically signing the Certification pages, the AOR certifies that, to the best of their knowledge and belief, the proposing organization:

  (1) has filed all Federal tax returns required during the three years preceding this certification;
  (2) has not been convicted of a criminal offense under the Internal Revenue Code of 1986; and
  (3) has not, more than 90 days prior to this certification, been notified of any unpaid Federal tax assessment for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default, or the assessment is the subject of a non-frivolous administrative or judicial proceeding.

- **Certification Regarding Unpaid Federal Tax Liability:** If the proposer is a corporation, the AOR (or equivalent) is required to complete a certification that the corporation has no unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

- **Certification Regarding Criminal Convictions:** If the proposer is a corporation, the AOR (or equivalent) is required to complete a certification that the corporation has not been convicted of a felony criminal violation under any Federal law within the 24 months preceding the date on which the certification is signed.

[15] See Article 2.b.2., of the NSF *Agency Specific Requirements* to the *Research Terms and Conditions*, and Article 11 of the *Grant General Conditions* (GC-1) for additional information.

[16] A wide array of information exists to help inform development of an institution's RCR training plan. For example, many professional societies as well as governmental licensing authorities for professional scientists and engineers have adopted policies or best practices that might be usefully considered. In addition, research is illuminating existing practices surrounding ethical issues, and providing an evaluation of pedagogical innovations in ethics education.

2. Sections of the Proposal

The sections described below represent the body of a proposal submitted to NSF. Except where noted in the GPG or a program solicitation, all sections are required parts of the proposal, and must be submitted electronically via the Proposal Preparation Module in FastLane or via Grants.gov. [17] Failure to submit the required sections may result in the proposal not being accepted[18], or being returned without review. See GPG Chapter IV.B for additional information.

A full proposal submitted via FastLane[19] must contain the following sections:

a. Cover Sheet
b. Project Summary
c. Table of Contents
d. Project Description
e. References Cited
f. Biographical Sketch(es)
g. Budget and Budget Justification
h. Current and Pending Support
i. Facilities, Equipment and Other Resources
j. Special Information and Supplementary Documentation
   - Data Management Plan
   - Postdoctoral Mentoring Plan (if applicable)

Submission instructions for conference, symposia, or workshop proposals, international travel grant proposals, or program solicitations may deviate from the GPG instructions. If the submission instructions do not require a section to be provided, insert text or upload a document in that section of the proposal that states, "Not Applicable."

All proposals to NSF will be reviewed utilizing the two merit review criteria described in greater length in GPG Chapter III.

a. Cover Sheet

There are four major components of the Cover Sheet. A number of the boxes contained on the Cover Sheet are electronically pre-filled as part of the FastLane login process. The information requested on the Cover Sheet is as follows:

(1) Awardee & Project/Performance Site Primary Location

The information on the Awardee Organization is pre-filled on the Cover Sheet based on the login information entered.

(2) Program Description/Announcement/Solicitation Number

Proposers are required to select the applicable program description, announcement, or solicitation. If the proposal is not submitted in response to a specific program description, announcement, or solicitation, proposers should select "Grant Proposal Guide." Compliance with this requirement is critical in determining the relevant proposal processing guidelines.

Proposals submitted with "Grant Proposal Guide" selected that are directed to Division/Program combinations with active program descriptions will default to the nearest target date for that program. Proposers are advised to

[17] Requests for approval of a deviation from NSF's electronic submission requirement must be forwarded to the cognizant NSF program for review and approval prior to submission of the paper proposal.
[18] Proposal Not Accepted is defined as FastLane will not permit submission of the proposal.
[19] See also the *NSF Grants.gov Application Guide.* Grants.gov may use different naming conventions, and sections may appear in a different order than in FastLane, however the content is the same.

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select "No Closing Date" when the proposal is not submitted in response to any relevant NSF funding opportunity (which includes program descriptions, announcements, or solicitations).

(3) NSF Unit of Consideration

Proposers must follow instructions for selection of an applicable NSF Division/Office and Program(s) to which the proposal should be directed.

(4) Remainder of the Cover Sheet

(a) Title of Proposed Project

The title of the project must be brief, scientifically or technically valid, intelligible to a scientifically or technically literate reader, and suitable for use in the public press. NSF may edit the title of a project prior to making an award.

(b) Budget and Duration Information

The proposed duration for which support is requested must be consistent with the nature and complexity of the proposed activity. Grants are normally awarded for up to three years but may be awarded for periods of up to five years. The Foundation encourages PIs to request awards for durations of three to five years when such durations are necessary for completion of the proposed work and are technically and managerially advantageous. Specification of a desired starting date for the project is important and helpful to NSF staff; however, requests for specific effective dates may not be met. Except in special situations, requested effective dates must allow at least six months for NSF review, processing and decision. Should unusual situations (e.g., a long lead time for procurement) create problems regarding the proposed effective date, the PI should consult his/her organization's sponsored projects office.

(c) PI Information and co-PI Information

Information (including address information) regarding the PI is derived from login information and is not entered when preparing the Cover Sheet. The proposal also may identify up to four additional co-Principal Investigators.

Each individual's name and either NSF ID or primary registered e-mail address, must be entered in the boxes provided.

(d) Previous NSF Award

If the proposal is a renewal proposal, or an accomplishment-based renewal proposal, the applicable box must be checked. If yes, the proposer will be requested to select the applicable previous award number.

Some NSF program solicitations require submission of both a preliminary and full proposal as part of the proposal process. In such cases, the following instructions apply:

(i) During the preliminary proposal stage, the proposing organization should identify the submission as a preliminary proposal by checking the block entitled, "Preliminary Proposal" on the Cover Sheet;

(ii) During the full proposal submission stage, the proposing organization should identify in the block entitled, "Show Related Preliminary Proposal Number", the related preliminary proposal number assigned by NSF.

(e) Other Federal Agencies

If the proposal is being submitted for consideration by another Federal agency, the abbreviated name(s) of the Federal agency(ies) must be identified in the spaces provided.

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(f) Awardee Organization Information

The awardee organization name, address, DUNS number and Employer Identification Number/Taxpayer Identification Number are derived from the login information and are not entered when preparing the Cover Sheet via FastLane.

Profit making organizations must identify their status by checking the appropriate boxes on the Cover Sheet, using the following guidelines:

- A small business must be organized for profit, independently owned and operated (not a subsidiary of or controlled by another firm), have no more than 500 employees, and not be dominant in its field. The appropriate box also must be checked when the proposal involves a cooperative effort between an academic institution and a small business.

- A minority business must be: (i) at least 51 percent owned by one or more minority or disadvantaged individuals or, in the case of a publicly owned business, have at least 51 percent of the voting stock owned by one or more minority or disadvantaged individuals; and (ii) one whose management and daily business operations are controlled by one or more such individuals.

- A woman-owned business must be at least 51 percent owned by a woman or women, who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management.

(g) Project/Performance Site Primary Location

If the project will be performed at the awardee organization, check the designated box. If the project, however, will be performed at a location other than the awardee, provide the following information (where applicable):

- Organization Name (identify the organization name of the primary site where the work will be performed, if different than the awardee);
- Street;
- City;
- State;
- Country; and
- 9-digit Zip Code.

For projects that support research infrastructure and tools, such as vessels, facilities, and telescopes, the project/performance site should correspond to the physical location of the research asset. For research assets or projects that are geographically distributed, the proposer should report information for the primary site, as defined by the proposer. For example, proposals for the operations and maintenance of research vessels may list the project/performance site as the vessel's home port.

(h) Other Information

Should any of the following items on the Cover Sheet apply to a proposal, the applicable box(es) must be checked.

- Beginning Investigator (See GPG I.G.2)
- Disclosure of Lobbying Activities (See GPG II.C.1e)
- Proprietary or Privileged Information (See GPG I.D.3 & II.C.1d)
- Historic Places (See GPG II.C.2j)
- Rapid Response Grants (See GPG II.D.1)
- EArly-concept Grants for Exploratory Research (EAGER) (See GPG II.D.2)
- Vertebrate Animals[20] (See GPG II.D.6)

[20] If the proposal includes use of Vertebrate Animals, supplemental information is required. See GPG Chapter II.D.6 for additional information.

- Human Subjects[21] (See GPG II.D.7)
- International Activities Country Name(s) (See GPG II.C.2.j)

b. Project Summary

Each proposal must contain a summary of the proposed project not more than one page in length. The Project Summary consists of an overview, a statement on the intellectual merit of the proposed activity, and a statement on the broader impacts of the proposed activity.

The overview includes a description of the activity that would result if the proposal were funded and a statement of objectives and methods to be employed. The statement on intellectual merit should describe the potential of the proposed activity to advance knowledge. The statement on broader impacts should describe the potential of the proposed activity to benefit society and contribute to the achievement of specific, desired societal outcomes.

The Project Summary should be written in the third person, informative to other persons working in the same or related fields, and, insofar as possible, understandable to a scientifically or technically literate lay reader. It should not be an abstract of the proposal.

Proposals that do not contain the Project Summary, including an overview and separate statements on intellectual merit and broader impacts will not be accepted by FastLane or will be returned without review.

If the Project Summary contains special characters it may be uploaded as a Supplementary Document. Project Summaries submitted as a PDF must be formatted with separate headings for the overview, statement on the intellectual merit of the proposed activity, and statement on the broader impacts of the proposed activity. Failure to include these headings may result in the proposal being returned without review.

Additional instructions for preparation of the Project Summary are available in FastLane.

c. Table of Contents

A Table of Contents is automatically generated for the proposal by FastLane. The proposer cannot edit this form.

d. Project Description (including Results from Prior NSF Support)

(i) Content

The Project Description should provide a clear statement of the work to be undertaken and must include: objectives for the period of the proposed work and expected significance; relation to longer-term goals of the PI's project; and relation to the present state of knowledge in the field, to work in progress by the PI under other support and to work in progress elsewhere.

The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods and procedures. Proposers should address what they 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. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified. These issues apply to both the technical aspects of the proposal and the way in which the project may make broader contributions.

The Project Description must contain, as a separate section within the narrative, a discussion of the broader impacts of the proposed activities. Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to the project. NSF values the advancement of scientific knowledge and activities that

[21] If the proposal includes use of Human Subjects, supplemental information is required. See GPG Chapter II.D.7 for additional information.

contribute to the achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Plans for data management and sharing of the products of research, including preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and other related research and education products should be described in the Special Information and Supplementary Documentation section of the proposal (see GPG Chapter II.C.2.j. for additional instructions for preparation of this section).

(ii) Page Limitations and Inclusion of Uniform Resource Locators (URLs) within the Project Description

Brevity will assist reviewers and Foundation staff in dealing effectively with proposals. Therefore, the Project Description (including Results from Prior NSF Support, which is limited to five pages) **may not exceed 15 pages.** Visual materials, including charts, graphs, maps, photographs and other pictorial presentations are included in the 15-page limitation. PIs are cautioned that the Project Description must be self-contained and that URLs that provide information related to the proposal should not be used because 1) the information could circumvent page limitations, 2) the reviewers are under no obligation to view the sites, and 3) the sites could be altered or abolished between the time of submission and the time of review.

Conformance to the 15-page limitation will be strictly enforced and may not be exceeded unless a deviation has been specifically authorized. (GPG Chapter II.A contains information on deviations.)

(iii) Results from Prior NSF Support

If any PI or co-PI identified on the project has received NSF funding (including any current funding) in the past five years, information on the award(s) is required, irrespective of whether the support was directly related to the proposal or not. Funding includes not just salary support, but any funding awarded by NSF. Each PI and co-PI who has received *more than one award* (excluding amendments) must report on the one award most closely related to the proposal. The following information must be provided:

(a) the NSF award number, amount and period of support;

(b) the title of the project;

(c) a summary of the results of the completed work, including accomplishments, separately described under two distinct headings, related to the Intellectual Merit and Broader Impact activities supported by the award;

(d) publications resulting from the NSF award;

(e) evidence of research products and their availability, including, but not limited to: data, publications, samples, physical collections, software, and models, as described in any Data Management Plan; and

(f) if the proposal is for renewed support, a description of the relation of the completed work to the proposed work.

Reviewers will be asked to comment on the quality of the prior work described in this section of the proposal. Please note that the proposal may contain up to five pages to describe the results. Results may be summarized in fewer than five pages, which would give the balance of the 15 pages for the Project Description.

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(iv) Unfunded Collaborations

Any substantial collaboration with individuals not included in the budget should be described in the Facilities, Equipment and Other Resources section of the proposal (see GPG II.C.2.i). and documented in a letter of commitment from each collaborator. Such letters should be provided in the supplementary documentation section of the FastLane Proposal Preparation Module. Collaborative activities that are identified in the budget should follow the instructions in GPG Chapter II.D.4.

(v) Group Proposals

NSF encourages submission of proposals by groups of investigators; often these are submitted to carry out interdisciplinary projects. Unless stipulated in a specific program solicitation, however, such proposals will be subject to the 15-page Project Description limitation established in Section (ii) above. PIs who wish to exceed the established page limitations for the Project Description must request and receive a deviation in advance of proposal submission. (GPG Chapter II.A contains information on deviations.)

(vi) Proposals for Renewed Support

A proposal for renewed support may be either a "traditional" proposal in which the proposed work is documented and described as fully as though the proposer were applying for the first time; or, an "Accomplishment-Based Renewal" (ABR) proposal, in which the Project Description is replaced by copies of no more than six reprints of publications resulting from the research supported by NSF during the preceding three to five year period, plus a brief summary of plans for the proposed support period. (See GPG Chapter V for additional information on preparation of Renewal Proposals.)

e. References Cited

Reference information is required. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. If the document is available electronically, the website address also should be identified.[22] Proposers must be especially careful to follow accepted scholarly practices in providing citations for source materials relied upon when preparing any section of the proposal. While there is no established page limitation for the references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 15-page Project Description.

If there are no references cited, insert text or upload a document in this section of the proposal that states, "Not Applicable."

f. Biographical Sketch(es)

(i) Senior Personnel

A biographical sketch (limited to two pages) is required for each individual identified as senior project personnel. (See GPG Exhibit II-7 for the definitions of Senior Personnel.) The following information must be provided in the order and format specified below.

Do not submit personal information such as **home** address; **home** telephone, fax, or cell phone numbers; **home** e-mail address; date of birth; citizenship; drivers' license numbers; marital status; personal hobbies; and the like. Such personal information is irrelevant to the merits of the proposal. If such information is included, NSF will make every effort to prevent unauthorized access to such material, but the Foundation is not responsible or in any way liable for the release of such material. (See also GPG Chapter III.G).

[22] If the proposer has a website address readily available, that information should be included in the citation, as stated above. It is not NSF's intent, however, to place an undue burden on proposers to search for the URL of every referenced publication. Therefore, inclusion of a website address is optional. A proposal that includes reference citation(s) that do not specify a URL address is not considered to be in violation of NSF proposal preparation guidelines and the proposal will still be reviewed.

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If biographical sketch(es) are not required, insert text or upload a document in this section of the proposal that states, "Not Applicable." In FastLane, if biographical sketches for all senior personnel are uploaded in a single PDF file associated with the PI, insert text or upload a document that states, "Not Applicable" for any co-PI or Senior Person.

(a) Professional Preparation

A list of the individual's undergraduate and graduate education and postdoctoral training as indicated below:

Undergraduate Institution(s)	Major	Degree & Year
Graduate Institution(s)	Major	Degree & Year
Postdoctoral Institution(s)	Area	Inclusive Dates (years)

(b) Appointments

A list, in reverse chronological order, of all the individual's academic/professional appointments beginning with the current appointment.

(c) Products

A list of: (i) up to five products most closely related to the proposed project; and (ii) up to five other significant products, whether or not related to the proposed project. Acceptable products must be citable and accessible including but not limited to publications, data sets, software, patents, and copyrights. Unacceptable products are unpublished documents not yet submitted for publication, invited lectures, and additional lists of products. Only the list of 10 will be used in the review of the proposal.

Each product must include full citation information including (where applicable and practicable) names of all authors, date of publication or release, title, title of enclosing work such as journal or book, volume, issue, pages, website and Uniform Resource Locator (URL) or other Persistent Identifier.

If only publications are included, the heading "Publications" may be used for this section of the Biographical Sketch.

(d) Synergistic Activities

A list of up to five examples that demonstrate the broader impact of the individual's professional and scholarly activities that focuses on the integration and transfer of knowledge as well as its creation. Examples could include, among others: innovations in teaching and training (e.g., development of curricular materials and pedagogical methods); contributions to the science of learning; development and/or refinement of research tools; computation methodologies, and algorithms for problem-solving; development of databases to support research and education; broadening the participation of groups underrepresented in science, mathematics, engineering and technology; and service to the scientific and engineering community outside of the individual's immediate organization.

(e) Collaborators & Other Affiliations

- **Collaborators and Co-Editors.** A list of all persons in alphabetical order (including their current organizational affiliations) who are currently, or who have been collaborators or co-authors with the individual on a project, book, article, report, abstract or paper during the 48 months preceding the submission of the proposal. Also include those individuals who are currently or have been co-editors of a journal, compendium, or conference proceedings during the 24 months preceding the submission of the proposal. If there are no collaborators or co-editors to report, this should be so indicated.

- **Graduate Advisors and Postdoctoral Sponsors.** A list of the names of the individual's own graduate advisor(s) and principal postdoctoral sponsor(s), and their current organizational affiliations.

- **Thesis Advisor and Postgraduate-Scholar Sponsor.** A list of all persons (including their organizational affiliations), with whom the individual has had an association as thesis advisor, or with

whom the individual has had an association within the last five years as a postgraduate-scholar sponsor. The total number of graduate students advised and postdoctoral scholars sponsored also must be identified.

The information in section (e) above of the biographical sketch is used to help identify potential conflicts or bias in the selection of reviewers. See GPG Exhibit II-2 for additional information on potential reviewer conflicts.

(ii) Other Personnel

For the personnel categories listed below, the proposal also may include information on exceptional qualifications that merit consideration in the evaluation of the proposal.

(a) Postdoctoral associates

(b) Other professionals

(c) Students (research assistants)

(iii) Equipment Proposals

For equipment proposals, the following must be provided for each auxiliary user:

(a) Short biographical sketch; and

(b) List of up to five publications most closely related to the proposed acquisition.

g. Budget and Budget Justification

Each proposal must contain a budget for each year of support requested, unless a particular program solicitation stipulates otherwise. The amounts for each budget line item requested must be documented and justified in the budget justification as specified below. The budget justification should be no more than three pages.

If the program solicitation does not require a budget and therefore there is no budgetary information to justify, insert text or upload a document in the budget justification section of the proposal that states, "Not Applicable."

The proposal may request funds under any of the categories listed so long as the item and amount are considered necessary, reasonable, allocable, and allowable under the applicable cost principles, NSF policy, and/or the program solicitation. Amounts and expenses budgeted also must be consistent with the proposing organization's policies and procedures and cost accounting practices used in accumulating and reporting costs.

A discussion of the budget and the allowability of selected items of cost is contained in both the GPG (from a budget preparation perspective) and in the *Award & Administration Guide (AAG) (*from an allowability and administration perspective), as well as NSF program solicitations. In preparation of the budget, however, proposers are encouraged to consult the AAG to determine whether a certain category of cost is allowable under an NSF award.

Cost principles governing the allowability of costs are contained in 2 CFR §220 (OMB Circular A-21) for Colleges & Universities, 2 CFR §225 (OMB Circular A-87) for State, Local, & Indian Tribal Governments and 2 CFR §230 (OMB Circular A-122) for Non-Profit Organizations, and are available at http://www.whitehouse.gov/omb/circulars/index.html. Cost Principles applicable to for-profit organizations can be found in the Federal Acquisition Regulations (FAR), Part 31.

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(i) Salaries and Wages (Lines A and B on the Proposal Budget)

(a) Senior Project Personnel Salaries & Wages Policy

NSF regards research as one of the normal functions of faculty members at institutions of higher education. Compensation for time normally spent on research within the term of appointment is deemed to be included within the faculty member's regular organizational salary.

As a general policy, NSF limits salary compensation for senior project personnel to no more than two months of their regular salary in any one year. This limit includes salary compensation received **from all NSF-funded grants**. This effort must be documented in accordance with the applicable cost principles. If anticipated, any compensation for such personnel in excess of two months must be disclosed in the proposal budget, justified in the budget justification, and must be specifically approved by NSF in the award.[23]

These same general principles apply to other types of non-academic organizations.

NSF award funds may not be used to augment the total salary or salary rate of faculty members during the period covered by the term of faculty appointment or to reimburse faculty members for consulting or other time in addition to a regular full-time organizational salary covering the same general period of employment. Exceptions may be considered under certain NSF programs, e.g., science and engineering education programs for weekend and evening classes, or work at remote locations. If anticipated, any intent to provide salary compensation above the base salary must be disclosed in the proposal budget, justified in the budget justification, and must receive the prior written approval of the cognizant NSF Program Officer.

(b) Administrative and Clerical Salaries & Wages Policy

In most circumstances, particularly for institutions of higher education, salaries of administrative or clerical staff are included as part of indirect costs (also known as Facilities and Administrative Costs (F&A) for Colleges and Universities). Salaries of administrative or clerical staff may be requested as direct costs for a project requiring an extensive amount of administrative or clerical support and where these costs can be readily and specifically identified with the project with a high degree of accuracy. Salaries for administrative or clerical staff shall be budgeted as a direct cost only if this type of cost is consistently treated as a direct cost in like circumstances for all other projects and cost objectives. The circumstances for requiring direct charging of these services must be clearly described in the budget justification. Such costs, if not clearly justified, may be deleted by NSF. See 2 CFR Part §220 (OMB Circular A-21), for examples of where direct charging of administrative salaries may be appropriate.

Additional information on the charging of salaries and wages to an NSF award is available in AAG Chapter V.B.1.

(c) Procedures

The names of the PI(s), faculty, and other senior personnel and the estimated number of full-time-equivalent person-months for which NSF funding is requested and the total amount of salaries requested per year must be listed. For consistency with the NSF cost sharing policy, if person months will be requested for senior personnel, a corresponding salary amount must be entered on the budget. If no person months and no salary are being requested for senior personnel, they should be removed from section A of the budget. Their name(s) will remain on the Cover Sheet and the individual(s) role on the project should be described in the Facilities, Equipment and other Resources section of the proposal.

For postdoctoral associates and other professionals, the total number of persons for each position must be listed, with the number of full-time-equivalent person-months and total amount of salaries requested per year. For graduate and undergraduate students, secretarial, clerical, technical, etc., whose time will be charged directly to the project, only the total number of persons and total amount of salaries requested per year in each category is required. Salaries requested must be consistent with the organization's regular practices. The budget

[23]NSF awardees remain subject to the provisions of OMB M-01-06, "*Clarification of OMB A-21 Treatment of Voluntary Uncommitted Cost Sharing and Tuition Remission Costs*," regarding requirements for committing and tracking "some level" of faculty (or senior researcher) effort as part of the organized research base.

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justification should detail the rates of pay by individual for senior personnel, postdoctoral associates, and other professionals.

The budget may request funds for support of graduate or undergraduate research assistants to help carry out the proposed research. Compensation classified as salary payments must be requested in the salaries and wages category.

(d) Confidential Budgetary Information

The proposing organization may request that salary data on senior personnel not be released to persons outside the Government during the review process. In such cases, the item for senior personnel salaries in the proposal may appear as a single figure and the person-months represented by that amount omitted. If this option is exercised, senior personnel salaries and person-months must be itemized in a separate statement, and forwarded to NSF in accordance with the instructions specified in GPG Chapter I.D.3. This statement must include all of the information requested on the proposal budget for each person involved. NSF will not forward the detailed information to reviewers and will hold it privileged to the extent permitted by law. The information on senior personnel salaries will be used as the basis for determining the salary amounts shown in the grant budget. The box for "Proprietary or Privileged Information" must be checked on the Cover Sheet when the proposal contains confidential budgetary information.[24]

(ii) Fringe Benefits (Line C on the Proposal Budget)

If the proposer's usual accounting practices provide that its contributions to employee benefits (social security, retirement, other payroll-related taxes and time off including vacation, sick, and other leave, etc.) be treated as direct costs, NSF grant funds may be requested to fund fringe benefits as a direct cost. These are typically determined by application of a calculated fringe benefit rate for a particular class of employee (full time or part-time) applied to the salaries and wages requested. Although, they also may be paid based on actual costs for individual employees, if that institutional policy has been approved by the cognizant federal agency.

(iii) Equipment (Line D on the Proposal Budget)

Equipment is defined as an item of property that has an acquisition cost of $5,000 or more (unless the organization has established lower levels) and an expected service life of more than one year. It is important to note that the acquisition cost of equipment includes modifications, attachments, and accessories necessary to make the property usable for the purpose for which it was purchased. Items of needed equipment must be adequately justified, listed individually by description and estimated cost.

Allowable items ordinarily will be limited to research equipment and apparatus not already available for the conduct of the work. General-purpose equipment, such as a personal computer and office furnishings, are not eligible for support unless primarily or exclusively used in the actual conduct of the proposed research.

Additional information on the charging of equipment to an NSF award is available in AAG Chapter V.B.2.

(iv) Travel (Line E on the Proposal Budget)

(a) General

Travel and its relation to the proposed activities must be specified and itemized by destination and cost. Funds may be requested for field work, attendance at meetings and conferences, and other travel associated with the proposed work, including subsistence. In order to qualify for support, however, attendance at meetings or conferences must be necessary to accomplish proposal objectives, or disseminate its results.

Allowance for air travel normally will not exceed the cost of round-trip, economy airfares. Persons traveling under NSF grants must travel by U.S.-Flag Air carriers, if available.[25]

[24] Detailed instructions for submission of confidential budgetary information are available on the FastLane website.
[25] See Article 14 of the NSF *Agency Specific Requirements* to the *Research Terms and Conditions*, and Article 10 of GC-1 for additional information on use of U.S.-Flag Air Carriers.

Additional information on charging travel costs to an NSF award is available in AAG Chapter V.B.4.

(b) Domestic Travel

For budget preparation purposes, domestic travel includes travel in the U.S., its possessions, Puerto Rico, and travel to Canada and Mexico.

(c) Foreign Travel

For budget purposes, travel outside the areas specified above is considered foreign. The proposal must include relevant information, including countries to be visited (also enter names of countries on the proposal budget), dates of visit, if known, and justification for any foreign travel planned in connection with the project. Travel support for dependents of key project personnel may be requested only when all of the following conditions apply:

(i) the individual is a key person who is essential to the research on a full-time basis;

(ii) the individual's residence away from home and in a foreign country is for a continuous period of six months or more and is essential to the effective performance of the project; and

(iii) the dependent's travel allowance is consistent with the policies of the organization administering the grant.

(v) Participant Support (Line F on the Proposal Budget)

This budget category refers to costs of transportation, per diem, stipends and other related costs for participants or trainees (but not employees) in connection with NSF-sponsored conferences, meetings, symposia, training activities and workshops.[26] (See GPG Chapter II.D.8) For some educational projects conducted at local school districts, however, the participants being trained are employees. In such cases, the costs must be classified as participant support if payment is made through a stipend or training allowance method. The school district must have an accounting mechanism in place (i.e., sub-account code) to differentiate between regular salary and stipend payments.

The number of participants to be supported must be entered in the parentheses on the proposal budget. These costs also must be justified in the budget justification section of the proposal. Some program solicitations may have special instructions for treatment of participant support.

Indirect costs (F&A) are not allowed on participant support costs. Additional information on charging participant support costs to an NSF award is available in AAG Chapter V.B.8.

(vi) Other Direct Costs (Lines G1 through G6 on the Proposal Budget)

Any costs proposed to an NSF grant must be allowable, reasonable and directly allocable to the supported activity. The budget must identify and itemize other anticipated direct costs not included under the headings above, including materials and supplies, publication costs, computer services and consultant services. Examples include aircraft rental, space rental at research establishments away from the grantee organization, minor building alterations, payments to human subjects, service charges, and construction of equipment or systems not available off the shelf. Reference books and periodicals may be charged to the grant only if they are specifically allocable to the project being supported by NSF.

[26] Proposers are advised that Article 13 of the NSF *Agency Specific Requirements* to the *Research Terms and Conditions* and Article 7 of GC-1, require the grantee to obtain written authorization from the cognizant NSF program officer prior to the reallocation of funds budgeted for participant support.

(a) Materials and Supplies (Line G1 on the Proposal Budget)

The proposal budget justification should indicate the general types of expendable materials and supplies required. Materials and supplies are defined as tangible personal property, other than equipment, costing less than $5,000, or other lower threshold consistent with the policy established by the proposing organization. Cost estimates must be included for items that represent a substantial amount of the proposed line item cost.

(b) Publication/Documentation/Dissemination (Line G2 on the Proposal Budget)

The proposal budget may request funds for the costs of documenting, preparing, publishing or otherwise making available to others the findings and products of the work conducted under the grant. This generally includes the following types of activities: reports, reprints, page charges or other journal costs (except costs for prior or early publication); necessary illustrations; cleanup, documentation, storage and indexing of data and databases; development, documentation and debugging of software; and storage, preservation, documentation, indexing, etc., of physical specimens, collections or fabricated items.

Additional information on charging publication/documentation/dissemination costs to an NSF award is available in AAG Chapter V.B.7.

(c) Consultant Services (Line G3 on the Proposal Budget)

Consultants are members of a particular profession or possess a special skill and who are not officers or employees of the performing organization. Costs of professional and consultant services are allowable when reasonable in relation to the services rendered. Payment for consultant services should be comparable to the normal or customary fees charged and received by the consultant for comparable services, especially on non-government contracts and grants.

Anticipated services must be justified and information furnished on each individual's expertise, primary organizational affiliation, normal daily compensation rate, and number of days of expected service. Consultants' travel costs, including subsistence, may be included. If requested, the proposer must be able to justify that the proposed rate of pay is reasonable.

Additional information on charging consultant costs to an NSF award is available in AAG Chapter V.B.6.

(d) Computer Services (Line G4 on the Proposal Budget)

The cost of computer services, including computer-based retrieval of scientific, technical and educational information, may be requested only where it is institutional policy to charge such costs as direct charges. A justification based on the established computer service rates at the proposing organization must be included. The proposal budget also may request costs for leasing of computer equipment. General purpose (word processing, spreadsheets, communication) computer equipment should not be requested. Special purpose or scientific use computers or associated hardware and software, however, may be requested as items of equipment when necessary to accomplish the project objectives and not otherwise reasonably available.

Additional information on charging computer services to an NSF award is available in AAG Chapter V.B.5.

(e) Subawards[27] (Line G5 on the Proposal Budget)

Except for the procurement of such items as commercially available supplies, materials, equipment or general support services allowable under the grant, no significant part of the research or substantive effort under an NSF grant may be contracted or otherwise transferred to another organization without prior NSF authorization. The intent to enter into such arrangements must be disclosed in the proposal, and a separate budget should be provided for each subawardee, if already identified, along with a description of the work to be performed. Otherwise, the disclosure should include a clear description of the work to be performed, and the basis for selection of the subawardee (except for collaborative/joint arrangements).

[27] The term "subaward" also includes contracts, subcontracts and other arrangements.

Foreign subawardees are not eligible for indirect cost recovery unless the subawardee has a previously negotiated rate agreement with a U.S. Federal agency that has a practice of negotiating rates with foreign entities.

See GPG Chapter II.C.2.j for special proposal preparation requirements for proposals that request funds to support postdoctoral researchers.

(f) Other (Line G6 on the Proposal Budget)

Any other direct costs not specified in Lines G1 through G5 must be identified on Line G6. Such costs must be itemized and detailed in the budget justification.[28]

Visa Costs

One particular category of "other" direct cost that NSF receives a significant number of inquiries about concerns the allowability of visa costs on NSF budgets. Guidance regarding inclusion of visa costs is as follows:

Short-term, travel visa costs (as opposed to longer-term, immigration visas) are generally allowable expenses that may be proposed as a direct cost on an NSF proposal. Since short-term visas are issued for a specific period and purpose, they can be clearly identified as directly connected to work performed on an NSF-related project. For these costs to be included on an NSF budget, they must:

- be critical and necessary for the conduct of the project;
- be allowable under the applicable cost principles;
- be consistent with the organization's cost accounting practices and organizational policy; and
- meet the definition of "direct cost" as described in the applicable cost principles.

(vii) Total Direct Costs (Line H on the Proposal Budget)

The total amount of direct costs requested in the budget, to include Lines A through G, must be entered on Line H.

(viii) Indirect Costs (also known as Facilities and Administrative Costs (F&A) for Colleges and Universities) (Line I on the Proposal Budget)

Except as noted in GPG II.C.2.g.(v) and II.D.9, or in an NSF program solicitation, the applicable indirect cost rate(s) negotiated by the organization with the cognizant negotiating agency must be used in computing indirect costs (F&A) for a proposal. The amount for indirect costs should be calculated by applying the current negotiated indirect cost rate(s) to the approved base(s). Indirect cost recovery for colleges, universities, and other organizations of higher education are additionally restricted by 2 CFR §220 (OMB Circular A-21). 2 CFR §220 stipulates in Appendix A, Section G.7.a. that Federal agencies are required to use the negotiated F&A rates that are in effect at the time of the initial award throughout the life of the sponsored agreement. Additional information on the charging of indirect costs to an NSF award is available in AAG Chapter V.D.

For proposing organizations that do not have a current negotiated rate agreement with a cognizant Federal agency, its business officer should prepare an indirect cost proposal based on expenditures for its most recently ended fiscal year. If the proposal is recommended for funding, the proposing organization will be required to provide its indirect cost proposal to support the budgeted indirect rate. The contents and financial data included in indirect cost proposals vary according to the make-up of the proposing organization. Instructions for preparing an indirect cost rate proposal can be found at: http://www.nsf.gov/bfa/dias/caar/docs/idcsubmissions.pdf. Proposing organizations submitting a proposal to NSF for the first time are encouraged to request guidance from the Cost Analysis & Audit Resolution Branch of NSF's Division of Institution & Award Support at (703) 292-8244.

[28] See AAG Chapter V.C.4 for specific instructions and requirements regarding the allowability of relocation costs under NSF awards.

Foreign grantees are not eligible for indirect cost rate recovery unless the foreign grantee has a previously negotiated rate agreement with a U.S. Federal agency that has a practice of negotiating rates with foreign entities.

(ix) Total Direct and Indirect Costs (F&A) (Line J on the Proposal Budget)

The total amount of direct and indirect costs (F&A) (sum of Lines H and I) must be entered on Line J.

(x) Amount of This Request (Line L on the Proposal Budget)

The total amount of funds requested by the proposer should be the same as the amount entered on Line J. If disapproved, Line L will be equal to Line J minus Line K.

(xi) Cost Sharing (Line M on the Proposal Budget)

The National Science Board issued a report entitled "*Investing in the Future: NSF Cost Sharing Policies for a Robust Federal Research Enterprise"* (NSB 09-20, August 3, 2009), which contained eight recommendations for NSF regarding cost sharing. In implementation of the Board's recommendation, NSF's revised guidance[29] is as follows:

Voluntary Committed Cost Sharing

Inclusion of voluntary committed cost sharing is prohibited and Line M on the proposal budget will not be available for use by the proposer.[30] In order for NSF, and its reviewers, to assess the scope of a proposed project, all organizational resources necessary for, and available to a project, must be described in the Facilities, Equipment and Other Resources section of the proposal (see GPG Chapter II.C.2.i for further information). NSF Program Officers may not impose or encourage cost sharing unless such requirements are explicitly included in the program solicitation.

Mandatory Cost Sharing

Mandatory cost sharing will only be required for NSF programs when explicitly authorized by the NSF Director, the National Science Board, or legislation. A complete listing of NSF programs that require cost sharing is available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/. In those rare instances, cost sharing requirements will be clearly identified in the solicitation and must be included on Line M of the proposed budget. For purposes of budget preparation, the cumulative cost sharing amount must be entered on Line M of the first year's budget.

Such cost sharing will be an eligibility, rather than a review criterion. Proposers are advised not to exceed the mandatory cost sharing level or amount specified in the solicitation.[31]

When mandatory cost sharing is included on Line M, and accepted by the Foundation, the commitment of funds becomes legally binding and is subject to audit. When applicable, the estimated value of any in-kind contributions also should be included on Line M. An explanation of the source, nature, amount and availability of any proposed cost sharing must be provided in the budget justification[32]. It should be noted that contributions derived from other Federal funds or counted as cost sharing toward projects of another Federal agency may not be counted towards meeting the specific cost sharing requirements of the NSF award.

[29] See NSF's Revised Cost Sharing Policy Statement for the Foundation's overarching policies on cost sharing.

[30] While not required by NSF, awardee organizations may, at their own discretion, continue to contribute voluntary uncommitted cost sharing to NSF-sponsored projects. These resources are not auditable by NSF and should not be included in the proposal budget or budget justification.

[31] For further information on procedures for inclusion of programmatic cost sharing in an NSF solicitation, see http://www.nsf.gov/bfa/dias/policy/csdocs/principles.pdf.

[32] 2 CFR § 215.23 describes criteria and procedures for the allowability of cash and in-kind contributions in satisfying cost sharing and matching requirements.

Failure to provide the level of cost sharing required by the NSF solicitation and reflected in the approved award budget may result in termination of the NSF award, disallowance of award costs and/or refund of award funds to NSF by the awardee.

(xii) Unallowable Costs

Proposers should be familiar with the complete list of unallowable costs that is contained in the applicable cost principles. The following categories of unallowable costs are highlighted because of their sensitivity:

(a) Entertainment

Costs of entertainment, amusement, diversion and social activities and any costs directly associated with such activities (such as tickets to shows or sporting events, meals, lodging, rentals, transportation and gratuities) are unallowable. Travel, meal and hotel expenses of grantee employees who are not on travel status are unallowable. Costs of employees on travel status are limited to those allowed under the governing cost principles for travel expenses.

(b) Meals and Coffee Breaks

No NSF funds may be spent on meals or coffee breaks for intramural meetings of an organization or any of its components, including, but not limited to, laboratories, departments and centers.

(c) Alcoholic Beverages

No NSF funds may be spent on alcoholic beverages.

Additional information on charging certain types of costs generally associated with meetings and conferences to NSF awards is available in AAG Chapter V.C.5.

h. Current and Pending Support

This section of the proposal calls for required information on all current and pending support for ongoing projects and proposals, **including this project**, and any subsequent funding in the case of continuing grants. All current project support from whatever source (e.g., Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations) must be listed. The proposed project and all other projects or activities requiring a portion of time of the PI and other senior personnel must be included, even if they receive no salary support from the project(s). The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months per year to be devoted to the project, regardless of source of support. Similar information must be provided for all proposals already submitted or submitted concurrently to other possible sponsors, including NSF. Concurrent submission of a proposal to other organizations will not prejudice its review by NSF. The Biological Sciences Directorate exception to this policy is delineated in GPG Chapter I.G.2.

If the project now being submitted has been funded previously by a source other than NSF, the information requested in the paragraph above must be furnished for the last period of funding.

If Current and Pending Support information is not required, insert text or upload a document in this section of the proposal that states, "Not Applicable." In FastLane, if Current and Pending Support information for all senior personnel is uploaded in a single PDF file associated with the PI, insert text or upload a document that states, "Not Applicable" for any co-PI or Senior Person.

i. Facilities, Equipment and Other Resources

This section of the proposal is used to assess the adequacy of the resources available to perform the effort proposed to satisfy both Intellectual Merit and Broader Impacts review criteria. Proposers should describe only those resources that are directly applicable. Proposers should include an aggregated description of the internal and external resources (both physical and personnel) that the organization and its collaborators will provide to the project, should it be funded. Such information must be provided in this section, in lieu of other parts of the

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proposal (e.g., budget justification, project description). The description should be narrative in nature and must not include any quantifiable financial information. Reviewers will evaluate the information during the merit review process and the cognizant NSF Program Officer will review it for programmatic and technical sufficiency.

Although these resources are not considered cost sharing as defined in 2 CFR § 215.23 (OMB Circular A-110), the Foundation does expect that the resources identified in the Facilities, Equipment, and Other Resources section will be provided, or made available, should the proposal be funded. AAG Chapter II.B.1 specifies procedures for use by the awardee when there are postaward changes to objective, scope or methodology.

If there are no Facilities, Equipment and Other Resources to describe, insert text or upload a document in this section of the proposal that states, "Not Applicable."

j. Special Information and Supplementary Documentation

Except as specified below, special information and supplementary documentation must be included as part of the Project Description (or part of the budget justification), if it is relevant to determining the quality of the proposed work. Information submitted in the following areas is not considered part of the 15-page Project Description limitation. This Special Information and Supplementary Documentation section also is not considered an appendix. Specific guidance on the need for additional documentation may be obtained from the organization's sponsored projects office or in the references cited below.

- Postdoctoral Researcher Mentoring Plan. Each proposal[33] that requests funding to support **postdoctoral researchers**[34] must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. If a Postdoctoral Researcher Mentoring Plan is required, FastLane will not permit submission of a proposal if the Plan is missing. In no more than one page, the mentoring plan must describe the mentoring that will be provided to all postdoctoral researchers supported by the project, irrespective of whether they reside at the submitting organization, any subawardee organization, or at any organization participating in a simultaneously submitted collaborative project. Proposers are advised that the mentoring plan may not be used to circumvent the 15-page project description limitation. See GPG Chapter II.D.4 for additional information on collaborative proposals. Mentoring activities provided to postdoctoral researchers supported on the project will be evaluated under the Broader Impacts review criterion.

  Examples of mentoring activities include, but are not limited to: career counseling; training in preparation of grant proposals, publications and presentations; guidance on ways to improve teaching and mentoring skills; guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and training in responsible professional practices.

- Plans for data management and sharing of the products of research. Proposals must include a supplementary document of no more than two pages labeled "Data Management Plan". This supplement should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results (see AAG Chapter VI.D.4), and may include:

  1. the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;

  2. the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);

[33] For purposes of meeting the mentoring requirement, simultaneously submitted collaborative proposals, and, collaborative proposals that include subawards, constitute a single unified project. Therefore, only one mentoring plan may be submitted for the entire project.

[34] In situations where a postdoctoral researcher is listed in Section A of the NSF Budget, and is functioning in a Senior Project personnel capacity (i.e., responsible for the scientific or technical direction of the project), a mentoring plan is not required.

3. policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;

4. policies and provisions for re-use, re-distribution, and the production of derivatives; and

5. plans for archiving data, samples, and other research products, and for preservation of access to them.

Data management requirements and plans specific to the Directorate, Office, Division, Program, or other NSF unit, relevant to a proposal are available at: http://www.nsf.gov/bfa/dias/policy/dmp.jsp. If guidance specific to the program is not available, then the requirements established in this section apply.

Simultaneously submitted collaborative proposals and proposals that include subawards are a single unified project and should include only one supplemental combined Data Management Plan, regardless of the number of non-lead collaborative proposals or subawards included. FastLane will not permit submission of a proposal that is missing a Data Management Plan. Proposals for supplementary support to an existing award are not required to include a Data Management Plan.

A valid Data Management Plan may include only the statement that no detailed plan is needed, as long as the statement is accompanied by a clear justification. Proposers who feel that the plan cannot fit within the supplement limit of two pages may use part of the 15-page Project Description for additional data management information. Proposers are advised that the Data Management Plan may not be used to circumvent the 15-page Project Description limitation. The Data Management Plan will be reviewed as an integral part of the proposal, coming under Intellectual Merit or Broader Impacts or both, as appropriate for the scientific community of relevance.

- Rationale for performance of all or part of the project off-campus or away from organizational headquarters. (See AAG Chapter V.D.1)

- Documentation of collaborative arrangements of significance to the proposal through letters of commitment. (See GPG Chapter II.C.2.d.(iv).) While such letters of commitment are allowable, unless required by a specific program solicitation, letters of support should not be submitted as they are not a standard component of an NSF proposal. Letters of support are typically from a key stakeholder such as an organization, collaborator or Congressional Representative, and are used to convey a sense of enthusiasm for the project and/or to highlight the qualifications of the PI or co-PI. Letters of support submitted in response to a program solicitation requirement must be unique to the specific proposal submitted and cannot be altered without the author's explicit prior approval. NSF may return without review proposals that are not consistent with these instructions.

- In order for NSF to comply with federal environmental statutes (including, but not limited to, the National Environmental Policy Act [42 U.S.C. §§ 4321, et seq.], the National Historic Preservation Act [16 U.S.C. § 470, et seq.], and the Endangered Species Act [16 U.S.C. §§ 1531, et seq.], the proposer may be requested to submit supplemental post-proposal submission information to NSF in order that a reasonable and accurate assessment of environmental impacts by NSF may be made. Such information may include completion of the Institution/Organization Environmental Impacts Checklist (see GPG Exhibit II-8), as well as providing additional information as deemed necessary by NSF to meet its obligations to comply with federal environmental statutes.

- International Activities

  1. International Research/Education/Training Activities. For each proposal that describes an international activity, PIs should list the primary countries involved on the Cover Sheet. An international activity is defined as research, training, and/or education carried out either in the U.S. (using virtual technologies) or abroad, in cooperation with foreign counterparts.

  2. International Conferences, Symposia, Workshops. Proposers should also enter on the Cover Sheet the country/countries with which project participants will engage and/or travel to attend international conferences, symposia and/or workshops.

3. Work in foreign countries. Some governments require nonresidents to obtain official approval to carry out investigations within their borders and coastal waters under their jurisdiction. PIs are responsible for obtaining the required authorizations and for advising NSF that they have been obtained or requested. Advance coordination should minimize disruption of the research. (See AAG Chapter VI.B.4 and VI.G.3 and Article 34 of the NSF *Agency Specific Requirements* to the *Research Terms and Conditions*, and Article 45 of the NSF *Grant General Conditions*.)

- Antarctic proposals to *any* NSF program require operational worksheets by the first Wednesday of June in the year before any proposed fieldwork. See "proposals with fieldwork" in Chapter V.A, of the Antarctic Research solicitation. Special budget considerations also apply. See also Chapter V.B, of the Antarctic Research solicitation.

- Research in a location designated, or eligible to be designated, a registered historic place. (See AAG Chapter VI.K). Where applicable, the box for "Historic Places" must be checked on the Cover Sheet.

- Research involving field experiments with genetically engineered organisms. (See AAG Chapter VI.B.2)

- Documentation regarding research involving the use of human subjects, hazardous materials, vertebrate animals, or endangered species. (See AAG Chapter VI.B and GPG Chapter II.D.6 and II.D.7).

- Projects that involve technology utilization/transfer activities, that require a management plan, or that involve special reports or final products. Please note that some program solicitations provide specific guidance on preparation and inclusion of management plans in proposals submitted to NSF.

- Special components in new proposals or in requests for supplements, such *as Facilitation Awards for Scientists and Engineers with Disabilities (FASED), Research Opportunity Awards (ROAs) or Research Experiences for Undergraduates (REUs)*. (See GPG Chapter II.D.3 for information on FASED, and for the other programs identified, consult the relevant program solicitation.)

- *Research in Undergraduate Institutions*. (See RUI program solicitation for information.)

- *Research Experiences for Undergraduates*. (See the REU program solicitation for information.)

In addition, the supplementary documentation section should alert NSF officials to unusual circumstances that require special handling, including, for example, proprietary or other privileged information in the proposal, matters affecting individual privacy, required intergovernmental review under E.O. 12372 (*Intergovernmental Review of Federal Programs*) for activities that directly affect State or local governments, or possible national security implications.

k. Appendices

All information necessary for the review of a proposal must be contained in Sections A through I of the proposal. **Appendices may not be included unless a deviation has been authorized.** GPG Chapter II.A contains further information.

D. Special Guidelines

1. Grants for Rapid Response Research (RAPID)

The RAPID funding mechanism is used for proposals having a severe urgency with regard to availability of, or access to data, facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events. PI(s) must contact the NSF program officer(s) whose expertise is most germane to the proposal topic before submitting a RAPID proposal. This will facilitate determining whether the proposed work is appropriate for RAPID funding.

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- The Project Description is expected to be brief (two to five pages) and include clear statements as to why the proposed research is of an urgent nature and why a RAPID award would be the most appropriate mechanism for supporting the proposed work. Note this proposal preparation instruction deviates from the standard proposal preparation instructions contained in this Guide; RAPID proposals must otherwise be compliant with the GPG.

- The box for “RAPID” must be checked on the Cover Sheet.

- Only internal merit review is required for RAPID proposals. Under rare circumstances, program officers may elect to obtain external reviews to inform their decision. If external review is to be obtained, then the PI will be so informed in the interest of maintaining the transparency of the review and recommendation process. The two standard NSB-approved merit review criteria will apply.

- Requests may be for up to $200K and of one year duration. The award size, however, will be consistent with the project scope and of a size comparable to grants in similar areas.

- No-cost extensions and requests for supplemental funding will be processed in accordance with standard NSF policies and procedures.

- Renewed funding of RAPID awards may be requested only through submission of a proposal that will be subject to full external merit review. Such proposals would be designated as “RAPID renewals.”

2. EArly-concept Grants for Exploratory Research (EAGER)

The EAGER funding mechanism may be used to support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. This work may be considered especially "high risk-high payoff" in the sense that it, for example, involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives. These exploratory proposals may also be submitted directly to an NSF program, but the EAGER mechanism should not be used for projects that are appropriate for submission as “regular” (i.e., non-EAGER) NSF proposals. PI(s) must contact the NSF program officer(s) whose expertise is most germane to the proposal topic prior to submission of an EAGER proposal. This will aid in determining the appropriateness of the work for consideration under the EAGER mechanism; this suitability must be assessed early in the process.

- The Project Description is expected to be brief (five to eight pages) and include clear statements as to why this project is appropriate for EAGER funding, including why it does not “fit” into existing programs and why it is a “good fit” for EAGER. Note this proposal preparation instruction deviates from the standard proposal preparation instructions contained in this Guide; EAGER proposals must otherwise be compliant with the GPG.

- The box for “EAGER” must be checked on the Cover Sheet.

- Only internal merit review is required for EAGER proposals. Under rare circumstances, program officers may elect to obtain external reviews to inform their decision. If external review is to be obtained, then the PI will be so informed in the interest of maintaining the transparency of the review and recommendation process. The two standard NSB-approved merit review criteria will apply.

- Requests may be for up to $300K and of up to two years duration. The award size, however, will be consistent with the project scope and of a size comparable to grants in similar areas.

- No-cost extensions and requests for supplemental funding will be processed in accordance with standard NSF policies and procedures.

- Renewed funding of EAGER awards may be requested only through submission of a proposal that will be subject to full external merit review. Such proposals would be designated as “EAGER renewals.”

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3. Facilitation Awards for Scientists and Engineers with Disabilities (FASED)

As part of its effort to promote full utilization of highly qualified scientists, mathematicians, and engineers, and to develop scientific and technical talent, the Foundation has the following goals:

- to reduce or remove barriers to participation in research and training by physically disabled individuals by providing special equipment and assistance under awards made by NSF; and

- to encourage disabled individuals to pursue careers in science and engineering by stimulating the development and demonstration of special equipment that facilitates their work performance.

Individuals with disabilities eligible for facilitation awards include principal investigators, other senior project personnel, and graduate and undergraduate students. The cognizant NSF Program Officer will make decisions regarding what constitutes appropriate support on a case-by-case basis. The specific nature, purpose, and need for equipment or assistance should be described in sufficient detail in the proposal to permit evaluation by knowledgeable reviewers.

There is no separate program for funding of special equipment or assistance. Requests are made in conjunction with regular competitive proposals, or as a supplemental funding request to an existing NSF award. Specific instructions for each type of request are provided below.

a. Requests as part of a competitive proposal submission

Funds may be requested to purchase special equipment, modify equipment or provide services required specifically for the work to be undertaken. Requests for funds for equipment or assistance that compensate in a general way for the disabling condition are not permitted. For example, funds may be requested to provide: prosthetic devices to manipulate a particular apparatus; equipment to convert sound to visual signals, or vice versa, for a particular experiment; access to a special site or to a mode of transportation (except as defined below); a reader or interpreter with special technical competence related to the project; or other special-purpose equipment or assistance needed to conduct a particular project. Items, however, such as standard wheel chairs, prosthetics, hearing aids, TDD/text-phones, or general readers for the blind would not be supported because the need for them is not specific to the proposed project. Similarly, ramps, elevators, or other structural modifications of research facilities are not eligible for direct support under this program.

No maximum funding amount has been established for such requests. It is expected, however, that the cost (including equipment adaptation and installation) will not be a major component of the total proposed budget for the project. Requests for funds for special equipment or assistance to facilitate the participation of individuals with disabilities should be included in the proposed budget for the project and documented in the budget justification. The specific nature, purpose and need for such equipment or assistance should be described in sufficient detail in the Project Description to permit evaluation of the request by knowledgeable reviewers.

b. Supplemental funding requests to existing NSF grants

Supplemental funds for special equipment or assistance to facilitate participation in NSF-supported projects by persons with disabilities may be provided under existing NSF grants. Normally, title is vested in the grantee organization for equipment purchased in conjunction with NSF-supported activities. In accordance with the applicable general terms and conditions[35], the grantee organization guarantees use of the equipment for the specific project during the period of work funded by the Foundation, and assures its use in an appropriate manner after project completion. In instances involving special equipment for persons with disabilities, the need for such may be unique to the individual. In such cases, the grantee organization may elect to transfer title to the individual to assure appropriate use after project completion.

Supplemental requests should be submitted electronically by using the "Supplemental Funding Request" function in FastLane and should include a brief description of the request, a budget and a budget justification. Requests must be submitted at least two months before funds are needed. Funding decisions will be made on the basis of

[35] The *Research Terms and Conditions* and the *Grant General Conditions* are available on the NSF website at: http://www.nsf.gov/awards/managing/rtc.jsp, and http://www.nsf.gov/awards/managing/general_conditions.jsp, respectively.

the justification and availability of program funds with any resultant funding provided through a formal amendment of the existing NSF grant.

4. Collaborative Proposals

A collaborative proposal is one in which investigators from two or more organizations wish to collaborate on a unified research project. Collaborative proposals may be submitted to NSF in one of two methods: as a single proposal, in which a single award is being requested (with subawards administered by the lead organization); or by simultaneous submission of proposals from different organizations, with each organization requesting a separate award. In either case, the lead organization's proposal must contain all of the requisite sections as a single package to be provided to reviewers (that will happen automatically when procedures below are followed). All collaborative proposals must clearly describe the roles to be played by the other organizations, specify the managerial arrangements, and explain the advantages of the multi-organizational effort within the Project Description. PIs are strongly encouraged to contact the cognizant NSF Program Officer prior to submission of a collaborative proposal.

a. Submission of a collaborative proposal from one organization

The single proposal method allows investigators from two or more organizations who have developed an integrated research project to submit a single, focused proposal. A single investigator bears primary responsibility for the administration of the grant and discussions with NSF, and, at the discretion of the organizations involved, investigators from any of the participating organizations may be designated as co-PIs. Please note, however, that if awarded, a single award would be made to the submitting organization, with any collaborators listed as subawards.

If a proposed subaward includes funding to support postdoctoral researchers, the mentoring activities to be provided for such individuals must be incorporated in the supplemental mentoring plan outlined in GPG Chapter II.C.2j.

By submission of the proposal, the organization has determined that the proposed activity is administratively manageable. NSF may request a revised proposal, however, if it considers that the project is so complex that it will be too difficult to review or administer as presented. (See GPG Chapter II.C.2g.(vi)(e) for additional instructions on preparation of this type of proposal.)

b. Submission of a collaborative proposal from multiple organizations

Simultaneous submission of proposals allows multiple organizations to submit a unified set of certain proposal sections, as well as information unique to each organization. The lead organization is required to submit a Project Summary, Project Description, References Cited, Data Management Plan, and Postdoctoral Mentoring Plan (if applicable) for all organizations in the collaborative. Other sections must be submitted by each organization in the collaborative. All collaborative proposals arranged as separate submissions from multiple organizations must be submitted via FastLane. For these proposals, the project title must begin with the words "Collaborative Research:". If funded, each investigator bears responsibility for a separate award.

Required sections of the proposal differ based on the organization's role. The following sections are required for a collaborative proposal submitted by:

Lead Organization

- Cover Sheet
- Project Summary
- Table of Contents (automatically generated)
- Project Description
- References Cited
- Biographical Sketch(es)
- Budget and Budget Justification
- Current and Pending Support
- Facilities, Equipment and Other Resources

Non-Lead Organization

- Cover Sheet
- Table of Contents (automatically generated)
- Biographical Sketch(es)
- Budget and Budget Justification
- Current and Pending Support
- Facilities, Equipment and Other Resources

- Data Management Plan
- Postdoctoral Mentoring Plan (if applicable)

See GPG Chapter II.C.2.j for additional guidance on mentoring and data management plan requirements for collaborative proposals. FastLane will combine the proposal submission for printing or electronic viewing.

To submit the collaborative proposal, the following process must be completed:[36]

(i) Each non-lead organization must assign their proposal a proposal PIN. This proposal PIN and the temporary proposal ID generated by FastLane when the non-lead proposal is created must be provided to the lead organization before the lead organization submits its proposal to NSF.

(ii) The lead organization must then enter each non-lead organization(s) proposal PIN and temporary proposal ID into the FastLane lead proposal by using the "Link Collaborative Proposals" option found on the FastLane "Form Preparation" screen. Given that such separately submitted proposals constitute a "single" proposal submission to NSF, it is imperative that the proposals be submitted within a reasonable timeframe to one another.

(iii) **All components** of the collaborative proposal must meet any established deadline, and, failure to do so may result in the entire collaborative proposal being returned without review.

5. Proposals for Equipment

Proposals for specialized equipment may be submitted by an organization for: (1) individual investigators; (2) groups of investigators within the same department; (3) several departments; (4) organization(s) participating in a collaborative or joint arrangement; (5) any components of an organization; or (6) a region. One individual must be designated as PI. Investigators may be working in closely related areas or their research may be multidisciplinary.

An equipment proposal must contain all of the following proposal sections:

- Cover Sheet

- Project Summary: GPG Chapter II.C.2.b should be consulted to prepare this portion of the proposal.

- Project Description (not to exceed 15 pages) that includes:

  (1) an overall acquisition plan which discusses arrangements for acquisition, maintenance and operation. Equipment to be purchased, modified or constructed must be described in sufficient detail to allow comparison of its capabilities with the needs of the proposed activities;

  (2) a description, from each potential major user, of the project(s) for which the equipment will be used. This description must be succinct, not necessarily as detailed as in a full research proposal, and must emphasize the intrinsic merit of the activity and the importance of the equipment to it. A brief summary will suffice for auxiliary users; and

  (3) a description of comparable equipment already at the proposing organization(s), if applicable, and an explanation of why it cannot be used. This includes comparable government-owned equipment that is on-site.

- References Cited: GPG Chapter II.C.2.e should be consulted to prepare this portion of the proposal. If there are no references cited, insert text or upload a document in this section of the proposal that states, "Not Applicable."

[36]Detailed instructions for the electronic preparation and submission of collaborative proposals are available on the FastLane website at https://www.fastlane.nsf.gov/NSFHelp/flashhelp/fastlane/FastLane_Help/fastlane_help.htm#proposal_functions_introduction.htm.

- A biographical sketch of the person(s) who will have overall responsibility for maintenance and operation and a brief statement of qualifications, if not obvious (GPG Chapter II.C.2.f should be consulted to prepare this portion of the proposal; also see GPG II.C.2.f.(iii)).

- Proposal Budget and Budget Justification: An annual budget for operation and maintenance of the proposed equipment, a brief description of other support services available and the annual budget for their operation, maintenance and administration (GPG Chapter II.C.2.g should be consulted to prepare this portion of the proposal).

- Current and Pending Support: GPG Chapter II.C.2.h should be consulted to prepare this portion of the proposal.

- Facilities, Equipment and Other Resources that includes a description of the physical facility, including floor plans or other appropriate information, where the equipment will be located; a narrative description of the source of funds available for operation and maintenance of the proposed equipment; and a statement of why the equipment is severable or non-severable from the physical facility (GPG Chapter II.C.2.i should be consulted to prepare this portion of the proposal).

- Data Management Plan: GPG Chapter II.C.2.j should be consulted to prepare this portion of the proposal. And,

- Postdoctoral Mentoring Plan (if applicable): GPG Chapter II.C.2.j should be consulted to prepare this portion of the proposal.

These proposals normally compete with proposals for research or education projects.[37]

6. Proposals Involving Vertebrate Animals

a. Any project proposing use of vertebrate animals for research or education shall comply with the Animal Welfare Act [7 U.S.C. 2131 et seq.] and the regulations promulgated thereunder by the Secretary of Agriculture [9 CFR 1.1-4.11] pertaining to the humane care, handling, and treatment of vertebrate animals held or used for research, teaching or other activities supported by Federal awards. In accordance with these requirements, proposed projects involving use of any vertebrate animal for research or education must be approved by the submitting organization's Institutional Animal Care and Use Committee (IACUC) before an award can be made. For this approval to be accepted by NSF, the organization must have a current Public Health Service (PHS) Approved Assurance.

In the case of research involving the study of wildlife in the field or in the lab, for the provision in the PHS Assurance for Institutional Commitment (Section II) that requires the organization to establish and maintain a program for activities involving animals in accordance with the *Guide for the Care and Use of Laboratory Animals* (Guide), the organization has established and will maintain a program for activities involving animals according to the Guide. The organization will follow recommendations specified in the Guide for details involving laboratory animals, and taxon-specific guidelines approved by the American Society of Ichthyologists and Herpetologists, the American Society of Mammalogists, and the Ornithological Council, as is appropriate for the taxon to be studied[38].

[37] See AAG Chapter IV.D for additional information on the administration of equipment awards.
[38] Guidelines to the Use of Wild Birds in Research: http://www.nmnh.si.edu/BIRDNET/guide/index.html
Guidelines of the American Society of Mammalogists for the Use of Wild Mammals in Research: http://www.mammalsociety.org/articles/guidelines-american-society-mammalogists-use-wild-mammals-research-0
Guidelines for the Use of Fishes in Research: http://fisheries.org/docs/policy_useoffishes.pdf
Guidelines for the Use of Live Amphibians and Reptiles in Field and Laboratory Research: http://www.asih.org/files/hacc-final.pdf

b. Sufficient information must be provided within the 15-page project description to enable reviewers to evaluate the choice of species, number of animals to be used, and any necessary exposure of animals to discomfort, pain, or injury.

c. Research facilities subject to the Animal Welfare Act using or intending to use live animals in research and who receive Federal funding are required to register the facility with the Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture. A current listing of licensed animal dealers may also be obtained from APHIS. The location of the nearest APHIS Regional Office, as well as information concerning this and other APHIS activities may be obtained at http://www.aphis.usda.gov/.

d. Projects involving the care or use of vertebrate animals at a foreign organization or foreign field site also require approval of research protocols by the U.S. grantee's IACUC. If the project is to be funded through an award to a foreign organization or through an individual fellowship award that will support activities at a foreign organization, NSF will require a statement of compliance that the activities will be conducted in accordance with all applicable laws in the foreign country and that the *International Guiding Principles for Biomedical Research Involving Animals* (see http://www.cioms.ch/) will be followed.

e. The following information regarding the organization's intention to utilize vertebrate animals as part of the project should be provided on the NSF Cover Sheet:

(1) The box for "Vertebrate Animals" must be checked on the Cover Sheet if use of vertebrate animals is envisioned.

(2) The IACUC approval date (if obtained) must be identified in the space provided.

If IACUC approval has not been obtained prior to submission, the proposer should indicate "Pending" in the space provided for the approval date. If a decision is made to fund the proposal, the organization must provide a signed copy of the IACUC approval letter to the cognizant program. The letter should indicate approval of the proposed activities and must be submitted prior to an award being issued.

(3) The PHS Approved Animal Welfare Assurance Number must be entered in the space provided.

f. For fellowship proposals submitted by individuals that involve use of vertebrate animals, a copy of the approval letter from the IACUC (including Assurance Number and organizational signature) should be included in the Supplementary Documentation section of the proposal or sent directly to the cognizant program. The letter should indicate approval of the proposed activities.

If IACUC approval has not been obtained prior to submission, the proposer should indicate "Pending" in the space provided for the approval date. If a decision is made to fund the proposal, the organization must provide a signed copy of the IACUC approval letter to the cognizant program. The letter should indicate approval of the proposed activities and must be submitted prior to an award being issued.

See also AAG Chapter VI.B.3 for additional information on the administration of awards that utilize vertebrate animals.

7. Proposals Involving Human Subjects

a. Projects involving research with human subjects must ensure that subjects are protected from research risks in conformance with the relevant federal policy known as the Common Rule (*Federal Policy for the Protection of Human Subjects, 45 CFR 690*). All projects involving human subjects must either (1) have approval from the organization's Institutional Review Board (IRB) before issuance of an NSF award or, (2) must affirm that the IRB has declared the research exempt from IRB review, in accordance with the applicable subsection, as established in section 101(b) of the Common Rule. If certification of exemption is provided after submission of the proposal and before the award is issued, the exemption number corresponding to one or more of the exemption categories must also be included in the documentation provided to NSF.

If the project involves human subjects and is to be performed outside of the U.S., evidence of IRB approval also is required. If there is no IRB approval provided, and the foreign country is not included in the 2008 HHS OHRP

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International Compilation of Human Research Protections (http://www.hhs.gov/ohrp/international/intlcompilation/intlcompilation.html), nor is an Assurance on file with OHRP (http://ohrp.cit.nih.gov/search/search.aspx?styp=bsc), NSF may decline to support the project.

b. The following information regarding the organization's intention to utilize human subjects as part of the project should be provided on the NSF Cover Sheet:

(1) The box for "Human Subjects" must be checked on the Cover Sheet if use of human subjects is envisioned.

(2) If human subject activities are exempt from IRB review, provide the exemption number(s) corresponding to one or more of the exemption categories. The six categories of research that qualify for exemption from coverage by the regulations are defined in the Common Rule for Protection of Human Subjects.

(3) If the research is not designated as exempt, the IRB approval date should be identified in the space provided. This date, at minimum, should cover the period at which the project is initiated. If IRB approval has not been obtained prior to submission, the proposer should indicate "Pending" in the space provided for the approval date. If a decision is made to fund the proposal, the organization must provide a signed copy of the IRB approval letter to the cognizant program. The letter should indicate approval of the proposed activities and must be submitted prior to an award being issued.

(4) Enter the Federal Wide Assurance (FWA) Number that the proposer has on file with the Office for Human Research Protections, if available.

See also AAG Chapter VI.B.1 for additional information on the administration of awards that utilize human subjects.

8. Proposals for Conferences, Symposia and Workshops

NSF supports conferences, symposia and workshops in special areas of science and engineering that bring experts together to discuss recent research or education findings or to expose other researchers or students to new research and education techniques. NSF encourages the convening in the U.S. of major international conferences, symposia and workshops. Conferences will be supported only if equivalent results cannot be obtained at regular meetings of professional societies. Although requests for support of conferences, symposia and workshops ordinarily originate with educational institutions or scientific and engineering societies, they also may come from other groups. Shared support by several Federal agencies, States or private organizations is encouraged. Because proceedings of such conferences normally should be published in professional journals, requests for support may include publication costs. Proposals for conferences, symposia and workshops should generally be made at least a year in advance of the scheduled date. Conferences or meetings, including the facilities in which they are held, funded in whole or in part with NSF funds, must be accessible to participants with disabilities.

A conference, symposium or workshop proposal[39] (that complies with the page and font size instructions in GPG Chapter II.B) must contain the elements identified below. Note the proposal preparation instructions for these types of proposals deviate from the standard proposal preparation instructions contained in this Guide. If any section is not required, insert text or upload a document in that section of the proposal that states, "Not Applicable."

- Cover Sheet
- Project Summary (GPG Chapter II.C.2.b should be consulted to prepare this portion of the proposal).
- Project Description (not to exceed 15 pages) that includes:

[39] Costs associated with conferences, symposia, workshops or other meetings supported by an NSF grant must be specifically and clearly identified in the proposed scope of work and budget, and approved by NSF. Additional information on the charging of conference, symposia and workshops is contained in the AAG Chapter V.C.5.

(1) A statement of the need for such a gathering and a list of topics;

(2) A listing of recent meetings on the same subject, including dates and locations;

(3) The names of the chairperson and members of organizing committees and their organizational affiliations;

(4) Information on the location and probable date(s) of the meeting and the method of announcement or invitation;

(5) A statement of how the meeting will be organized and conducted, how the results of the meeting will be disseminated and how the meeting will contribute to the enhancement and improvement of scientific, engineering and/or educational activities; and

(6) A plan for recruitment of and support for speakers and other attendees, that includes participation of groups underrepresented in science and engineering (e.g., underrepresented minorities, women, and persons with disabilities).

(7) A description of plans to identify resources for child care and other types of family care at the conference site to allow individuals with family care responsibilities to attend. Attendance for some participants will be dependent on the availability of such resources. This information should help enable attendees to make arrangements for family care, as needed.

- Proposal Budget: An estimated total budget for the conference, together with an itemized statement of the amount of support requested from NSF (the NSF budget may include participant support for transportation (when appropriate), *per diem* costs, stipends, publication and other conference-related costs. (Note: participant support costs must be excluded from the indirect cost base; see GPG Chapter II.C.2g(v)) (GPG Chapter II.C.2.g should be consulted to prepare this portion of the proposal).

- Current and Pending Support: The support requested or available from other Federal agencies and other sources (GPG Chapter II.C.2.h should be consulted to prepare this portion of the proposal). And,

- Data Management Plan: Plans for management and sharing of any data products resulting from the activity (GPG Chapter II.C.2.j should be consulted to prepare this portion of the proposal).

For additional coverage on allowability of costs associated with meetings and conferences, proposers should consult AAG Chapter V.C.5.

9. Proposals to Support International Travel

Proposals for travel support for U.S. participation in international scientific and engineering meetings held abroad are handled by the NSF organizational unit with program responsibility for the area of interest.

Group travel awards are encouraged as the primary means of support for international travel. A university, professional society or other non-profit organization may apply for funds to enable it to coordinate and support U.S. participation in one or more international scientific meeting(s) abroad. Proposals submitted for this purpose should address the same items as those indicated for conferences, symposia, and workshops (see Section 8 above), with particular attention to plans for composition and recruitment of the travel group. Information on planned speakers should be provided where available from the conference organizer.

Similar to proposals for conferences, symposia, or workshops, if any section is not required, insert text or upload a document in that section of the proposal that states, “Not Applicable.”

Group travel proposals may request support only for the international travel costs of the proposed activity. However, in addition, group travel proposals also may include as compensation for the grantee, a flat rate of $50 per traveler for general administrative costs of preparing announcements, evaluating proposals and handling travel arrangements customarily associated with this type of project. (See AAG Chapter VI.G.5)

Group travel grantees are required to retain supporting documentation that funds were spent in accordance with the original intent of the proposal. Such documentation may be required in final reports and is subject to audit.

10. Proposals for Doctoral Dissertation Research

NSF awards grants in support of doctoral dissertation research in some disciplines, primarily field research in the environmental, behavioral and social sciences. Support may be sought through those disciplinary programs and, in cases involving research abroad, through the Office of International and Integrative Activities. The thesis advisor or concerned faculty member submits proposals on behalf of the graduate student. Further information can be obtained from the cognizant program office. Deadlines for these programs vary by Directorate. Consult the NSF website for additional information.

11. Support for Development of NSF Centers

NSF provides support for a variety of individual Centers and Centers programs that contribute to the Foundation's vision as outlined in the NSF Strategic Plan. Centers exploit opportunities in science, engineering and technology in which the complexity of the research problem(s) or the resources needed to solve the(se) problem(s) require the advantages of scope, scale, change, duration, equipment, facilities, and students that can only be provided by an academic research center. They focus on investigations at the frontiers of knowledge not normally attainable through individual investigations, at the interfaces of disciplines and/or by incorporating fresh approaches to the core of disciplines. Centers focus on integrative learning and discovery and demonstrate leadership in broadening participation through focused investments in a diverse set of partner organizations and individuals. In doing so, they draw upon, and contribute to, the development of the Nation's full intellectual talent. Most Center awards are limited to a maximum duration of ten years and are often subject to mid-course external merit review. Proposers interested in learning more about current or future NSF Centers are encouraged to contact the appropriate disciplinary Program Officer.

12. Support for Development of Major Research Facilities and Equipment

As an integral part of its stewardship of the science and engineering infrastructure of the country, NSF provides support for major research equipment and facilities construction. NSF depends on the research communities to provide input for the planning, development, and implementation of Large Facility Projects. This normally occurs through National Academies. studies, community workshop reports, professional society activities, and many other methods to ensure community input funded by interested NSF programs on the basis of merit-reviewed proposals. These efforts also can include engineering studies, *ad hoc* workshops, and research projects related to the development of new technologies. Proposers are strongly encouraged to contact the appropriate disciplinary program officer to discuss potential funding and mechanisms in advance of proposal submission.

13. Projects Requiring High-Performance Computing Resources, Large Amounts of Data Storage, or Advanced Visualization Resources

Many research projects require access to computational, data storage or visualization resources in order to complete the work proposed. For those projects that require such resources at a scale that is beyond that typically available locally, NSF supports a number of resources. For the most computationally intensive projects, the Blue Waters system at University of Illinois, Urbana/Champaign, is the most suitable. Blue Waters is designed to support a small number (~50) of research teams involved with projects requiring the most advanced computational and data resources. Currently, the allocation process for that resource is done directly via proposal submission to the cognizant program director. Proposals are reviewed for both their scientific and computational needs. The Blue Waters supercomputer provides sustained performance of 1 petaflop on a range of real-world science and engineering applications. It is one of the most powerful supercomputers in the world. Those interested should visit the Blue Waters portal (http://www.ncsa.illinois.edu/BlueWaters) for more details of the system's hardware and capabilities.

Yellowstone, which is part of the National Center for Atmospheric Research, is a significant resource, 1.5 petaflop peak speed, but one that is designed to meet the needs of the geoscience community. Yellowstone operates its own allocations process and those interested in obtaining time and/or storage should consult the

cognizant program director in the Geosciences Directorate and visit the Yellowstone portal (http://www2.cisl.ucar.edu/resources/yellowstone) for more details.

The most general set of computational and data resources funded by the NSF is operated by the XSEDE project (https://www.xsede.org). XSEDE provides the integrating fabric for a collection of very powerful supercomputers, a high-throughput computing environment, high-volume data storage facilities, advanced visualization services, connected by a high-bandwidth private network, a training education and outreach program in how to use its services and an extended collaborative support program to assist researchers in using the advanced computational resources. The physical resources themselves are provided by Service Providers (SP) via separate awards from the NSF. Allocations of XSEDE resources for large projects are done through the XSEDE Resource Advisory Committee, which meets quarterly, using an external set of experts. Smaller requests do not require a proposal or review and a simple on-line process may be used to request such an allocation. NSF encourages prospective users to seek more information at https://www.xsede.org, where they can also register for a portal account.

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Exhibit II-1: Proposal Preparation Checklist (will be updated upon completion of the comment process)

Unless otherwise specified in an NSF program solicitation, it is imperative that all proposals conform to the proposal preparation and submission instructions specified in this Guide. Proposals also must comply with NSF font, spacing and margin requirements. The guidelines specified in GPG Chapter II.B establish minimum requirements; however, readability is of utmost importance and should take precedence in selection of an appropriate font. Conformance with all preparation and submission instructions is required and will be strictly enforced unless a deviation has been approved in advance of proposal submission. NSF may not accept[40] or may return without review proposals that are not consistent with these instructions. See GPG Chapter IV.B for additional information.

Prior to electronic submission, it is strongly recommended that an administrative review be conducted to ensure that proposals comply with the instructions, in the format specified. This checklist is not intended to be an all-inclusive repetition of the required proposal contents and associated proposal preparation guidelines. It is, however, meant to highlight certain critical items so they will not be overlooked when the proposal is prepared.

[ ] **General:**

- [ ] Proposal is responsive to the program description/announcement/solicitation or to the GPG.
- [ ] If a proposal has been previously declined and is being resubmitted, proposal has been revised to take into account the major comments from the prior NSF review.
- [ ] Proposed work is appropriate for funding by NSF, and is not a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter.

[ ] **Single Copy Documents:**

- [ ] Information about Principal Investigators/Project Directors (except for the required information regarding current or previous Federal research support and the name(s) of the PI/co-PI, submission of the information is voluntary).
- [ ] Authorization to Deviate from NSF Proposal Preparation Requirements (if applicable).
- [ ] List of Suggested Reviewers, or Reviewers Not to Include (optional).
- [ ] Proprietary or Privileged Information Statement (if applicable).
- [ ] Proposal Certifications (submitted by the Authorized Organizational Representative within five working days following the electronic submission of the proposal.) (See GPG Chapter II.C.1.e for a complete listing of proposal certifications.)
- [ ] SF LLL, *Disclosure of Lobbying Activities* (if applicable).

[ ] **Cover Sheet:**

- [ ] Program Description/Announcement/Solicitation No./Closing Date selected. (If the proposal is not submitted in response to a specific program announcement/solicitation, proposers must enter "NSF Grant Proposal Guide.")
- [ ] Specific NSF program(s) identified (if known).
- [ ] For renewal proposal, previous award number entered.
- [ ] Related preliminary proposal number entered (if applicable).
- [ ] Check Appropriate Box(es), and provide requisite information, if the proposal includes any of the items identified. Note in particular, proposals that include use of human subjects or vertebrate animals require additional information to be submitted with these types of proposals.

[ ] **Project Summary:**

- [ ] Note limitation of one page.

[40] Proposal Not Accepted is defined as FastLane will not permit submission of the proposal.

[ ] Ensure that overview, intellectual merit and broader impacts statements text blocks are completed.
[ ] Note special instructions for Project Summaries that contain special characters.

[ ] **Project Description:**

[ ] Note limitation of 15 pages.
[ ] Merit Review Criteria: Ensure both merit review criteria are addressed, including a separate section within the narrative that discusses the broader impacts of the proposed activities.
[ ] Inclusion of Uniform Resource Locators (URLs): PIs are advised that the Project Description must be self-contained and are cautioned that URLs that provide information necessary to the review of the proposal should not be used because reviewers are not obligated to view such sites.
[ ] Results from Prior NSF Support: Required only for PIs and co-PIs who have received NSF support within the last five years.

[ ] **References Cited:**

[ ] No page limitation, however, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 15-page Project Description. Each reference must be in the specified format.
[ ] If there are no references cited, a statement to that effect should be included in this section of the proposal and uploaded into FastLane.

[ ] **Biographical Sketch(es):**

[ ] Note limitation of two pages per individual; required for all senior project personnel. The required information must be provided in the order and format specified.

[ ] **Proposal Budget:** (annual and cumulative)

[ ] Budget Justification (Note limitation of three pages **per proposal**.)

[ ] **Current and Pending Support:** Required for all senior project personnel.

[ ] Ensure that the proposal being submitted is included on each current and pending support document.

[ ] **Facilities, Equipment and Other Resources**

[ ] This section should include an aggregated description of the internal and external resources (both physical and personnel) that the organization and its collaborators will provide to the project, should it be funded.
[ ] Ensure that no quantifiable financial information is provided.
[ ] If there are no facilities, equipment or other resources identified, a statement to that effect should be included in this section of the proposal and uploaded into FastLane.

[ ] **Special Information and Supplementary Documentation:**

[ ] See GPG Chapter II.C.2.j for the types of information appropriate for submission in this section, as required.

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[ ] Each proposal[41] that requests funding to support **postdoctoral researchers** must include, as a supplementary document, not to exceed one page, a description of the mentoring activities that will be provided for such individuals.

[ ] Each proposal must include a supplementary document of no more than two pages labeled "Data Management Plan". This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results.

[ ] Any additional items specified in a relevant program solicitation.

[ ] Special Guidelines:

[ ] Note that GPG Chapter II.D contains special proposal preparation instructions for certain types of proposals.

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[41] For purposes of meeting the mentoring requirement, simultaneously submitted collaborative proposals, and, collaborative proposals that include subawards, constitute a single unified project. Therefore, only one mentoring plan may be submitted for the entire project.

Exhibit II-2: Potentially Disqualifying Conflicts of Interest

Unless a waiver has been granted by NSF, a reviewer cannot review a proposal if:

- the reviewer, the reviewer's spouse, minor child, or business partner;
- the organization where the reviewer is employed, has an arrangement for future employment or is negotiating for employment; or
- the organization where the reviewer is an officer, director, trustee, or partner,

has a financial interest in the outcome of the proposal.

Unless a waiver has been granted by NSF, a potential reviewer also may be barred from reviewing a proposal, if it involves individuals with whom he/she has a personal relationship, such as a close relative, current or former collaborator, or former thesis student/advisor.

Unless a waiver has been granted by NSF, a disqualifying conflict may exist, if a proposal involves an organization or other entity with which the potential reviewer has a connection. Such potentially disqualifying connections include:

- a reviewer's recent former employer;
- an organization in which the reviewer is an active participant;
- an institution at which the reviewer is currently enrolled as a student, or at which he/she serves as a visiting committee member; or
- an entity with which the reviewer has or seeks some other business or financial relationship (including receipt of an honorarium).

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Exhibit II-3: Drug-Free Workplace Certification

Instructions for Certification

1. By electronically signing the NSF Cover Sheet and submitting this proposal, the grantee is providing the certifications set out below.

2. The certification set out below is a material representation of fact upon which reliance was placed when the agency determined to award the grant. If it is later determined that the grantee knowingly rendered a false certification, or otherwise violates the requirements of the Drug-Free Workplace Act, the agency, in addition to any other remedies available to the Federal Government, may take action authorized under the Drug-Free Workplace Act.

3. For grantees other than individuals, Alternate I applies.

4. For grantees who are individuals, Alternate II applies.

Certification Regarding Drug-Free Workplace Requirements

Alternate I (Grantees Other Than Individuals)

The grantee certifies that it will or will continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about --

(1) The dangers of drug abuse in the workplace;

(2) The grantee's policy of maintaining a drug-free workplace;

(3) Any available drug counseling, rehabilitation and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will --

(1) Abide by the terms of the statement; and

(2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace, no later than five calendar days after such conviction;

(e) Notifying the agency in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction.

Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;

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(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted--

(1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

Alternate II (Grantees Who Are Individuals)

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in conducting any activity with the grant.

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to every grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

For NSF, grantee notification should be made to the Cost Analysis & Audit Resolution Branch, Division of Institution & Award Support, NSF, Arlington, VA 22230.

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Exhibit II-4: Debarment and Suspension Certification

Instruction on Certification Regarding Debarment and Suspension

1. By electronically signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is any material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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Certification

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals: (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from a covered transaction by any Federal department or agency; (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall include an explanation with this proposal.

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Exhibit II-5: Lobbying Certification

Instructions on Certification Regarding Lobbying

This certification is required for an award of a Federal contract, grant or cooperative agreement exceeding $100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding $150,000. The *Certification for Contracts, Grants, Loans and Cooperative Agreements* also is included in full text on the FastLane submission screen.

Certification for Contracts, Grants, Loans and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

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Exhibit II-6: Nondiscrimination Certification

Instructions for Nondiscrimination Certification

1. In accordance with NSF policy, by electronically signing the proposal, the Authorized Organizational Representative is providing the requisite Certification of Compliance with National Science Foundation Nondiscrimination Regulations and Policies. This Certification sets forth the nondiscrimination obligations with which all awardees must comply. These obligations also apply to subrecipients, subgrantees, and subcontractors under the award. The proposer therefore, shall obtain the NSF Nondiscrimination Certification from each organization that applies to be, or serves as a subrecipient, subgrantee or subcontractor under the award (for other than the provision of commercially available supplies, materials, equipment or general support services) prior to entering into the subaward arrangement.

2. The proposer shall provide immediate notice to the Foundation if at any time the proposer learns that its certification was erroneous when submitted, or has become erroneous by reason of changed circumstances.

Certification of Compliance with National Science Foundation Nondiscrimination Regulations and Policies

By electronically signing the proposal, the Authorized Organizational Representative hereby certifies that the organization will comply with Title VI of the Civil Rights Act of 1964 (42 USC § 2000d), Title IX of the Education Amendments of 1972 (20 USC §§ 1681 *et seq.*), the Rehabilitation Act of 1973 (29 USC § 794), the Age Discrimination Act of 1975 (42 USC §§ 6101 *et seq.*) and all regulations and policies issued by NSF pursuant to these statutes.

To that end, in accordance with the above-referenced nondiscrimination statutes, and NSF's implementing regulations and policies, no person in the United States shall, on the ground of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Proposer receives Federal financial assistance from the Foundation; and HEREBY CERTIFIES THAT it will immediately take any measures necessary to effectuate this agreement.

If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Proposer by the Foundation, this Certification shall obligate the Proposer, or in the case of any transfer of such property, the transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this Certification shall obligate the Proposer for the period during which it retains ownership or possession of the property. In all other cases, this Certification shall obligate the Proposer for the period during which the Federal financial assistance is extended to it by the Foundation.

THIS CERTIFICATION is given in consideration of and for the purpose of obtaining any and all Federal grants, cooperative agreements, loans, contracts, property, discounts or other Federal financial assistance extended after the date hereof to the Proposer by the Foundation, including installment payments after such date on account of applications for Federal financial assistance which were approved before such date. The Proposer recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this Certification, and that the United States shall have the right to seek judicial enforcement of this Certification. This Certification is binding on the Proposer, its successors, transferees, and assignees.

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Exhibit II-7: Definitions of Categories of Personnel

The personnel categories listed on parts A and B of the Proposal Budget are defined as follows:

A. Senior Personnel

1. (co) Principal Investigator(s) -- the individual(s) designated by the proposer, and approved by NSF, who will be responsible for the scientific or technical direction of the project. NSF does not infer any distinction in scientific stature among multiple PIs, whether referred to as PI or co-PI. If more than one, the first one listed will serve as the contact PI, with whom all communications between NSF program officials and the project relating to the scientific, technical, and budgetary aspects of the project should take place. The PI and any identified co-PIs, however, will be jointly responsible for submission of the requisite project reports.

2. Faculty Associate (faculty member) -- an individual other than the Principal Investigator(s) considered by the performing institution to be a member of its faculty or who holds an appointment as a faculty member at another institution, and who will participate in the project being supported.

B. Other Personnel

1. Postdoctoral (Scholar, Fellow, or Other Postdoctoral Position) -- An individual who has received a doctoral degree (or equivalent) and is engaged in a temporary and defined period of mentored advanced training to enhance the professional skills and research independence needed to pursue his or her chosen career path. Postdoctoral scholars not identified under Senior Personnel above should be listed as Other Personnel.

2. Other Professional -- a person who may or may not hold a doctoral degree or its equivalent, who is considered a professional and is not reported as a Principal Investigator, faculty associate, postdoctoral scholar or student. Examples of persons included in this category are doctoral associates not reported under B1, professional technicians, physicians, veterinarians, system experts, computer programmers and design engineers.

3. Graduate Student (research assistant) -- a part-time or full-time student working on the project in a research capacity who holds at least a bachelor's degree and is enrolled in a degree program leading to an advanced degree.

4. Undergraduate Student -- a student who is enrolled in a degree program (part-time or full-time) leading to a bachelor's or associate's degree.

5. & 6. These categories include persons working on the project in a non-research capacity, such as secretaries, clerk-typists, draftsmen, animal caretakers, electricians and custodial personnel regardless of whether they hold a degree or are involved in degree work.

Any personnel category for which NSF funds are requested must indicate, in the parentheses provided on the Proposal Budget, the number of persons expected to receive some support from those funds and, where called for in the budget format, person-months to the nearest tenth.

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INSTITUTION/ORGANIZATION ENVIRONMENTAL IMPACTS CHECKLIST

Proposal Number: _____ PI: _____

If applicable, Collaborative Proposal Number(s): _____ Institution/Organization: _____

Proposal Title: _____

Part I. A. Does the Proposal only include any of the following activities?	**Part I. B. Does the Proposal include any of the following activities?**
☐ 1. Interior alterations/renovations (regardless of cost)	☐ 1. Field work affecting the natural environment
☐ 2. Theoretical and/or laboratory research	☐ 2. Drilling of the earth, excavation and/or use of explosives
☐ 3. Data analysis/Modeling	☐ 3. Weather modification
☐ 4. Planning/conducting scientific workshops/ conferences	☐ 4. Use of techniques that may alter or cause a major disturbance to the local environment
☐ 5. Conducting day-to-day management activities of federally funded research and development centers	☐ 5. The release of biological-control agents
☐ 6. Field work not affecting the natural environment	☐ 6. Construction (other than as stated in Part I.A.1.)
	☐ 7. Transition of technology from development state to large scale commercialization

Part II. Are any of the following extraordinary circumstances associated with this Proposal?

Yes	No	Maybe	1. Potential impacts (including direct, indirect, and/or cumulative impacts):
○	○	○	a. on threatened/endangered species or their habitats; marine mammals; migratory birds; essential fish habitats
○	○	○	b. on historic, cultural, or archaeological resources
○	○	○	c. on an environmentally sensitive area (i.e., national park, national forest, national wildlife refuge, national marine sanctuary, ecological preserve, etc.)
○	○	○	d. on the air (i.e., resulting from emissions other than emissions from a single car or vessel)
○	○	○	e. on soils or geological/topographical features
○	○	○	f. on water (i.e., resulting from discharges into wetlands, floodplains, streams, rivers, lakes, or the ocean)
○	○	○	g. on socioeconomic interests (i.e., impacts on the local economy, schools and education, employment, housing, and/or the population)
○	○	○	h. on existing infrastructure
○	○	○	i. on existing view planes or other visual resources
○	○	○	j. on existing noise levels
○	○	○	k. on minority or low income populations
○	○	○	l. that increase environmental and/or safety risks to children
○	○	○	m. that result from the production of hazardous/solid waste or use of hazardous material
○	○	○	2. An activity or activities proposed to take place on lands/waters in which Native Americans, Alaskan Natives, or Native Hawaiians have an interest or connection
○	○	○	3. An activity or activities that may have effects on the quality of the human environment that are likely to be highly controversial

Part III. Please provide any additional information (i.e., mitigation, comments, notes, related environmental compliance documents, etc.) along with this completed Checklist.

The above answers are true and complete to the best of my knowledge. I understand that NSF is relying on them to make its decision.

Print Name: _____

Signature: _____ Date: _____
(Authorized Organizational Representative or Authorized Representative)

Chapter III: NSF Proposal Processing and Review

Proposals received by NSF are assigned to the appropriate NSF program and, if they meet NSF requirements, for review. All proposals are 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 *Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years (FY) 2011-2016*. 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

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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 may not be used for submission of revised budgets. All budgetary revisions must be submitted through use of the FastLane Revised Proposal Budget Module. See Paragraph 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; [42] 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 may 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."[43]

[42] The status of a proposal may be found via the "Proposal Functions" section of FastLane.
[43] Detailed 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 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 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 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.[44] 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. Award 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. 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 for review of business, financial and policy implications and the processing and issuance of a grant or cooperative agreement. The Division of Grants and Agreements generally makes awards to academic institutions within 30 days after the program division/office makes its recommendation. Grants being made to 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, and other unusual arrangements may require additional review and processing time.

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. 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 through FastLane:

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

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- 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;
- 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.

G. 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.

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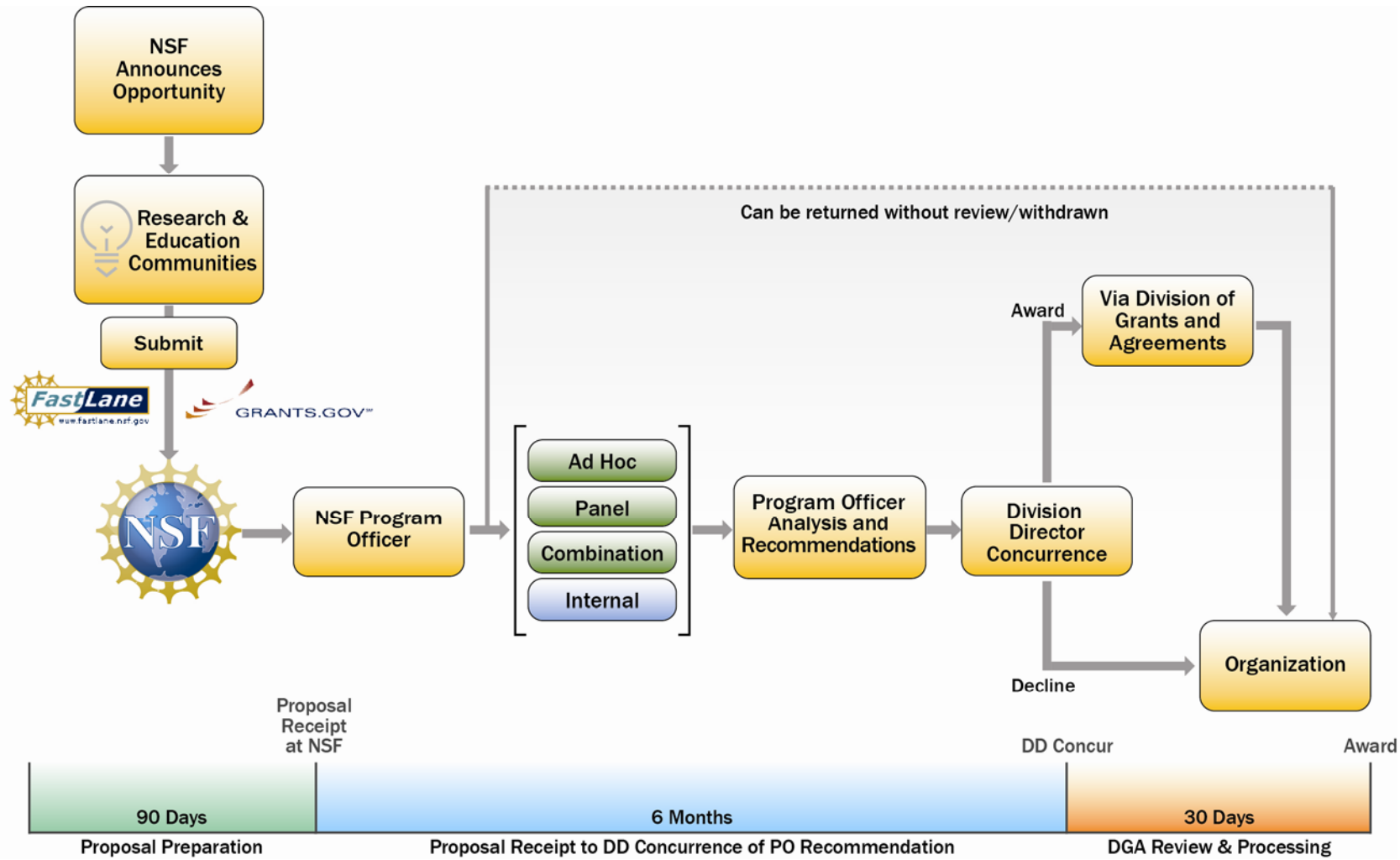
Exhibit III-1: NSF Proposal & Award Process & Timeline



Chapter IV: Non-Award Decisions and Transactions

A. Proposal Withdrawal

A proposal may be withdrawn at any time before a funding recommendation is made by the cognizant NSF Program Officer. Proposals must be electronically withdrawn via the FastLane Electronic Proposal Withdrawal System. This module in FastLane automates the proposal withdrawal process and provides a mechanism that will help organizations to more effectively manage their proposal portfolio, as well as to help eliminate the submission of duplicate proposals to NSF. The Electronic Proposal Withdrawal System includes three processes:

- *Principal Investigator's Proposal Withdrawal* allows a PI to initiate a proposal withdrawal and forward it to the organization's sponsored projects office (or equivalent) for submission to NSF.

- *Sponsored Projects Office (SPO) Proposal Withdrawal* allows an authorized individual in the organization's sponsored projects office (or equivalent) to initiate a proposal withdrawal for submission to NSF.

- *Proposal Submission Duplicate Withdrawal* prevents a SPO official from submitting a new proposal if a duplicate (a proposal from the same organization with the same title and same PI and co-PIs) already has been submitted to NSF within the last two weeks prior to the current submission. If these conditions are met, the system will allow the authorized SPO official to either withdraw the previous duplicate and then proceed with the submission of the new proposal, or to modify the new proposal so it is different from the previous proposal.

Principal Investigators can access the Proposal Withdrawal utility via the "Submitted Proposals" screen under the FastLane Proposal Preparation Functions Module. Authorized individuals[45] in the organization's sponsored projects office (or equivalent) can initiate or review a proposal withdrawal using the "Submit Proposals/Supplements/File Updates/Withdrawals" Module via the FastLane "Research Administration Functions".[46]

In cases where NSF already has made a funding decision, proposals will not be permitted to be withdrawn via the electronic proposal withdrawal system. When a PI or SPO representative attempts to prepare a proposal withdrawal for such a proposal, a message will be displayed to contact the cognizant NSF Program Officer for further assistance.

NSF must be notified if any funding for the proposed project is received from another source or sponsor. If it is brought to NSF's attention that funding for a proposal to NSF has been accepted from another sponsor, NSF will send a withdrawal confirmation to the PI and the SPO without waiting for the official withdrawal notification.

If a proposal withdrawal is submitted for a proposal that is part of a collaborative effort, regardless of whether the organization is the lead or non-lead, the electronic proposal withdrawal system will withdraw that proposal along with the other remaining proposals that are identified as part of the collaborative effort. If the remaining organizations in the collaborative determine that the project can still proceed, a new collaborative proposal must be submitted.

Copies of reviews received by NSF before a proposal is withdrawn will be provided to the PI. NSF provides notice of a withdrawal, return, declination, or reconsideration to both the PI and the SPO.

[45] Authorized Organizational Representatives with "submit" permission also can initiate a proposal withdrawal.
[46] Detailed instructions on the Electronic Proposal Withdrawal System are available on the FastLane website at https://www.fastlane.nsf.gov/documents/epw/epw.jsp.

B. Proposal Not Accepted or Returned Without Review

A proposal may not be accepted[47] or may be returned without review by NSF for the following reasons.

The proposal:

1. is inappropriate for funding by the National Science Foundation (see GPG Chapter I.B);
2. is submitted with insufficient lead-time before the activity is scheduled to begin;
3. is a full proposal that was submitted by a proposer that has received a "not invited" response to the submission of a preliminary proposal (see GPG Chapter I.D.2.a);
4. is a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter (see GPG Chapter I.G.2);
5. does not meet NSF proposal preparation requirements, such as page limitations, formatting instructions, and electronic submission, as specified in the *Grant Proposal Guide (*see GPG Chapters II.A, II.B, and II.C), the *Grants.gov Application Guide,* or program solicitation;
6. is not responsive to the NSF funding opportunity;
7. does not meet an announced proposal deadline date;
8. was previously reviewed and declined and has not been substantially revised (see GPG Chapter IV.E);
9. duplicates another proposal that was already awarded; and/or
10. does not contain each of the required sections of the proposal, as described in GPG Chapter II.C.2.

C. Declinations

A PI whose proposal for NSF support has been declined will receive information and an explanation of the reason(s) for declination along with copies of the reviews considered in making the decision. If that explanation does not satisfy the PI, he/she may request additional information from the cognizant NSF Program Officer or Division Director. See GPG Chapter III.F for additional information.

PIs and co-PIs may access review information electronically via FastLane after the decision has received the concurrence of the cognizant Division Director, when all the review information has been released for their proposal.

D. Reconsideration

1. Overview

a. A proposer whose proposal has been declined may ask the cognizant NSF Program Officer or the cognizant Division Director for information over and above the explanatory materials received with the declination notice. If the PI/PD is not satisfied that the proposal was fairly handled and reasonably reviewed, he/she may request reconsideration by the responsible Assistant Director (AD) or Office Head. An organization (or an unaffiliated PI/PD) still not satisfied after reconsideration by the responsible AD/Office Head may request further reconsideration by the Deputy Director of the Foundation. The decision made by the Deputy Director is final.

b. If a proposal has been declined after review by the NSB, only an explanation will be available.

c. The aim of any reconsideration is to ensure that NSF's review has been fair and reasonable, both substantively and procedurally. The scientific and technical merits may be examined within the context of budget availability and program priorities. Reconsideration also may address any procedural errors in peer review or other aspects of proposal review, including unaccounted-for conflict of interests or inappropriate consideration of records, information or rumor.

d. Award of NSF assistance is discretionary and reconsideration is not an adversarial process. A formal hearing, therefore, is not provided. Because factors such as program budget and priorities factor into the decision on a proposal, NSF cannot ensure proposers that reconsideration will result in an award even if error is established in connection with the initial review.

[47] Proposal Not Accepted is defined as FastLane will not permit submission of the proposal.

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e. No revisions made to the proposal after declination will be considered in connection with the original proposal. A substantially revised proposal, however, may be submitted for review as a new proposal under standard procedures. NSF reserves the right to return without review a proposal that is substantially the same as one that was previously reviewed and declined whether or not a request for reconsideration was made.

2. Applicability

NSF's reconsideration process is available to individuals and organizations concerning proposals for grant funding. It does not apply to:

a. "discourage" (i.e., non-binding) decisions resulting from submission of a preliminary proposal;

b. proposals for:

(1) fellowships;
(2) travel grants;
(3) Rapid Response Grants;
(4) EArly-concept Grants for Exploratory Research (EAGER); or
(5) Phase I proposals submitted under the Small Business Innovation Research (SBIR) program.

c. proposals returned without review by NSF for failure to:

(1) be submitted with sufficient lead time before the activity is to begin;
(2) meet an announced proposal deadline date; or
(3) meet NSF proposal preparation requirements, such as page limitations, formatting instructions, and electronic submission, as specified in the *Grant Proposal Guide,* the *Grants.gov Application Guide* or program solicitation.

3. Reconsideration Process

The following paragraphs highlight the various stages of the NSF Reconsideration Process, including the necessary procedural aspects of each stage of the process:

a. Explanations by the NSF Program Officer or Division Director

When a proposal is declined, the PI/PD receives verbatim but unattributed copies of any *ad hoc* reviews and the panel summary (if applicable), a description of how the proposal was reviewed, and, if not otherwise provided in the panel summary, an explanation (written or telephoned) of the basis for the declination. A returned proposal also will be accompanied by an explanation. A PI/PD who is considering asking for reconsideration should first contact the cognizant NSF Program Officer or Division Director, who will afford the PI/PD an informal opportunity to seek further clarification.

b. Reconsideration by the Cognizant Assistant Director

(1) If dissatisfied with the explanation provided by the NSF Program Officer or Division Director, the PI/PD may request in writing that NSF reconsider its action. Such a request will be considered only if the PI/PD has first sought and obtained further clarification from the cognizant NSF Program Officer or Division Director, and only if the request is received by the Foundation within 90 days after the declination or the return. The request should be addressed to the AD/Office Head for the directorate or office that handled the proposal and should explain why the PI/PD believes that the declination or return was unwarranted.

(2) The AD/Office Head will reconsider the record to determine whether NSF's review of the declined proposal was fair and reasonable, substantively and procedurally, taking into account availability of funds and the policies and priorities of the program and NSF. In the case of a returned proposal, the record will be reviewed to determine whether the proposed project was inappropriate for NSF consideration. The AD/Office Head may request additional information from the PI/PD and may obtain additional reviews. If additional reviews are sought, they are subject to standard review procedures (e.g., instructions must be provided to

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reviewers and conflicts-of-interest policies must be followed). The AD/Office Head may conduct the reconsideration personally or may designate another NSF official who had no part in the initial review to do so. As used here, "AD/Office Head" includes such a designated official.

(3) Within 45 days after the date of the request, the AD/Office Head will furnish the results of the reconsideration, in writing, to the PI/PD. If results cannot be furnished within 45 days, the AD/Office Head will send the PI/PD a written explanation of the need for more time, indicating the date when the results can be expected. If the AD/Office Head reaffirms the declination or return, he/she will inform the PI/PD that the PI/PD's organization may obtain further reconsideration by the Deputy Director of NSF as provided below.

c. Further Reconsideration by the Deputy Director

(1) Within 60 days after the AD/Office Head has notified the PI/PD of the results of the reconsideration, the proposing organization or an unaffiliated PI/PD may request further reconsideration by the Deputy Director of NSF.

(2) A request for further reconsideration need not be in any particular format, but it must be in writing, and must be signed by the organization's president or other chief executive officer and by the PI/PD. For declinations, it should explain why the organization believes that an error may have occurred in the initial evaluation and why it is not entirely satisfied with the reconsideration by the responsible AD/Office Head. For returned proposals, it should explain why the organization believes that an error may have occurred in the initial determination that the proposal was inappropriate for NSF consideration.

(3) The Deputy Director will review the request for further reconsideration and the record of earlier NSF actions, including the original review and the reconsideration by the AD/Office Head, to determine whether NSF's review of the declined proposal was fair and reasonable, or, in the case of a returned proposal, whether the proposed project was inappropriate for NSF consideration. The Deputy Director may request additional information from the PI/PD or the proposing organization and may obtain additional reviews. If additional reviews are sought, they are subject to standard review procedures (e.g., instructions must be provided to reviewers and conflicts-of-interest policies must be followed).

(4) The Deputy Director may conduct the further reconsideration personally or may designate another NSF official who had no part in the initial evaluation of the proposal or the earlier reconsideration to do so. As used here, "Deputy Director" includes such a designated official.

(5) Within 30 days after a request for further reconsideration is received at NSF, the Deputy Director will furnish the results of the further reconsideration, in writing, to the organization. If results cannot be furnished within 30 days, the Deputy Director will send the organization a written explanation of the need for more time, indicating the date when the results can be expected.

(6) The decision made by the Deputy Director is final.

E. Resubmission

A declined proposal may be resubmitted, but only after it has undergone substantial revision. A resubmitted proposal that has not clearly taken into account the major comments or concerns resulting from the prior NSF review may be returned without review. The Foundation will treat the revised proposal as a new proposal, subject to the standard review procedures.

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Chapter V: Renewal Proposals

A renewal proposal is a request for additional funding for a support period subsequent to that provided by a standard or continuing grant. A renewal proposal competes with all other proposals and must be developed as fully as though the proposer is applying for the first time. Renewal proposals must be submitted at least six months before additional funding is required or consistent with an established deadline, target date or submission window. In preparing a renewal proposal, proposers should assume that reviewers will not have access to previously submitted versions of the proposal. Please note the National Science Board strongly endorses the principle that all expiring awards are to be recompeted.[48]

All proposals for renewed support of research projects, from academic institutions *only*, must include information on human resources development at the postdoctoral, graduate and undergraduate levels as part of Results from Prior NSF Support.[49] This may involve, but is not limited to, the role of research in student training, course preparation and seminars (particularly for undergraduates). Special accomplishments in the development of professional scientists and engineers from underrepresented groups should be described. Graduate students who participated in the research should be identified by name. This requirement does not apply to non-academic organizations.

PIs are encouraged to discuss renewal proposals with the program prior to submission of a proposal. Unless precluded by individual program requirements, PIs may choose either of the following two formats for preparation of a renewal proposal. Both types of renewal proposals must be submitted electronically via the NSF FastLane System.

A. Traditional Renewal. The "traditional" renewal proposal is developed as fully as though the proposer were applying for the first time. It covers all the information required in a proposal for a new project, including results from the prior work. The 15-page limitation on the project description applies.

B. Accomplishment-Based Renewal. In an "Accomplishment-Based Renewal" (ABR) proposal, the Project Description (including the Results from Prior NSF Support) is replaced with the following items:

1. copies of no more than six reprints[50] of publications resulting from the research supported by NSF (including research supported by other sources that is closely related to the NSF-supported research) during the preceding three to five year period. Of the six publications, two preprints (accepted for publication) may be included;

2. information on human resources development at the postdoctoral, graduate and undergraduate levels; and

3. a brief summary (not to exceed four pages) of plans for the proposed support period.

All other information required for NSF proposal submission remains the same.

It must be clearly indicated in the proposal that it is an ABR submission and the box for "Accomplishment-Based Renewal" must be checked on the Cover Sheet. ABR proposals may not be submitted for consecutive renewals.

PIs are advised that the ABR is a special type of renewal proposal appropriate only for an investigator who has made significant contributions, over a number of years, in the area of research addressed by the proposal. Investigators are strongly urged to contact the cognizant Program Officer prior to developing a proposal using this format.

[48] Reference National Science Board Resolution (NSB 08-12) entitled, *Competition and Recompetition of NSF Awards.*
[49] This requirement applies to both types of renewal proposals: Traditional Renewal and Accomplishment-Based Renewal.
[50] Reprints should be provided as supplementary documentation and should be submitted electronically via the Proposal Preparation Module in the FastLane System.

Descriptions of other forms of additional funding support, including continuing grants and supplemental funding requests, are contained in AAG Chapter I.

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Subject Index .....

Chapter I: NSF Awards

The *Award and Administration Guide* (AAG) (Part II of the NSF *Proposal & Award Policies & Procedures Guide*) sets forth NSF policies regarding the award and administration of grants and cooperative agreements and implements Office of Management and Budget (OMB) Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations* (2 CFR §215), and 45 CFR §602 (the Common Rule implementing OMB Circular A-102), *Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments*.[1] This Guide also implements other OMB Circulars, Public Laws, Executive Orders (E.O.) and other directives[2] listed in Exhibit I-1 insofar as they apply to grants, and is issued pursuant to the authority of Section 11(a) of the NSF Act (42 USC §1870).

This Guide is applicable to NSF grants and cooperative agreements, unless noted otherwise in the award instrument. This Guide does not apply to NSF contracts.

The types of activities funded by NSF and the purposes of NSF funding vary. Consequently, the degree of NSF responsibility for and management control of such activities also varies. NSF traditionally uses grants for fundamental research and other support activities. The key factor in determining the appropriate award terms and conditions is the type of project that is to be funded, not the type of performing organization which will be the recipient of the award or the NSF program recommending the award.

A. Acceptance of Assistance Agreements

Awardees are free to accept or reject the grant or cooperative agreement as awarded. Normally, a request to drawdown NSF funds constitutes acceptance, however, in limited circumstances, NSF may require formal acceptance of an award. If an awardee chooses not to accept an award, then a written request should be sent to the cognizant NSF Program Officer to withdraw (or terminate) the award.

B. Award Instrument

1. Composition of an NSF award includes:

a. the award notice, including any special conditions applicable to the award and any numbered amendments thereto;

b. the budget, which indicates the amounts, by categories of expense, on which NSF has based its support;

c. the proposal referenced in the award notice;

d. the applicable NSF conditions referenced in the award notice (see AAG Chapter I.C for listing); and

e. any NSF program announcement, program solicitation or other documents or special requirements incorporated by reference in the award notice.

2. Award Transmission. NSF transmits award notices to organizations via e-mail. In addition to the e-mail notification, awardees also may access NSF award notices in FastLane. Sponsored projects offices are able to view, print and/or download NSF award notices for their organizations. PIs also may access their award notices via FastLane.

[1]For purposes of this Guide, references to OMB Circular A-110 also include comparable portions of 45 CFR §602, where appropriate.
[2] Consult AAG Exhibit I-1 for information on obtaining these types of documents.

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C. NSF Award Conditions

1. NSF Award Conditions. Each NSF award notice specifically identifies certain conditions that are applicable to, and become part of, that award. When these conditions reference a particular *Award and Administration Guide* section, that section becomes part of the award requirements through incorporation by reference.

2. Basic Conditions. The following types of basic conditions may be made a part of an NSF award, as appropriate.

a. Grant General Conditions.

(i) Research Terms and Conditions (RTC) and NSF RTC Agency Specific Requirements are used in NSF awards to organizations that are subject to 2 CFR Part 215 (OMB Circular A-110);

(ii) Grant General Terms and Conditions (GC-1) are used in NSF awards to organizations that are not subject to 2 CFR Part 215 (OMB Circular A-110) (i.e. state and local governments and for profit hospitals);

(iii) Small Business Innovation Research (SBIR) Phase II Grant General Conditions are used in Phase II grants under the SBIR program.

(iv) International Research Terms and Conditions (IRTC) are used for awards to foreign awardees.

(v) Foreign and International Awardee Conditions for Non-research Projects are used for non-research projects to foreign awardees.

b. Standard Conditions. These types of conditions may either supplement or modify the applicable General Conditions described above.

(i) Administration of NSF Conference or Group Travel Award Grant Special Conditions (FL 26) are used for conference or travel awards.

(ii) Construction Conditions are used for awards which include rearrangements/alterations over $25,000 (construction).

(iii) Fixed Amount Award General Conditions (FAA) are used in NSF fixed amount awards. (Note: these conditions may establish different financial and other requirements that are not generally used in cost reimbursement type awards.)

c. Cooperative Agreement[3] Programmatic Terms and Conditions (CAPTC) and Cooperative Agreement Financial/Administrative Terms and Conditions (CAFATC) are used in NSF cooperative agreements.

(i) CA Programmatic Terms and Conditions provide guidance on project governance, reporting, management and oversight of the project.

(ii) CA Financial/Administrative Terms and Conditions outline both government-wide and NSF policies regarding assistance awards as well as the management of funds that support the project.

3. Availability. The latest version of each set of these general and standard conditions, as well as prior archived versions, is available electronically on NSF's website at http://www.nsf.gov/awards/managing/.

[3] See also Proposal & Award Policies & Procedures Guide (PAPPG) Introduction, Section D.2.b. for additional information on cooperative agreements that involve MREFC and operations activities.

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D. NSF Grant Periods

1. Definitions

a. EFFECTIVE DATE is the date specified in the award notice on or after which, except for fixed amount awards, expenditures may be charged to the award. With the exception of PI transfers, the effective date used by NSF is either the 1st or the 15th day of the month. If no effective date is specified, then the date of the award notice is the effective date. (See, however, AAG Chapter V.A.2b.)

b. EXPIRATION DATE is the date specified in the award notice after which expenditures may not be charged against the award except to satisfy obligations to pay allowable project costs committed on or before that date. The expiration date is the last day of a month.

c. GRANT PERIOD is the period of time between the effective date and the expiration date of an NSF award shown as the duration.

2. Significance of Grant Period

a. Except in fixed amount awards, an NSF award gives authority to the awardee to commit and expend funds for allowable costs (see AAG Chapter VI) in support of the project up to the award amount specified in the award notice at any time during the award period.

b. Except as provided in AAG Chapter V.A.2b, Chapter V.A.2c, or Chapter V.B.7, expenditures may not be charged prior to the effective date or subsequent to the expiration date under an NSF cost reimbursement grant.

3. Changes in Grant Periods

a. Effective Date

Once an award is made, the effective date cannot be changed; however, awardees have the authority to incur pre-award costs as outlined in AAG Chapter V.A.2b.

b. Expiration Date

The expiration date may be changed as a result of approval of a request for continued support of a continuing award, for a no-cost grant extension, or by approval of a request for supplemental support. If approved, the NSF Grants and Agreements Officer will issue an amendment to the award.

c. No-Cost Extension

(i) Grantee-Approved Extension. Awardees may authorize a one-time extension of the expiration date of the award of up to 12 months if additional time beyond the established expiration date is required to assure adequate completion of the original scope of work within the funds already made available.[4] This one-time extension may not be exercised merely for the purpose of using the unliquidated balances. Grantees are not authorized to extend an award that contains a zero balance. The grantee shall notify NSF, providing supporting reasons for the extension and the revised expiration date, at least ten days prior to the expiration date specified in the grant to ensure accuracy of NSF's award data. All grantee-approved extension notifications must be submitted via the FastLane system. For grantee-approved extensions, no amendment will be issued.

(ii) NSF-Approved Extension

(a) If additional time beyond the extension provided by the awardee is required and exceptional circumstances warrant, a formal request must be submitted to NSF via FastLane. The request must be submitted to NSF at least 45 days prior to the expiration date of the award. The request must explain the need for the extension and include an estimate of the unobligated funds remaining and a plan for their use. As

[4] Small Grants for Exploratory Research (SGER), Rapid Response Grants , and EArly-concept Grants for Exploratory Research awards are not eligible for this authority.

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indicated above, that unobligated funds may remain at the expiration of the award is not in itself sufficient justification for an extension. The plan must adhere to the previously approved objectives of the project. All requests for NSF-approved extensions must be submitted via the FastLane system. NSF program officers are authorized to approve the first no cost extension request on current active awards.

(b) The first no-cost extension request will be subject to the approval of the cognizant Program Officer. The sponsored projects office and PI will be electronically notified of the disposition of this request by the cognizant NSF Program Officer. The second no-cost extension will continue to be subject to the approval of an NSF Grants and Agreements Officer, and, if approved, will be in the form of an amendment to the grant specifying a new expiration date. Grantees are cautioned not to make new commitments or incur new expenditures after the expiration date in anticipation of a no-cost extension.

(c) Awardees are not authorized to extend an award that contains a zero balance.

d. Two-Year Extensions for Special Creativity

A program officer may recommend the extension of funding for certain research awards beyond the initial period for which the grant was awarded for a period of up to two years. The objective of such extensions is to offer the most creative investigators an extended opportunity to attack adventurous, “high-risk” opportunities in the same general research area, but not necessarily covered by the original/current proposal. Awards eligible for such an extension are generally three-year continuing grants. Special Creativity Extensions are generally initiated by the NSF Program Officer based on progress during the first two years of a three-year grant; PIs will be informed of such action a year in advance of the expiration of the grant. In response to the Program Officer’s recommendation, the PI should submit the required information electronically via the supplemental funding request module in FastLane.

E. Additional Funding Support

1. Types of Additional Funding Support

Additional funding of a project beyond the original grant period will be in the form of renewed support, continued support or supplemental support.

2. Renewed Support (Standard Grants)

Renewed support is defined as additional funding for a support period subsequent to that provided by a standard grant. Renewals to standard grants, if any, will be in the form of a new grant with a new grant number. Costs incurred under the old grant cannot be transferred to the new grant. Residual funds remaining in the old grant cannot be transferred to the new grant.

Instructions for preparation of renewal proposals are contained in GPG Chapters II and V.

3. Continued Support (Continuing Grants)

a. Funding increments for projects being supported under continuing grants receive high priority within NSF and normally are not considered in competition with proposals for new grants or for renewed support of standard grants.

b. Unless otherwise provided for in the original grant notice, each increment of a continuing grant will be funded at the level indicated in the original award notice without a formal request, subject to NSF’s judgment of satisfactory progress, availability of funds, and receipt and approval of the required annual report. NSF makes every attempt to honor continuing grant commitments. In order to adjust to changes in the general level of funds for a particular field of science or engineering or to major new opportunities in that field, however, NSF may reduce continuing grant increments below the levels indicated in original grant notices. This requires full written justification by program staff and management review and approval. In the absence of major unanticipated fiscal year constraints, reductions are rare. Continuing grant increments will be released by the cognizant NSF Program Officer upon approval of the annual report. The sponsored projects office and PI will be notified by the cognizant NSF Program Officer of NSF's approval via email.

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c. In order to obtain a committed funding increment and ensure continuity of funding, an annual project report must be submitted electronically via the NSF FastLane System by the PI at least three months before the end of the period currently being funded. (See AAG Chapter II.E for additional information on submission of project reports.)

4. Supplemental Support

a. In unusual circumstances, small amounts of supplemental funding and up to six months of additional support may be requested to assure adequate completion of the original scope of work. Such requests for supplemental funding support should be submitted to the cognizant NSF Program Officer at least two months prior to the need for the additional funds and must be adequately justified. Program officers may make decisions regarding whether or not to recommend a small supplement without merit review of the supplemental request. Requests for larger supplements may require external merit review.

b. A request for supplemental support must be submitted electronically via FastLane and must include:

(i) A summary of the proposed work;

(ii) A justification of the need for the supplemental funds; and

(iii) A budget, highlighting the use by budget category of the additional funding as distinguished from the original funding provided in those categories of cost. AORs are required to electronically sign the supplemental funding request via the Authorized Organizational Representative Functions in FastLane.

c. NSF will not approve requests for supplemental support for such purposes as defraying the costs of increases in salaries, wages or staff benefits or for additional indirect cost reimbursement, whether caused by a change in the indirect cost rate or by changes in direct cost expenditures which affect the indirect cost base. (See AAG Chapter V.A.2a. and Chapter V.D.3.)

d. If approved, the NSF Grants and Agreements Officer will amend the grant to provide additional funding for the current support period. The amendment notice will specify both the amount of supplemental funding and the cumulative amount awarded through the expiration date, which normally will remain unchanged.

e. Special NSF programs such as *Research Experiences for Undergraduates* may provide their funding through supplements to other NSF grants. In such instances, the guidance in this section may not be applicable.

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Exhibit I-1: STATUTES, EXECUTIVE ORDERS AND OTHER DIRECTIVES

Following are lists of the various statutes, executive orders and other directives referred to or implemented by the AAG section indicated. These directives are available at http://www.thecre.com/fedlaw/legal1g.htm .

1. Statutes (Names in parentheticals are popular names)

Title	*United States Code*	*AAG*
Age Discrimination Act of 1975	42 U.S.C. § 6101 *(1975)*	VI.A.5
Animal Welfare Act	7 U.S.C. § 2131 (1976)	VI.B.3
Bayh-Dole Act	35 U.S.C. § 200 (1980)	VI.D
Cash Management Improvement Act	31 U.S.C. § 6503 (1992)	III.D.3
Civil Rights Act of 1964, Title VI	42 U.S.C. § 2000d (1964)	VI.A.2
Clean Air Act	42 U.S.C. § 7401 (1966)	
Clean Water Act	33 U.S.C. § 1251 (1977)	
Coastal Zone Management Act (CZMA)	16 U.S.C. § 1451 (1972)	
Cost-type Research and Development Contracts with Educational Institutions	41 U.S.C. § 4708 (2011)	V.D
Davis-Bacon Act	40 U.S.C. § 3141 (2006)	VI.C.1
Demonstration Cities and Metropolitan Development Act of 1966, Sec. 204	42 U.S.C. § 3334 (1972)	VI.H
Education Amendments of 1972, Title IX	20 U.S.C. § 1681 (1972)	VI.A.4
Endangered Species Act (ESA)	16 U.S.C. § 1531 (1973)	
Federal Grant and Cooperative Agreement Act of 1977	31 U.S.C. § 6301 (1977)	I.A
Fisheries Conservation and Management Act (Magnuson-Stevens)	16 U.S.C. § 1801 (1976)	
Freedom of Information Act (FOIA)	5 U.S.C. § 552 (1966)	VI.I.2.b
Government in the Sunshine Act	5 U.S.C. § 552b (1976)	VI.I.2.b
Intergovernmental Cooperation Act of 1968	31 U.S.C. § 6502 (1968)	VI.H
Internal Revenue Code of 1954	26 U.S.C. § 501(c) (1954)	VI.D
International Air Transportation Fair Competitive Practices Act of 1974	49 U.S.C. § 41310 (1974)	VI.G
Marine Mammal Protection Act (MMPA)	16 U.S.C. § 1361(1972)	
Metric Conversion Act of 1975, as amended	15 U.S.C. § 205a-k (1975)	VI.M.3
National Environmental Policy Act (NEPA)	42 U.S.C. § 4321 (1969)	
National Historic Preservation Act (NHPA)	16 U.S.C § 470 (1966)	VI.K
National Science Foundation Act of 1950, as amended	42 U.S.C. § 1861 (1950)	Chapter I, II.D, VI.C.2, VI.D.1
Ocean Dumping Act, 33 U.S.C. §1401 (1988)		
Oil Pollution Act, 33 U.S.C. §1101 (1961)		
Paperwork Reduction Act of 1980	44 U.S.C. § 3501(1980)	VI.I.1.a
Rehabilitation Act of 1973, Sec. 504	29 U.S.C. § 794 (1973)	VI.A.3
Resource Conservation and Recovery Act	42 U.S.C. § 6901 (1976)	
Rivers and Harbors Act	33 U.S.C. § 403 (1899)	
Single Audit Act	31 U.S.C. § 7501 (1984)	II.F

2. Executive Orders

Number	*Short Title*	*AAG*
11246	Equal Employment Opportunity, as amended	VI.A.1, VI.A.6
11593	Protection and Enhancement of the Cultural Environment	VI.K
12114	Environmental Effects Abroad of Major Federal Actions	
12250	Leadership and Coordination of Nondiscrimination Laws	VI.A.2

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12372	Intergovernmental Review of Federal Programs	VI.H
12549	Debarment and Suspension	VII.A.2
12699	Seismic Safety of Federal and Federally-assisted or Regulated New Building Construction	VI.C.3
12770	Metric Usage in Federal Government Programs	VI.M.3
12958	Classified National Security Information	VI.L
13166	Improving Access to Services for Persons with Limited English Proficiency	VI.A.7

3.NSF Regulations

Title	*Code of Federal Regulations*	*AAG*
Nonprocurement Debarment and Suspension	2 C.F.R. Part 2520	Chapter VII
Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments	45 C.F.R. Part 602	Entire Guide
Nondiscrimination in Federally Assisted Programs	45 C.F.R. Parts 605, 611, 617, 618	VI.A
Freedom of Information, Privacy, and Government in the Sunshine Acts	45 C.F.R. Parts 612, 613, 614	VI.I.2.b
Drug Free Workplace	45 C.F.R. Part 630	
Compliance with the National Environmental Policy	45 C.F.R. Part 640	
Patents	45 C.F.R. Part 650	VI.D.1
Intergovernmental Review of NSF Programs	45 C.F.R. Part 660	VI.H
Research Misconduct	45 C.F.R. Part 689	VII.C
Protection of Human Subjects	45 C.F.R. Part 690	VI.B.1

4. Other Federal Regulations

Title	*Code of Federal Regulations*	*AAG*
Contract Cost Principles and Procedures (Federal Acquisition Regulations)	48 C.F.R. § 31	V.A
Controlling Paperwork Burdens on the Public	5 C.F.R. § 1320	VI.I.1
Council on Environmental Quality (CEQ)	40 C.F.R. Part 1500	
Utilization and Disposal of Excess Automatic Data Processing Equipment (ADPE) Information Processing Equipment)	41 C.F.R. § 109-43.307-53	IV.E.5.f
Equal Employment Opportunity (Contractors)	41 C.F.R. § 60	VI.A.6, VI.M.3
Principles for Determining Costs Applicable to Research and Development Under Grants and Contracts with Hospitals	45 C.F.R., Part 74, Appendix E	V.A.1
Withdrawal of Cash from the Treasury for Advances Under Federal Grant and Other Programs	31 C.F.R. Part 205	III.C
Protection of Historic and Cultural Properties	36 C.F.R. § 800	VI.K
Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements	37 C.F.R. § 401	VI.D.1
Rules and Procedures for Funds Transfers	31 C.F.R. § 205	Chapter III
Utilization of Personal Property	41 C.F.R. § 109.43	IV.E.3

5. Office of Management and Budget Circulars

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Number	*Short Title*	*AAG*
A-21	Cost Principles for Educational Institutions	V.A.1
A-87	Cost Principles for State and Local Governments	V.A.1
A-110	Uniform Administrative Requirements for Grants and Other Agreements to Non-Profit Organizations	Entire Guide
A-122	Cost Principles for Non-Profit Organizations	V.A.1
A-133	Audits of States, Local Governments and Non-Profit Organizations	II.F

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Chapter II: Grant Administration

A. Monitoring Project Performance

1. Grantee Responsibilities

a. A grantee has full responsibility for the conduct of the project or activity supported under an NSF grant and for the results achieved. The grantee should monitor the performance of the project to assure adherence to performance goals, time schedules or other requirements as appropriate to the project or the terms of the grant. In order to carry out these responsibilities, each grantee organization shall agree to comply with the applicable Federal requirements for grants and to the prudent management of all expenditures and actions affecting the grant. Documentation for each expenditure or action affecting the grant shall reflect appropriate organizational reviews or approvals, which should be made in advance of the action. Organizational reviews are intended to help assure that expenditures are allowable, necessary and reasonable for the conduct of the project, and that the proposed action:

(i) is consistent with grant terms and conditions;

(ii) is consistent with NSF and grantee policies;

(iii) represents effective utilization of resources; and

(iv) does not constitute a change in objective or scope.

b. Notwithstanding these responsibilities, NSF continues to encourage communication between NSF program officers and PI/PDs on the progress of projects supported by NSF as well as on project changes.

c. NSF, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments, grantee management control systems and administration and management of the grant and to provide technical assistance as may be required. If any site visit is made by the Foundation on the premises of the grantee or a subawardee under a grant, the grantee shall provide and shall require its subawardees to provide all reasonable facilities and assistance for the safety and convenience of the NSF representatives.

2. Grantee Notifications to NSF and Requests for NSF Approval

a. AAG Exhibit II-1 provides a listing of grantee notifications to and requests for approval from NSF. While the listing is not intended to be all-inclusive, it does highlight the most frequent areas where specific notifications and requests for approval are called for.

b. All notifications and requests contained in AAG Exhibit II-1, and described below, must be submitted electronically via the NSF FastLane System.

B. Changes in Project Direction or Management

1. Changes in Objectives, Scope or Methodology

a. Changes in Objectives or Scope

Neither the phenomena under study nor the objectives of the project stated in the proposal or agreed modifications thereto should be changed without prior NSF approval. Such changes should be proposed to the cognizant NSF Program Officer by the PI/PD. If approved by NSF, the Grants and Agreements Officer will amend the grant.

Prior NSF approval also is required for any change to the Facilities, Equipment, and Other Resources section of the approved proposal that would constitute a change in objective or scope (see GPG Chapter II.C.2.i for further information).

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b. Changes in Methodology

NSF believes that the PI/PD and co-PI/co-PD, operating within the established policies of the grantee organization, should feel free to pursue interesting and important leads that may arise during the conduct of a research (or other grant-supported) project or to adopt an alternative approach which appears to be a more promising means of achieving the objectives of the project. Significant changes in methods or procedures should be reported to appropriate grantee official(s) and the cognizant NSF Program Officer.

c. Significant Changes, Delays or Events of Unusual Interest

(i) In the event there are problems, delays or adverse conditions that will materially affect the ability to attain the objectives of the project or to meet such time schedules as may have been proposed, appropriate grantee officials should notify the NSF Program Officer.

(ii) NSF should be informed of any events of unusual interest that occur during the course of the project. Reports, communications or photographs should be submitted via the interim report capability in FastLane.

2. Changes in PI/PD, co-PI/co-PD or Person-Months Devoted to the Project

a. Background

The NSF decision to support or not to support a proposed project is based to a considerable extent upon its evaluation of the proposed PI/PD and any identified co-PI/co-PD's knowledge of the field of study and his/her capabilities to conduct the project in an efficient and productive manner. This is reflected in the NSF criteria for the selection of projects for funding (see GPG Chapter III). The named PI/PD (and co-PI/co-PD) should be continuously responsible for the conduct of the project and be closely involved with the effort.

b. Basic Requirements

If the PI/PD or co-PI/co-PD plans to, or becomes aware that he/she will: (i) devote substantially less effort to the project than anticipated in the approved proposal; (ii) sever his/her connection with the grantee organization; or (iii) otherwise relinquish active direction of the project, he/she shall advise the appropriate official at the grantee organization, who shall initiate action appropriate to the situation under the guidelines that follow.

c. Short-Term Absence of PI/PD or co-PI/co-PD

If the PI/PD or co-PI/co-PD will be absent from the project for short periods of up to three months, he/she shall notify appropriate officials of the grantee organization. The grantee shall then notify the NSF Program Officer of arrangements for conduct of the project during the PI/PD's or co-PI/co-PD's temporary absence.

d. Long-Term Absence of PI/PD or co-PI/co-PD

(i) In the event the PI/PD or co-PI/co-PD will be away from the project for a period greater than three months (e.g. sabbatical leave) but intends to return, arrangements for oversight of the project shall be sent electronically to NSF for approval. This information must be provided at least 30 days before departure or as soon as practicable after the prospective absence is known. The NSF Program Officer will provide written approval to the awardee if the arrangements are satisfactory, but no formal amendment to the award will be made. If the arrangements are not satisfactory to NSF, the award may be terminated as prescribed in AAG Chapter VII.A.

(ii) In the event the PI/PD or co-PI/co-PD will temporarily be working for NSF as an IPA or VSEE, the appropriate officials at the awardee organization must advise the NSF Program Officer of the substitute PI/PD's or substitute co-PI/co-PD's name, qualifications, and current and pending support for research from all sources as described in GPG Chapter II.B.2.h. If approved by NSF, the Grants Officer will amend the award. If not approved, NSF may take steps, pursuant to AAG Chapter VII.A to suspend or terminate the award.

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e. Change in Person-Months Devoted to the Project

If the PI/PD or co-PI/co-PD will devote substantially less time to the project than anticipated in the proposal, (defined in the Research Terms and Conditions (RTC) and NSF Grant Conditions (GC-1) as a reduction of 25% or more in time) he/she should consult with appropriate officials of the grantee organization and with the NSF Program Officer. If either determines that the reduction of effort will substantially impair the successful execution of the project, the Program Officer will consult the NSF Grants and Agreements Officer. The NSF Grants and Agreements Officer may:

(i) request the awardee to nominate a replacement PI/PD or co-PI/co-PD acceptable to the NSF Program Officer;

(ii) initiate the termination procedures described in AAG Chapter VII.A.; or

(iii) negotiate an appropriate modification to the award.

f. Withdrawal of PI/PD or co-PI/co-PD

In the event the PI/PD or co-PI/co-PD severs his/her connection with the awardee organization or otherwise relinquishes active direction of the project, the grantee, or equivalent, must notify the NSF Program Officer via the Notification and Request module in FastLane, and either:

(i) initiate transfer of the award as described in AAG Chapter II.B.2.h.;

(ii) nominate a substitute as described in AAG Chapter II.B.2.g; or

(iii) initiate award closeout procedures through submission of final reports (AAG Chapter II.E.2. and AAG Chapter III.E.2).

g. Substitute PI/PD or co-PI/co-PD

In the event the awardee desires to continue the project with a substitute PI/PD or co-PI/co-PD, the appropriate officials at the awardee organization must advise the NSF Program Officer of the substitute PI/PD's or co-PI/co-PD's name, qualifications, and current and pending support for research from all sources. If approved by NSF, the Grants Officer will amend the award. If not approved, NSF may take steps, pursuant to AAG Chapter VII.A to suspend or terminate the award.

h. Disposition of a Grant When a PI/PD Transfers from One Organization to Another Organization

(i) Policy. When a PI/PD plans to leave an organization during the course of a grant, the organization has the prerogative to nominate a substitute PI/PD or request that the grant be terminated and closed out. In those cases where the PI/PD's original and new organizations agree, NSF will facilitate a transfer of the grant and the assignment of remaining unobligated funds to the PI/PD's new organization. This should normally be done with a tripartite agreement (involving NSF, the PI/PD's original organization and new organization), or by a subaward arrangement (in certain circumstances) between the PI/PD's original and new organizations, subject to NSF's consent. (See AAG Chapter II.B.3.)

(ii) Procedures. When a PI/PD plans to leave an organization during the course of a grant, the PI/PD or the Sponsored Projects Office, or equivalent, shall notify the NSF Program Office. If the project is to continue with the original organization, the NSF Program Officer should advise the grantee to nominate a substitute PI/PD (see AAG Chapter II.B.2.g). If the project is to be continued at the PI/PD's new organization, and if NSF and both organizations agree, formal notification of the impending transfer can be electronically initiated by either the PI/PD or the PI/PD's organization. The most current Federal Cash Transaction Report must be posted to NSF's financial accounting system prior to submitting the PI/PD transfer. The amount transferred has to be equal to or less than the unobligated balance.

The request shall include a:

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(a) brief summary of progress to date;

(b) description of work yet to be accomplished;

(c) completed on-line transfer request, including total estimated disbursements to date (transfer amount will be automatically calculated, based on the amount entered in total estimated disbursements). The original organization is responsible for including in the total estimated disbursements, any anticipated costs yet to be incurred against the original grant.

(d) detailed line item budget for the transfer amount and any outstanding continuing grant increments.

The original organization concurs with the transfer of the award by electronically forwarding the request to the new organization.

The new organization completes the request by providing a detailed budget for the transfer amount agreed to by both organizations. The new organization must electronically sign the request when submitted to NSF. Submission of the request constitutes agreement by the new organization to assume responsibility for completion of the project effort and to administer the grant (as originally awarded) from the transfer date to completion in accordance with any special terms and conditions and the applicable general terms and conditions that normally govern NSF grants made to the new organization. Special terms and conditions, as appropriate, cited in the original award will convey to the new grantee organization.

FastLane will assign at submission a proposal number. This proposal number will become the new grant number when the transfer is approved by an NSF Grants and Agreements Officer.

(iii) Fund Transfer. Upon receipt of the above material, NSF will review the request and, if approved, deduct the specified transfer amount from the original grant and re-establish it under a new grant number at the new organization. Award notification by the NSF Grants and Agreements Officer will constitute NSF approval of the grant transfer. The award notification also will specify the applicable basic terms and conditions that govern the grant (i.e., RTC, NSF GC-1, or other Terms and Conditions).

(iv) Upon transfer of the grant to the new organization, any monetary discrepancies must be resolved between the original and the new grantee. NSF will not intervene in any disputes between the two organizations regarding the transferred amount.

(v) Equipment Transfers. Equipment purchased with NSF funds for use in a specific project should remain available for use for the duration of the project. PI/PDs who are in the midst of projects that included funding for equipment and who will continue the project at a new organization with NSF support should be able to arrange with their original organization to have the equipment transferred with them. Shipping costs for such equipment may be charged to the original or transferred grant as an allowable cost. Budgets should not include funds to "buy" equipment that had been previously obtained with Federal funds.

(vi) Possible Alternatives to the Transfer Process. When the amount of time and funds remaining in a project are modest, and if both the original and new organizations are in agreement, the original organization may issue a subaward to the new organization for completion of the project. This and other possible alternatives should be discussed with the NSF Grants and Agreements Officer.

3. Contracting or Transferring the Project Effort (Subawards)

a. Excluding the procurement of items such as commercially available supplies, materials, equipment or general support services allowable under the grant, no significant part of the research or substantive effort under an NSF grant may be contracted or otherwise transferred to another organization without prior NSF authorization. The intent to enter into such arrangements should be disclosed in the proposal submission.

b. If it becomes necessary to contract or otherwise transfer a significant part of the research or substantive effort after a grant has been made, the grantee shall submit, at a minimum:

(i) a clear description of the work to be performed;

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(ii) the basis for selection of the subawardee (except for collaborative/joint arrangements[5]); and

(iii) a separate budget for each subaward.

The request must be submitted electronically, and NSF authorization will be indicated by an amendment to the grant signed by the Grants and Agreements Officer. The NSF grant conditions will identify which articles flow-down to subawardees.

c. Procurements under NSF grants are also subject to AAG Chapter V.C and OMB Circular A-110 Sections .40 through .48. (2 CFR §§215.40-48)

C. Changes in the Grant Budget

1. OMB Directives

Section .25 of OMB Circular A-110 (2 CFR §215.25) contains optional requirements regarding budgetary revisions. NSF elects NOT to impose the following requirements on its grantees:

a. prior approval requirements for appropriate transfer between direct and indirect cost categories of the grant budget; and

b. restrictions in transfers of funds among direct cost categories for grants in which the Federal share exceeds $100,000.

2. Grant Changes and Approvals

a. If required in furtherance of the project, the grantee is authorized to transfer funds from one budget category to another for allowable expenditures. AAG Exhibit II-1, however, highlights certain budget changes that may require prior NSF approval.

b. When a change requires NSF approval, the request must be submitted electronically via use of the Notification and Request module in FastLane. The request should clearly state which budget items, if any, are to be changed and by what amounts, and should explain the reasons for any changes.

c. Whenever the amount of Federal funds authorized by an NSF grant is expected to exceed the requirements of the project, as outlined in the approved proposal, by more than $5,000 or 5 percent of the grant amount, whichever is greater, the grantee will promptly notify the NSF Program Officer.

D. Cost Sharing

The National Science Board issued a report entitled "*Investing in the Future: NSF Cost Sharing Policies for a Robust Federal Research Enterprise"* (NSB 09-20, August 3, 2009), which contained eight recommendations for NSF regarding cost sharing. In implementation of the Board's recommendations, NSF's revised guidance[6] (see GPG Chapter II.C.2.g(xi)) is as follows:

- Inclusion of voluntary committed cost sharing is prohibited. Except as noted in GPG Chapter II.D.9, foregoing full indirect cost rate recovery may be considered voluntary committed cost sharing.

- When mandatory cost sharing is included on Line M and accepted by NSF, the commitment of funds becomes legally binding and is subject to audit. Failure to provide the level of cost sharing required by the NSF solicitation and reflected in the approved award budget may result in termination of the NSF award, disallowance of award costs and/or refund of award funds to NSF by the awardee.

[5] Collaborative/joint arrangements may include closely related and coordinated activities at another organization; a joint activity by several organizations or consortia; and group proposals from multiple organizations.
[6] See NSF's Revised Cost Sharing Policy Statement for the Foundation's overarching policies on cost sharing.

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1. Statutory (1%) Cost Sharing Requirement

In accordance with prior Congressional requirements, NSF required that each grantee share in the cost of NSF research projects resulting from unsolicited proposals. The appropriations providing funds to NSF and other independent agencies contained the following language:

> "None of the funds provided in this Act may be used for payment, through grants and contracts, to recipients that do not share in the cost of conducting research resulting from proposals for projects not specifically solicited by the Government: Provided, that the extent of cost sharing by the recipient shall reflect the mutuality of interest of the grantee or contractor and the Government in the research."

The statutory cost sharing requirement was eliminated effective with awards made on or after June 1, 2007.

2. Awards Issued Prior to Elimination of Statutory (1%) Cost Sharing Requirement

There are many existing awards that were awarded prior to the elimination of the statutory cost sharing amount. Grantees can meet the amount by either of two alternative methods:

(a) cost sharing one percent on each and every project; or

(b) cost sharing one percent on the aggregate total costs of all projects requiring cost sharing. This latter approach allows organizations greater flexibility by being able to share a greater percentage on some projects and not share at all on others.

Decisions on which method to use may be made by the grantee, and there is no requirement that NSF either be advised or approve of the method chosen. NSF does not use "organizational cost sharing agreements," such as those used by some granting agencies, to provide for aggregated cost sharing.

Cost sharing responsibilities are assumed by the grantee upon acceptance of the grant. This accountability extends to subawardee cost share commitments made under the award.

3. Method of Providing Contributions

Unless the grant states otherwise, contributions may be made from any non-Federal source, including non-Federal grants or contracts. Contributions from non-Federal sources may be counted as cost sharing toward Federal projects only once. Thus, contributions counted as cost sharing toward projects of another Federal agency may not be counted as cost sharing toward projects supported by NSF. If such contributions however, are related to projects supported by more than one Federal agency, the recipient may elect to make a proration among the agencies involved.

The contributions may be in the form of either direct or indirect costs.

Only items that would be allowable under the applicable cost principles, if charged to the project, may be included as the grantee's contribution.

Organizations will not be required to obtain prior NSF approval of the manner in which contributions are to be provided. The contributions may be in any allowable budget category or combination of categories. When direct cost items are contributed to the project, however, any indirect costs related to that item may not be charged to the project. Those indirect costs may, of course, be counted as part of the contribution. This restriction also applies to fringe benefits (when treated as direct costs) applicable to direct salaries contributed by the recipient.

If a grantee wishes to provide cost sharing in the indirect cost category, it should merely reduce its claim for indirect costs to which it would be otherwise entitled, indicating the difference as cost sharing.

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4. Cost Sharing Records and Reports

a. Grantee Records

(i) Grantees shall maintain records of all research project costs that are claimed by the grantee as being its contribution to cost participation, as well as records of costs to be paid by the government. Such records are subject to audit.

(ii) If the grantee's cost participation includes in-kind contributions, the basis for determining the valuation for volunteer services and donated property must be documented.

(iii) Grantees using the aggregate cost sharing method may find it useful, on a fiscal year basis, to prepare a summary of the total project costs for the year of all NSF-funded projects requiring cost sharing (excluding those grants which require specific cost sharing amounts or percentages; see AAG Chapter II.D.5), the total amount of cost sharing on those projects for the year, and the aggregate level of cost sharing expressed as a percentage of contributed costs to total project costs. Such information will facilitate organizational and Federal audit review and analysis of compliance with the cost sharing requirements on the aggregate basis.

b. Grantee Reports. Unless otherwise required by the grant or requested by NSF, the actual cost participation by the grantee need not be reported to NSF. Recognizing that there are some awards that contain cost sharing, in those cases where the cost-sharing amount reflected on Line M of the cumulative award budget is $500,000 or more, the amount of cost sharing must be documented (on an annual and final basis), certified by the Authorized Organizational Representative, and reported to the NSF Program Officer via the reporting module in FastLane. Such notifications must be submitted within 90 days prior to the end of the current budget period to meet the annual notification requirement and within 90 days following the expiration of the award to meet the final notification requirement. The cost share notification is considered due during the 90 day period. The notification becomes overdue the day after the 90 day period ends.

c. Should the awardee become aware that it may be unable to provide the cost sharing of at least the amount identified on Line M of the NSF award budget, it must: 1) immediately provide written notification to the Grants Officer of the situation; 2) indicate steps it plans to take to secure replacement cost sharing; 3) indicate the plans it has to either continue or phase out the project in the absence of cost sharing.

5. Cost Sharing Commitments

Grantees should be aware that cost sharing commitments are subject to audit. Audit findings involving cost sharing have pertained to: a) grantee accounting systems not capturing cost sharing identified with a particular project; b) failure to keep adequate source documentation for claimed cost sharing; c) unclear valuation of in-kind donated contributions; d) lack of support for cost sharing contributions by sub-recipients; and e) failure to complete annual certifications for awards with cost sharing requirements of $500,000 or more. These certifications must be submitted electronically via FastLane. Additional guidance on cost sharing may be obtained at http://www.nsf.gov/bfa/dias/caar/costrev.jsp.

Section .23 of OMB Circular A-110 (2 CFR §215.23) prescribes criteria and procedures for the allowability of cash and in-kind contributions in satisfying cost sharing and matching requirements. Cost sharing is defined as "all contributions, including cash and third party in-kind which meet seven criteria: verifiable, not included as contributions for any other federally-assisted project or program, necessary and reasonable for accomplishment of objectives, allowable, not paid by the Federal Government under another award (except where authorized by statute), provided for in the approved budget when required by the Federal awarding agency, and conform to other Circular provisions."

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E. Technical Reporting Requirements

NSF requires project reports for all assistance awards. Information from these reports is used in annual reports to Congress to demonstrate the Foundation's performance as mandated by the Government Performance and Results Act (GPRA) of 1993. These reports also provide NSF program officers and administrative offices with information on the progress of supported projects and the way these funds are used. Information in these reports may be made available to the general public through the Freedom of Information Act (FOIA).

1. Annual Project Reports

Annual Project Reports should address progress in all activities of the project, including any activities intended to address the Broader Impacts criterion that are not intrinsic to the research. These reports are not cumulative, and should be written specifically for the most recently completed budget period. Unless otherwise specified in the award, annual project reports should be submitted electronically via Research.gov, at least 90 days prior to the end of the current budget period to allow adequate time for the Program Officer to review and approve the report. As reflected in the Project Report System, the report is considered due during the 90 day period. The report becomes overdue the day after the 90 day period ends. Failure to submit timely reports will delay processing of additional funding and administrative actions, including, but not limited to, no cost extensions. In the case of continuing grants, failure to submit timely reports may delay processing of funding increments. See also AAG Chapter I.E.3.

Annual project reports may not be required for fellowship awards. Specific reporting requirements for fellowships are established in the program solicitation and award conditions.

For multi-year standard grants, PIs are required to submit annual reports as outlined above. In the case of cooperative agreements, the annual report is required before NSF approves any future funding increments.

Continuing grants also are subject to the same policies regarding report submission as outlined above. For continuing grants that have a duration of 18 months or more per increment, two annual reports are required. A report must be submitted for the first 12 months of the project, and then another report for the remaining months of the increment. Continuing grants which include an initial increment of 24 months will require an annual report for each 12 month period.

2. Final Project Report

The Final Project Report should address progress in all activities of the project, including any activities intended to address the Broader Impacts criterion that are not intrinsic to the research. This report is not cumulative; it is the last annual report of the project, and should be written specifically for the most recently completed budget period. Unless otherwise specified in the award, the final project report should be submitted electronically via Research.gov within 90 days following expiration of the grant. As reflected in the Project Report System, the report is considered due during the 90 day period. The report becomes overdue the day after the 90 day period ends. In addition, the grantee also shall provide to the cognizant NSF Program Officer, within 90 days following the expiration of the grant:

- any unique reports or other end items specified in the award, including any reporting requirements set forth in any NSF brochure, guide, solicitation, etc., referenced in the award as being directly related to either the award or the administration of the award.

- a final cost share notification documented and certified by the Authorized Organizational Representative for awards where the cost sharing amount reflected on Line M of the cumulative award budget is $500,000 or more.

Final project reports may not be required for institutional graduate research fellowships and interagency agreements. However, final project reporting requirements for individual fellowships are established in the program solicitation.

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3. Project Outcomes Report for the General Public

Within 90 days following expiration of the grant, a project outcomes report for the general public must be submitted electronically via Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted in the Research Spending and Results section of the Research.gov website **exactly as it is submitted** and will be accompanied by the following disclaimer:

> "This Project Outcomes Report for the General Public is displayed verbatim as submitted by the Principal Investigator (PI) for this award. Any opinions, findings, and conclusions or recommendations expressed in this Report are those of the PI and do not necessarily reflect the views of the National Science Foundation; NSF has not approved or endorsed its content."

Grantees are to ensure that the report does not contain any confidential, proprietary business information; unpublished conclusions or data that might compromise the ability to publish results in the research literature; or invention disclosures that might adversely affect the patent rights or those of the organization, in a subject invention under the award. Responses are not to contain any private personally identifiable information such as home contact information, individual demographic data or individually identifiable information collected from human research participants.

Section Contents:

1. Describe the project outcomes or findings that address the intellectual merit and broader impacts of the work as defined in the NSF merit review criteria. This description should be a brief (generally, two to three paragraphs) summary of the project's results that is written for the lay reader. Principal Investigators are strongly encouraged to avoid use of jargon, terms of art, or acronyms.

2. NSF will automatically include all publications that are provided regarding the award in the FastLane project reporting system. Other products that have resulted from the award also are to be listed. Examples of other products include collections, data sets, software, as well as educational materials.

3. Information regarding anticipated publication of project results, as well as any other information that would be of interest to the public also may be included in this section.

4. Compliance with Technical Reporting Requirements

PIs must submit final technical reports within the time period specified. **Failure to provide these reports on a timely basis will delay NSF review and processing of pending proposals for all identified PIs and co-PIs on a given award.**

5. Grant Closeout

Grant closeout is the process by which NSF determines that all applicable administrative actions and all required work of the grant have been completed. Grants will be financially closed based on final costs reported on the Federal Financial Report (FFR) one full quarter after the expiration of the grant. During April, 2013 NSF will implement the Award Cash Management $service (ACM$) and stop using the FFRs. Under ACM$ grants will be financially closed 3 months after their award expiration date based on the costs recorded at that time. Grants are administratively closed after receipt of the Final Project Report and after determination that any other administrative requirements in the grant have been met. In the event a final audit has not been performed prior to the closeout of the grant, NSF reserves the right to recover appropriate amounts after fully considering the recommendations on disallowed costs resulting from the final audit.

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F. Records Retention and Audit

1. Financial records, supporting documents, statistical records and other records pertinent to a grant will be retained by the grantee for a period of three years from submission of the final project and expenditure reports described in AAG Chapters II.E.2 and III.E, except that:

a. records related to audits, appeals, litigation or the settlement of claims arising out of the performance of the project will be retained until such audits, appeals, litigation or claims have been disposed of; and

b. records related to projects subject to special program income provisions (AAG Chapter VI.F.3) will be retained for three years beyond the end of the award period.

2. Unless court action or audit proceedings have been initiated, the grantee may substitute microfilm copies of original records.

3. The NSF Director and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any pertinent books, documents, papers and records, of the grantee organization (and of the performing organization, if different) to make audits, examinations, excerpts and transcripts. Further, in accordance with Section .48(d) of OMB Circular A-110 (2 CFR §215.48(d)), any negotiated contract in excess of the small purchase threshold made by the grantee shall include a provision to the effect that the grantee, NSF, the Comptroller General or any of their duly authorized representatives, shall have access to pertinent records for similar purposes.

4. In order to avoid duplicate recordkeeping, NSF may make special arrangements with grantees to retain any records which are needed for joint use. NSF may request transfer to its custody of records not needed by the grantee when it determines that the records possess long-term retention value. When the records are transferred to or maintained by NSF, the three-year retention requirement is not applicable to the grantee. In the rare event that these provisions are exercised, NSF will negotiate a mutually agreeable arrangement with the grantee regarding reimbursement of costs.

5. It is the responsibility of grantees that are States, Local Governments or Non-Profit Organizations to arrange for the conduct of audits as required by OMB Circular A-133 "*Audits of States, Local Governments, and Non-Profit Organizations*" (including colleges and universities.) They shall provide copies of the reports of these audits to the cognizant Federal audit agency. Any Federal audit deemed necessary by NSF shall build upon the results of such audit(s).

6. All awards issued by the National Science Foundation (NSF) meet the definition of "Research and Development" at OMB Circular A-133 §___.105. As such, auditees should identify NSF awards as part of the R&D cluster on the Schedule of Expenditures of Federal Awards (SEFA). The auditor should test NSF awards for compliance as instructed in Part V, Clusters of Programs. NSF recognizes that some awards may have another classification for purposes of indirect costs. The auditor is not required to report the disconnect (i.e., the award is classified as R&D for A-133 purposes but non-research for indirect cost rate purposes), unless the auditee is charging indirect costs at a rate other than the rate(s) specified in the award document(s).

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Exhibit II-1: *GRANTEE NOTIFICATIONS TO AND REQUESTS FOR APPROVAL FROM THE NATIONAL SCIENCE FOUNDATION**

All notifications and requests for approval from the National Science Foundation must be submitted electronically via the NSF FastLane System at http://www.fastlane.nsf.gov**. Questions related to the electronic processing of these notifications and requests should be forwarded to the FastLane Help Desk by phone at: 1-800-673-6188 or by e-mail to: fastlane@nsf.gov.**

Type of Grantee Notification	AAG Citation
Grantee Approved No-Cost Extension[7]	I.D.3c(i)
Significant Changes in Methods/Procedures	II.B.1b
Significant Changes/Delays or Events of Unusual Interest	II.B.1c
Short-Term Absence of the PI/PD or co-PI/co-PD	II.B.2c
Amount of Federal funds is expected to exceed the grant by more than $5,000 or 5%	II.C.2c
Cost Share $500K or more	II.D.5
Conflicts of Interest that cannot be satisfactorily managed, reduced or eliminated	IV.A

Type of Grantee Request	AAG	RTC	GC-1	Direct questions to:
First NSF Approved No-Cost Extension	I.D.3c(ii)(a)	Article 25	Article 4	Program Office
Second NSF Approved No-Cost Extension	I.D.3c(ii)(b)	Article 25	Article 4	Grants Office
Request for Supplemental Support	I.E.4			Program Office**
Change in Objective or Scope	II.B.1a	Article 25	Article 8	Program Office**
Long-Term Absence of the PI/PD or co-PI/co-PD	II.B.2d	Article 25	Article 8	Program Office**
Change in Person-Months Devoted to Project	II.B.2e	Article 25	Article 8	Grants Office, if necessary
Withdrawal of PI/PD or co-PI/co-PD	II.B.2f	Article 25	Article 8	Program Office**
Substitute PI/PD or co-PI/co-PD	II.B.2g	Article 25	Article 8	Program Office**
PI/PD or co-PI/co-PD Transfer from One Organization to Another	II.B.2h	Article 25	Article 8	Grants Office
Contracting or Transferring the Project Effort (Subawards)	II.B.3	Article 25	Article 8	Grants Office
Pre-award Costs in Excess of 90 Days	V.A.2b	Article 25	Article 3	Grants Office
Reallocation of Funds Budgeted for Participant or Trainee Support Costs	V.B.8	Article 27	Article 2	Program Office
Rearrangements/Alterations in excess of $25,000	V.C.1	Article 27	Article 11	Grants Office
Adjustments to cost sharing commitments reflected on Line M of the approved NSF budget	II.D	Article 23	Article 25	Grants Office

Notes: *This listing of Notifications and Requests for Approval is not intended to be all-inclusive. **Final action by Grants Officer, when warranted

[7] Small Grants for Exploratory Research (SGER) awards are not eligible for this authority.

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Chapter III - Financial Requirements and Payments

The acceptance of an award from NSF creates a legal duty on the part of the awardee organization to use the funds or property made available in accordance with the conditions of the award. Payments may be made in advance of work performed or as a reimbursement for work performed and/or costs incurred by the awardee. However, payments may not be made in advance of an award being signed by a Grants and Agreements Officer for the project period. NSF has a reversionary interest in the unused balance of advance payments, in any funds improperly applied (whether or not received as an advance payment), and in property acquired through the award, to which NSF specifically either retains title or reserves the right to require title transfer.

The provisions of this chapter cover all NSF assistance awards (grants and cooperative agreements). Graduate fellowship agreements with domestic colleges and universities are included, but individual fellowships and contracts are excluded. All categories of awardees (academic, non-academic, profit and non-profit) are covered by this chapter. The procedures in this chapter apply primarily to the comptroller's office or business office.

A. Standards for Financial Management

NSF awardees are required to have financial management systems that meet the requirements of Section .21 of OMB Circular A-110 (2 CFR §215.21).

B. Definitions

The following definitions are either not included elsewhere in the Guide or are repeated in this section because of their special applicability to this chapter.

1. BUSINESS OFFICER - the financial official of the awardee organization who has primary responsibility for the accountability for and reporting on NSF award funds.

2. CASH ON HAND - an organization's cash position relative to the funds received from NSF minus the costs incurred for the award.

3. DISBURSEMENTS/OUTLAYS/EXPENDITURES - charges made to the project during a given period for:

a. Goods and other tangible property received;

b. Services performed by employees, subawardees, contractors and other payees.

4. FINANCIAL FUNCTIONS - NSF systems and services used by awardees to transmit financial information to NSF. Awardees must access Financial Functions through Research.gov. Research.gov is NSF's modernization of FastLane and provides access to a menu of services in one location. The primary Financial Functions used by awardees are:

- Award Cash Management $ervice (ACM$) - NSF's award payment process under which awardee institutions provide award level detail at the time of the payment request. ACM$ has replaced the reporting of expenditures on the FFR and the Cash Request Function.

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- Federal Financial Report History - electronic version of the standard “Federal Financial Report”. Used by awardees prior to ACM$ implementation to report the financial activity of NSF awards on a quarterly basis.

- Grantee EFT Update Function - used by awardees to provide NSF with their banking information. (See AAG Chapter III.C.6)

5. AWARDEE - the organization or other entity that receives an award and assumes legal and financial responsibility and accountability both for the awarded funds and for the performance of the award-supported activity. NSF awards are normally made to organizations rather than to individual PI/PD(s).

6. NSF OBLIGATIONS - funds authorized by an NSF Grants Officer for a specific NSF award creating a balance payable to a grantee.

7. AWARDEE OBLIGATIONS - the amounts of orders placed, subawards issued, contracts awarded, services received and similar transactions during a given period that will require a future payment by the grantee.

8. PAYMENTS - funds transferred from NSF to the awardee by electronic funds transfer (Automated Clearing House (ACH)) and on some rare occasions by check or by wire for same day electronic funds transfer or international payments.

9. UNLIQUIDATED OBLIGATIONS - expenses incurred but not paid. Such obligations are included in reports prepared by awardees whose financial records are maintained on an accrual basis.

10. UNOBLIGATED BALANCE - the portion of the funds authorized by the award that have not been obligated by the awardee. It is determined by deducting outlays and unliquidated obligations from the funds authorized.

C. Payment Requirements

1. Requesting Payments

NSF's awardees, except for some Special Payment awardees, AAG Chapter III.C.4, and some foreign awardees, are required to request payments electronically through the Award Cash Management Service (ACM$) When ACM$ was implemented NSF discontinued payments under the “cash pooling” method where awardee institutions requested funds on a lump sum basis to cover the cash requirements for their awards. Under ACM$ awardees must provide award level detail at the time of the payment request.

Certain Special Payment awardees and foreign awardees without access to a U.S. bank are required to request funds by submitting a "Request for Advance or Reimbursement Form", (SF 270) (see (AAG Exhibit III-1), to NSF either through mail, email or by fax.

2. Payment Policies

The purpose of this section is to prescribe the timing of advances and the procedures to be observed to assure that cash payments occur only when essential to meet the needs of an awardee for its actual disbursements.

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a. Timing of Payments. When completing a payment request awardees must certify that all disbursements have been made or will be made within 3 days of the receipt of the payment for the purposes and conditions (including cost-sharing requirements as stated in the NSF grant policy manual) of the awards.

b. Payments to Subawardees. Payments made by primary awardees (those which receive payments directly from NSF) to others (subawardees) shall conform to the same standards of timing and amount as apply to payments by NSF to primary awardees, including the furnishing of reports of cash disbursements and balances.

c. Withholding payments. NSF reserves the right, upon written notice, to withhold future payments after a specified date if the recipient:

(i) Fails to comply with the conditions of an NSF award , including the reporting requirements; or

(ii) Is indebted to the U.S. Government.

d. Safeguarding Funds. In no case will NSF-furnished funds be commingled with the personal funds of, or be used for personal purposes by, any officer, employee, or agent of the awardee; nor will any of these funds be deposited in personal bank accounts for disbursement by personal check.

3. Request for Advance

a. Awardees may receive payments from NSF in advance of cost incurred provided that the following conditions exist:

(i) Funds for the project period have been obligated by a Grants and Agreements Officer in the form of a signed grant;

(ii) The awardee has established or demonstrated to NSF the willingness and ability to establish written procedures that will minimize the time elapsing between the transfer of funds from the U.S. Treasury and their disbursement by the awardee; and

(iii) The awardee's financial management system meets the standards for fund control and accountability prescribed in Section .21 of OMB Circular A-110. (2 CFR §215.21)

b. The awardees' designated official (Accounting Officer, Business Officer, Treasurer, etc.) must submit their cash requests for payment by using the ACM$. Awardees submit requests on a periodic basis (weekly, biweekly monthly, or other regular cycle) depending on their normal disbursement patterns. Such requests should be limited to the minimum amounts needed and be timed to meet the anticipated cash requirements for allowable charges to active NSF projects.

c. Awardees shall maintain advances of NSF funds in interest bearing accounts as specified in AAG Chapter III.D.3.

4. Special Payment Awardees

When awardees do not meet the conditions specified in AAG Chapter III.C.3, or when otherwise considered appropriate, NSF may restrict their capability to request funds through ACM$ or they may be required to request funds by using a Request for Advance or Reimbursement (SF 270) form. For a copy of the form see AAG Exhibit III-1. The cognizant NSF Grants and Agreements Officer is responsible for

establishing the documentation requirements for special payment awardees. Documentation may be submitted by email, by fax to 703-292-9142, or through the mail to:

National Science Foundation
Division of Grants & Agreements
Room 480
4201 Wilson Blvd
Arlington, VA 22230

5. Working Capital Advance

In those cases where the reimbursement method described in AAG Chapter III.C.4 is not feasible, arrangements may be made whereby NSF projects are financed on a working capital advance basis. On this basis, funds may be advanced to the awardee to cover estimated disbursement needs for a given initial period. Thereafter, the awardee would be reimbursed for the amount of its actual cash disbursements. The amount of the initial advance shall be geared to the reimbursement cycle so that after the initial period, the advance approximately equals the average amount of the awardees' unreimbursed program disbursements.

6. Grantee EFT Update

Grantee Electronic Funds Transfer (EFT) Update is a Financial Function used by awardees to provide NSF with their electronic banking information. This service enables NSF to transfer funds electronically to an awardees' bank account by using the banking information provided by the awardee. All NSF awardees, with the exception of certain non-U.S. awardees noted in paragraph C.1.above, must provide banking information through Grantee EFT Update in order to request and/or receive payments.

Effective October 1, 2014, the System for Award Management (SAM) will be the NSF system of record for organizational financial information. Banking information contained within FastLane will not be used after September 30, 2014.

Once a grant is awarded, failure to maintain current and complete financial information within SAM could prevent the awardee from receiving funds.

7. Use of Women-Owned and Minority-Owned Banks

Recipients of NSF awards are encouraged by the Federal government to use banks which are owned (at least 50 percent) by women or minority groups such as Asian, Black, Hispanic, Native Americans and Pacific Islanders. This action is consistent with the national goal of expanding the opportunities for women-owned and minority owned business enterprises.

D. Cash Refunds and Credits to NSF

1. Final Unobligated Balance

NSF has a reversionary interest in the unobligated balance of an award upon expiration or completion of the award. Based on final payment amounts submitted through ACM$, the final unobligated balance will be computed by NSF and deobligated from the award amount.

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2. Erroneous Payments

Advances or reimbursements made in error must be refunded to the National Science Foundation. Excess funds should be promptly refunded electronically or by check. Electronic remittances should be submitted through Pay.gov at https://pay.gov/paygov/forms/formInstance.html?agencyFormId=10506005. Checks shall be mailed to NSF, Attn. Cashier, 4201 Wilson Boulevard, Arlington, VA 22230. Contact the NSF Division of Financial Management at (703) 292-8280 for additional information.

The only exception to the requirement for prompt refunding is when the funds involved will be disbursed immediately. This exception for prompt refunding should not be construed as approval by NSF for an awardee to maintain excessive funds on hand.

3. Interest Earned on Advance Payments

Awardees shall maintain advances of NSF funds in interest bearing accounts, unless any of the following apply:

a. The awardee receives less than $120,000 in Federal awards per year;

b. The best reasonably available interest bearing account would not be expected to earn interest in excess of $250 per year on Federal cash balances; or

c. The depository would require an average or minimum balance so high that it would not be feasible within the expected Federal and non-Federal cash resources. Interest earned on NSF advances deposited in interest bearing accounts shall be remitted annually to the Department of Health and Human Services (DHHS), Payment Management System, P.O. Box 6021, Rockville, MD 20852 (telephone number: (301) 443-9247). Awardees are authorized to retain up to $250 per year for administrative expenses.

The requirement to annually remit interest does not apply to awardees subject to the Cash Management Improvement Act (CMIA) and its implementing regulations (i.e., State agencies and instrumentalities). State universities and hospitals shall comply with the CMIA, as it pertains to interest. In accordance with Section .22 of OMB Circular A-110 (2 CFR §215.22) if an awardee subject to CMIA uses its own funds to pay pre-award costs without prior written approval from NSF, it waives its right to recover the interest under CMIA.

4. Program Income

If, in accordance with the award terms and conditions, program income is designated for standard (additive) treatment, efforts should be made to avoid having unexpended program income remaining at award expiration. Program Income earned during the project period should be expended prior to requesting reimbursement against the award. In the event an awardee has unexpended program income remaining at award expiration, it will be remitted to NSF by crediting costs otherwise chargeable against the award. If it is not possible to record the credit via the electronic system, the excess program income will be remitted to NSF electronically or by check payable to the National Science Foundation. (See paragraph D.2 above for further information.)

If, in accordance with the award terms and conditions program income is designated for deductive treatment, it will be remitted to NSF by crediting costs otherwise chargeable against the award. Program Income in excess of the award will be remitted to NSF electronically or by check payable to the National Science Foundation.

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See AAG Chapter VI.F for additional information regarding Program Income.

5. Other Cost Credits

Purchase discounts, rebates, allowances, credits resulting from overhead rate adjustments and other credits relating to any allowable cost received by or accruing to the awardee shall be credited against NSF award costs if the award has not been financially closed out. Credits of $1.00 or more shall be credited against NSF award costs even if the award has been closed out. See also AAG Chapter V.B.7.

E. Award Financial Reporting Requirements - Final Disbursement Reporting

NSF does not require awardees to submit Federal Financial Reports (FFR's) for each award for purposes of final award accountability. NSF procedures have been designed to extract the final financial data from the entries in ACM$. This is accomplished as follows:

For any award listed on the ACM$ Payments screen, the awardee will enter the final payment amount in the Payment Amount Requested column.

a. If final disbursements change by $1.00 or more from the amount at award financial closeout, the awardee should submit an Adjustment to a Financially Closed Award" through the ACM$ payment process.

b. NSF financially closes awards three months after the award expiration date and the award is removed from the ACM$ payment screen for active awards.

c. Awardees have the option of using ACM$ to designate awards for financial closeout prior to the scheduled close out date. Awardees can complete that action by selecting the Final Flag on the ACM$ payment screen. That action will financially close the award upon posting of the ACM$ transaction to the NSF financial accounting system.

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Exhibit III-1

REQUEST FOR ADVANCE OR REIMBURSEMENT	Approved by Office of Management and Budget, No. 80-R0183	Page of

Federal sponsoring Agency to which this Report is submitted.	1. Type of Payment	a. "X" one, or both boxes ☐ Advance ☐ Reimbursement	2. Basis of Request ☐ Cash ☐ Accrual
National Science Foundation-DFM Phone: 703-292-4458		b. "X" the applicable box ☐ Final ☐ Partial	
	4. Federal Grant or Other Identifying Number	5. Partial Payment Request Number For This Request	

6. Employer Identification Number	7. Recipient's Account Number or Identifying Number	8. **PERIOD COVERED BY THIS REQUEST** FROM (month, day, year)	TO (month, day, year)

9. Recipient Organization Name: Number and Street: City, State and Zip Code:	10. Payee

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PROGRAMS/FUNCTIONS/ACTIVITIES	(a)	(b)	(c)	**TOTAL**
a. Total program Outlays to date *(As of Date)*	$	$	$	$
b. *Less:* Cumulative program income				
c . Net program outlays (*Line a minus line b)*				
d. Estimated net cash outlays for advance period				
e. Total (*Sum of lines c & d)*				
f. Non-Federal share of amount on line e				
g. Federal share of amount on line e				
h. Federal payments previously requested				
i. Federal share now requested (*Line g minus line h)*				

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a. Estimated Federal cash outlays that will be made during period covered by the advance	$
b. *Less:* Estimated balance of Federal cash on hand as of beginning of advance period	
c. Amount requested (*Line a minus line b)*	$

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I certify that to the best of my knowledge and belief the data above are correct and that all outlays were made in accordance with the grant conditions or other agreement and that payment is due and has not been previously requested	SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	DATE REQUEST SUBMITTED
	TYPED OR PRINTED NAME AND TITLE	TELEPHONE (AREA CODE, NUMBER, EXTENSION)

Chapter IV: Grantee Standards

NSF encourages the increased involvement of academic researchers and educators with industry and private entrepreneurial ventures, but recognizes that such interactions carry with them an increased risk of conflict of interests. AAG Chapter IV.A contains NSF's policy on conflict of interest.

2 CFR §215 prescribes three sets of standards for academic and other non-profit recipients of Federal grants, each governing a different area: financial management systems, procurement policies, and procedures and property management. AAG Chapter III.B, III.C and III.D implement the OMB standards, and extend their applicability to all types of recipients of NSF grants, including commercial firms.

A. Conflict of Interest Policies

1. NSF requires each grantee organization employing more than fifty persons to maintain an appropriate written and enforced policy on conflict of interest and that all conflicts of interest for each award be managed, reduced or eliminated prior to the expenditure of the award funds. If the organization carries out agency-funded research through subawardees, contractors, or collaborators, the organization must take reasonable steps to ensure that:

a. the entity has its own policies in place that meet the requirements of this policy; or

b. investigators working for such entities follow the policies of the primary organization.

Guidance for development of such policies has been issued by university associations and scientific societies.

2. An organizational conflict of interest policy should require that each investigator disclose to a responsible representative of the organization all significant financial interests of the investigator (including those of the investigator's spouse and dependent children): (i) that would reasonably appear to be affected by the research or educational activities funded or proposed for funding by NSF; or (ii) in entities whose financial interests would reasonably appear to be affected by such activities.

The term "investigator" means the principal investigator/project director, co-principal investigators/co-project directors, and any other person at the organization who is responsible for the design, conduct, or reporting of research or educational activities funded or proposed for funding by NSF.

The term "significant financial interest" means anything of monetary value, including, but not limited to, salary or other payments for services (e.g., consulting fees or honoraria); equity interest (e.g., stocks, stock options or other ownership interests); and intellectual property rights (e.g., patents, copyrights and royalties from such rights).

The term does not include:

a. salary, royalties or other remuneration from the applicant organization;

b. any ownership interests in the organization, if the organization is an applicant under the Small Business Innovation Research Program or Small Business Technology Transfer Program;

c. income from seminars, lectures, or teaching engagements sponsored by public or non-profit entities;

d. income from service on advisory committees or review panels for public or nonprofit entities;

e. an equity interest that, when aggregated for the investigator and the investigator's spouse and dependent children, meets both of the following tests: (i) does not exceed $10,000 in value as determined through reference to public prices or other reasonable measures of fair market value; and (ii) does not represent more than a 5% ownership interest in any single entity; or

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f. salary, royalties or other payments that, when aggregated for the investigator and the investigator's spouse and dependent children, are not expected to exceed $10,000 during the prior twelve-month period.

3. An organizational policy must ensure that investigators have provided all required financial disclosures at the time the proposal is submitted to NSF. It must also require that those financial disclosures are updated during the period of the award, either on an annual basis, or as new reportable significant financial interests are obtained.

4. An organizational policy must designate one or more persons to review financial disclosures, determine whether a conflict of interest exists, and determine what conditions or restrictions, if any, should be imposed by the organization to manage, reduce or eliminate such conflict of interest. A conflict of interest exists when the reviewer(s) reasonably determines that a significant financial interest could directly and significantly affect the design, conduct, or reporting of NSF-funded research or educational activities.

Examples of conditions or restrictions that might be imposed to manage, reduce or eliminate conflicts of interest include, but are not limited to:

a. public disclosure of significant financial interests;

b. monitoring of research by independent reviewers;

c. modification of the research plan;

d. disqualification from participation in the portion of the NSF-funded research that would be affected by significant financial interests;

e. divestiture of significant financial interests; or

f. severance of relationships that create conflicts.

If the reviewer(s) determines that imposing conditions or restrictions would be either ineffective or inequitable, and that the potential negative impacts that may arise from a significant financial interest are outweighed by interests of scientific progress, technology transfer, or the public health and welfare, then the reviewer(s) may allow the research to go forward without imposing such conditions or restrictions.

5. The organizational policy must include adequate enforcement mechanisms, and provide for sanctions where appropriate.

6. The organizational policy must include arrangements for keeping NSF's Office of the General Counsel (OGC) appropriately informed if the organization finds that it is unable to satisfactorily manage a conflict of interest and if the institution finds that research will proceed without the imposition of conditions or restrictions when a COI exists.[8]

When OGC is notified of an unmanageable conflict of interest by an awardee, OGC will conduct the following review:

(a) Examine a copy of the organization's conflict of interest policy to ascertain if the policy includes procedures for addressing unmanageable conflicts.

(b) Contact the awardee organization's representative to determine what actions the organization plans/has taken with respect to the reported unmanageable conflict of interest, ensuring consistency with their conflict of interest policy.

(c) Request confirmation from the awardee when proposed actions have been accomplished.

[8] Grantee notifications of conflict of interest that cannot be managed, reduced, or eliminated and awardee notifications of situations where research will proceed without the imposition of conditions or restrictions when a COI exists must be submitted electronically via the NSF FastLane System.

7. Organizations must maintain records of all financial disclosures and of all actions taken to resolve conflicts of interest for at least three years beyond the termination or completion of the grant to which they relate, or until the resolution of any NSF action involving those records, whichever is longer.

B. Responsible Conduct of Research (RCR)

1. Background

The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in science and engineering. Consequently, education in RCR is considered essential in the preparation of future scientists and engineers. Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act (42 U.S.C. 1862o–1 requires that ‘‘each institution that applies for financial assistance from the Foundation for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.”

The language specified below provides NSF’s implementation of Section 7009.

2. Institutional Responsibilities

a. An institution must have a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research. As noted in GPG Chapter II.C.1.e, institutional certification to this effect is required for each proposal.

b. While training plans are not required to be included in proposals submitted to NSF, institutions are advised that they are subject to review, upon request.

c. An institution must designate one or more persons to oversee compliance with the RCR training requirement.

d. Institutions are responsible for verifying that undergraduate students, graduate students, and postdoctoral researchers supported by NSF to conduct research have received training in the responsible and ethical conduct of research.

C. Financial Management Systems Standards

NSF grantees are required to have financial management systems which meet the requirements of Section .20 of OMB Circular A-110 (2 CFR 215 §20).

D. Procurement Standards

NSF grantees shall adhere to the requirements of Sections .40-48 of OMB Circular A-110 (2 CFR 215 §§40-48) which prescribe standards for use by recipients in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds.

E. Property Management Standards

- 2 CFR §215.30 prescribes standards for managing and disposing of property furnished by the Federal government or whose cost was charged to a project supported by a Federal grant.

- In the rare instances where NSF grants might involve the acquisition of real property and unless otherwise specified in the grant document, the real property standards of 2 CFR §215.32 are applicable to such NSF grants.

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- NSF implementation of the OMB standards on intellectual property is contained in AAG Chapter VI.D.

- Title to materials developed and supplies purchased under an NSF grant will vest in the grantee.

- 2 CFR §215.33 contains a special category of "exempt property." Under that provision, any Federal agency which has statutory authority (such as NSF) may vest title in an institution of higher education, hospital or other non-profit organization without further obligation to the Federal Government and under conditions the agency considers appropriate.

1. Title to Equipment

a. Title to Equipment - Non-Profit Organizations

(i) Normal Situations. Unless otherwise specified in the grant, title to equipment purchased or fabricated with NSF grant funds by a college or university or other non-profit organization will vest in the grantee organization upon acquisition. Such equipment is considered "exempt property" (see AAG Chapter IV.E. and subject to the conditions of AAG Chapter IV.E.2.)

(ii) Special Situations. In special situations the grant may require that title to equipment purchased, acquired or fabricated by the grantee with NSF funds pass directly to the government from the vendor.

b. Title to Equipment - Commercial Organizations

Unless otherwise specified in the grant, title to equipment purchased or fabricated with NSF grant funds by a small business or other commercial firm will vest in the government. Such equipment will be acquired and used in accordance with AAG Chapter IV.E.2, and managed in accordance with AAG Chapter IV.E.4.

2. Conditions for Acquisition and Use of Equipment

a. Grantee Assurance. The grantee will assure that for each purchase of equipment, it is:

(i) necessary for the research or activity supported by the grant;

(ii) not otherwise reasonably available and accessible;

(iii) of the type normally charged as a direct cost to sponsored agreements; and

(iv) acquired in accordance with organizational practice.

b. General Purpose Equipment. Expenditures for general purpose equipment (see AAG Chapter V.B.2b) are unallowable unless the equipment is primarily or exclusively used in the actual conduct of research.

c. Equipment Usage. The equipment must remain in use for the specific project for which it was obtained in accordance with 2 CFR §215.34 unless the provision in §.34e. applies.

d. Equipment Sharing. The equipment must be shared on other projects or programs in accordance with 2 CFR 215.34(d).

e. Property Management Standards. The grantee shall maintain a property management system which, at a minimum, meets the requirements of 2 CFR §215.34(f).

f. Competition. Grantees shall not use equipment acquired with Federal funds to provide services to non-Federal outside organizations for a fee that is less than private companies charge for equivalent services, unless specifically authorized by statute, for as long as the Federal Government retains an interest in the equipment.

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g. Right to Transfer Title.

(i) NSF may identify items of equipment having a unit acquisition cost of $5,000 or more where NSF reserves the right to transfer the title to the Federal government or to a third party named by the Federal government.

(ii) In such cases where NSF elects to transfer the title, disposition instructions will be issued no later than 120 calendar days after the expiration date of the NSF-supported project for which it was acquired.

3. Principles Relating to the Use of NSF-Supported Research Instrumentation and Facilities

The following principles on use of NSF-supported instrumentation and facilities were adopted by the National Science Board:

> The National Science Foundation seeks the maximum productive use of the Nation's scientific instrumentation and research expertise. Ensuring that the highest quality instrumentation, facilities, and services are available to scientific users, both academic and industrial, is a key requirement, as are harmonious relations and cooperation between industry and universities. Private research and testing laboratories, as well as university, government, and industrial laboratories, have a contribution to make.
>
> The National Science Board recognizes that there may be circumstances where NSF grantees use NSF-supported research instrumentation to provide services in commerce for a fee, to an extent that such practice, (1) detracts from the performance of their obligation under the grant, and/or (2) may have a material and deleterious effect on the success of private companies engaged in the provision of equivalent services. It is contrary to the NSF's intent for grantees to use NSF-supported research instrumentation or facilities to provide services for a fee in competition with private companies in a manner that is prohibited by 2 CFR §215.34(b).

Grantees should implement the above principles and related grant conditions in a reasonable manner. Grantees are expected to provide fair and adequate consideration of any complaints about use of instrumentation and facilities.

4. Property Management Standards When Title Retained by NSF

In the event that title to equipment or property is vested in the Federal Government, such property shall be marked, tagged or segregated in such a manner as to indicate clearly its ownership by the government. Unless otherwise provided in the grant, such government property shall be used only for the performance of the project. The grantee shall submit an annual inventory report by NSF grant number of such property having an original acquisition cost of $5,000 or more, to the NSF Property Administrator, Division of Administrative Services (DAS). A physical inventory of Government-Owned Equipment (GOE) shall be conducted every two years pursuant to 2 CFR §215.34(f)(3). Upon expiration of the grant, the grantee shall report the property to the Property Section for further agency utilization. (See AAG Chapter IV.E.5.)

5. Excess Government Personal Property

a. Policy

(i) As a means of expanding the ability of grantees to accomplish NSF objectives while conserving supply and equipment funds, NSF will continue to sponsor the transfer of excess government personal property to NSF grantees.

(ii) Excess government personal property includes all types of personal equipment and materials (except consumable items such as drugs, paint, etc.), new or used, owned by the Federal Government and no longer needed by the holding agency, but having additional useful life. Under regulations established by the General Services Administration (GSA), the agency charged with operating this program, excess government personal property may be reported to, or requested from, GSA by other Federal agencies, including NSF.

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(iii) NSF will sponsor the transfer of excess government personal property to eligible organizations under one of the following conditions:

(a) the use of the property significantly furthers an NSF grant-supported activity;

(b) the property is such that it would have been procured under the grant for which property is being requested if additional grant funds had been available;

(c) the property is used as part of the grant activity and subsequently for research or science education purposes; or

(d) the property is classified by GSA as scientific or engineering research equipment and has a unit acquisition cost of $1,000 or more. (See AAG Chapter IV.E.5f.)

b. Eligibility

Eligible organizations are NSF grantees that are public or private institutions of higher education or non-profit organizations whose primary purpose is the conduct of research or science education activities. State and municipal governments, public health units, hospitals, profit-making firms and individual PI/PDs are not eligible for excess government personal property under NSF sponsorship.

c. Procedures

(i) To access a worldwide inventory of available excess personal property, an eligible grantee should contact the Property Administrator (fsrpts@nsf.gov), DAS to become a registered user of GSAXcess® (GSA's online personal property system located at http://gsaxcess.gov/).

(ii) Grantees can visit GSAXcess® to screen for items that are necessary to accomplish the NSF supported project by searching GSA's inventory and adding items to the Selection Cart. Excess personal property is reported by Category (Federal Supply Classification (FSC)) and includes the item control number, name, location, quantity available, and unit of issue, original acquisition cost, surplus release date and condition of items posted. In some instances a photograph of the property item is available.

(iii) Materials and equipment so selected should be inspected whenever possible (see AAG Chapter IV.E.5d), or the holding Federal agency should be contacted by the grantee to verify the condition of the items, because interpretation of condition codes can vary among agencies.

(iv) If the condition of the item is acceptable, the grantee should freeze items by Checkout of the Selection Cart to generate a Transfer Control Number/SF 122, Transfer Order Excess Personal Property.

(v) The grantee should next submit the SF 122, *Transfer Order Excess Personal Property* and a separate written justification statement, if necessary, to the Property Administrator, DAS. The justification will explain why the property is needed to reduce the cost or enhance the performance under the specific grant for which the property is requested.

(vi) The SF 122 should be signed by either the PI/PD or the Authorized Organizational Representative. The following information should also be provided on each SF 122:

(a) name of grantee organization;

(b) grant number;

(c) expiration date;

(d) the statement "The above equipment is requested for use by the grantee in support of research or education as outlined in the grant"; and

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(e) the statement "Transfer is in accordance with the provisions of 41 CFR §101.43." The grantee should also verify the automatic release date with GSA to preclude loss of property before the transaction is processed.

(vii) The written justification should detail the scientific need for the equipment as it relates to the particular grant under which the equipment is to be used, and should cite the conditions of this section as being binding upon the grantee, should the property be acquired.

(viii) Upon receipt by NSF, the SF 122 will be reviewed and forwarded to the appropriate GSA Office. Items are usually allocated on a first come, first served basis. Since GSA may have several freezes on a piece of equipment, first come, first served is interpreted as the first approved SF 122 received by the GSA office and designated Area Property Officer (APO). However, preference will be given by GSA to agencies which do not grant title to equipment. As confirmation of approval, the grantee will receive copies of the SF 122 from the GSA APO. If the request is disapproved, it will be returned to the grantee with an appropriate explanation.

(ix) Upon receipt of the requested property, the grantee should immediately return a copy of the SF 122 to NSF as evidence of delivery. Cancellations by GSA, or nonreceipt within a reasonable period of time should also be reported to NSF after follow-up inquiries have been made to GSA.

d. Visiting Holding Agency Facilities

(i) Under current GSA regulations all non-Federal grantee representatives wishing to visit holding agency facilities to screen or freeze government excess personal property must receive prior certification from GSA. Because of current security protocols, the holding agency may require written authorization for access.

(ii) The number of screeners on a grant should be limited to no more than two persons. The primary screener should be the PI/PD. However, if the PI/PD finds it impossible to screen, he/she may designate, in writing, a substitute.

(iii) Normally, certification will be on a regional basis; however, NSF will, under certain circumstances, sponsor grantee representatives who need to make interregional visits in order to secure equipment not readily available within their region.

e. Dollar Limitation

To ensure equitable distribution of excess government personal property, grantees may be authorized to acquire property under each NSF project grant up to a total acquisition cost equal to the dollar value of that particular grant. Any request for excess property which causes the total to exceed the value of the grant will require additional justification beyond that requested in AAG Chapter IV.E.5.c. A higher percentage of excess property requested under a particular grant by a grantee must be approved by an administrative level in NSF which is higher than the Program Officer who normally administers the grant. NSF will give full consideration to all factors in determining whether to approve transfers of excess property above the dollar value of a given grant. Grantees are therefore urged to be selective in their requests for excess government personal property to limit quantities of each item where possible and to avoid stockpiling items for future use.

f. Restrictions

(i) NSF will sponsor the transfer of excess government personal equipment to eligible organizations only under project grants. As defined in the GSA regulations, "project grants" refers to grants made for specific purposes with established termination dates, e.g., grants made to specific organizations to perform specific tasks within set time frames and costs. No excess property may be acquired on behalf of conference, publication-support grants or travel grants. In addition, on "summer-type training grants," no property may be acquired after the training period has terminated. Further, grantees should exercise careful judgment on the appropriateness of requesting excess personal property when only a short period of time exists between the date of the property request and the completion or successful accomplishment of the NSF-supported activity. GSA will consider items of personal property as research equipment for transfer without reimbursement to NSF for use by a grantee when the property requested has a unit acquisition cost of $1,000 or more and is within Federal Supply Classification Groups:

(a) 12 Fire Control Equipment;

(b) 14 Guided Missiles;

(c) 43 Pumps and Compressors;

(d) 48 Valves;

(e) 58 Communication, Detection and Coherent Radiation Equipment;

(f) 59 Electrical and Electronic Equipment Components;

(g) 65 Medical, Dental and Veterinary Equipment and Supplies;

(h) 66 Instruments and Laboratory Equipment;

(i) 67 Photographic Equipment;

(j) 68 Chemical and Chemical Products; or

(k) 70 General Purpose Automatic Data Processing Equipment, Software, Supplies and Support Equipment.

Automatic data processing equipment must be acquired under the provisions in 41 CFR §201.23.

(ii) GSA will give consideration to the transfer without reimbursement of items of excess property in other Federal supply classification groups and items with a unit acquisition cost of less than $1,000, when NSF certifies that the item requested is a component part of or related to a piece of research equipment or is an otherwise difficult to acquire item needed for scientific or engineering research. Items of property determined by GSA to be common-use or general purpose property, regardless of classification or unit acquisition cost, shall not be transferred to a grantee for the purpose of cannibalization, unless the granting agency sends with the transfer request a supporting statement which clearly indicates that disassembly of the requested item for secondary use of its component parts, or for repair and maintenance of a similar item, has greater potential benefit than utilization of the item in its existing form and that a clear cost savings to the government will result, subject to final determination by GSA.

g. Costs

Excess government personal property is usually secured without cost. However, the recipient grantee should specify the method of shipment and must pay all costs of packing, transportation and subsequent installation, rehabilitation and maintenance if required. Grant funds may be used to pay such costs.

h. Title

Title to excess government personal property obtained by academic and other non-profit grantees through NSF sponsorship remains with the government until the property is delivered to the grantee organization. Upon delivery, the grantee should forward to NSF a receipted SF 122 which clearly lists the items of property actually obtained by the grantee. Unless NSF informs the grantee to the contrary, when this SF 122 is received at NSF, title to all property acquired will automatically pass to and be vested in the grantee organization, subject to the understanding that the property will be used for research or for science education purposes as long as it has a useful life. At such time as the property is no longer useful for such purposes, it may be disposed of in accordance with organizational practices, but any proceeds therefrom shall be used by the grantee solely for research or science education purposes. Under certain conditions, such as when highly specialized equipment is involved, NSF may retain title to excess property. When such a condition exists, NSF will inform the grantee. Excess government personal property may not be transferred to a foreign country without the express written approval of the Grants and Agreements Officer.

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i. Accountability and Recordkeeping

(i) While no particular type of classification of accounts or inventory system is required, NSF expects that the responsible officials of the grantee organization will exercise careful stewardship of excess government personal property acquired in support of projects undertaken with NSF's financial assistance. In accordance with AAG Chapter IV.E.5.e, relating to the dollar limitation on the amount of excess government personal property provided by NSF, grantees should maintain appropriate inventory procedures that will enable them to identify those requests which require more extensive administrative and scientific justification. In those cases where title to excess government personal property remains with the government, the grantee must maintain suitable records to identify its location, description, utilization and value. The use of excess government personal property under an NSF grant is subject to inspection and audit by representatives of NSF at all reasonable times during the life of the grant under which the property was acquired.

(ii) Further details may be obtained from the Property Administrator, Division of Administrative Services, National Science Foundation, 4201 Wilson Boulevard, Room 295, Arlington, VA 22230.

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Chapter V: Allowability of Costs

A. Basic Considerations

Expenditures under NSF cost reimbursement grants are governed by the Federal cost principles and must conform with NSF policies, grant special provisions and grantee internal policies. While awardees are encouraged to seek advice regarding the treatment of costs from the NSF Grants and Agreements Officer identified in the award notice, it is the awardee organization that is ultimately responsible for ensuring that all costs charged to NSF awards meet the requirements of the applicable cost principles, grant general terms and conditions, and any other specific requirements of both the award notice and the applicable program solicitation. In addition, awardee organizations should ensure that their own internal policies and procedures and other requirements are met for all charges to NSF awards. Otherwise such costs may be disallowed during audit resolution or by specific determination of an NSF Grants and Agreement Officer.

In the event a grantee anticipates charging an item of direct cost that might subsequently be disputed, an authorized official of the grantee organization should discuss the matter with the cognizant NSF Grants and Agreements Officer and document the conditions or factors surrounding the item in order to avoid possible subsequent disallowance. If the NSF Grant and Agreement Officer determines that such costs are appropriate considering the special requirements of a particular NSF sponsored activity, this should be documented through an advanced agreement or understanding. Advance agreements regarding the treatment of such costs may be incorporated by specific language in the award notice, or by other written correspondence.

1. Federal Cost Principles

a. Applicability to Grantees

The governing Federal cost principles applicable to specific types of grantees are as follows:

Type of Organization	***Applicable Federal Cost Principles***
Education Institutions	2 CFR §220 (OMB Circular A-21)
Non-Profit Organizations	2 CFR §230 (OMB Circular A-122)
State/Local Governments	2 CFR §225 (OMB Circular A-87)
Commercial Firms	Federal Acquisition Regulation (FAR), Part 31

b. Applicability to Subrecipients

Awardees are responsible for assuring that costs of all subawardees under NSF grants are subject to those cost principles and procedures appropriate to the subaward type and organization involved as identified above as well as meet all the requirements specified in this Chapter.

c. Conflicting Guidelines

In the event of any discrepancy between the summary information contained in this chapter and any specific provision of the applicable Federal cost principles, the cost principles in effect as of the effective date of the NSF grant will govern. In the case of a discrepancy between the special provisions of an NSF grant and the standards of the applicable cost principles, the special provisions of the grant will govern.

2. Other Considerations

a. Maximum Obligation

The maximum obligation of NSF for support of the project will not exceed the amount specified in the grant, as amended. NSF does not amend grants to provide additional funds for such purposes as reimbursement for

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unrecovered indirect costs resulting from the establishment of final negotiated rates or for increases in salaries, fringe benefits and other costs.

b. Pre-Award Costs

(i) Grantees may incur allowable pre-award costs within the 90 day period immediately preceding the effective date of the grant providing:

(a) the approval of pre-award spending is made and documented in accordance with the grantee's procedures; and

(b) the advanced funding is necessary for the effective and economical conduct of the project.

(ii) Pre-award expenditures are made at the grantee's risk. Grantee authority to approve pre-award costs does not impose an obligation on NSF: (1) in the absence of appropriations; (2) if an award is not subsequently made; or (3) if an award is made for a lesser amount than the grantee anticipated.

(iii) Requests for pre-award costs for periods exceeding 90 days must be submitted electronically via use of the Notification and Request module in FastLane. Pre-award expenditures prior to funding of an increment within a continuing grant are not subject to this limitation or approval requirement, but are subject to paragraph (ii). above.

c. Post-Expiration Costs

NSF funds may not be expended subsequent to the expiration date of the award except to liquidate valid commitments that were made on or before the expiration date, e.g., commitment of project funds for subcontractor costs for services rendered during that award period but not billed to the awardee until after the award expired. (See AAG Chapter III.E.2.) The costs of equipment or materials and supplies ordered after the expiration date, may not be charged to the project.

In addition, awardees should not purchase items of equipment, computing devices, or restock materials and supplies in anticipation of award expiration where there is little or no time left for such items to be utilized in the actual conduct of the research.

3. Prior Approval

a. OMB Directive

NSF has waived most cost related and administrative prior approvals required by 2 CFR §220 (OMB Circular A-21) and 2 CFR §215. Grantees should refer to the general conditions referenced in the grant, and AAG Exhibit II-1 for information on NSF required prior approvals.

b. NSF Prior Approval Policy

(i) The funding of items identified in the budget constitutes NSF's authorization for the grantee to incur these costs, provided there is not a specific limitation in the grant language and the costs are otherwise allowable, allocable, and reasonable in accordance with the cost principles. However, grantees should ensure that all costs are fully disclosed in the budget justification.

(ii) Costs not specifically budgeted in an NSF award may be allowable provided that prior approval is not required and costs are incurred consistently with the applicable cost principles and the grantee's written policies and procedures, and proper documentation to support the charge to an NSF grant is maintained.

B. Direct Costs

The following subsections summarize the allowability of frequently encountered direct cost items:

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1. Salaries, Wages and Fringe Benefits

a. Salaries and Wages

(i) **All Grantees**. All remuneration paid currently or accrued by the organization for employees working on the NSF-supported project during the grant period is allowable to the extent that:

(a) total compensation to individual employees is reasonable for the work performed and conforms to the established policy of the organization consistently applied to both government and non-government activities; and

(b) the charges for work performed directly under NSF grants and for other work allocable as indirect costs are determined and documented as provided in the applicable Federal cost principles.

(ii) **Colleges and Universities**. Section J.10 of 2 CFR §220 (OMB Circular A-21) establishes criteria for compensation for work performed on government projects by faculty members during and outside the academic year. In addition, the following requirements also apply based on NSF's policy for faculty at academic institutions:

(a) Senior Project Personnel Salaries & Wages Policies

In accordance with GPG Chapter II.C.2.g, NSF normally limits salary compensation for senior project personnel on awards made by the Foundation, to no more than two months of their regular salary in any one year. This limit includes salary received from all NSF funded grants. Salary is to be paid at a monthly rate not in excess of the base salary divided by the number of months in the period for which the base salary is paid. As such, proposal budgets submitted should not request, and NSF-approved budgets will not include, funding for an individual investigator or co-principal investigator which exceeds two months of their regular year salary. If anticipated, any compensation for such personnel in excess of two months must be disclosed in the proposal budget, justified in the budget justification, and must be specifically approved by NSF in the award notice.

NSF award funds may not be used to augment the total salary or salary rate of faculty members during the period covered by the term of faculty appointment or to reimburse faculty members for consulting or other time in addition to a regular full-time organizational salary covering the same general period of employment. Exceptions may be considered under certain NSF grants for teaching weekend and evening classes or working at remote locations such as ship operations, certain large research facilities with limited access and field research sites. If anticipated, any intent to provide salary compensation above the base salary must be disclosed in the proposal budget, justified in the budget justification, and must be specifically approved by NSF in the award notice.

(b) Administrative and Clerical Salaries & Wages Policies

In most circumstances, particularly for institutions of higher education, salaries of administrative or clerical staff are included as part of indirect costs (also known as Facilities and Administrative Costs (F&A) for Colleges and Universities). Salaries of administrative or clerical staff may be requested as direct costs for a project requiring an extensive amount of administrative or clerical support and where these costs can be readily and specifically identified with the project with a high degree of accuracy. Salaries for administrative or clerical staff shall be budgeted as a direct cost only if this type of cost is consistently treated as a direct cost in like circumstances for all other projects and cost objectives. The circumstances for requiring direct charging of these services must be clearly described in the budget justification. Such costs, if not clearly justified, may be deleted by NSF. See 2 CFR §220 (OMB Circular A-21), for examples of where direct charging of administrative salaries may be appropriate.

b. Fringe Benefits

Fringe benefits are allowable as a direct cost (if not included as an indirect cost) in proportion to the salary charged to the grant, to the extent that such payments are made under formally established and consistently applied organizational policies. Fringe benefits that are not accrued but are charged as direct costs and incurred under "pay as you go plans" may be subject to reasonableness determination where the benefits are earned

under other work and charged to the last activity the employee was working on. This is of particular concern for large lump sum payments for leave, disability, pregnancy or other employee fringe benefits.

2. Equipment

a. Related Equipment Guidelines

Additional NSF guidelines on equipment are found in AAG Chapter IV.D.

b. Definitions

The following definitions, derived from 2 CFR §220 and 2 CFR §215.2, apply to all NSF grants:

(i) ACQUISITION COST OF EQUIPMENT — the net invoice price of the equipment, including the cost of modifications, attachments, accessories or auxiliary apparatus necessary to make the property usable for the purpose for which it was acquired. Other charges, such as the cost of installation, transportation, taxes, duty or protective in-transit insurance, should be included in the unit acquisition cost consistent with the grantee's regular accounting practices.

(ii) EQUIPMENT — tangible nonexpendable personal property including exempt property charged directly to the grant having a useful life of more than one year and an acquisition cost of $5,000 or more per unit. However, consistent with grantee policy, lower limits may be established.

(iii) GENERAL PURPOSE EQUIPMENT — permanent equipment (as defined in b., above) that is usable for other than research, medical, scientific or technical activities, whether or not special modifications are needed to make it suitable for a particular purpose. Examples of general purpose equipment include office equipment and furnishings, air conditioning equipment, reproduction and printing equipment, motor vehicles and personal computer equipment.

(iv) SPECIAL PURPOSE EQUIPMENT — permanent equipment (as defined in b., above) which is usable only for research, medical, scientific or technical activities. Examples of special purpose equipment include microscopes, x-ray machines, specialized drilling equipment, spectrometers, and computers used in the actual conduct of the research.

c. Special Purpose Equipment

Expenditures for special purpose equipment are allowable as direct costs provided the acquisition of items with a unit cost of $5,000 or more is:

(i) necessary for the research or activity supported by the grant;

(ii) not otherwise reasonably available and accessible;

(iii) of the type normally charged as a direct cost to sponsored agreements; and

(iv) acquired in accordance with organizational practice.

NSF review and approval is required for all special purpose equipment purchases by small business or other commercial organizations.

d. General Purpose Equipment

Expenditures for general purpose equipment are normally unallowable unless the equipment is primarily or exclusively used in the actual conduct of research and included in the approved budget.

NSF review and approval is required for all general purpose equipment purchases by small business or other commercial organizations.

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3. Materials and Supplies

Materials and supplies are defined as tangible personal property other than equipment, costing less than $5,000, or other lower threshold consistent with grantee policy. Materials and supplies that are necessary to carry out the project are allowable as prescribed in the governing cost principles.

4. Travel Costs

a. Expenses for transportation, lodging, subsistence and related items incurred by project personnel and by outside consultants employed on the project (See AAG Chapter V.B.6.a.) who are on travel status on business related to an NSF-supported project are allowable as prescribed in the governing cost principles. The requirements for prior approval detailed in the governing cost principles are waived.

b. Except as provided in the governing cost principles, the difference between economy airfare and a higher-class airfare is unallowable. A train, bus or other surface carrier may be used in lieu of or as a supplement to air travel at the lowest first-class rate by the transportation facility used. However, if such travel could have been performed by air, the allowance will not normally exceed that for economy airfare.

c. Foreign travel costs of dependents of key project personnel are allowable provided the:

(i) individual is a key person who is essential to the research on a full-time basis;

(ii) individual's residence away from home and in a foreign country is for a continuous period of six months or more and is essential to the effective performance of the project; and

(iii) dependent's travel allowance is consistent with the policies of the organization administering the grant.

d. For restrictions concerning the use of non-U.S. Flag carriers while on foreign travel see AAG Chapter VI.G.1.

5. Computer Services

The costs of services involving the use of highly complex or specialized facilities operated by the organization, such as computing facilities or scientific research instruments, are allowable provided the charges meet the conditions of the governing cost principles. Awardees should address lease versus purchase factors as required by 2 CFR §215.44.

6. Consultant Services

a. Outside Consultants

(i) Grantees normally are expected to utilize the services of their own officers or employees to the maximum extent in managing and performing the activities supported by NSF grants. Where it is necessary for a grantee to enter into a consulting agreement for the services of persons who are not its officers or employees, it is expected to do so in accordance with written organizational standards which provide for consideration of the factors outlined in the governing cost principles.

(ii) Costs of professional and consultant services are allowable when reasonable in relation to the services rendered. Payment for consultant services should be comparable to the normal or customary fees charged and received by the consultant for comparable services.

(iii) In determining the allowability of costs in a particular case, no single factor or any special combination of factors is necessarily determinative. However, the following factors, among others, are relevant:

(a) the nature and scope of the service rendered in relation to the service required;

(b) the necessity of issuing a consulting agreement for the service considering the organization's capability in the particular area;

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(c) the past pattern of such costs, particularly in the years prior to the award of government contracts and grants;

(d) the impact of government contracts and grants on the organization's total activity (e.g., what new problems have arisen);

(e) whether the proportion of government work to the organization's total activity is such as to influence the organization in favor of incurring the cost, particularly where the services rendered are not of a continuing nature and have little relationship to work under government contracts and grants;

(f) whether the service can be performed more economically by employment rather than by consulting;

(g) the qualifications of the individual or concern rendering the service and the normal/customary fees charged and received by the individual for comparable services, especially on non-government contracts and grants; and

(h) adequacy of the contractual agreement for the service (e.g., description of the service, estimate of time required, rate of compensation and termination provisions).

(iv) In addition, retainer fees to be allowable must be supported by evidence of bona fide services available or rendered.

(v) Costs of legal, accounting and consulting services and related costs incurred in connection with organization and reorganization, defense of antitrust suits and the prosecution of claims against the government are unallowable. Costs of legal, accounting and consulting services and related costs incurred in connection with patent infringement litigation are unallowable unless specifically provided for in the award notice or by advance understanding.

(vi) Awardees may hire consultants not identified in the grant proposal or award, provided:

(a) it is in accordance with written organizational standards;

(b) award funds are reallocated in accordance with the grantee's policies which are consistent with the governing cost principles; and

(c) it is within the limits of the grant funding.

(vii) All consultant costs should be fully disclosed and justified in the budget justification.

b. Intra-University Consulting

Since intra-university consulting is assumed to be undertaken as a university obligation requiring no compensation in addition to full-time salary, the principles summarized in AAG Chapter V.B.1, also apply to those who function as consultants or otherwise contribute to a project conducted by another faculty member of the same institution. However, in unusual cases where consultation is across departmental lines or involves a separate or remote operation, and the work performed by the consultant is in addition to his/her regular appointment, any charges for such work representing extra compensation above the salary are allowable if consistent with established university policy and the applicable cost principles. If anticipated, any compensation for such consulting services should be disclosed in the proposal budget, justified in the budget justification, and approved by NSF.

c. Federal Employees

Employees of the Federal government (other than NSF) may be utilized as lecturers or staff members on a project and may receive compensation and/or expenses if they obtain prior approval from their agencies to participate, and if services to the project are performed outside their regular working hours or while they are on

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leave status from official duties. Under no circumstances may NSF employees receive compensation from an NSF-supported project.

7. Publication, Documentation and Dissemination

a. Costs of documenting, preparing, publishing, disseminating and sharing research findings and supporting material are allowable charges against the grant.

b. Page charges for scientific and engineering journal publication are allowable where:

(i) the research papers report work supported by NSF; and

(ii) the charges are levied impartially on all research papers published by the journal, whether by non-government or by government authors.

c. AAG Chapter III.E.2, permits a grantee to transfer from the grant account to an institutional account an amount equal to valid unpaid obligations outstanding at the time a grant expires for such publication charges. A grantee should refer to this section if they have incurred valid commitments for the costs of publication or sharing of research results and it is not possible to effect an actual payment for such charges by the time the final disbursements are due.

8. Participant Support Costs

a. General

(i) Participant support costs are direct costs for items such as stipends or subsistence allowances, travel allowances and registration fees paid to or on behalf of participants or trainees in connection with meetings, conferences, symposia or training projects. For colleges and universities participant support costs may include fellowships, scholarships, and other forms of student financial aid.

(ii) Funds provided for participant support may not be used by grantees for other categories of expense without the specific prior written approval of the cognizant NSF Program Officer. Therefore, awardee organizations must account for participant support costs separately.

(iii) Indirect costs (F&A) are not allowed on participant support costs.

b. Stipends or Subsistence Allowances

To help defray the costs of personal maintenance while participating in a conference or training activity, participants may be paid a stipend, per diem or subsistence allowance, based on the type and duration of the activity, as outlined in the pertinent program solicitation and in the grant. Such allowances must be reasonable, in conformance with the policy of the awardee organization and limited to the days of attendance at the conference plus the actual travel time required to reach the conference location. Where meals or lodgings are furnished without charge or at a nominal cost (e.g., as part of the registration fee), the per diem or subsistence allowance will be correspondingly reduced. Although local participants may participate in conference meals and coffee breaks as provided for in AAG Chapter V.C.5, grant funds may not be used to pay per diem or similar expenses for local participants in the conference.

c. Travel Allowances

(i) Travel costs of participants may be allowable as outlined in the pertinent program solicitation and in the grant. If so, the restrictions regarding class of accommodations (see AAG Chapter V.B.4) and use of U.S.-Flag air carriers (see AAG Chapter VI.G.1) are applicable.

(ii) In training activities that involve field trips, costs of transportation of participants are allowable.

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C. Other Direct Costs

1. Rearrangements and Alterations (Construction)

a. Except under certain programs, NSF does not normally make grants for construction or facility improvements. However, rearrangement and alteration costs that do not constitute construction (i.e., rearrangements and alterations aggregating less than $25,000) may be allowable under NSF grants to adapt space or utilities within a completed structure to accomplish the objective of the NSF-supported activity, provided that the:

(i) grantee is not an individual or a foreign organization;

(ii) building has a usable life consistent with project purposes and is architecturally suitable for conversion;

(iii) rearrangement and alteration are essential to the project supported by the grant; and

(iv) space involved will actually be occupied by the project. In situations where the space is rented, in order for the costs of the rearrangement and alteration to be allowable, the grantee must secure a lease for the length of the project. (See AAG Chapter V.C.3.)

b. Rearrangements and alterations under $25,000 may be approved by grantees. For rearrangements and alterations expenditures exceeding $25,000, the grantee must request prior approval from NSF via use of the Notification and Request module in FastLane. Otherwise, any plans for such rearrangement or alteration should be clearly set forth in the proposal. If approved by NSF, such approval will be indicated in the grant. Note that Appendix A, Contract Provisions, of 2 CFR §215 contains various requirements concerning contracts for construction or repair in excess of $2,000.

2. News Release Costs

In amplification of the provisions of the various cost principles regarding public information service costs, the cost of news releases announcing the results of an NSF-supported project is allowable. Awardees should be aware of the restrictions on advertising, organizational promotion, and lobbying costs as outlined in the applicable cost principles. In the event the performing organization wishes to join with NSF in a simultaneous news release, arrangements may be made through the NSF's Office of Legislative and Public Affairs, Public Affairs Group, telephone (703) 292-8070. (See AAG Chapter VI.I.2.a.)

3. Rental or Lease of Facilities or Special Purpose Equipment

a. Normally the grantee is expected to make appropriate facilities available without direct charge to grant funds. However, on occasion, it is necessary to use facilities not under the control of the grantee. Rental of space off-site may be allowable, for example, for a research project if laboratory facilities or other work areas of a type or coverage not normally available to the grantee are required.

b. Rental of special purpose equipment is allowable. (See also AAG Chapter V.B.5.)

c. Rental costs of facilities owned by the awardee or under common control by related parties may be limited to the actual cost of ownership as opposed to fair market rental value. In such cases, the awardee should consult the applicable cost principles.

4. Relocation Costs

a. Relocation costs may be charged to an NSF grant as an other direct cost in accordance with the applicable governing cost principles provided that:

(i) a proposal for NSF support specifically indicates that the grantee intends to hire a named individual for full-time work on the project or via advance understanding if determination of the need for such individual is made subsequent to the award;

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(ii) such recruitment action is not disapproved by the grant terms; and

(iii) the prospective employee or visiting staff member:

(a) is essential to the project on a full-time basis for a continuous period of at least twelve months; and

(b) is regularly located at a place sufficiently removed from the project site that his/her employment necessitates the change.

(iv) relocation costs charged to an NSF award that were not included in the approved budget must be fully documented in the awardee's records and be in accordance with the awardee's established policies and procedures.

b. The amount of actual reimbursement should be in accordance with the grantee's established policy or practice which:

(i) is in conformance with the applicable governing cost principles;

(ii) has been approved by the cognizant governing audit agency; and

(iii) is consistently applied to both Federal awards and non-federal activities.

Visa Costs

Short-term, travel visa costs (as opposed to longer-term, immigration visas) are generally allowable expenses that may be proposed as a direct cost on an NSF proposal. Since short-term visas are issued for a specific period and purpose, they can be clearly identified as directly connected to work performed on an NSF-related project. For these costs to be directly charged to an NSF project, they must be:

- critical and necessary for the conduct of the project;
- allowable under the applicable cost principles;
- consistent with the organization's cost accounting practices and organizational policy; and
- meet the definition of "direct cost" as described in the applicable cost principles.

5. Meetings and Conferences

The points below summarize the allowability of various items of cost associated with conferences, symposia, workshops or other meetings supported by an NSF grant. Any costs charged to an NSF grant also need to be reasonable and directly allocable to the supported activity. See AAG Chapter VI.G.5 for funding limitations on international travel grants. Meeting and conference costs identified below, are only allowable if such costs are specifically and clearly identified in the proposed scope of work and budget, as modified and approved by NSF.

NSF funds are not to be spent for meals or coffee breaks for intramural meetings of an organization or any of its components, including, but not limited to, laboratories, departments and centers either as direct or indirect costs.

a. Conference Facilities. Rental of facilities and necessary equipment is allowable. (See AAG Chapter V.C.3.)

b. Supplies. Purchase of expendable materials and supplies necessary for the meeting is allowable.

c. Conference Services. Costs of translation services, audio visual, webcast, and computer services for recording, transmitting and transcribing the proceedings are allowable.

d. Publication Costs. Costs of publishing the proceedings are allowable.

e. Salaries. Salaries of professional personnel, editorial and clerical assistants and other staff members are allowable in accordance with AAG Chapter V.B.1, in proportion to the time or effort devoted to the preparation and conduct of the conference and summarizing its results.

f. Consultant Services and Speaker Fees. Reasonable fees and travel allowances and per diem (or meals provided in lieu of per diem) are allowable as prescribed in AAG Chapter V.B.4 and AAG Chapter V.B.6.

g. Meals and Coffee Breaks. When certain meals are an integral and necessary part of a conference (e.g., working meals where business is transacted), grant funds may be used for such meals. Grant funds may also be used for furnishing a reasonable amount of hot beverages or soft drinks to conference participants and attendees during periodic coffee breaks.

h. Participant Support Costs. Participant support costs are allowable as prescribed in AAG Chapter V.B.8.

i. Entertainment. Costs of entertainment, amusement, diversion and social activities and any costs directly associated with such costs (such as tickets to shows or sporting events, meals, lodging, rentals, transportation and gratuities) are unallowable. Travel, meal, and hotel expenses of awardee employees who are not on travel status are unallowable. Costs of employees on travel status are limited to those allowed under the governing cost principles for travel expenses. (See AAG Chapter V.B.4)

j. Alcoholic Beverages. No Federal funds may be spent on alcoholic beverages.

k. Gifts, souvenirs, t-shirts and other memorabilia are not typically considered allowable costs to an NSF grant.

D. Indirect Costs

As authorized by statute (41 USC §254a) and Comptroller General decision (B-157584) and recommended by governing cost principles, NSF has elected to use predetermined overhead rates where appropriate. When NSF elects not to use predetermined rates, the award will indicate the type of indirect cost rate applicable to the award. Where awardees receive limited NSF funding, the Foundation may elect to set award specific rates as opposed to a formal annual negotiated indirect cost rate agreement.

1. NSF Policy

(i) Except as noted in AAG Chapters V.B.8 and VI.G.5, or in an NSF program solicitation, it is NSF policy that grantees are entitled to reimbursement from award funds for indirect costs (F&A) allocable to the NSF share of allowable direct costs of a project. NSF program staff may not negotiate indirect costs as a discrete item of a proposal budget. NSF program staff are not authorized to suggest or request that PI/PDs seek reductions or waivers of indirect costs except as explicitly specified in applicable NSF program solicitations.

Foreign grantees are not eligible for indirect cost rate recovery unless the foreign grantee has a previously negotiated rate agreement with a U.S. Federal agency that has a practice of negotiating rates with foreign entities.

(ii) The awarded indirect cost rate is generally based upon a awardee's current Federally negotiated indirect cost rate agreement. When establishing an indirect rate for an award where the awardee does not have a current negotiated rate agreement, NSF will consider the rate proposed in the budget, the awardee's indirect cost proposal submission, the amount of total funding requested and other pertinent financial factors. Since some types of rates limit indirect cost recoveries and require adjustments, awardees receiving awards should ensure that they understand the type of indirect cost rate, the applicable base and the type of rate used in the award.

Types of indirect cost rates used on NSF awards are as follows:

(a) Maximum Provisional Rate: A maximum provisional rate is a temporary rate established for an award to permit funding and reporting of indirect costs pending establishment of a final rate (the rate determined at the end of an accounting period using "actual" direct and indirect cost data). This type of rate limits indirect cost

recoveries to the lower of the maximum provisional rate established at the time of award, or the final rate established at the end of an accounting period. A maximum provisional rate is both a billing and a ceiling rate. In no event may the awardee recover indirect costs in excess of the maximum provisional rate regardless of actual cost.

(b) Provisional Rate – A provisional rate is a temporary rate established to permit funding and reporting of costs pending establishment of a final rate (the rate determined at the end of an accounting period using "actual" direct and indirect cost data). Under a provisional rate, actual indirect costs and final negotiated rates may exceed the provisional rate. However, awardees must stay within the limitation of funds provided under the award. NSF will not provide additional funding to cover increased indirect costs.

Awardees with award specific maximum provisional or provisional rates are required to submit indirect cost proposals to the NSF Cost Analysis and Audit Resolution Branch within six months after the close of each fiscal year during which the award is active. In both cases, adjustments to awards for amounts previously billed may be required after final indirect cost rates are established.

(c) Predetermined Rate: A predetermined rate is a permanent funding rate established for an award based on an estimate of costs for that period. Grantees may charge NSF projects at the rate(s) stipulated in the award. However, should negotiations between the organization and the cognizant agency result in changes in the approved indirect cost rate not reflected in the NSF award, the grantee may charge NSF projects at the newly negotiated rate in effect at the time direct cost expenditures are made, provided that this method of charging indirect costs is consistently applied; and provided further that to do so would not:

- reduce or adversely affect the scope of the project;
- result in increased costs over the NSF award amount during the award period;
- decrease the period of support as contemplated in the award; or
- be inconsistent with any special indirect cost provision of the award.

(1) Special Limitation concerning Predetermined Rates at Colleges and Universities subject to 2 CFR §220 (OMB Circular A-21)

2 CFR §220 (OMB Circular A-21) contains an additional restriction on recovery of indirect costs for colleges and universities and other organizations of higher education. These awardees are subject to a further limitation in that the negotiated rate at the time the award is made shall be used throughout the life of the award. The applicable text from 2 CFR §220 (OMB Circular A-21) is repeated below:

> "7. Fixed rates for the life of the sponsored agreement.
>
> a. Federal agencies shall use the negotiated rates for F&A costs in effect at the time of the initial award throughout the life of the sponsored agreement. "Life" for the purpose of this subsection means each competitive segment of a project. A competitive segment is a period of years approved by the Federal funding agency at the time of the award. If negotiated rate agreements do not extend through the life of the sponsored agreement at the time of the initial award, then the negotiated rate for the last year of the sponsored agreement shall be extended through the end of the life of the sponsored agreement. Award levels for sponsored agreements may not be adjusted in future years as a result of changes in negotiated rates."

(d) Fixed Rate: A fixed rate is a permanent rate established for an award based on an estimate of costs for the award period. However, a fixed rate is fixed both for funding and reimbursement. When NSF funds an award using a fixed indirect cost rate, the grantee may recover indirect costs from grant funds at no more than the fixed rate established for the award. A fixed rate is not subject to adjustment.

(e) Fixed Dollar Amount: A fixed dollar amount limits grantees to the "amount" of indirect costs specified in the approved budget. A fixed indirect dollar amount is not subject to adjustment.

(iii) NSF will not amend a grant solely to provide additional funds for changes in indirect cost rates.

(iv) NSF will generally fund continuing grant increments and supplemental support at the indirect cost rate(s) approved at the time of the initial award. (See AAG Chapter I.E.)

(v) When a project involves off-campus (off-site) activities, NSF normally will fund the indirect cost amount on the basis of the off-campus rate. When a project involves both on- and off-campus activities, NSF normally will fund the indirect cost amount on the basis of the on-campus/off-campus policy reflected in the most recent agreement between the organization and the cognizant Federal agency. In the absence of such an agreed policy, NSF normally will compute the indirect cost amount by applying the on-campus rate to the on-campus base costs and the off-campus rate to the off-campus base costs.

(vi) Any negotiations with respect to business and financial matters on specific grants, including the amount of indirect cost reimbursement, are conducted by the cognizant Grants and Agreements Officer in DGA with an authorized official of the grantee's organization. The NSF Cost Analysis and Audit Resolution Branch provides advisory assistance to the Grants and Agreements Officer.

2. NSF Cognizant Organizations

Organizations for which NSF is their cognizant agency for negotiation of indirect cost rates and who do not have approved award specific rates are required to submit indirect cost proposals, reconciled to financial statements, within six months after the close of each accounting year during which NSF has active awards. Indirect cost proposals should be sent to the Cost Analysis and Audit Resolution Branch.

See http://www.nsf.gov/bfa/dias/caar/docs/idcsubmissions.pdf for indirect cost rate proposal submission requirements.

Such proposals should be sent electronically to BFACAARMPR@nsf.gov or by paper copy to Team Lead Indirect Costs, National Science Foundation, Division of Institution and Award Support, Room 485, 4201 Wilson Boulevard, Arlington, Virginia 22230.

E. Fee Payments under NSF Grants

Payment of fees (profit) are allowable only if specifically permitted by a program solicitation and only to the extent that it does not exceed the amount negotiated by the Grants and Agreements Officer and specified in the award notice.

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Chapter VI: Other Post Award Requirements and Considerations

A. Non-Discrimination Statutes

1. General

a. A number of statutes bar recipients of Federal financial assistance from excluding persons, because of their race, color, national origin, disability, sex, or age, from participation in Federally supported activities. These include: Title VI of the Civil Rights Act of 1964 (barring discrimination on grounds of race, color, or national origin); Section 504 of the Rehabilitation Act of 1973 (barring discrimination against qualified individuals with disabilities); and the Age Discrimination Act of 1975 (barring discrimination on grounds of age). Title IX of the Educational Amendments of 1972 bars sex discrimination in Federally assisted education programs or activities. In addition to statutory prohibitions, Executive Order (E.O) E.O. 11246 bars various types of discriminatory employment practices under grants for construction. The following sections discuss the application of each of these Acts and E.O. 11246 to NSF awardees. Also, E.O. 13166 "Improving Access to Services for Persons with Limited English Proficiency" requires government agencies to take steps to provide meaningful access to its programs and activities to members of the public who are limited in their English proficiency (LEP).

b. When a recipient of an NSF award receives an Equal Opportunity Complaint, the original complaint should be sent to the Director, Office of Diversity and Inclusion, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230.

2. Civil Rights Act of 1964

a. Background

Section 602 of the Civil Rights Act of 1964 (42 USC §2000d et seq.) provides that no person in the U.S. shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance. Section 602 requires that each Government agency which is empowered to extend such financial assistance issue rules or regulations implementing Title VI of the Act with respect to such programs or activities administered by the agency.

b. NSF Regulations

NSF regulations implementing Title VI of the Civil Rights Act are found at 45 CFR §611. These regulations apply to the grantee and to any subrecipients such as subawardees, contractors and subcontractors of a grantee, and successors in interest (other than subrecipients for commercially available supplies, materials, equipment or general support services). The regulations require that as a condition of approval of an application for assistance, the applicant must execute an Assurance of Compliance, whether or not a similar assurance form has been filed with another Federal agency. (See GPG Exhibit II-6 for additional information.)

c. Civil Rights Certification - Subrecipients

Before any organization serves as a subrecipient on an NSF award (for other than the provision of commercially available supplies, materials, equipment or general support services), it must first file an Assurance of Compliance with the grantee.

d. Grant Conditions

Each NSF grant contains as part of the standard grant conditions an article implementing Title VI.

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3. Rehabilitation Act

a. Background

Section 504 of the Rehabilitation Act of 1973, as amended (29 USC §794) provides that "no otherwise qualified individual with a disability in the United States...shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance...."

b. NSF Regulations

NSF regulations implementing Section 504 are found at 45 CFR §605. With a few changes, these regulations follow closely the regulations issued by the Department of Health and Human Services (DHHS) at 45 CFR §84. These regulations also apply to subrecipients such as subawardees, contractors and subcontractors of a grantee, and successors in interest (other than subrecipients for the provision of commercially available supplies, materials, equipment or general support services).

c. Section 504 Certification - Subrecipients

In lieu of requiring grantees to obtain separate certifications from subrecipients receiving financial assistance under an NSF grant, grantees will include in all subawards (for other than the provision of commercially available supplies, materials, equipment or general support services), a certification of compliance comparable to that included in NSF grants.

d. Grant Conditions

Each NSF grant contains as part of the standard grant conditions an article implementing Section 504 and the NSF regulations.

4. Title IX - Sex Discrimination

a. Background

Subject to certain exceptions regarding admission policies at certain religious and military organizations, Title IX of the Education Amendments of 1972 (20 USC §§1681-1686) prohibits the exclusion of persons on the basis of sex from any education program or activity receiving Federal financial assistance. All NSF grantees must comply with Title IX.

b. NSF Regulations

NSF regulations implementing Title IX of the Education Amendments of 1972 are found at 45 CFR §618.

c. Grant Conditions

Each NSF grant contains, as part of the standard grant conditions, an article implementing Title IX.

5. Age Discrimination Act

a. Background

The Age Discrimination Act of 1975, as amended (42 USC §§6101 et seq.), provides that pursuant to regulations issued by DHHS "no person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity receiving Federal financial assistance."

b. NSF Regulations

NSF regulations implementing the Age Discrimination Act are found at 45 CFR §617.

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c. Grant Conditions

Each NSF grant contains, as part of the standard grant conditions, an article implementing the Age Discrimination Act.

6. Equal Employment Opportunity under E.O. 11246

a. Background

E.O. 11246, as amended, requires contractors and subcontractors performing Federally assisted construction projects to provide equal opportunity, without regard to race, color, religion, sex or national origin, to persons employed or seeking employment with them. This E.O. may apply to some NSF grants for construction.

b. Grant Conditions

In instances when E.O. 11246 is applicable, the grant will include an equal opportunity clause in conformance with regulations issued by the Secretary of Labor at 41 CFR §60.

B. Protection of Living Organisms

1. Human Subjects

a. Background

The grantee is responsible for the protection of the rights and welfare of human subjects involved in activities supported by NSF. All research involving human subjects supported or otherwise subject to regulation by any Federal agency is covered by a policy set forth in a Common Rule, "*Protection of Human Subjects*" (http://www.access.gpo.gov/nara/cfr/waisidx_99/45cfr690_99.html). Complete instructions on preparation and submission of proposals that involve use of human subjects are available in GPG Chapter II.D.7.

b. NSF Regulation

NSF's Common Rule on Protection of Human Subjects is available on the NSF website at http://www.nsf.gov/bfa/dias/policy/docs/45cfr690.pdf. Guidance about the regulation is available at http://www.nsf.gov/bfa/dias/policy/guidance.htm#human.

c. Grant Conditions

Each NSF grant contains, as part of the standard grant conditions, an article implementing NSF regulations on projects involving research with human subjects.

2. Research Involving Recombinant DNA Molecules

a. Applicability

This section applies to all research, for which NSF grant funds are used, that falls within the scope of the *Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines*) (http://www4.od.nih.gov/oba/rac/guidelines/guidelines.html), as amended in January 2001, hereafter referred to as the "Guidelines".

b. Policy

NSF grantees performing research within the U.S. that falls within the scope of the Guidelines shall comply with the Guidelines, including the procedural requirements and any subsequent revisions as they are published in the Federal Register. Grantee responsibilities include:

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(i) Each organization involved in the conduct of NSF-supported recombinant DNA research subject to the Guidelines must have a standing Institutional Biosafety Committee (IBC) as specified in Section IV of the Guidelines.

(ii) Recombinant DNA research subject to the Guidelines must be registered with the IBC indicating compliance with the containment requirements specified in Part III of the Guidelines. IBCs are required to keep records of recombinant DNA research conducted at their organization in a form that is available to NSF upon request.

c. Research Requiring Prior Approval of the Director, NIH

In certain instances research should not be initiated or registered with IBCs prior to approval and determination of containment level by the Director, NIH. Normally such experiments are reviewed by the Recombinant DNA Advisory Committee before a decision is made by the Director, NIH. Such instances are:

(i) research for which containment levels are not explicitly specified by the Guidelines;

(ii) research involving experiments prohibited by the Guidelines, i.e., requests for exceptions to the Guidelines; and

(iii) requests to perform experiments without regard to the containment specified in the Guidelines, i.e., exemptions from the Guidelines.

d. Recombinant DNA Research Outside the U.S.

Recombinant DNA research within the scope of the Guidelines that is performed outside of the U.S. using funds provided by NSF for transportation, salaries or direct research expenses must comply with the U.S. or host country standards. If the research is to be carried out in a country that has adopted guidelines comparable to those of the U.S., a document with information and endorsements assuring compliance to the host organization standards must be submitted to NSF. NSF funds may not be used to carry out research using recombinant DNA in a country that has not adopted national guidelines unless the research is in full compliance with the Guidelines and the procedures required for NSF-supported research within the U.S.

3. Vertebrate Animals

a. Background

The grantee is responsible for the humane care and treatment of any vertebrate animal used or intended for use in such activities as field or laboratory research, development, training, experiments, biological testing or for related purposes supported by NSF grants.

b. Federal Regulations

(i) Any grantee performing research on vertebrate animals [9] shall comply with the Animal Welfare Act [7 U.S.C. 2131 et seq.] and the regulations promulgated thereunder by the Secretary of Agriculture [9 CFR 1.1-4.11] pertaining to the humane care, handling, and treatment of vertebrate animals held or used for research, teaching or other activities supported by Federal awards. The awardee is expected to ensure that the guidelines described in the National Academy of Science (NAS) Publication, "*Guide for the Care and Use of Laboratory Animals*" are followed and to comply with the *Public Health Service Policy and Government Principles Regarding the Care and Use of Animals* (included as Appendix D to the NAS Guide).

In the case of research involving the study of wildlife in the field or in the lab, for the provision in the PHS Assurance for Institutional Commitment (Section II) that requires the organization to establish and maintain a program for activities involving animals in accordance with the Guide for the Care and Use of Laboratory

[9] In addition to vertebrate animals covered by the Animal Welfare Act, the requirements specified in this coverage also are extended to rats, birds and mice.

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Animals (Guide), the organization has established and will maintain a program for activities involving animals according to the Guide. The organization will follow recommendations specified in the Guide for details involving laboratory animals, and taxon-specific guidelines approved by the American Society of Ichthyologists and Herpetologists, the American Society of Mammalogists, and the Ornithological Council, as is appropriate for the taxon to be studied[10].

(ii) During the life of the award, additional IACUC approval must be obtained if the protocols for use of vertebrate animals have been changed substantively from those originally proposed and approved, or if the previous approval is more than three years old. In the event the grantee's multi-project Assurance is cancelled or lapses, the grantee must immediately notify the NSF Grants and Agreements Officer identified in the award.

(iii) Research facilities subject to the Animal Welfare Act using or intending to use live animals in research and who receive Federal funding are required to register the facility with the Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture. A current listing of licensed animal dealers may also be obtained from APHIS. The location of the nearest APHIS Regional Office, as well as information concerning this and other APHIS activities may be obtained at http://www.aphis.usda.gov/.

(iv) Awards to U.S. grantees for projects involving the care or use of vertebrate animals at a foreign institution or foreign field site also require approval of research protocols by the U.S. grantee's IACUC. If the project is to be funded through an award to a foreign institution or through an individual fellowship award that will support activities at a foreign institution, NSF will require a statement of compliance that the activities will be conducted in accordance with all applicable laws in the foreign country and that the *International Guiding Principles for Biomedical Research Involving Animals* (see http://www.cioms.ch/) will be followed.

c. Grant Conditions

Each NSF grant contains, as part of the standard grant conditions, an article implementing NSF regulations on projects involving research with vertebrate animals.

4. Government Permits and Activities Abroad

a. For awards that include activities requiring permits from appropriate Federal, state, or local government authorities, the awardee should obtain any required permits prior to undertaking the proposed activities.

b. The awardee should assure that activities carried on outside the U.S. are coordinated as necessary with appropriate U.S. and foreign government authorities and that necessary licenses, permits or approvals are obtained prior to undertaking proposed activities. NSF does not assume responsibility for awardee compliance with the laws and regulations of the country in which the work is to be conducted.

C. Construction, Rearrangements and Alterations

1. Davis-Bacon Act

The Davis-Bacon Act (40 USC §§276a et seq.) establishes minimum wages to be paid to laborers and mechanics on construction contracts to which the U.S. is a party involving public buildings or public works within the U.S. A number of other statutes have extended this provision to specific Federal grant programs involving construction. However, unless specifically stated in the grant, the Davis-Bacon Act does not normally apply to NSF grants since grantees normally retain title to property acquired under the grant and the construction, if any, is normally on non-Government land.

[10] Guidelines to the Use of Wild Birds in Research; Guidelines of the American Society of Mammalogists for the Use of Wild Mammals in Research; Guidelines for the Use of Fishes in Research; Guidelines for the Use of Live Amphibians and Reptiles in Field and Laboratory Research

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2. Bonding and Insurance

The NSF Act (42 USC §1870c) provides NSF with authority to enter into grants, contracts or other agreements without performance or other bonds. Therefore, unless the grant specifically provides otherwise, NSF does not require performance or other bonds or insurance.

3. Seismic Safety of Buildings

E.O. 12699 *Seismic Safety of Federal and Federally-assisted or Regulated New Building Construction* dated January 5, 1990, requires that consideration be given to seismic hazards in the design of buildings. Very seldom are NSF grantees involved with federally-assisted construction and rarely are new buildings involved. NSF ensures compliance with the Order through its grantees and grantee organizations by inclusion of a specific grant condition in any appropriate grant.

D. Intellectual Property

1. Patents and Inventions

a. Background

(i) The disposition of rights to inventions made by small business firms and non-profit organizations, including universities and other institutions of higher education, during NSF-assisted research is governed by Chapter 18 of Title 35 of the USC, commonly called the Bayh-Dole Act. In accordance with a Presidential Memorandum entitled *Government Patent Policy* issued on February 18, 1983 and under the authority of Section 12 of the National Science Foundation Act of 1950, as amended (42 USC §1871), NSF applies the policies of the Bayh-Dole Act to all its grantees. The Department of Commerce (DOC) is the lead agency for implementing the Bayh-Dole Act and has published guidance to Federal agencies in 37 CFR §401. NSF's implementing rules are published in 45 CFR §650.

(ii) NSF's standard Patent Rights clause, published at 45 CFR §650.4(a) and below at Chapter VI.D.1.c, "Standard Patent Rights Clause" is identical to that prescribed in the DOC guidance (37 CFR §401.14(a)) except that:

(a) NSF has tailored the clause to apply to grants and to identify NSF;

(b) pursuant to Section 401.5(d) of the DOC guidance (37 CFR §401.5(d)), NSF has added to paragraph b. of the clause a stipulation that NSF reserves the right to direct a grantee to transfer to a foreign government or research performer such rights to any subject invention as are required to comply with any international treaty or agreement identified when the grant is made as being applicable to the assisted research;

(c) as permitted by Section 401.5(f) of the DOC guidance (37 CFR §401.5(f)), NSF has added a subparagraph to the end of paragraph f. of the clause to require grantees or their representatives to send NSF confirmations of the Government licenses for subject inventions and of the page of any United States patent application that contains the Federal support clause;

(d) since NSF normally uses the same clause for all subcontractors, the first two subparagraphs of paragraph g. of the clause specified in the DOC guidance have been reduced to one;

(e) paragraph c.1 of the clause has been changed to require that invention disclosures be submitted electronically via the iEdison system; and

(f) paragraph L. of the clause has been changed to require that all communications required by the Patents Rights clause be submitted electronically via the iEdison system unless prior permission is obtained from the NSF Patent Assistant.

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b. National Science Foundation Patent Policy

As authorized by the National Science Board (NSB), the Director of the NSF has adopted the following NSF patent policy.

(i) In accordance with the Bayh-Dole Act and the Presidential Memorandum entitled *Government Patent Policy* issued February 18, 1983, NSF will use the Patent Rights clause prescribed by DOC in all its funding agreements for the performance of experimental, developmental or research work, including grants made to foreign entities, unless NSF determines that some other provision would better serve the purposes of that Act or the interests of the U.S. and the general public.

(ii) In funding agreements covered by a treaty or agreement that provide that an international organization or foreign government, research institute or inventor will own or share patent rights, NSF will acquire such patent rights as are necessary to comply with the applicable treaty or agreement.

(iii) If a grantee elects not to retain rights to an invention, NSF will allow the inventor to retain the principal patent rights unless the grantee, or the inventor's employer, if other than the grantee, shows that it would be harmed by that action.

(iv) NSF will normally allow any patent rights not wanted by the grantee or inventor to be dedicated to the public through publication in scientific or engineering journals or as a statutory invention registration. If another Federal agency is known to be interested in the relevant technology, however, NSF may give it an opportunity to review and patent the invention so long as that does not inhibit the dissemination of the research results to the research community.

c. Standard Patent Rights Clause

Each NSF grant contains as part of the standard grant conditions an article implementing the standard patent rights clause.

d. Electronic Invention Handling

Grantees are encouraged to use the iEdison System to disclose NSF subject inventions. Detailed instructions for use of that system are provided at http://s-edison.info.nih.gov/iEdison/ and should be followed for NSF subject inventions except that:

a. All communications required must be provided electronically as a PDF or TIFF file through iEdison unless prior permission for another form of submission is obtained from the NSF Patent Assistant.

b. NSF does not require either an Annual Utilization Report or a Final Invention Statement and Certification.

Questions on use of iEdison and requests for permission to submit material in other forms may be sent to the NSF Patent Assistant at patents@nsf.gov, or at the Office of the General Counsel, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230.

2. Copyright

a. Rights to Copyrightable Material

The following principles governing the treatment of copyrightable material produced under NSF grants were adopted by the NSB.

(i) NSF normally will acquire only such rights to copyrightable material as are needed to achieve its purposes or to comply with the requirements of any applicable government-wide policy or international agreement.

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(ii) To preserve incentives for private dissemination and development, NSF normally will not restrict, or take any part of income earned from, copyrightable material except as necessary to comply with the requirements of any applicable government-wide policy or international agreement.

(iii) In exceptional circumstances, NSF may restrict or eliminate an awardee's control of NSF-supported copyrightable material and of income earned from it, if NSF determines that this would best serve the purposes of a particular program or grant.

b. Standard Copyrightable Material Clause

Unless a special copyrightable material clause has been negotiated, each NSF grant that relates to scientific or engineering research contains as part of the standard grant conditions an article implementing the standard copyrightable material clause.

3. Special Patent and Copyright Situations

a. Special Grant Provisions

At the request of the prospective grantee or on recommendation from NSF staff, a Grants and Agreements Officer, with the concurrence of the cognizant Program Officer, may negotiate special patent or copyright provisions when he/she determines that exceptional circumstances require restriction or elimination of the right of a prospective grantee to control principal rights to subject inventions or writings in order to better achieve the objectives of the program, the National Science Foundation Act, or (in the case of inventions) Chapter 18 of Title 35 of the USC. Every special copyright or patent provision will allow the grantee, after an invention has been made or copyrightable material created, to request that it be allowed to retain principal rights to that invention or material, unless doing so would be inconsistent with an obligation imposed on NSF by statute, international agreement or pact with other participants in, or supporters of, the research.

b. Grants Not Primarily for Research

(i) Grants not primarily intended to support scientific or engineering research generally do not contain patent or copyrightable material provisions. Examples of such grants are travel, conference and equipment grants.

(ii) NSF Fellowships and Traineeships. In accordance with Section 212 of Title 35 of the USC, NSF claims no rights to inventions made by fellows or trainees. The following provision will be included in each fellowship or traineeship program solicitation and made part of the grant:

> **INTELLECTUAL PROPERTY RIGHTS**
>
> The National Science Foundation claims no rights to any inventions or writings that might result from its fellowship or traineeship grants. However, fellows and trainees should be aware that the NSF, another Federal agency, or some private party may acquire such rights through other support for particular research. Also, fellows and trainees should note their obligation to include an Acknowledgment and Disclaimer in any publication.

[END OF PROVISION]

c. Grants Affected by International Agreements

(i) Many of the bilateral and multilateral treaties and agreements underlying NSF's international cooperative research programs contain provisions on allocation of rights to inventions or writings. These sometimes require an allocation of rights different from that provided by the standard Copyrightable Material or Patent Rights clauses. In those cases, the standard clauses will be modified through the addition of the following to the grant:

> "This project is supported under the cooperative program listed below. Your rights in inventions, writings, and data may be affected."

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The applicable agreement or treaty will be identified immediately beneath that sentence.

(ii) After an invention is disclosed to the Patent Assistant, the grantee of a grant subject to an international agreement will be informed as to what rights, if any, it must transfer to foreign participants. Grantees also may ask the NSF Program Officer for copies of the identified international agreement before or after accepting a grant.

4. Dissemination and Sharing of Research Results

a. Investigators are expected to promptly prepare and submit for publication, with authorship that accurately reflects the contributions of those involved, all significant findings from work conducted under NSF grants. Grantees are expected to permit and encourage such publication by those actually performing that work, unless a grantee intends to publish or disseminate such findings itself.

b. Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. Privileged or confidential information should be released only in a form that protects the privacy of individuals and subjects involved. General adjustments and, where essential, exceptions to this sharing expectation may be specified by the funding NSF Program or Division/Office for a particular field or discipline to safeguard the rights of individuals and subjects, the validity of results, or the integrity of collections or to accommodate the legitimate interest of investigators. A grantee or investigator also may request a particular adjustment or exception from the cognizant NSF Program Officer.

c. Investigators and grantees are encouraged to share software and inventions created under the grant or otherwise make them or their products widely available and usable.

d. NSF normally allows grantees to retain principal legal rights to intellectual property developed under NSF grants to provide incentives for development and dissemination of inventions, software and publications that can enhance their usefulness, accessibility and upkeep. Such incentives do not, however, reduce the responsibility that investigators and organizations have as members of the scientific and engineering community, to make results, data and collections available to other researchers.

e. NSF program management will implement these policies for dissemination and sharing of research results, in way appropriate to field and circumstances, through the proposal review process; through award negotiations and conditions; and through appropriate support and incentives for data cleanup, documentation, dissemination, storage and the like.

5. Tangible Property

a. Background

Some NSF grants support collection or creation of tangible property, such as insects, marine life, drilling core samples and genetically-altered microorganisms. As used in this section “tangible property” means any personal property other than equipment (see AAG Chapter V.B.2), and intellectual property.

b. Legal Rights to Tangible Property

Unless otherwise provided in the grant, all legal rights to tangible property collected or created during NSF-assisted research remain with the grantee or investigators as determined by the policies of the organization. As members of the scientific and engineering community, both grantees and investigators are responsible for making such tangible property appropriately available to other researchers.

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E. Publication / Distribution of Grant Materials

1. NSF Policy

NSF advocates and encourages open scientific and engineering communication. NSF expects significant findings from research it supports to be promptly submitted for publication, with authorship that accurately reflects the contributions of those involved.

2. Costs

Cost of documenting, preparing, publishing, disseminating and sharing research findings and supporting material are allowable charges against the grant. (See AAG Chapter V.B.7.)

3. Responsibilities

Unless otherwise provided in the grant, preparation, content, editing, identification of authorship and submission for publication of significant research findings are the responsibility of the investigators, consistent with such policies and procedures as the grantee may prescribe.

4. Grantee Obligations

a. Acknowledgement of Support. Unless otherwise provided in the grant, the grantee is responsible for assuring that an acknowledgment of NSF support is made:

(i) in any publication (including Web pages) of any material based on or developed under this project, in the following terms:

> "This material is based upon work supported by the National Science Foundation under Grant No. (NSF grant number)."

(ii) NSF support also must be orally acknowledged during all news media interviews, including popular media such as radio, television and news magazines.

b. Disclaimer. The awardee is responsible for assuring that every publication of material (including World Wide Web pages) based on or developed under this award, except scientific articles or papers appearing in scientific, technical or professional journals, contains the following disclaimer:

> "Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation."

c. Copies for NSF. The grantee is responsible for assuring that the cognizant NSF Program Officer is provided access to, either electronically or in paper form, a copy of every publication of material based on or developed under this award, clearly labeled with the award number and other appropriate identifying information, promptly after publication.

d. Grantees should also note their obligations in regard to copyrights (see AAG Chapter VI.D.2) and their responsibilities as members of the scientific and engineering community to disseminate and share research results (see AAG Chapter VI.D.4).

F. Program Income

1. Background

The following provisions implement the applicable portions of 2 CFR §215.24 on program income as well as the principle on income from copyrightable material adopted by the NSB. (See AAG Chapter VI.D.2a.)

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2. Definition

PROGRAM INCOME means gross income earned by the grantee that is directly generated by a supported activity or earned as a result of the grant. Program income includes, but is not limited to, income from fees for services performed, the use or rental of real or personal property acquired under the grant, the sale of commodities or items fabricated under the grant, license fees for, and royalties on, copyrights and interest on loans made with grant funds. Interest earned on advances of Federal funds is not program income. Program income does not include the receipt of principal on loans, rebates, credits, discounts, etc., or interest earned on any of them.

3. NSF Policy

a. Standard Treatment. Unless otherwise specified in the grant, program income received or accruing to the grantee during the period of the grant is to be retained by the grantee, added to the funds committed to the project by NSF, and thus used to further project objectives. The grantee has no obligation to NSF with respect to: 1) license fees and royalties for copyrighted material, patents, patent applications, trademarks and inventions; or 2) program income received beyond the period of the grant.

b. Special Treatment. In exceptional circumstances, the NSF Grants and Agreements Officer, in collaboration with Program Officers and other appropriate NSF offices, may approve use of a special grant provision to restrict or eliminate a grantee's control of income earned through NSF-supported activities if it determines that this would best serve the purposes of a particular program or grant. The special provisions may require the Federal share of program income be kept in a separate account, reported on and/or remitted for such periods as may be reasonable under the circumstances.

G. International Considerations

1. Travel to Foreign Countries

a. Policy

(i) Expenses for transportation, lodging, subsistence and related items incurred by project personnel and by outside consultants employed on the project, (see AAG Chapter V.B.4) who are on travel status on business related to an NSF-supported project are allowable as prescribed in the governing OMB cost principles. The requirements for prior approval detailed in the governing OMB cost principles are waived.

(ii) Except as provided in the governing OMB cost principles, the difference between economy airfare and a higher-class airfare is unallowable. A train, bus or other surface carrier may be used in lieu of, or as a supplement to, air travel at the lowest first-class rate by the transportation facility used. If such travel, however, could have been performed by air, the allowance will not normally exceed that for jet economy airfare.

(iii) Support for the foreign travel of an investigator's dependents is allowable only under the conditions identified in AAG Chapter V.B.4.

b. Use of U.S.-Flag Air Carriers

(i) In accordance with the Fly America Act (49 USC 40118), any air transportation to, from, between, or within a country other than the U.S. of persons or property, the expense of which will be assisted by NSF funding, must be performed by or under a code-sharing arrangement with a U.S.-flag air carrier if service provided by such a carrier is available (see Comptroller General Decision B-240956, dated September 25, 1991). Tickets (or documentation for electronic tickets) must identify the U.S. flag air carrier's designator code and flight number.

(ii) For the purposes of this requirement, U.S.-flag air carrier service is considered available even though:

(a) comparable or a different kind of service can be provided at less cost by a foreign-flag air carrier;

(b) foreign-flag air carrier service is preferred by, or is more convenient for, NSF or traveler; or

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(c) service by a foreign-flag air carrier can be paid for in excess foreign currency.

(iii) The following rules apply unless their application would result in the first or last leg of travel from or to the U.S. being performed by a foreign-flag air carrier:

(a) a U.S.-flag air carrier shall be used to destination or, in the absence of direct or through service, to the farthest interchange point on a usually traveled route.

(b) if a U.S.-flag air carrier does not serve an origin or interchange point, a foreign-flag air carrier shall be used only to the nearest interchange point on a usually traveled route to connect with a U.S. flag air carrier.

c. Use of Foreign-Flag Air Carriers

There are certain circumstances under which use of a foreign-flag air carrier is permissible. These circumstances are outlined below:

(i) Airline "Open Skies" Agreement*:*

A foreign flag air carrier may be used if the transportation is provided under an air transportation agreement between the United States and a foreign government, which the Department of Transportation has determined meets the requirements of the Fly America Act. For information on "open skies" agreements in which the United States has entered, please refer to the GSA website at http://www.gsa.gov/portal/content/103191.

<u>Note on U.S./European Union Open Skies Agreement</u>

In 2007, the U.S. entered into an “Open Skies” Agreement with the European Union (“EU”). This agreement was modified in June 2010. The current Agreement gives European Community airlines (airlines of Member States) the right to transport passengers and cargo on flights funded by the U.S. government, when the transportation is between: (1) any two points outside the United States; or (2) a point in the United States and any point outside the United States that the EU airline is authorized to serve under the “Open Skies” Agreement.

As of 2011, two significant changes have been made to the U.S./EU Open Skies Agreement. First, EU airlines are now granted the right to transport civilian agency-funded passengers who are NOT eligible to travel on GSA Airline City Pair Contract fares (e.g., grantees) between a point in the United States and a point outside the United States even if there is a GSA Airline City Pair Contract fare in effect between the origin and destination points. An individual, however, who is traveling on a route for which there is a City Pair Contract fare in effect, *and who is eligible for such a fare* (e.g., Federal employee), will be required to fly on a U.S. carrier, absent another applicable exception.

Second, under the amended Agreement, EU airlines are now authorized to transport passengers between points in the United States and points outside the EU if the EU airline is authorized to serve the route under the Agreement. This includes flights that originate, arrive, or stop in the EU. Prior to this change, EU airlines were limited to flying passengers between points in the U.S. and points in the EU.

(ii) Involuntary Rerouting

Travel on a foreign-flag carrier is permitted if a U.S.-flag air carrier involuntarily reroutes the traveler via a foreign-flag air carrier, notwithstanding the availability of alternative U.S.-flag air carrier service.

(iii) Travel To and From the U.S. on non-European Community Airlines

Use of a non-European Community foreign-flag air carrier is permissible if the airport abroad is:

(a) the traveler's origin or destination airport, and use of U.S.-flag air carrier service would extend the time in a travel status by at least 24 hours more than travel by a foreign-flag air carrier; or

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(b) an interchange point, and use of U.S.-flag air carrier service would increase the number of aircraft changes the traveler must make outside of the U.S. by two or more, would require the traveler to wait four hours or more to make connections at that point, or would extend the time in a travel status by at least six hours more than travel by a foreign-flag air carrier.

(iv) Travel Between Points Outside the U.S. on non-European Community Airlines

Use of a non-European Community foreign-flag air carrier is permissible if:

(a) travel by a foreign-flag air carrier would eliminate two or more aircraft changes en route;

(b) travel by a U.S.-flag air carrier would require a connecting time of four hours or more at an overseas interchange point; or

(c) the travel is not part of the trip to or from the U.S., and use of a U.S.-flag air carrier would extend the time in a travel status by at least six hours more than travel by a foreign-flag air carrier.

(v) Short Distance Travel.

For all short distance travel, regardless of origin and destination, use of a foreign-flag air carrier is permissible if the elapsed travel time on a scheduled flight from origin to destination airport by a foreign-flag air carrier is three hours or less and service by a U.S.-flag air carrier would double the travel time.

2. Charter Flights

Because of the risk of catastrophic loss, NSF does not encourage the use of charter flights as a means of mass transportation for groups of scientists and engineers nor does it make arrangements for purchase of charter flight airline tickets.

3. Projects in a Foreign Country

a. For awards that include activities requiring permits from appropriate Federal, state, or local government authorities, the grantee should obtain any required permits prior to undertaking the proposed activities.

b. The grantee must comply with the laws and regulations of any foreign country in which research is to be conducted. Areas of potential concern include: (1) requirements for advance approval to conduct research or surveys; (2) special arrangements for the participation of foreign scientists and engineers; and (3) special visas for persons engaged in research or studies. NSF does not assume responsibility for grantee compliance with the laws and regulations of the country in which the work is to be conducted.

c. The grantee also should assure that activities carried on outside the U.S. are coordinated as necessary with appropriate U.S. and foreign government authorities and that necessary licenses, permits or approvals are obtained prior to undertaking the proposed activities.

4. Passports and Visas

Visa costs are generally allowable expenses that may be charged on an NSF award, however NSF assumes no responsibility for securing passports or visas required by any person because of participation in an NSF-supported project. For restrictions concerning directly charging visa costs to an NSF award, see GPG II.C.2.g(vi)(f).

It should be noted that some countries that normally do not require visas for tourists do require special visas for scientists and engineers engaged in research or studies.

5. International Travel Grants

Funding Limitations. Funds for international travel grants will normally not exceed the cost of a round-trip, economy class airline ticket between the approved points of origin and destination. Group travel grants

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awarded to a university, professional society or other non-profit organization to enable it to coordinate U.S. participation in one or more scientific or engineering meetings held abroad may include a flat rate of $50 per traveler for the general administration of this type of project. NSF international travel grants may not be supplemented by funds from any other NSF grant or fellowship.

H. Intergovernmental Review of Federal Programs

The Foundation's regulation on Intergovernmental Review of National Science Foundation Programs and Activities is published in 45 CFR Part 660.

I. Handling of Information

1. Questionnaires: Data Collection Under NSF Grants

a. Paperwork Control

Under the OMB regulation, *Controlling Paperwork Burdens on the Public* (5 CFR §1320), if a grantee obtains information from ten or more persons by means of identical questions, it is considered to be "sponsored" by NSF only if:

(i) the grantee is collecting the information at the specific request of NSF; or

(ii) the terms of the grant require specific approval by NSF of the collection or its procedures.

If either of these conditions is met, OMB approval of the data collection is generally required and grantees should obtain the necessary control number from the cognizant NSF Program Officer.

b. NSF Policy

Data collection activities of NSF grantees are the responsibility of grantees, and NSF support of a project does not constitute NSF approval of the survey design, questionnaire content or data collection procedures. No representation may be made to respondents that such data are being collected for, or in association with, NSF or the government. However, this requirement is not intended to preclude mention of NSF support of the project in response to an inquiry or acknowledgment of such support in any publication of this data (see AAG Chapter VI.E.4).

2. Release of Information by NSF

a. Press Releases

Grants for projects which appear to be of special interest to the general public may be made the subject of an NSF or joint NSF/grantee organization press release to the news media. (See AAG Chapter V.C.2.)

b. Open Government Legislation

(i) Pursuant to the Freedom of Information Act (FOIA) (5 USC §552), NSF will provide agency records, with certain exceptions, if the request is in writing, includes the requester's name and mailing address, is clearly identified as a FOIA request, and describes the records sought with sufficient specificity to permit identification. The requester must also agree to pay fees that are chargeable under the NSF regulations. Detailed procedures are contained in 45 CFR §612. Further information is available at http://www.nsf.gov/policies/foia.jsp.

(ii) The Government in the Sunshine Act (5 USC §552b) requires that all meetings of the National Science Board be open to public observation unless the subject falls within one of ten exemptions. NSF's Sunshine Act regulations are contained in 45 CFR §614. The Sunshine Act and the FOIA cited above, may require NSF to release to the public information, correspondence and documents received by NSF from grantees, unless they fall within the Acts' limited exceptions.

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c. Release of Project Reports

NSF expects significant findings from research it supports to be promptly submitted for publication. To the extent permitted by law, NSF will honor requests from grantees that release of Annual and Final Project Reports be delayed to permit orderly dissemination of significant findings through refereed channels. Unless such a request is received or material is marked as proprietary, such reports may be made available to others without notice to the grantee. Information, the disclosure of which might invade personal privacy, will be redacted before release.

J. Tax Status

Determination of the tax status of an organization or person receiving compensation in any form as a result of an NSF grant is the responsibility of the IRS, State and local tax authorities and the courts.

K. Protection of Properties in the National Register of Historic Places

NSF is required by 16 USC §470f to take into account the effect of grant activities on properties included in the National Register of Historic Places. Occasionally, an NSF grant may involve activities that require mitigation or other actions under the National Historic Preservation Act and implementing regulations of the Advisory Council on Historic Preservation (36 CFR §800). In such cases, as deemed appropriate by NSF, conditions executing the goals of the National Historic Preservation Act may be included in the grant and grantees or prospective grantees may be required to coordinate with State or local historical preservation officers.

L. Environmental Compliance

Prior to making an award, NSF considers the anticipated environmental impacts associated with the activities described in the proposal. The assessment of environmental impacts is based, in part, on information provided by the Institution/Organization. If, while performing the work required by the award, the awardee learns of any potential or actual unanticipated environmental impacts, the awardee shall immediately notify NSF of such impacts. The awardee shall also cease all work anticipated to cause or causing such unanticipated environmental impacts until NSF has had a reasonable opportunity to assess the situation, comply with all relevant environmental laws, and provide further direction to the awardee.

M. National Security

NSF awards are intended for unclassified, publicly releasable research. The awardee will not be granted access to classified information. NSF does not expect that the results of the research project will involve classified information.

If, however, in conducting the activities supported under an award, the PI is concerned that any of the research results involve potentially classifiable information that may warrant Government restrictions on the dissemination of the results, the PI should promptly notify the cognizant NSF Program Officer.

N. Miscellaneous

1. Liabilities and Losses

NSF assumes no liability with respect to accidents, bodily injury, illness, breach of contract, any other damages or loss, or with respect to any claims arising out of any activities undertaken with the financial support of an NSF grant, whether with respect to persons or property of the grantee or third parties. The grantee is advised to insure or otherwise protect itself or others, as it may deem desirable.

2. Pre-College Students and Experimental Curriculum Development Projects

As required by 42 USC §1869 a and b, grantees of projects which involve pre-college students in research or development, or pilot-testing, evaluation or revision of, experimental or innovative curriculum development projects will:

a. provide to the school board, or comparable authority responsible for the schools considering participation in the project, information concerning the need for and purposes of, the particular education project, the proposed content of the material to be used, the expected benefits to be derived and other information to assist the jurisdiction in arriving at a decision on participation;

b. obtain written approval for participation in the project activities after the responsible authority has carried out its procedures;

c. provide information and materials to the responsible school authority to assist it in carrying out its own established procedures regarding the participation of students in project activities;

d. provide information to NSF describing compliance with the above provisions; and

e. provide in every publication, testing or distribution agreement involving instructional material developed under a grant (including but not limited to teacher's manuals, textbooks, films, tapes or other supplementary material) that such material will be made available within the school district using such material, for inspection by parents or guardians of children engaged in educational programs or projects of that school district.

3. Use of Metric Measurements

The Metric Conversion Act of 1975 (15 USC §§205a-k) and E.O. 12770 (3 CFR, §1991 comp.) encourage Federal agencies to use the Metric System in procurement, grants and other business-related activities. The NSF grant will contain a provision encouraging PI/PDs to submit project reports, final reports, other reports and publications produced under grants that employ the metric system of measurements.

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Chapter VII: Grant Administration Disputes and Misconduct

A. Suspension and Termination Procedures

1. Definitions

a. SUSPENSION is an action by NSF that temporarily withholds Federal support of a project pending corrective action by the grantee or a decision by NSF to terminate the grant.

b. TERMINATION is the cancellation of a grant, in whole or in part, at any time prior to its expiration.

2. Suspension and Termination

a. NSF Policy

(i) A grant may be suspended or terminated in whole or in part in any of the following situations by:

(a) NSF when the grantee has materially failed to comply with the terms and conditions of the grant;

(b) NSF when the Foundation has other reasonable cause;

(c) NSF when ordered by the Deputy Director under NSF's Regulation on Research Misconduct (45 CFR §689);

(d) NSF and the grantee by mutual agreement (if NSF and the grantee cannot reach an agreement, NSF reserves the right to unilaterally terminate the grant); or

(e) the grantee on written notice to NSF setting forth the reasons for such action, the effective date, and, in the case of partial termination, the portion to be terminated or suspended (with the understanding that if NSF determines that the unterminated portion will not accomplish the purposes of the grant it may suspend or terminate the entire grant).

(ii) Normally, action by NSF to suspend or terminate a grant will be taken only after the grantee has been informed by NSF of the proposed action, or informed of any deficiency on its part and given an opportunity to correct it. NSF, however, may immediately suspend or terminate a grant without notice when it believes such action is reasonable to protect the interests of the government.

(iii) No costs incurred during a suspension period or after the effective date of a termination will be allowable, except those costs which, in the opinion of NSF, the grantee could not reasonably avoid or eliminate, or which were otherwise authorized by the suspension or termination notice, provided such costs would otherwise be allowable under the terms of the grant and the governing cost principles.

(iv) Within 30 days of the termination date the grantee will furnish a summary of progress under the grant and an itemized accounting of costs incurred prior to the termination date or pursuant to (iii) above. Final allowable costs under a termination settlement shall be in accordance with the terms of the grant, including this section, and the governing cost principles, giving due consideration to the progress under the grant. In no event will the total of NSF payments under a terminated grant exceed the grant amount or the NSF pro rata share when cost sharing was anticipated, whichever is less.

(v) A notice of termination other than by mutual agreement and/or the final settlement amount may be subject to review pursuant to AAG Chapter VII.B.

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b. Procedures for Suspension or Termination by NSF

(i) When it is believed that a grantee has failed to comply with one or more of the terms and conditions of a grant, the NSF Grants and Agreements Officer will normally advise the grantee in writing of the nature of the problem and that failure to correct the deficiency may result in suspension or termination of the grant. The grantee will be requested to respond in writing within 30 calendar days of the date of such letter, describing the action taken or the plan designed to correct the deficiency. Copies of such correspondence will be furnished to the PI/PD and to the NSF Program Officer. NSF, however, may immediately suspend or terminate a grant without notice when it believes such action is reasonable to protect the interests of the government.

(ii) If a satisfactory response is not received within the above period, the NSF Grants and Agreements Officer may issue a notice immediately suspending authority to further obligate grant funds, in whole or in part. Notice of suspension is sent to the Authorized Organizational Representative, with a copy to the PI/PD. Within NSF, copies are furnished to the NSF Division of Financial Management and to the NSF Program Officer. The notice will set forth the terms of the suspension and its effective date.

(iii) Normally, the suspension will remain in effect for a maximum of 60 days to allow the grantee to take corrective action. In the event that the deficiency is not corrected to the satisfaction of NSF, the NSF Grants and Agreements Officer may issue a notice of termination, addressed as in b., above. The notice will set forth the reasons for the action and its effective date.

(iv) The remedies described in AAG Chapter VII.B do not preclude a grantee being subject to debarment and suspension under the OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Nonprocurement) published at 2 CFR §180 and NSF's Implementation of the OMB Guidelines, located at 2 CFR Chapter XXV.

(v) Suspension or termination due to research misconduct will be imposed as provided in that regulation.

3. Termination by Mutual Agreement

a. NSF Policy

Circumstances may arise in which either NSF or the grantee wishes to terminate a project. If both parties agree that continuation of the project would not produce results commensurate with the further expenditure of funds, or if there arises any other reason, the grant may be terminated by mutual agreement.

b. Procedures

(i) If the grantee wishes to terminate the project, the Authorized Organizational Representative should advise the NSF Grants and Agreements Officer in writing and send a copy to the NSF Program Officer.

(ii) If NSF wishes to terminate the project, the NSF Grants and Agreements Officer will advise the grantee's Authorized Organizational Representative in writing and send copies to the PI/PD and the NSF Program Officer.

(iii) Within 30 days after receipt of request from either party for termination by mutual agreement, the other party will provide an appropriate written response. In the event of disagreement between the parties, the NSF Grants and Agreements Officer will make a final decision, subject to the review procedures prescribed by AAG Chapter VII.B.

(iv) Following termination, grant closeout procedures will be initiated.

4. NSF Suspension or Termination Review Procedure

Grantees should refer to AAG Chapter VII.B.3 for procedures to request review of a suspension or termination notice. Pending resolution of the request for review, a notice of termination shall remain in effect.

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B. Informal Resolution of Grant Administration Disputes

1. Background

Consistent with the *Recommendation on Grant Disputes* by the Administrative Conference of the U.S., and with the intent of the provisions of Alternative Dispute Resolution, the Foundation provides the informal resolution processes described below concerning disputes or disagreements that may arise over Grants and Agreements Officer post-award decisions under an NSF award.

2. Scope of Post-Award Disputes Covered

The disputes below are covered under the process described in AAG Chapter VII.B.3:

a. cost disallowances pursuant to a Grants and Agreements Officer's decision (e.g., specific disallowances under an individual grant or as a result of an audit report);

b. termination orders; and

c. the final settlement amount under a termination.

3. Procedures

a. The grantee should submit a certified letter to the Director, Division of Grants and Agreements (DGA), National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230, noting the grantee's disagreement or dispute and identifying the NSF Grants and Agreements Officer's decision in question, giving reasons for the request for review and providing any other material pertinent to the request.

b. The letter to the Director, DGA, must be postmarked no later than 30 days after the date of the letter notifying the grantee of the decision in question. The time for filing a request for review is strictly enforced and no extensions for the purpose of preparing it will be granted.

c. The request for review need not follow a prescribed format; however, it must contain a full statement of the grantee's position with respect to the disputed matter and the facts and reasons in support of the grantee's position. Requests will be reviewed if the grantee submits new information (which was unavailable at the time of the original decision); if an error in fact or application of NSF policy is noted in the original decision; or improper procedures were followed in the original decision.

d. The Director, DGA, will review or designate one or more individuals to review the matter. One reviewing official will be at least at a management level equivalent to the official who made the decision that is being reviewed. In no case, will the review be undertaken by any individual involved with the decision or involved in recommending and/or monitoring the scientific and engineering aspects of the project or responsible for negotiating and/or administrating its business aspects.

e. The designated individual(s) will review and consider all relevant information available. A report which identifies the conclusion and recommendation will be completed and in disputes covered under:

(i) AAG Chapter VII.B.2.a and Chapter VII.B.2.b, the report will be completed within 30 days and forwarded to the Director, DGA or his/her designee for a final and unappealable written decision for the agency. The Director, DGA or his/her designee will communicate the decision in writing to the grantee, normally within 15 days of receipt of the report, unless otherwise specified by NSF.

(ii) AAG Chapter VII.B.2.c, the report will be completed within 90 days and forwarded to the NSF Deputy Director or his/her designee. The NSF Deputy Director or his/her designee will make the final and unappealable decision for the agency and will communicate the decision in writing to the grantee within 15 days of receipt of the report unless otherwise specified by NSF.

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C. Research Misconduct

RESEARCH MISCONDUCT means fabrication, falsification, or plagiarism in proposing or performing research funded by NSF, reviewing research proposals submitted to NSF, or in reporting research results funded by NSF.

1. NSF Policies and Responsibilities

a. The NSF will take appropriate action against individuals or organizations upon a determination that misconduct has occurred. It may also take interim action during an investigation. Possible actions include sending a letter of reprimand to the individual or organization, requiring prior NSF approval of particular activities by an individual or organization, requiring special assurances of compliance with particular policies, restricting designated activities or expenditures under particular grants, suspending or terminating grants, debarring or suspending an individual or organization and prohibiting participation by an individual as an NSF reviewer, advisor or consultant.

b. NSF will find misconduct only after careful inquiry and investigation by a grantee organization, by another Federal agency or by NSF. An "inquiry" consists of preliminary information-gathering and preliminary fact-finding to determine whether an allegation or apparent instance of misconduct has substance. An investigation must be undertaken if the inquiry determines the allegation or apparent instance of misconduct has substance. An "investigation" is a formal development, examination, and evaluation of a factual record to determine whether misconduct has taken place or, if misconduct has already been confirmed, to assess its extent and consequences or determine appropriate action.

c. Before NSF makes any final finding of misconduct or takes any final action on such a finding, NSF will normally afford the accused individual or organization notice, a chance to provide comments and rebuttal and a chance to appeal. In structuring procedures in individual cases, NSF may take into account procedures already followed by other entities investigating or adjudicating the same allegation of misconduct.

d. Debarment or suspension for misconduct will be imposed only after further procedures described in applicable debarment and suspension regulations (2 CFR §180 and 2 CFR Chapter XXV).

e. The Office of Inspector General oversees investigations of research misconduct and conducts any NSF inquiries and investigations into suspected or alleged research misconduct.

f. The Deputy Director adjudicates research misconduct proceedings and the Director decides appeals.

g. After receiving an investigation report, the subject's rebuttal and recommendations of the OIG, the NSF Deputy Director may initiate further investigation or hearings or order interim or final actions. A written disposition specifying actions to be taken will be sent to affected individuals or organizations and will include instructions on how to pursue an appeal to the Director of the Foundation.

2 Role of Grantees

a. Grantees bear primary responsibility for prevention and detection of misconduct. In most instances, NSF will rely on grantees to promptly:

(i) initiate an inquiry into any suspected or alleged misconduct;

(ii) conduct a subsequent investigation, if the inquiry finds substance;

(iii) take action necessary to ensure the integrity of research, the rights and interests of research subjects and the public and the observance of legal requirements or responsibilities; and

(iv) provide appropriate safeguards for subjects of allegations as well as informants.

b. If a grantee wishes NSF to defer independent inquiry or investigation, it should:

(i) inform NSF immediately if an initial inquiry finds substance;

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(ii) keep NSF informed during such an investigation;

(iii) notify NSF even before deciding to initiate an investigation or as required during an investigation:

(a) if there is reasonable indication of possible violations of civil or criminal law;

(b) if public health or safety are at risk;

(c) if NSF's resources, reputation, or other interests need protecting;

(d) if Federal action may be needed to protect the interests of a subject of the investigation or of others potentially affected;

(e) if the research community or the public should be informed; or

(f) if research activities should be suspended.

(iv) provide NSF with the final report from any investigation.

c. If a grantee wishes NSF to defer independent inquiry or investigation, it should complete any inquiry and decide whether an investigation is warranted within 90 days. It should similarly complete any investigation and reach a disposition within 180 days. If completion of an inquiry or investigation is delayed, but the grantee wishes NSF deferral to continue, NSF may require submission of periodic status reports.

d. Grantees should maintain and effectively communicate to their staffs appropriate policies and procedures relating to misconduct, which should indicate when NSF must or should be notified.

e. Online research ethics training is available through the Department of Health and Human Services, Office of Research Integrity at http://ori.hhs.gov/education/products/rcr_misconduct.shtml.

3. Reporting Possible Misconduct

Possible misconduct in activities funded by NSF should be reported to the Office of Inspector General, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230, (703) 292-7100 or (800) 428-2189 or via e-mail at oig@nsf.gov.

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