

The background of the cover features a complex, abstract design of glowing, multi-colored ribbons and spheres. The ribbons are in shades of blue, green, yellow, orange, and red, some with internal patterns. The spheres are also multi-colored, with some appearing as solid colors and others as translucent or reflective. The overall effect is a vibrant, high-tech, and scientific aesthetic.

THE NATIONAL SCIENCE FOUNDATION

PROPOSAL AND AWARD POLICIES AND PROCEDURES GUIDE

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National Science Foundation (NSF) Proposal & Award Policies & Procedures Guide

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Part I: Proposal Preparation & Submission Guidelines

Grant Proposal Guide (GPG) – printable version

Part II: Award & Administration Guidelines

Award & Administration Guide (AAG) – printable version

Introduction:

A. About the National Science Foundation

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

From those first days, NSF has had a unique place in the Federal Government: it is responsible for the overall health of science and engineering across all disciplines. In contrast, other Federal agencies support research focused on specific missions such as health or defense. The Foundation also is committed to ensuring the nation's supply of scientists, engineers, and science and engineering educators.

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the U.S. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

The Foundation considers proposals¹ submitted by organizations on behalf of individuals or groups for support in most fields of research. Interdisciplinary proposals also are eligible for consideration.

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.

NSF does not have any programs involving the construction of public works in metropolitan areas, no development assistance programs, no programs requiring State plans as a condition of assistance, none involving coordination of planning in multi-jurisdictional areas and no programs of grants to State and local governments as defined in Section 6501(4) of Title 31 of the United States Code (USC).

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, U.S. participation in international scientific and engineering efforts, and educational activities at every academic level.

NSF is structured much like a university, with grants-funding divisions/offices for the various disciplines and fields of science and engineering and for science, math, engineering and technology education. NSF also uses a variety of management mechanisms to coordinate research in areas that cross traditional disciplinary boundaries. The Foundation is assisted by advisors from the scientific and engineering communities who serve on formal committees or as *ad hoc* reviewers of proposals. This advisory system, which focuses on both program directions and specific proposals, involves approximately 50,000 scientists and engineers each year. NSF staff members who are experts in a certain field or area make award recommendations; PIs receive unattributed verbatim copies of peer reviews.

Grantees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

¹ For purposes of this Guide, the term "proposal" is interchangeable with the term "application."

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See GPG Chapter II.D.2 for instructions regarding preparation of these types of proposals.

NSF has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The NSF Information Center may be reached at (703) 292-5111.

Introduction:

B. Foreword

The *Proposal & Award Policies & Procedures Guide*² is comprised of documents relating to the Foundation's proposal and award process. It has been designed for use by both our customer community and NSF staff and consists of two parts:

- Part I is comprised of NSF's proposal preparation and submission guidelines -- the *NSF Grant Proposal Guide*. The *Grant Proposal Guide* (GPG) provides guidance for the preparation and submission of proposals to NSF. Some NSF programs have program solicitations that modify the general provisions of the GPG, and, in such cases, the guidelines provided in the solicitation must be followed.
- Part II is comprised of the documents used to guide, manage, and monitor the award and administration of grants and cooperative agreements made by the Foundation. Coverage includes the NSF award process, from issuance and administration of an NSF award through closeout. Guidance regarding other grant requirements or considerations that either is not universally applicable or which do not follow the award cycle also is provided.

General information about NSF programs may be found on the NSF website at http://www.nsf.gov/funding/browse_all_funding.jsp. Additional information about special requirements of individual NSF programs may be obtained from the appropriate Foundation program offices. Information about most program deadlines and target dates for proposals are available on the NSF website at http://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date. Program deadline and target date information also appears in individual program announcements and solicitations and on relevant NSF Divisional/Office websites.

Catalog of Federal Domestic Assistance

NSF programs fall under the following categories in the latest Catalog of Federal Domestic Assistance (CFDA) issued by the Office of Management and Budget and the General Services Administration:

47.041 -- Engineering Grants
47.049 -- Mathematical and Physical Sciences
47.050 -- Geosciences
47.070 -- Computer and Information Science and Engineering
47.074 -- Biological Sciences
47.075 -- Social, Behavioral and Economic Sciences
47.076 -- Education and Human Resources
47.078 -- Office of Polar Programs
47.079 -- Office of International Science & Engineering
47.080 -- Office of Cyberinfrastructure
47.081 -- Office of Experimental Program To Stimulate Competitive Research
47.082 -- Trans-NSF Recovery Act Research Support

Any questions or comments regarding the *NSF Proposal & Award Policies & Procedures Guide* should be addressed to the Policy Office, Division of Institution & Award Support, at (703) 292-8243 or by e-mail to policy@nsf.gov.

² This Guide has been developed for use with NSF assistance programs; for information relating to NSF contracts, consult the NSF Contract Award Manual.

Introduction:

C. Acronym List

AAG	Award & Administration Guide	FOIA	Freedom of Information Act
ABR	Accomplishment-Based Renewal	FWA	Federal-wide Assurance
ACH	Automated Clearing House (U.S. Treasury)	GC-1	Grant General Conditions
AD	Assistant Director	GOE	Government Owned Equipment
ADPE	Automatic Data Processing Equipment	GPG	Grant Proposal Guide
AOR	Authorized Organizational Representative	GPO	Government Printing Office
AUO	Area Utilization Officer (GSA)	GSA	General Services Administration
BFA	Budget, Finance & Award Management	IACUC	Institutional Animal Care and Use Committee
CAAR	Cost Analysis & Audit Resolution Branch	IBC	Institutional Biosafety Committee
CA/FATC	Cooperative Agreement Financial/Administrative Terms and Conditions	ILS	Institutional Ledger Section
CAM	Contract Award Manual	IRB	Institutional Review Board
CA/PTC	Cooperative Agreement Programmatic Terms and Conditions	IR&D	Independent Research and Development
CEQ	Council on Environmental Quality	IRS	Internal Revenue Service
CFR	Code of Federal Regulations	LOI	Letters of Intent
CGI	Continuing Grant Increment	MREFC	Major Research Equipment and Facilities Construction Account
CMIA	Cash Management Improvement Act	NEPA	National Environmental Policy Act
COI	Conflict of Interest	NIH	National Institutes of Health
Co-PD	Co-Project Director	NSB	National Science Board
Co-PI	Co-Principal Investigator	NSF	National Science Foundation
DACS	Division of Acquisition and Cooperative Support	OEO	Office of Equal Opportunity Programs
DAS	Division of Administrative Services	OGC	Office of the General Counsel
DD	Division Director	OHRP	Office of Human Research Protections
DFM	Division of Financial Management	OIG	Office of Inspector General
DGA	Division of Grants and Agreements	OMB	Office of Management and Budget
DHHS	Department of Health and Human Services	ONR	Office of Naval Research
DIAS	Division of Institution and Award Support	PD	Project Director
DOC	Department of Commerce	PHS	Public Health Service
DUNS	Data Universal Numbering System	PI	Principal Investigator
EAGER	EARly-Concept Grants for Exploratory Research	PO	Program Officer
EFT	Electronic Funds Transfer	RAPID	Rapid Response Research Grants
E.O.	Executive Order	REU	Research Experiences for Undergraduates
F&A	Financial & Administrative Costs	ROA	Research Opportunity Awards
FAADS	Federal Assistance Award Data System	RTC	Research Terms and Conditions
FAQs	Frequently Asked Questions	RUI	Research in Undergraduate Institutions
FAR	Federal Acquisition Regulations	SBA	Small Business Administration
FASED	Facilitation Awards for Scientists and Engineers with Disabilities	SBIR	Small Business Innovation Research
FCCOM	Facilities Capital Cost of Money	SF	Standard Form
FDP	Federal Demonstration Partnership	SF LLL	Disclosure of Lobbying Activities
FEMA	Federal Emergency Management Agency	SGER	Small Grants for Exploratory Research
FFR	Federal Financial Report	SPO	Sponsored Projects Office
FIRS	Federal Information Relay Service	SSN	Social Security Number
		STTR	Small Business Technology Transfer
		TDD	Telephonic Device for the Deaf
		URL	Universal Resource Locator
		USC	United States Code
		USDA	U.S. Department of Agriculture

Introduction:

D. Definitions & NSF-Grantee Relationships

1. Definitions

a. An AUTHORIZED ORGANIZATIONAL REPRESENTATIVE (AOR)/AUTHORIZED REPRESENTATIVE — the administrative official who, on behalf of the proposing organization is empowered to make certifications and assurances and can commit the organization to the conduct of a project that NSF is being asked to support as well as adhere to various NSF policies and grant requirements.

b. ASSISTANCE AWARDS — awards that entail the transfer of money, property, services or other things of value from the Federal government to a recipient to accomplish a public purpose of support or stimulation. In the case of NSF, assistance awards involve the support or stimulation of scientific and engineering research, science and engineering education or other related activities. NSF is authorized to use grants or cooperative agreements for this purpose.

c. A GRANT³ — a type of assistance award and a legal instrument which permits an executive agency of the Federal government to transfer money, property, services or other things of value to a grantee when no substantial involvement is anticipated between the agency and the recipient during the performance of the contemplated activity. Grants are the primary mechanism of NSF support. NSF awards the following two types of grants:

(i) A STANDARD GRANT — a type of grant in which NSF agrees to provide a specific level of support for a specified period of time with no statement of NSF intent to provide additional future support without submission of another proposal.

(ii) A CONTINUING GRANT — a type of grant in which NSF agrees to provide a specific level of support for an initial specified period of time, usually a year, with a statement of intent to provide additional support for the project for additional periods, provided funds are available and the results achieved warrant further support.

d. A COST REIMBURSEMENT AWARD — a type of grant under which NSF agrees to reimburse the grantee for work performed and/or costs incurred by the grantee up to the total amount specified in the grant. Such costs must be allowable in accordance with the applicable cost principles (e.g., 2 CFR Part 220 (OMB Circular A-21), or 2 CFR Part 230 (OMB Circular A-122)). Accountability is based primarily on technical progress, financial accounting and fiscal reporting. Except under certain programs and under special circumstances, NSF grants and cooperative agreements are normally cost reimbursement type awards.

e. A FIXED AMOUNT AWARD — a type of grant used in certain programs and situations under which NSF agrees to provide a specific level of support without regard to actual costs incurred under the project. The award amount is negotiated using the applicable cost principles or other pricing information as a guide. This type of grant reduces some of the administrative burden and record-keeping requirements for both the grantee and NSF. Except under unusual circumstances, such as termination, there is no governmental review of the actual costs subsequently incurred by the grantee in performance of the project. There typically is a requirement for the grantee to certify that the approximate number of person-months or other activity called for in the grant was performed. Payments are based on meeting specific requirements of the grant and accountability is based primarily on technical performance and results.

f. A COOPERATIVE AGREEMENT — a type of assistance award which should be used when substantial agency involvement is anticipated during the project performance period. Substantial agency involvement may be necessary when an activity is technically and/or managerially complex and requires extensive or close coordination between NSF and the awardee. Examples of projects which might be suitable for cooperative agreements if there will be substantial agency involvement are: research centers, large curriculum projects, multi-user facilities, projects which involve complex subcontracting, construction or operations of major in-house university facilities and major instrumentation development.

³ For purposes of this Guide, except where explicitly noted, the term “grant” is interchangeable with the term “cooperative agreement”, and the term “grantee” is interchangeable with the “awardee” of a cooperative agreement.

g. A GRANTEE — the organization or other entity that receives a grant and assumes legal and financial responsibility and accountability both for the awarded funds and for the performance of the grant-supported activity. NSF grants are normally made to organizations rather than to individual Principal Investigator/Project Director(s). Categories of eligible proposers may be found in GPG Chapter I.

h. PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR (PI/PD) — the individual designated by the grantee, and approved by NSF, who will be responsible for the scientific or technical direction of the project. If more than one, the first one listed will have primary responsibility for the project and the submission of reports. All others listed are considered co-PI/PD, and share in the responsibility of the scientific or technical direction of the project. The term "Principal Investigator" generally is used in research projects, while the term "Project Director" generally is used in science and engineering education and other projects. For purposes of this Guide, PI/co-PI is interchangeable with PD/co-PD.

2. NSF-Grantee Relationships

a. Grants will be used by NSF when the accomplishment of the project objectives requires minimal NSF involvement during performance of the activities. Grants establish a relationship between NSF and the grantee in which:

(i) NSF agrees to provide up to a specified amount of financial support for the project to be performed under the conditions and requirements of the grant. NSF will monitor grant progress and assure compliance with applicable standards.

(ii) The grantee agrees to: perform the project as proposed; the prudent management of the funds provided; and carry out the supported activities in accordance with the provisions of the grant. (See Award and Administration Guide (AAG) Chapter I.B, for the documents that comprise an NSF grant.)

b. Cooperative agreements will be used by NSF when the accomplishment of the project objectives requires substantial ongoing agency involvement during the project performance period. Substantial agency involvement may be necessary when an activity is technically and/or managerially complex and would require extensive or close coordination between NSF and the awardee. This, however, does not affect NSF's right to unilaterally suspend or terminate support for cause or consider termination in accordance with AAG Chapter VII, if it is in the best interest of NSF or the Government. NSF will notify the awardee before any action of this nature is taken.

Cooperative agreements will specify the extent to which NSF will advise, review, approve or otherwise be involved with project activities, as well as NSF's right to require more clearly defined deliverables.

The distinction of a cooperative agreement is that NSF is substantially involved; however, awardees have primary management responsibility for conduct of their projects. To the extent that NSF does not reserve responsibility for coordinating or integrating the project activities with other related activities or does not assume a degree of shared responsibility for certain aspects of the project, all such responsibilities remain with the awardee. As NSF determines it appropriate, the Foundation may provide advice, guidance or assistance of a technical, management, or coordinating nature and require that the awardee obtain NSF prior approval of specific decisions, milestones, or procedures. While NSF will monitor cooperative agreements in accordance with the terms and conditions of the award, it will not assume overall control of a project or unilaterally change or direct the project activities. All cooperative agreements will state the nature and extent of expected NSF involvement to ensure that the responsibilities of each party are fully understood.

Some cooperative agreements are funded through the Foundation's Major Research Equipment and Facilities Construction (MREFC) account. The MREFC appropriation provides a separate budget account for major research equipment and facilities. Once an award for an MREFC project is established with MREFC funds, no other funding will be commingled with these funds. Operating funds for MREFC activities and supplements will be funded under a separate award to support the MREFC activities. The awardee is required to segregate MREFC from Operations accounts to avoid the commingling of MREFC funds with other appropriations under NSF assistance awards. In special cases, as in the awards for the NSF-supported Federally Funded Research and Development Centers (FFRDCs), a cooperative agreement will be used as an umbrella award, establishing the overall basic provisions of the agreements. Separate cooperative support agreements with specific terms and conditions will be issued for MREFC and Operations activities.

Introduction:

E. NSF Organizations

The NSF organizations/offices described below are normally of most direct interest to the NSF proposer and awardee community. Consult the NSF website at <http://www.nsf.gov/staff/orglist.jsp> for the most current listing of NSF offices/directorates. An NSF Organization Chart is included as Exhibit 1 of the PAPP Introduction.

1. National Science Board

The National Science Board was established by Congress in 1950, and has two important roles. It provides oversight for, and establishes the policies of, NSF within the framework of applicable national policies set forth by the President and the Congress. In this capacity, the Board identifies issues that are critical to NSF's future, approves NSF's strategic budget directions, approves annual budget submissions to the Office of Management and Budget, approves new programs and major awards, analyzes NSF's budget to ensure progress and consistency along the strategic direction set for NSF, and ensures balance between initiatives and core programs. The second role of the Board is to serve as an independent body of advisors to both the President and Congress on broad national policy issues and, together with the Director, recommends and encourages the pursuit of national policies related to science and engineering research and education. The Board is composed of 24 members appointed by the President and confirmed by the Senate. The NSF Director also serves as an *ex officio* member of the Board. Members are selected on the basis of their distinguished service in science and engineering research and education, and are representative of scientific, engineering, and educational leadership throughout the Nation.

2. Program Divisions/Offices

Program Divisions/Offices are responsible for the scientific, technical and programmatic review and evaluation of proposals and for recommending that proposals be declined or awarded. The scientific, engineering and/or educational aspects of an award will be monitored by the NSF Program Officer identified in the award notice. Integral staff in the program division/office relative to the NSF proposal and award process are:

- a. NSF Program Officers. Program Officers conduct merit review of proposals and recommend which projects should be supported by the Foundation. They are considered subject matter experts and they often provide technical and programmatic advice. Carrying out these responsibilities requires a thorough intellectual understanding of the specialty and knowledge of its substantive technical issues, as well as knowledge of NSF's processes. (See GPG Chapter III for a detailed description of the NSF Merit Review Process.)
- b. NSF Division Directors. A Division Director's responsibilities include:
 - long-range planning, contributing to the achievement of the Foundation's strategic goals and objectives;
 - providing stewardship for budgetary and other resources; and
 - overseeing merit review of proposals and the award process, if his/her Division is part of a program directorate.

3. Division of Grants & Agreements (DGA)

The Division of Grants and Agreements (DGA) provides stewardship of the federal funding awarded by NSF and is responsible for business, financial, and administrative assistance across the continuum of awards from pre-award through closeout. DGA supports a diverse set of stakeholders including Awardees, NSF Directorates and others within the national scientific research and education communities, and maintains a leadership role in the federal grants arena. In carrying out NSF's primary mission of providing basic research support, DGA interacts on a continuing basis with academic and non-academic institutions, private industry, state and local governments, and other Federal agencies. DGA is responsible for the business, financial and administrative review of all

recommended grants, most cooperative agreements⁴ and other assistance awards and assuring that they are consistent with applicable policies, regulations, directives and fund certifications.

Note that recommendation for an award by an NSF Program Officer does not constitute approval or obligation of Federal funds. Only an NSF Grants and Agreements Officer has the delegated authority to approve grants, cooperative agreements, or other assistance awards that will obligate NSF funds for expenditure by the awardee for proposed project activities. Grants & Agreements Officers are also responsible for issuing all amendments and certain post award prior approvals under these awards, for monitoring awardee compliance with the terms and conditions of the awards, and for the administration and closeout of these awards.

NSF Grants & Agreements Officers provide customer service and pre- and post-award technical assistance on the aforementioned policies, regulations, and directives, both to the NSF directorates and awardees through a number of mechanisms. Such assistance is provided through a variety of venues, including on-site visits to awardee institutions, outreach forums and by serving on project advisory teams.

4. Division of Institution and Award Support (DIAS)

DIAS is responsible for the development and implementation of proposal and award policies & procedures, clearance of NSF proposal-generating documents, risk assessment and post-award monitoring activities, cost analysis and award support, audit resolution, electronic award and systems administration, and outreach to the external community. In addition, DIAS staff fulfill important leadership roles in many Federal-wide groups responsible for streamlining the Federal grant process, including NSF's integration with the Grants Management Line of Business (GMLoB), Public Law 106-107 committees, the National Science & Technology Council's Research Business Models subcommittee, and the CFO Council's Grants Policy Committee.

A more detailed description of the responsibilities of each of the operating organizations within DIAS follows:

a. DIAS, through the Policy Office, is responsible for the development, coordination, and issuance of NSF pre- and post-award policies for the assistance programs of the National Science Foundation. The Policy Office provides guidance on policies and procedures related to NSF's electronic proposal and award systems. The responsibility for reviewing and providing official clearance approval for all NSF proposal-generating documents also resides in the Policy Office.

Another important function of the Policy Office is the coordination of outreach programs for external stakeholders and NSF staff. Through a variety of mechanisms, the Policy Office coordinates the release of timely and relevant information regarding NSF policies and procedures, proposal preparation, and award management to the broad research community. In addition to working closely with professional research administration associations, the Policy Office coordinates two major regional grants conferences held at various institutions around the country (one in the spring and one in the fall).

b. DIAS staff in the Cost Analysis and Audit Resolution (CAAR) Branch perform cost analyses and resolve audit findings pertaining to the allowability, allocability, and appropriateness of costs claimed under all NSF awards, including grants and cooperative agreements. CAAR responsibilities include the performance of accounting systems reviews, financial capability reviews, budget reviews, and award monitoring and business assistance. CAAR also negotiates indirect cost rates for organizations that have numerous Federal awards where NSF provides the preponderance of funding.

c. With regard to electronic award and procurement systems administration, the Systems Office within DIAS is responsible for the administration, oversight, and interpretation of business rules for assistance awards across NSF's corporate systems. In addition, the Systems Office is responsible for systems analysis and requirements development necessary for the implementation of assistance awards business rules across NSF's corporate systems.

⁴The Division of Acquisition and Cooperative Support (DACS) is responsible for negotiation, award and administration of cooperative agreements for FFRDCs, major research facilities and various science, technology, engineering and education center programs.

5. Division of Acquisition and Cooperative Support (DACS)

DACS provides acquisition and cooperative agreement award support for the Foundation. The Contracts Branch is responsible for planning, solicitation, negotiation, award and administration of research and research support contracts for NSF. The Cooperative Support Office (CSO) is responsible for planning, solicitation, negotiation, award and administration of cooperative agreements for FFRDCs, major research facilities and various science, technology, engineering and education center programs. CSO provides cooperative agreement management and oversight for supported multi-institutional and international programs. This includes key participation and input on NSF project advisory teams, business process reviews and redesign, risk assessments, financial and administrative assistance to all stakeholders and on-site support for large research facilities and FFRDCs.

6. Division of Financial Management (DFM)

The Institution Ledger Section (ILS) of DFM is available to assist grantee financial and business officials in matters of payment and financial reporting discussed in Chapter III of the AAG.

7. Office of the General Counsel (OGC)

OGC is the legal advisor and advocate for the Foundation, providing legal advice and assistance on all aspects of the Foundation's programs, policies, and operations, as well as areas affecting science and technology more broadly. Advice is provided in a wide variety of areas, such as: contracts and grants; intellectual property; ethics and conflicts of interest; Freedom of Information Act; Privacy Act; Sunshine Act; labor and personnel law; civil rights; health, safety and environment; public regulation of research; Federal fiscal and administrative law and procedure; international law and agreements; and national security restrictions of scientific research (including export controls).

8. Office of Equal Opportunity Programs (OEOP)

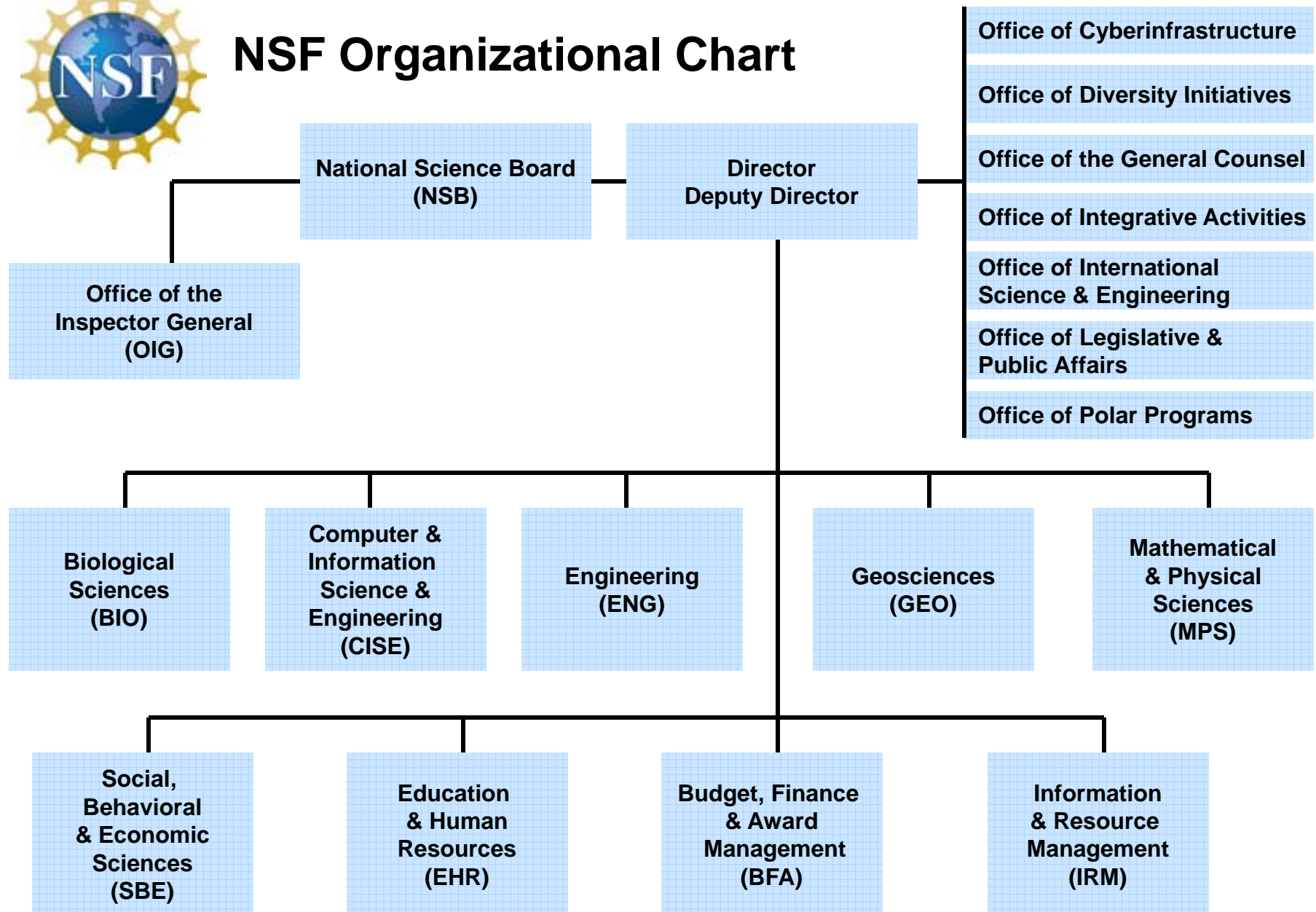
OEOP is responsible for responding to all civil rights matters pertaining to NSF programs or activities receiving Federal financial assistance. (See AAG Chapter VI.A for additional information.)

9. Office of Inspector General (OIG)

OIG is an independent oversight office that reports directly to the National Science Board and the Congress. It is responsible for conducting audits, reviews, and investigations of NSF programs and organizations that receive NSF funding. OIG also evaluates allegations of research misconduct, such as plagiarism or the falsification or fabrication of data, involving researchers who request or receive NSF funding (see AAG Chapter VII.C.1). The OIG staff includes scientists, attorneys, certified public accountants, investigators, evaluators, and information technology specialists. OIG audits focus on NSF's internal agency programs, as well as grants, contracts, and cooperative agreements funded by NSF. Their purpose is to ensure that the financial, administrative, and program activities of NSF and its awardee organizations are conducted efficiently and effectively. OIG investigations focus on program integrity and possible financial or non-financial wrongdoing by organizations and individuals who submit proposals to, receive awards from, conduct business with, or work for NSF. Grant recipients and administrators should contact the OIG (1-800-428-2189) to report any instances of possible misconduct, fraud, waste, or abuse.



NSF Organizational Chart






THE NATIONAL SCIENCE FOUNDATION

PROPOSAL AND AWARD POLICIES AND PROCEDURES GUIDE

Part I - Proposal Preparation &
Submission Guidelines
GPG



OCTOBER 2010
EFFECTIVE JANUARY 18, 2011
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Grant Proposal Guide

Significant Changes to the *Grant Proposal Guide*, effective January 2011

Chapter II.C.2.a, Cover Sheet, has been revised for consistency with the requirements of the Federal Funding & Accountability Act, to replace the Performing/Research Organization information with Project/Performance Site Primary Location information. This change already has been made on a government-wide basis in the SF 424 family of forms. If the project will be performed at a location other than the awardee, additional geographic information must be provided.

Chapter II.C.2.j, Special Information and Supplementary Documentation, contains a clarification of NSF's long standing data policy. All proposals must describe plans for data management and sharing of the products of research, or assert the absence of the need for such plans. Fastlane will not permit submission of a proposal that is missing a Data Management Plan. Cross-references are included in the Project Description section (II.C.2.d), the Results from Prior NSF Support (II.C.2.d(iii)), Proposals for Conferences, Symposia and Workshops (II.D.8), and the Proposal Preparation Checklist (Exhibit II-1). The Data Management Plan will be reviewed as part of the intellectual merit or broader impacts of the proposal or both.

Chapter II.C.2.g(xi), Cost Sharing, has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited, Awardees are informed, however, that they remain subject to the OMB A-21 Clarification memo regarding committing and tracking faculty effort (see footnote 22). In order to assess the scope of the project, all organizational resources necessary for the project must be described in the Facilities, Equipment and Other Resources section (II.C.2.i). The description should be narrative in nature and must not include any quantifiable financial information. Mandatory cost sharing will only be required when explicitly authorized by the NSF Director.

Clarifications and Other Changes to the *Grant Proposal Guide*, effective January 2011

Chapter I.E.2, Who May Submit Proposals, has been clarified to state that non-profit, non-academic organizations must be located in the U.S., which is consistent with the eligibility guidance for universities and colleges.

Chapter I.G.3, Requirements Relating to Data Universal Numbering System (DUNS) Numbers and Registration in the Central Contractor Registration (CCR), has been updated to reflect the requirements specified in the recent Office of Management and Budget (OMB) policy directive (September 14, 2010, 75 FR 22706) on these topics. Each proposer must have a DUNS number and be registered in the CCR database prior to submission of a proposal to NSF. The CCR registration must be kept active and current at all times when an organization has an active award or a proposal under consideration by NSF.

Chapter II.C.2, Sections of the Proposal, has been supplemented to make it clear that failure to submit all required sections of the proposal may result in the proposal being returned without review.

Chapter II.C.2.b, Project Summary, has been updated to encourage use of separate headings for the merit review criteria in the one page Project Summary.

Chapter II.C.2.j, Special Information and Supplementary Documentation, has been clarified via a footnote to show that a mentoring plan is not required for postdoctoral researchers who are listed as Senior Personnel on the NSF Budget.

Chapter II.D.4.b, Collaborative Proposals, has been supplemented to reinforce that all components of a collaborative proposal must meet any established deadline or risk being returned without review.

Chapter III.C, Proposal File Updates, has been revised to explain that the Proposal File Update Module can no longer be used to submit revised budgets. They must now be submitted via the FastLane Revised Proposal Budget Module.

Chapter III.F, Review Information Provided to PI, has been supplemented to state that PIs are provided copies of their reviews to improve research methods and future submissions and are not intended for any other purpose.

Chapter V, Renewal Proposals, has been supplemented with a reminder that renewal proposals must be developed as if the applicant is applying for the first time. Also that the National Science Board (NSB) endorses the principle that all expiring awards should be recompeteted; a link is included to the related NSB Resolution.

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Chapter I: Pre-Submission Information

A. NSF Proposal Preparation and Submission

Proposals submitted to NSF must be submitted via use of the NSF FastLane system. The NSF FastLane System uses Internet/Web technology to facilitate the way NSF does business with the research, education, and related communities. The NSF FastLane System may be used for proposal preparation, file update, submission and status checking, project reporting, 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>.

Contact with NSF program personnel prior to proposal preparation and submission is encouraged. Some NSF programs have program solicitations that modify the general provisions the GPG, 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, "My NSF" 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 Regional 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. "My NSF" is available on NSF's website at: <http://www.nsf.gov/mynsf/>.

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>.

C. Categories of Funding Opportunities

NSF utilizes a variety of mechanisms 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 and program descriptions (see C.2 above) are the primary mechanisms used by NSF to communicate opportunities for research and education support, as well as to generate proposals. 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.

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. A LOI is not binding. 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

¹Unless otherwise specified, the term "organization" refers to all categories of proposers.

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.

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 misconduct² 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.

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.

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>

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

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.
- **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 not be accepted for 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

G. How to Submit Proposals

1. Electronic Requirements

Proposals to NSF must be submitted electronically via the NSF FastLane System. 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.

⁴A 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.

Special instructions for proposals that contain high-resolution graphics or other graphics where exact color representations are required for proper interpretation by the reviewer

For cost and technical reasons, the Foundation cannot, at this time, reproduce proposals containing color. PIs, therefore, generally should not rely on colorized objects to make their arguments. PIs who must include in their project descriptions high-resolution graphics, or other graphics where exact color representations are required for proper interpretation by the reviewer, must submit the required number of copies of the entire paper proposal, including the Cover Sheet, for use in the review process. This submission is in addition to, not in lieu of, the electronic submission of the proposal via FastLane. Given that many NSF programs have converted to use of a primarily electronic review process, PIs are strongly encouraged to contact the cognizant Program Officer prior to submission of the paper copies of a proposal. The cognizant NSF Program Officer is ultimately responsible for reviewing the color materials submitted and making a determination of whether or not to send the paper copies out for merit review.

Upon submission of the proposal, the proposing organization will be notified of the required number of paper copies of the proposal that must be submitted to NSF. The exact number of copies required will appear in an electronic message at the time of FastLane submission and will depend on the NSF Division/Office selected.⁶ Such proposals must be postmarked (or provide a legible proof of mailing date assigned by the carrier) within five working days following the electronic submission of the proposal.

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.1e 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.⁷

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 Central Contractor Registration (CCR)

The Office of Management and Budget (OMB) issued a policy directive (September 14, 2010, 75 FR 22706) which requires applicants to provide a Dun and Bradstreet Data Universal Numbering System (DUNS) number when applying for a new award or renewal of an award under Federal grants or cooperative agreements. In

⁶Detailed instructions for submission of proposals that include high-resolution graphics or exact color representations that are required for proper interpretation by reviewers are available on the FastLane Website under Technical FAQs at <http://www.fastlane.nsf.gov/help/color.htm>.

⁷Further instructions for this process are available on the FastLane Website.

accordance with this mandate, each proposer⁸ must have a DUNS number prior to submission of a proposal to NSF.

In addition, each proposer also must be registered in the Central Contractor Registration (CCR) database prior to submission of the proposal. The CCR is the primary registrant database for the U.S. Government. The CCR collects, validates, stores, and disseminates data in support of agency acquisition missions, including Federal agency contract and assistance awards. This CCR registration must be maintained with current information at all times during which the organization has an active award or a proposal under consideration by NSF. To register in the CCR, go to <http://www.ccr.gov>. Proposers are advised that it takes approximately two business days to complete the registration process.

Failure to comply with the above requirements prior to proposal submission may impact the processing of the proposal.

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 two 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.

⁸ Unaffiliated individuals are exempt from both the requirement to obtain a DUNS number as well as CCR registration.

Chapter II: Proposal Preparation Instructions

Each proposing organization that is new to NSF or has not received an NSF grant within the previous two 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.⁹

A. Conformance with Instructions for Proposal Preparation

It is important that all proposals conform to the instructions provided in the GPG. 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.

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. GPG Exhibit II-1 contains a proposal preparation checklist that may be used to assist in this review. 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.

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, readily legible, and conform to the following requirements:

- a. Use one of the following typefaces identified below:

⁹FAQs regarding FastLane proposal preparation and submission also are available electronically on the FastLane Website.

¹⁰Requests 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.

- Arial¹¹, 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, figure, 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.

3. Page Formatting

Since many reviewers will be reviewing proposals electronically, 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.

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.)

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 function¹²), these documents should be submitted electronically via the Proposal Preparation Module in the FastLane System. A summary of each of these categories follows:

a. Information About Principal Investigators/Project Directors and co-Principal Investigators/co-Project Directors

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.

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

¹² Further instructions for this process are available electronically on the FastLane Website.

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 the FastLane System 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

The required proposal certifications are as follows:

- **Certification for Authorized Organizational Representative 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 institution¹⁴ has implemented and is enforcing a written policy on conflicts of interest, 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 institution's expenditure of any funds under the award, will be, satisfactorily managed, reduced or eliminated in accordance with the institution's conflict of interest policy. Conflicts that cannot be satisfactorily managed, reduced or eliminated must be disclosed to NSF via use of the Notifications and Requests Module in the NSF FastLane System.
- **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.

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

¹⁴For consistency with the Department of Health and Human Services conflict of interest policy, in lieu of "organization," NSF is using the term "institution" which includes all categories of proposers.

- **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.¹⁵
- **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 Cover Sheet, 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
 - (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.¹⁶

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):** The AOR is required to complete a certification that the institution has a plan¹⁷ 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.

This certification, and the associated award condition, apply only to full proposals that were submitted or due, on or after January 4, 2010.

¹⁵Detailed instructions for submission of the SF LLL are available on the FastLane Website.

¹⁶ See Article 2.b.2., of the NSF Agency Specific Requirements to the Research Terms and Conditions, and GC-1 Article 11 for additional information.

¹⁷ 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. NSF has funded two beta sites (NSF Award 0936857, <http://www.umass.edu/sts/digitalibrary/>, and NSF Award 0936865, <http://www.onlineethics.org/CMS/about/UserGuide/18848.aspx>) to begin to provide an interactive community online resource on ethics education in science and engineering.

2. Sections of the Proposal

The sections described below represent the body of a proposal submitted to NSF. With the exception of "Special Information and Supplementary Documentation" and "Appendices," all sections are required parts of the proposal, and must be submitted electronically via the Proposal Preparation Module in the FastLane System. Failure to submit the required sections may result in the proposal being returned without review. See GPG Chapter IV.B for additional information on the Return Without Review process.¹⁸

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 Announcement/Solicitation/Description Number

Proposers are required to select the applicable program announcement, program solicitation or program description. If the proposal is not submitted in response to a specific program announcement, program solicitation, or program description, 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 select "No Closing Date" when the proposal is not submitted in response to any relevant NSF funding opportunity (which includes program announcements, program solicitations or program descriptions).

(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

¹⁸Requests 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.

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 names of the Federal agencies must be identified in the spaces provided.

(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 Animals¹⁹ (See GPG II.D.6)
- Human Subjects²⁰ (See GPG II.D.7)
- High Resolution Graphics/Other Graphics Where Exact Color Representation is Required for Proper Interpretation (See GPG I.G.1)
- International Cooperative Activities Country Name(s) (See GPG II.C.2j)

b. Project Summary

The proposal must contain a summary of the proposed activity suitable for publication, not more than one page in length. It should not be an abstract of the proposal, but rather a self-contained description of the activity that would result if the proposal were funded. The summary should be written in the third person and include a statement of objectives and methods to be employed. It must clearly address in separate statements (within the one-page summary):

- the intellectual merit of the proposed activity; and
- the broader impacts resulting from the proposed activity.

It should be informative to other persons working in the same or related fields and, insofar as possible, understandable to a scientifically or technically literate lay reader. **Proposals that do not separately address both merit review criteria within the one-page Project Summary will be returned without review.** To that end, proposers are encouraged to include separate headings within the one page document for both "Intellectual Merit" and "Broader Impacts".

¹⁹ If the proposal includes use of Vertebrate Animals, supplemental information is required. See GPG Chapter II.D.6 for additional information.

²⁰ If the proposal includes use of Human Subjects, supplemental information is required. See GPG Chapter II.D.7 for additional information.

c. Table of Contents

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

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

(i) Content

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

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. It must describe as an integral part of the narrative, the broader impacts resulting from the proposed activities, addressing one or more of the following as appropriate for the project: how the project will integrate research and education by advancing discovery and understanding while at the same time promoting teaching, training, and learning; ways in which the proposed activity will broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.); how the project will enhance the infrastructure for research and/or education, such as facilities, instrumentation, networks, and partnerships; how the results of the project will be disseminated broadly to enhance scientific and technological understanding; and potential benefits of the proposed activity to society at large. Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website.

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 Universal 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 in the past five years, information on the award(s) is required. Each PI and co-PI who has received *more than one award* (excluding amendments) must report on the 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 related to the Broader Impact activities supported by the award and, for a research project, any contribution to the development of human resources in science and engineering;
- (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.

(iv) Unfunded Collaborations

Any substantial collaboration with individuals not included in the budget should be described and documented with a letter from each collaborator, which 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.²¹ 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.

²¹If 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.

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).

(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) Publications

A list of: (i) up to five publications most closely related to the proposed project; and (ii) up to five other significant publications, whether or not related to the proposed project. Each publication identified 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.

For unpublished manuscripts, list only those submitted or accepted for publication (along with most likely date of publication). Patents, copyrights and software systems developed may be substituted for publications. Additional lists of publications, invited lectures, etc., must not be included.

(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

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

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 OMB Circulars A-21 (Colleges & Universities), A-87 (State, Local, & Indian Tribal Governments), and A-122 (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.

(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.²²

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 be specifically approved by NSF in the award budget.

(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 OMB Circular A-21 (CFR Part 220), 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 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 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.

²²NSF 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.

(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.²³

(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 scientific 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.²⁴

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.

²³Detailed instructions for submission of confidential budgetary information are available on the FastLane website.

²⁴ See also Article 13 of the NSF Agency Specific Requirement to the Research Terms and Conditions, and GC-1 for additional information on use of U.S.-Flag Air Carriers.

(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.²⁵ (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.

Generally, indirect costs (F&A) are not allowed on participant support costs. 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 programs, such as Research Experiences for Undergraduates, have special instructions for treatment of participant support.

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.

(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

²⁵ Proposers are advised that Article 12 of the NSF Agency Specific Requirements to the Research Terms and Conditions and Grant General Conditions (GC-1) Article 7, require the grantee to obtain written authorization from the cognizant NSF program officer prior to the reallocation of funds budgeted for participant support.

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.²⁶

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) Subawards²⁷ (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).

Note: See GPG Chapter II.C.2j 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

²⁶ For all funds awarded prior to March 15, 2006, payment for a consultant's services may not exceed the daily equivalent of the then current maximum rate paid to an Executive Schedule Level IV Federal employee (exclusive of indirect cost, travel, per diem, clerical services, fringe benefits and supplies).

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

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

(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)

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 OMB Circular A-21. The Circular stipulates in 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. A sample indirect cost proposal is available at: <http://www.nsf.gov/bfa/dias/caar/indirect.jsp>. 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.

Within Government guidelines, it is NSF policy that grantees are entitled to reimbursement from grant 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 since only the duly authorized Grants and Agreements Officer has authority to negotiate indirect costs. 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.

Exceptions to Basic Policy

No Indirect or Limited Reimbursement. In some cases, however, NSF program solicitations may indicate no or limited reimbursement for indirect costs. In addition, NSF generally provides no amounts for indirect costs for the following:

- grants to individuals;
- grants solely for the support of travel, equipment, construction of facilities, or doctoral dissertation research;
- grants in which NSF support is exclusively in the form of fellowships, traineeships or other fixed amounts such as cost-of-education allowances;
- participant support costs. However, an allowance for indirect costs associated with participant support costs may be established or negotiated in advance when circumstances indicate that the grantee could be expected to incur significant expenses in administering participant payments (other than salary or other direct expenses being reimbursed under the award). or,
- foreign grantees (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 guidance²⁹ 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. 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. 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.³² 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. 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.

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

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 If proposed, the estimated value of any in-kind contributions should be included on Line M. An explanation of the source, nature, amount and availability of any proposed cost sharing also must be provided in the budget justification. 2 CFR § 215.23 describes criteria and procedures for the allowability of cash and in-kind contributions in satisfying cost sharing and matching requirements.

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 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. Note the Biological Sciences Directorate exception to this policy, however, 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.

i. Facilities, Equipment and Other Resources

This section of the proposal is used to assess the adequacy of the organizational resources available to perform the effort proposed. Proposers should describe only those resources that are directly applicable. Proposers should include an aggregated description of the resources that the organization will provide to the project, should it be funded. Such information must be provided in this section, in lieu of other parts of the 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.

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 proposal³³ 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. 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.

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. The proposed mentoring activities will be evaluated as part of the merit review process under the Foundation's broader impacts merit review criterion.

- 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);
 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

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.

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))
- The National Environmental Policy Act of 1969 (NEPA) (42 USC §4332). NEPA requires that Federal agencies consider the environmental impacts of major Federal actions significantly affecting the quality of the human environment. If a proposed project might have an environmental impact, the proposal should furnish sufficient information to assist Foundation officials in assessing the environmental consequences of supporting the project. NSF will determine:
 1. the adequacy of the information submitted;
 2. whether or not additional information is needed; and
 3. whether or not an environmental assessment or environmental impact statement will be necessary.
- 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 the Research Terms and Conditions, NSF Agency Specific Requirements Article 29, and NSF Grant General Conditions Article 42.)
- Research in Greenland. (See AAG Chapter VI.G.3)
- 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.5 and II.D.6).
- 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 (FASSED)*, *Research Opportunity Awards (ROAs)* or *Research Experiences for Undergraduates (REUs)*. (See GPG Chapter II.D.3 for information on FASSED, 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.

Proposers are reminded that, 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, and, if included, a reviewer is under no obligation to review these materials. 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.

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.

- 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.”

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

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 conditions³⁵, 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 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.)

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

b. Submission of a collaborative proposal from multiple organizations

In many instances, simultaneous submission of proposals that contain the same Project Description from each organization might be appropriate. For these proposals, the project title must begin with the words "Collaborative Research:". The lead organization's submission will include a Cover Sheet, Project Summary, Project Description, References Cited, Biographical Sketches, Budgets and Budget Justification, Current and Pending support, and Facilities, Equipment and Other Resources for their organization. If applicable, the lead organization's submission also must include a supplemental mentoring plan that must not exceed one page, and that addresses the mentoring activities to be provided for all postdoctoral researchers supported under the **entire** collaborative project. See GPG Chapter II.C.2.j for additional guidance on mentoring and data management plan requirements for collaborative proposals. Non-lead organization submissions will include all of the above for their organization except the project summary, project description, and references cited which are the same for all collaborating organizations. 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.

Instrumentation and equipment proposals must follow the standard proposal preparation guidelines contained in this Guide. Each potential major user must describe the project(s) for which the equipment will be used. These descriptions must be succinct, not necessarily as detailed as in an individual 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.

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. Equipment proposals also must describe comparable equipment already at the proposing organization(s) and explain why it cannot be used. This includes comparable government-owned equipment that is on-site.

Equipment proposals must discuss arrangements for acquisition, maintenance and operation, including:

- overall acquisition plan;

³⁶Detailed 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.

- biographical sketch of the person(s) who will have overall responsibility for maintenance and operation and a brief statement of qualifications, if not obvious;
- description of the physical facility, including floor plans or other appropriate information, where the equipment will be located;
- statement of why the equipment is severable or non-severable from the physical facility;
- annual budget for operation and maintenance of the proposed equipment, indicating source of funds, and particularly related equipment; and
- brief description of other support services available and the annual budget for their operation, maintenance and administration.

Equipment proposals must include the information described above within the 15-page project description.

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.

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.

³⁷See AAG Chapter IV.D for additional information on the administration of equipment awards.

(3) If a date is provided, the PHS Approved Animal Welfare Assurance Number must be entered in the space provided.

f. These same requirements apply to awards to individuals (fellowships) for activities that involve use of vertebrate animals. If an IACUC approval date is entered on the Cover Sheet, a copy of the approval letter from the IACUC with Assurance Number and organizational signature should be included in the Supplementary Documentation section of the proposal or sent directly to the cognizant program.

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 International Compilation of Human Research Protections (<http://www.hhs.gov/ohrp/international/HSPCompilation.pdf>), nor is an Assurance on file with OHRP (<http://ohrp.cit.nih.gov/search/asearch.asp#ASUR>), 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.

(4) Enter the Federal Wide Assurance (FWA) Number that the proposer has on file with the Office of 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 proposal³⁸ (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.

- Cover Sheet;
- A statement of the objectives of the project (summarized in one page or less);
- A statement of the need for such a gathering and a list of topics;
- A listing of recent meetings on the same subject, including dates and locations;
- The names of the chairperson and members of organizing committees and their organizational affiliations;
- Information on the location and probable date(s) of the meeting and the method of announcement or invitation;
- 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;
- 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);
- 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);
- The support requested or available from other Federal agencies and other sources (GPG Chapter II.C.2h should be consulted to prepare this portion of the proposal) and,
- 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

³⁸ 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.

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.

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 Science and Engineering. 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 institutions 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 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 Academy of Science 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 provides the TeraGrid. The TeraGrid is a collection of very powerful supercomputers, a high-throughput computing environment, high-volume data storage facilities, and advanced visualization services, connected by a high-bandwidth private network. TeraGrid services available to researchers also include consulting support.

The TeraGrid's computational resources support parallel computations at scales ranging from a few processor cores to tens of thousands of processor cores, as well as ensembles of serial or parallel computations. The TeraGrid provides a variety of system architectures that support shared-memory, distributed-memory, and grid-computing programming models. Users may also submit jobs using the Condor high-throughput computing paradigm. Projects that need to store very large volumes of data may do so in the TeraGrid's high-capacity data storage facilities. The TeraGrid includes visualization hardware and software designed for the exploration of large complex datasets. Workflow tools are available to facilitate the composition and execution of complicated computational or data-processing pipelines.

Allocations of TeraGrid resources are available to PI(s) of funded research projects at no additional cost. A simple on-line process may be used to request an allocation. Requests are reviewed to help the TeraGrid operators determine how best to allocate resources. This review process does **not** re-review the science or engineering research content of the project. Computing allocations typically range from a few thousand processor-hours to several tens of millions of processor-hours, according to need. Similarly, a range of storage allocations is possible. The TeraGrid provides consulting and training services to help researchers to make effective use of the resources available. For more information on how to request an allocation, please see <http://portal.teragrid.org> or <http://www.teragrid.org>.

Exhibit II-1: Proposal Preparation Checklist

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 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 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.1e for a complete listing of proposal certifications.)
- ☐ SF LLL, *Disclosure of Lobbying Activities* (if applicable). (One copy only, scanned as a single copy document.)

☐ Cover Sheet:

- ☐ Program Announcement/Solicitation No./Closing Date (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, and the requirement that both merit review criteria be separately addressed within the body of the Summary.

[] **Project Description:**

[] Note limitation of 15 pages

[] Merit Review Criteria: Ensure both merit review criteria are described as an integral part of the narrative.³⁹

[] Inclusion of Universal Resource Locators (URLs): PIs are advised that the Project Description must be self-contained and are cautioned that URLs (Internet addresses) 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.

[] Human-resource information: Required for renewal proposals from academic institutions only.

[] **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.

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

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

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

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

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

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

[] Each proposal⁴⁰ that requests funding to support **postdoctoral researchers** must include, as a supplementary document, 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.

³⁹ Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF Website at <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>.

⁴⁰ 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.

[] **Special Guidelines:**

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

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 institution 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).

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;

- (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.

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.

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.

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.

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 awardee 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.

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 -- 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.

Chapter III: NSF Proposal Processing and Review

Proposals received by the NSF Proposal Processing Unit are assigned to the appropriate NSF program for acknowledgement 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 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. Program Officers may obtain comments from assembled review panels or 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/meritreview/>.

A. Review Criteria

The National Science Foundation strives to conduct a fair, competitive, transparent merit-review process for the selection of projects. 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. For example, proposals for large facility projects also might be subject to special review criteria outlined in the program solicitation.

The two merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions, and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgments.

What is the intellectual merit of the proposed activity?

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?⁴¹

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

NSF staff will give careful consideration to the following in making funding decisions:

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects and activities it supports at academic and research institutions. These

⁴¹ Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>.

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 diversity of learning perspectives.

See GPG Chapter II.C.2d for information on mentoring activities.

Integrating Diversity into NSF Programs, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens, women and men, underrepresented minorities, and persons with disabilities, are 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.

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 NSF 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

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

⁴²The status of a proposal may be found via the "Proposal Functions" section of FastLane.

⁴³Detailed instructions on submitting proposer-initiated proposal file updates are available on the FastLane website at <https://www.fastlane.nsf.gov/documents/pfu/pfu.jsp>.

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

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 two 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:

- 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.

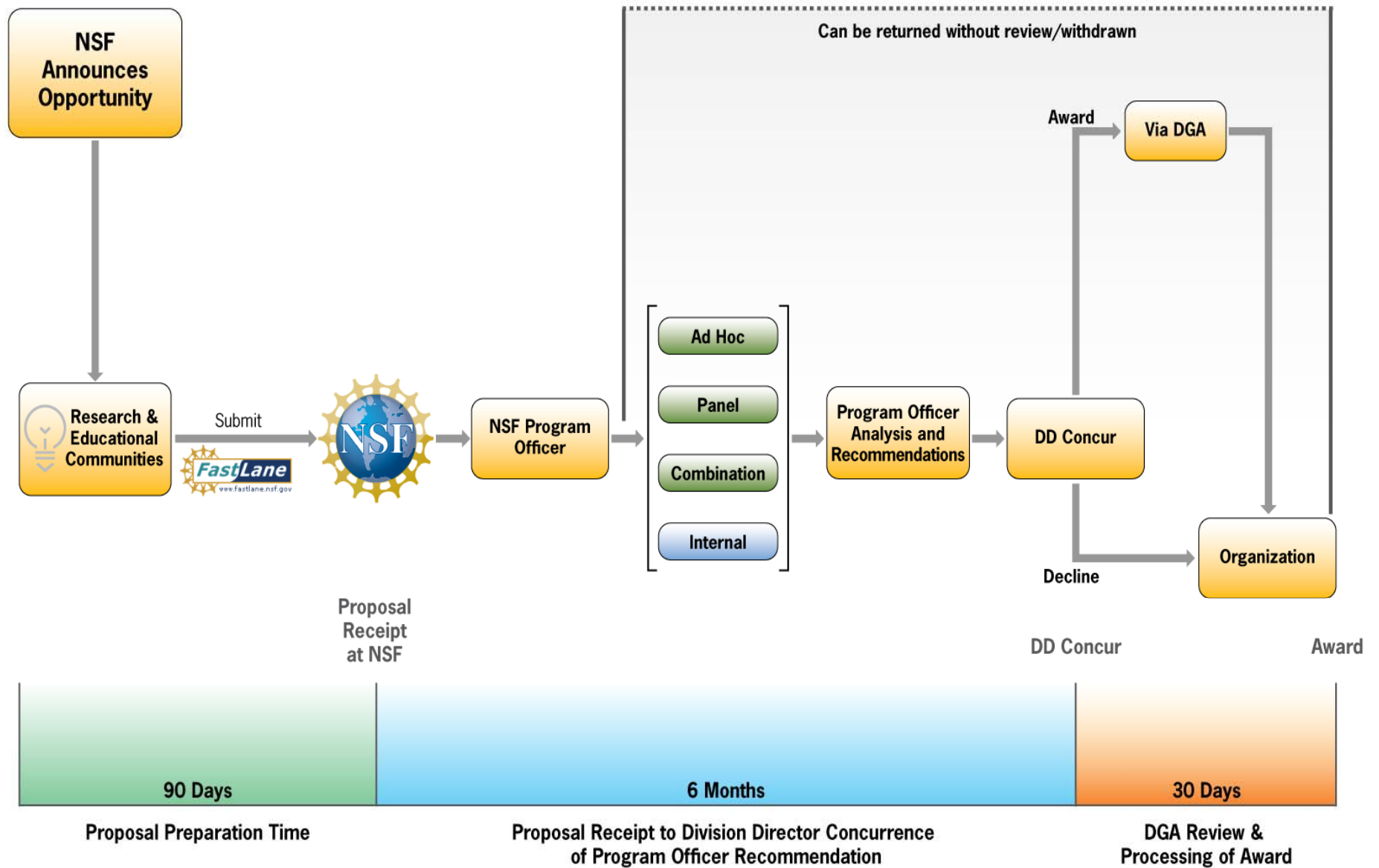
Reviews are made available directly to the PI, to provide feedback for the purpose of improving proposed research and research methods, and to assist in preparation of future proposals. They are not intended for any other purpose.

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.

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 individuals⁴⁵ 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. Return Without Review

Proposals may not be considered by NSF for the following reasons.

The proposal:

1. is inappropriate for funding by the National Science Foundation;
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;
4. is a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter;
5. does not meet NSF proposal preparation requirements, such as page limitations, formatting instructions, and electronic⁴⁷ submission, as specified in the *Grant Proposal Guide* or program solicitation;
6. is not responsive to the GPG or program announcement/solicitation;
7. does not meet an announced proposal deadline date;
8. was previously reviewed and declined and has not been substantially revised; and
9. duplicates another proposal that was already awarded.

Proposals that do not separately address both merit review criteria within the one-page Project Summary will be returned without review.

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

⁴⁷ Unless has been authorized in advance of the paper submission. See GPG Chapter II.A for further information.

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.

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) Small Grants for Exploratory Research (SGER);
 - (4) Rapid Response Grants;
 - (5) EARly-concept Grants for Exploratory Research (EAGER); or
 - (6) 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* 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 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.

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 application competes with all other applications and must be developed as fully as though the applicant 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 recompeteted.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 reprints⁵⁰ 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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THE NATIONAL SCIENCE FOUNDATION

PROPOSAL AND AWARD POLICIES AND PROCEDURES GUIDE

Part II - Award & Administration Guide



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OMB Control Number: 3145-0058



Award & Administration Guide Summary of Changes

Chapter II.B.1.a, Changes in Objectives or Scope, has been supplemented with language clarifying that prior NSF approval 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.

Chapter II.D, Cost Sharing, has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited. 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. Language also has been added to clarify when notifications are considered due and overdue.

Chapter II.D.3, Project Outcomes Report for the General Public, has been updated to specify that the Project Outcomes Report for the General Public will be posted in the Research Spending and Results section of the Research.gov website.

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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 directives² 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.

¹For purposes of this Guide, references to OMB Circular A-110 also include comparable portions of 45 CFR §602, where appropriate.

²Consult AAG Exhibit I-1 for information on obtaining these types of documents.

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 grant 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 grant 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) Foreign Grant General Conditions (FGG) are used for awards to foreign grantees.
 - (v) Foreign and International Awardee Conditions for Non-research Projects are used for non-research projects to foreign grantees.
 - 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 grants.
 - (ii) Construction Conditions are used for grants which include rearrangements/alterations over \$25,000 (construction).
 - (iii) Fixed Amount Award General Conditions (FAA) are used in NSF fixed amount grants. (Note: these conditions may establish different financial and other requirements that are not generally used in cost reimbursement type grants.)
 - c. Cooperative Agreement³ 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.

D. NSF Grant Periods

1. Definitions

- a. **EFFECTIVE DATE** is the date specified in the grant notice on or after which, except for fixed amount awards, expenditures may be charged to the grant. 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 grant notice is the effective date. (See, however, AAG Chapter V.A.2b.)
- b. **EXPIRATION DATE** is the date specified in the grant notice after which expenditures may not be charged against the grant 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 grant shown as the duration.

2. Significance of Grant Period

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

c. No-Cost Extension

(i) **Grantee-Approved Extension.** Grantees may authorize a one-time extension of the expiration date of the grant 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 grant 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 grantee 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 grant. 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 indicated

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

above, that unobligated funds may remain at the expiration of the grant 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) Grantees 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 grants 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.

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.

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 quotes are unofficial)

<i>Title</i>	<i>United States Code</i>	<i>AAG</i>
Age Discrimination Act	42 USC §§6101 et seq.	VI.A.5
Animal Welfare Act	7 USC §§2131-59	VI.B.3
Bayh-Dole Act	35 USC §§200-212	VI.D
Cash Management Improvement Act	31 USC §6503	III.D.3
Civil Rights Act of 1964, Title IX	42 USC §§2000d et seq.	VI.A.2
Cost-type Research and Development Contracts with Educational Institutions	41 USC §254(a)	V.D
Davis-Bacon Act	40 USC §§276a et seq.	VI.C.1
Demonstration Cities and Metropolitan Development Act of 1966, Sec. 204	42 USC §3334	VI.H
Education Amendments of 1972, Title IX	20 USC §§1681-86	VI.A.4
Federal Grant and Cooperative Agreement Act of 1977	31 USC §§6301-08	I.A
Freedom of Information Act	5 USC §552	VI.I.2.b
Government in the Sunshine Act	5 USC §552b	VI.I.2.b
Intergovernmental Cooperation Act of 1968	31 USC §6502	VI.H
Internal Revenue Code of 1954	26 USC 501(c)	VI.D
International Air Transportation Fair Competitive Practices Act of 1974	49 USC §1517	VI.G
Metric Conversion Act of 1975, as amended	15 USC §205a-k	VI.M.3
National Historic Preservation Act	16 USC §470	VI.K
National Science Foundation Act of 1950, as amended	42 USC §§1861-75	Chapter I., II.D VI.C.2, VI.D.1
Paperwork Reduction Act of 1980	44 USC §§3501-11	VI.I.1.a
Rehabilitation Act of 1973, Sec. 504	29 USC §794	VI.A.3
Single Audit Act	31 USC §§7501-07	II.F

2. Executive Orders

<i>Number</i>	<i>Short Title</i>	<i>AAG</i>
11246	Equal Employment Opportunity, as amended	VI.A.1, VI.A.6
12250	Leadership and Coordination of Nondiscrimination Laws	VI.A.2
11593	Protection and Enhancement of the Cultural Environment	VI.K
12958	Classified National Security Information	VI.L
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	National Security	VI.L

3. NSF Regulations

a. 2 CFR Chapter VVX

<i>Part Number</i>	<i>Subject</i>	<i>AAG</i>
2520	Nonprocurement Debarment and Suspension	Chapter VII

b. 45 CFR Chapter VI

602	Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments	Entire Guide
605, 611, 617, 618	Nondiscrimination in Federally Assisted Programs	VI.A
612, 613, 614	Freedom of Information, Privacy, and Government in the Sunshine Acts	VI.I.2.b
630	Drug Free Workplace	
650	Patents	VI.D.1
660	Intergovernmental Review of NSF Programs	VI.H
689	Research Misconduct	VII.C
690	Protection of Human Subjects	VI.B.1

4. Other Federal Regulations

<i>Title</i>	<i>Code of Federal Regulations</i>	<i>AAG</i>
Contract Cost Principles and Procedures (Federal Acquisition Regulations)	48 CFR §31	V.A
Controlling Paperwork Burdens on the Public	5 CFR §1320	VI.I.1
Disposition (Government-owned Federal Information Processing Equipment)	41 CFR §201.23	IV.E.5.f
Equal Employment Opportunity	41 CFR §60	VI.A.6
Metric Usage in Federal Government Programs	3 CFR, 1991 comp	VI.M.3
Principles for Determining Costs Applicable to Research and Development Under Grants and Contracts with Hospitals	45 CFR, Part 74, Appendix E	V.A.1
Withdrawal of Cash from the Treasury for Advances Under Federal Grant and Other Programs	31 CFR, 205	III.C
Protection of Historic and Cultural Properties	36 CFR §800	VI.K
Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements	37 CFR §§401 et seq.	VI.D.1
Rules and Procedures for Funds Transfers	31 CFR §205	Chapter III
Utilization of Personal Property	41 CFR §101.43	IV.E.3

5. Office of Management and Budget Circulars

<i>Number</i>	<i>Short Title</i>	<i>AAG</i>
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

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).

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 grantee if the arrangements are satisfactory, but no formal amendment to the grant will be made.

(ii) If the arrangements are not satisfactory to NSF, the grant may be terminated as prescribed in AAG Chapter VII.A. If the PI/PD's or co-PI/co-PD's temporary activities might constitute a conflict of interest (e.g., working for a Federal agency), a substitute PI/PD or co-PI/co-PD shall be appointed as described in AAG Chapter II.B.2g.

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 grantee 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 grant.

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 grantee 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 grant as described in AAG Chapter II.B.2h.;
- (ii) nominate a substitute as described in AAG Chapter II.B.2g; or
- (iii) initiate grant 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 grantee desires to continue the project with a substitute PI/PD or co-PI/co-PD, the appropriate officials at the grantee 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 grant. If not approved, NSF may take steps, pursuant to AAG Chapter VII.A to suspend or terminate the grant.

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.2g). 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:

- (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;

- (ii) the basis for selection of the subawardee (except for collaborative/joint arrangements⁵); 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 guidance⁶ (see GPG Chapter II.C.2.g(xi)) is as follows:

- Inclusion of voluntary committed cost sharing is prohibited.
- 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.

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 is 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.

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.

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."

E. Technical Reporting Requirements

NSF requires technical 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).

Technical reports must be submitted via the electronic project reporting system in FastLane.

1. Annual Project Reports

Unless otherwise specified in the award, annual project reports should be submitted 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 FastLane 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 are generally not 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

Within 90 days following expiration of the grant, a final project report must be submitted electronically via the NSF FastLane System. As reflected in the FastLane 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 are normally not required for institutional graduate research fellowships and interagency agreements. However, final project reporting requirements for individual fellowships are established in the program solicitation.

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. Additional information.

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. Final Technical Information Items

As soon as they are available after completion of the project, the following technical items shall be submitted for NSF program management use:

- a. abstracts of theses;
- b. publication citations and reprints of articles;
- c. data on scientific collaborations;
- d. information on inventions;
- e. technical description of the project and results;
- f. other materials either required in the grant or considered to be useful to NSF; and
- g. Universal Resource Locator numbers of electronic publications generated by the project.

5. 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.**

6. 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. 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.

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 Report described in AAG Chapter II.E.2 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).

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.

Chapter III: Financial Requirements and Payments

The acceptance of a grant from NSF creates a legal duty on the part of the grantee organization to use the funds or property made available in accordance with the conditions of the grant. Payments may be made in advance of work performed or as a reimbursement for work performed and/or costs incurred by the grantee. However, payments may not be made in advance of a grant 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 grant, 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 grantees (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 grantees 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 grantee organization who has primary responsibility for the accountability for and reporting on NSF grant funds.
2. CASH ON HAND - the balance remaining of the funds an organization has received from NSF.
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. FASTLANE FINANCIAL FUNCTIONS - functions of NSF's FastLane System used by grantees to transmit financial information to NSF. There are three primary Financial Functions used by grantees.
 - Federal Financial Report Function - electronic version of the standard "Federal Financial Report". Used by grantees to report the financial activity of NSF awards on a quarterly basis. (See AAG Chapter III.E.1)
 - Cash Request Function - used by grantees to request funds. (See AAG Chapter III.C.1)
 - Grantee EFT Update Function. - used by grantees to provide NSF with their banking information. (See AAG Chapter III.C.6)
5. GRANTEE - the organization or other entity that receives a grant and assumes legal and financial responsibility and accountability both for the awarded funds and for the performance of the grant-supported activity. NSF grants 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. GRANTEE 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 grantee by direct deposit (Automated Clearing House (ACH) Vendor Express) and on some rare occasions by check.
9. UNLIQUIDATED OBLIGATIONS - expenses incurred but not paid. Such obligations are included in reports prepared by grantees whose financial records are maintained on an accrual basis.
10. UNOBLIGATED BALANCE - the portion of the funds authorized by the grant that have not been obligated by the grantee. It is determined by deducting outlays and unliquidated obligations from the funds authorized.

C. Payment Requirements

1. Requesting Payments

NSF's grantees, except for Special Payment grantees, (see AAG Chapter III.C.4) and some foreign grantees, are required to request payments electronically through the FastLane Cash Request Function. The Special Payment and certain foreign grantees 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 a grantee for its actual disbursements.

a. Timing of Payments. Advances to a grantee shall be limited to the minimum amount needed and shall be timed to be in accordance with the actual, immediate cash requirements of the grantee in carrying out the purpose of the approved program or project. The timing and amount of cash advances shall be as close as is administratively feasible to actual disbursements for direct program costs and the proportionate share of any allowable indirect costs.

b. Payments to Subawardees. Cash advances made by primary grantees (those which receive advances directly from NSF) to others (subawardees) shall conform to the same standards of timing and amount as apply to advances by NSF to primary grantees, 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 grant, 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 grantee; nor will any of these funds be deposited in personal bank accounts for disbursement by personal check.

3. Request for Advance

a. Grantees 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 grantee 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 grantee; and

(iii) The grantee'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 grantee's designated official (Accounting Officer, Business Officer, Treasurer, etc.) must submit their cash requests for payment by using the FastLane Cash Request System. Grantees submit requests on a periodic basis (monthly, biweekly 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. Grantees shall maintain advances of NSF funds in interest bearing accounts as specified in AAG Chapter III.D.3.

4. Special Payment Grantees

When grantees do not meet the conditions specified in AAG Chapter III.C.3, or when otherwise considered appropriate by NSF, they are not allowed to request funds electronically through the FastLane Cash Request Function or to request funds in advance, NSF will make payments to these grantees on a reimbursable basis only. These grantees are required to request funds by using a "Request for Advance or Reimbursement Form" (SF 270). For a copy of the form see AAG Exhibit III-1. The amount requested is reported on line 11i of the form. Unless instructed otherwise in the NSF award notice, the form should be submitted to the cognizant Grants and Agreements Officer 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 grantee to cover estimated disbursement needs for a given initial period. Thereafter, the grantee 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 grantee's unreimbursed program disbursements. Under this method of payment, the NSF grant will specify if the grantee is required to use the SF 270. If use of the form is required, section 12 of the SF 270 will be used for the initial advance; thereafter, reimbursements will be requested on the SF 270, line 11i.

6. Grantee EFT Update

Grantee Electronic Funds Transfer (EFT) Update is a FastLane Financial Function used by grantees to provide NSF with their electronic banking information. This system enables NSF to transfer funds electronically to a grantee's bank account by using the banking information provided by the grantee. All NSF grantees, with the exception of certain non-U.S. grantees noted in paragraph C.1.above, must provide banking information through Grantee EFT Update in order to request and/or receive payments.

7. Use of Women-Owned and Minority-Owned Banks

Recipients of NSF grants 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 a grant upon expiration or completion of the grant. Based on final disbursements reported on the FFR, the final unobligated balance will be computed by NSF and reported in the "Unobligated Balance" column of the FFR. (See AAG Chapter III.E.2.) The entry reduces the grantee's "Balance Authorized" as computed on the report page, section 10 (Transactions) of the FFR. (Detailed instructions for submission of the FFR are available on the FastLane website at <https://www.fastlane.nsf.gov/jsp/homepage/faulogin.jsp>.)

2. Erroneous Payments

Advances or reimbursements made in error must be refunded to the National Science Foundation if the erroneous payment creates excess cash on hand condition or a negative "Balance Authorized" as computed on the FFR. Excess funds should be promptly refunded electronically or by check. Contact the NSF Division of Financial Management at (703) 292-8280 for instruction for electronically refunding monies to NSF. Checks shall be mailed to NSF, Attn. Cashier, 4201 Wilson Boulevard, Arlington, VA 22230.

The only exception to the requirement for prompt refunding is when the funds involved will be disbursed within 30 calendar days. This exception for prompt refunding should not be construed as approval by NSF for a grantee to maintain excessive funds on hand.

3. Interest Earned on Advance Payments

Grantees shall maintain advances of NSF funds in interest bearing accounts, unless any of the following apply:

- a. The grantee receives less than \$120,000 in Federal grants 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). Grantees are authorized to retain up to \$250 per year for administrative expenses.

The requirement to annually remit interest does not apply to grantees 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 a grantee 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 grant, program income is designated for credit to grant costs, it will be recovered by NSF by crediting costs otherwise chargeable against the grant on the FFR. (See AAG Chapter VI.F.) In these cases, income in excess of the grant will be remitted to NSF electronically or by check payable to the National Science Foundation.

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 grantee shall be credited against NSF grant costs if the grant has not been financially closed out. A grant is financially closed out when the final disbursements have been reported on the FFR. Credits of \$300 or more shall be credited against NSF grant costs even if the grant has been closed out. (See also AAG Chapter V.B.7.)

E. Grant Financial Reporting Requirements

1. Quarterly Disbursement Reporting – Federal Financial Report (FFR)

Grantees are required to report the status of funds received from NSF on a quarterly basis through the submission of a Federal Financial Report (FFR). The reports are prepared and submitted electronically to NSF through the FastLane Federal Financial Report Function.

Within seven to ten business days after the end of a calendar quarter, NSF will create and make the FFR's available to grantees through the FastLane Financial Functions and through Research.gov. E-mail notices are sent to each grantee announcing the reports availability and its due date. Grantees are required to update, certify and submit the FFR to NSF by the due date even if funds have not been drawn during the reporting period. Grantees certify the report's truthfulness as stated in the Certification page of the FFR. The FFR elements are in compliance with the uniform Federal standards applicable to financial reporting by grantees.

Failure to submit the FFR to NSF in a timely manner can result in one or more of the following actions:

- a. Suspension of all future payments;
- b. Closeout of expired awards based on previously reported disbursements;
- c. Suspension of unexpired awards; and
- d. Suspension of review and processing of new proposals.

2. Final Disbursement Reporting

NSF does not require grantees to submit individual FFR's for each award for purposes of final grant accountability. NSF procedures have been designed to extract the final financial data from the entries in the FFR. This reporting is accomplished as follows:

- a. For any grant listed on the FFR that expired prior to the beginning of the quarter covered by the FFR, the grantee will enter the final disbursement amount in the Cumulative Cash Disbursements column on the FFR Attachment.
- b. If there are valid unpaid obligations outstanding at the time final disbursements are due, the obligations must be charged against the NSF cash advance and reported in the Cumulative Cash Disbursements column on the FFR as if they had actually been paid. If subsequent disbursements differ by \$300 or more from the amount previously reported, the grantee must report the amount as an "Adjustments to Financially Closed Awards" and specify the reason for the adjustment under the remarks section of the FFR Adjustments Worksheet.
- c. If by law, regulation, and/or accounting system limitations, valid unpaid obligations cannot be charged against the NSF advance and reported as disbursed in accordance with b. above, closeout by NSF will be deferred provided that:
 - (i) The grantee identifies grants with "unpaid obligations" in the Remarks section of the FFR;
 - (ii) The grantee submits the FFR before the quarterly financial closeout procedure is run; and

- (iii) The appropriation that funds the grant has not cancelled as noted under Public Law 101-510.
- d. The final disbursement amount may not exceed the amount of the award.
- e. When the final disbursements have been recorded by NSF, the award will be financially closed and no additional disbursements shall be shown by the grantee in subsequent reports. When all final reporting requirements have been met, the award will be deleted from the FFR. When this is done, the award will be shown in the next "Schedule of Awards Purged and Subsequent Adjustments during the Quarter," of the FFR.

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. National Science Foundation-DFM Phone: 703-292-4458		1. Type of Payment a. "X" one, or both boxes <input type="checkbox"/> Advance <input type="checkbox"/> Reimbursement b. "X" the applicable box <input type="checkbox"/> Final <input type="checkbox"/> Partial		2. Basis of Request <input type="checkbox"/> Cash <input type="checkbox"/> Accrual
		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	
11				
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)				
12				
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)				\$
13				
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 institution⁸ 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 institution carries out agency-funded research through subawardees, contractors, or collaborators, the Institution 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 institution.

Guidance for development of such policies has been issued by university associations and scientific societies.⁹

2. An institutional conflict of interest policy should require that each investigator disclose to a responsible representative of the institution 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 institution 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 institution;
- b. any ownership interests in the institution, if the institution is an applicant under the Small Business Innovation Research Program or Small Business Technology Transfer Program;

⁸ For consistency with the DHHS conflict of interest policy, in lieu of "organization", NSF is using the term "institution" which includes all categories of proposers.

⁹ See:

<http://www.aau.edu/research/COI.01.pdf>;

<http://www.aamc.org/research/coi/firstreport.pdf>;

<http://www.aamc.org/research/coi/2002coireport.pdf>;

<http://www.aamc.org/research/coi/coireports2003.pdf>;

<http://www.cogr.edu/docs/COIFinal.pdf>;

<http://www.aaup.org/AAUP/About/committees/committee+repts/CommA/ResearchonHumanSubjects.htm>

- 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
 - 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 twelve-month period.
3. An institutional 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 institutional 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 institution 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 institutional policy must include adequate enforcement mechanisms, and provide for sanctions where appropriate.
6. The institutional policy must include arrangements for keeping NSF's Office of the General Counsel appropriately informed if the institution finds that it is unable to satisfactorily manage a conflict of interest.¹⁰
7. Institutions 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.

¹⁰ Grantee notifications of conflict of interest that cannot be managed, reduced, or eliminated must be submitted electronically via the NSF FastLane System.

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.
- 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.

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.

(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
- (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.5c. 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.

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.5e, 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.

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. Grantees should ensure that costs claimed under NSF grants are necessary, reasonable, allocable, and allowable under the applicable cost principles, NSF policy, and/or the program solicitation. 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.

1. Federal Cost Principles

a. Applicability to Grantees

The governing Federal cost principles applicable to specific types of grantees are as follows:

<i>Type of Organization</i>	<i>Applicable Federal Cost Principles</i>
Education Institutions	OMB Circular A-21
Non-Profit Organizations	OMB Circular A-122
State/Local Governments	OMB Circular A-87
Commercial Firms	Federal Acquisition Regulation (FAR), Part 31

b. Applicability to Subrecipients

Grantees are responsible for assuring that costs of all subawards under NSF grants are subject to those cost principles and procedures appropriate to the subaward type and organization involved. For example, if the subaward is a cost reimbursement type with a commercial concern, FAR Subpart 31.2 would apply.

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 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 grant except to liquidate valid commitments that were made on or before the expiration date. (See AAG Chapter III.E.2.) For example, commitment of project funds is valid when specialized (research) equipment is ordered well in advance of the expiration date but where, due to unusual or unforeseen circumstances, delivery of such equipment is delayed beyond the expiration date. The costs of equipment ordered after the expiration date, however, may not be charged to the project.

3. Prior Approval

a. OMB Directive

NSF has waived most cost related and administrative prior approvals required by 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 under the cost principles.
- (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.

B. Direct Costs

The following subsections summarize the allowability of frequently encountered direct cost items:

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 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. 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 OMB Circular A-21 (2 CFR Part 220), for examples of where direct charging of administrative salaries may be appropriate.

(c) Sabbatical Leave

Unless there are special conditions in an applicable NSF program solicitation or in the award document, charges to an NSF award for services rendered to the project by an individual during his/her sabbatical period are allowable provided that such compensation is:

- proportional to the service rendered;
- in accordance with established institutional sabbatical policies regardless of source of funds; and
- at a rate which, when added to the individual's sabbatical salary rate, does not exceed the individual's base salary rate for the individual's most recent academic year or equivalent prior period.

NSF salary support during sabbatical periods is only intended to make up the difference between sabbatical rate of pay and the individual's base salary rate for periods during which the individual is performing work on an NSF-sponsored project.

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.

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 OMB Circular A-21 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 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 diamond knives.

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 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. NSF review and approval is required for all equipment purchases by small business or other commercial organizations.

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.6a.) 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 is 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, 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 subaward 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, especially on non-government contracts and grants.

For all funds awarded prior to March 15, 2006, payment for a consultant's services may not exceed the daily equivalent of the then current maximum rate paid to an Executive Schedule Level IV Federal employee (exclusive of indirect cost, travel, per diem, clerical services, fringe benefits and supplies).

(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 subaward for the service considering the organization's capability in the particular area;
- (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 otherwise provided for in the grant.
- (vi) Grantees may hire consultants not identified in the grant proposal or award, provided:
 - (a) it is in accordance with written organizational standards;
 - (b) grant 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.

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.

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 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. 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 (but not employees) in connection with meetings, conferences, symposia or training projects. 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.
- (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) Participant support allowances may not be paid to trainees who are receiving compensation, either directly or indirectly, from other Federal government sources while participating in the project. A non-NSF Federal employee may receive participant support allowances from grant funds provided there is no duplication of funding of items and provided no single item of participant cost is divided between his/her parent agency and NSF grant funds.
- (iv) Additional guidelines are found at AAG Chapter VI.D.4 and AAG Chapter VI.E.

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 usual policy of the grantee organization and limited to the days of attendance at the conference plus the actual travel time required to reach the conference location by the most direct route available. 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.

C. Other Direct Costs

1. Rearrangements and Alterations

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 institution;
- (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. 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.2a.)

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.)

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;
- (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.
- 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.

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. 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 otherwise 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.

- 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 and of recording and transcribing the proceedings are allowable.
- d. Publication Costs. Costs of publishing the proceedings are allowable if approved in the grant.
- 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. (See also AAG Chapter V.D.1b.)
- 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.

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 grant will indicate the type of indirect cost rate applicable to the award.

1. NSF Policy

a. Basic Policy

(i) It is NSF policy that grantees are entitled to reimbursement from grant funds for indirect costs except where specifically excluded by AAG Chapter V.D.1b, or when the grantee waives entitlement to full reimbursement of indirect costs voluntarily. Also, some types of awarded indirect cost rates limit full recovery (i.e., maximum provisional rates).

(ii) The awarded indirect cost rate is generally based upon a grantee's current Federally negotiated indirect cost rate agreement. When establishing an indirect rate for an award where the grantee does not have a current negotiated rate agreement, NSF will consider the rate proposed in the budget, the grantee'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, grantees receiving awards should ensure that they understand the type of indirect cost rate applicable to 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. Grantees awarded maximum 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.

(b) **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 meets generally accepted accounting principles; 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 OMB Circular A-21**

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 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."

(c) 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.

(d) 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.

b. Exceptions to Basic Policy

(i) No Indirect or Limited Reimbursement. Program solicitations may indicate no or limited reimbursement for indirect costs. In addition, NSF generally provides no amounts for indirect costs for the following:

(a) grants to individuals;

(b) grants solely for the support of travel, equipment, construction of facilities, or doctoral dissertation research;

(c) grants in which NSF support is exclusively in the form of fellowships, traineeships or other fixed amounts such as cost-of-education allowances;

(d) participant support costs. However, an allowance for indirect costs associated with participant support costs may be established or negotiated in advance when circumstances indicate that the grantee could be expected to incur significant expenses in administering participant payments (other than salary or other direct expenses being reimbursed under the award). or,

(e) foreign grantees. (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) Independent Research and Development (IR&D). NSF does not typically fund IR&D as part of an indirect cost rate under its grants. IR&D, as defined at FAR 31.205-18(a), includes cost of effort that is not

sponsored by a grant or required in performance of a contract and that consists of projects falling within the four following areas:

- (a) basic research;
- (b) applied research;
- (c) development; and
- (d) systems and other concept formulation studies.

NSF's primary purpose is to support and advance independent research within the scientific and engineering community. NSF has well recognized and established procedures for supporting research through competitive grant awards based on merit review of proposed projects. Reimbursement for independent research and development costs through the indirect cost mechanism could circumvent this competitive process.

To ensure that all projects receive similar and equal consideration, eligible organizations may compete for direct funding of independent research projects they consider worthy of support by submitting proposals for those projects to NSF. Since proposals for these projects may be submitted for direct funding, costs for independent research and development projects are not typically allowable as indirect costs under NSF grants.

(iii) Facilities Capital Cost of Money (FCCM). NSF does not typically fund facilities capital cost of money under its grants. FCCM is defined for commercial organizations at FAR 31.205-10 as "an imputed cost determined by applying a cost-of-money rate to facilities capital employed in contract performance."

2. Rebudgeting of Indirect Cost Funds Provided Under NSF Grants

Grantees may elect to charge less than the full amount of allowable indirect costs to grants in order to pay for additional allowable direct costs. If the actual allowable indirect costs chargeable to a grant is less than those funded by NSF under the grant, the grantee may use available funds, as appropriate, to defray other costs allowable under the grant. If the amount charged for indirect costs exceeds by \$300 or more the amount resulting from application of the final rate, and the amount is not used to defray other costs, the difference must be reported and credited to NSF. (See AAG Chapter III D.)

3. NSF Cognizant Organizations

Organizations for which NSF is their cognizant agency for negotiation of indirect cost 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.

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 is does not exceed the amount negotiated by the Grants and Agreements Officer and specified in the award letter.

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, sex, color, disability, age, or national origin, 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 (barring discrimination against individuals with disabilities); and the Age Discrimination Act. Title IX of the Educational Amendments of 1972 bars sex discrimination in Federally assisted education programs or activities. In addition to statutory prohibitions, 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 grantees.

b. When a recipient of an NSF grant receives an Equal Opportunity Complaint, the original complaint should be sent to the Director, Office of Equal Opportunity Programs, 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 grant (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.

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.

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.6.

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:

(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 animals¹¹ 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”* (1996) 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).
- (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/>.

¹¹ 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.

(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.

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.

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.
- (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."

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.

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.)

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 cost principles. The requirements for prior approval detailed in the governing cost principles are waived.

(ii) 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) The General Services Administration issued an amendment to the Federal Travel Regulations in the November 13, 1998 edition of the Federal Register (Vol. 63, No. 219). The amendment relates to the use of U.S. Flag air carriers under the provisions of 49 USC §40118, which is commonly referred to as the Fly America Act.

(ii) 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 Comp. Gen. 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.

(iii) 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

(c) service by a Foreign-Flag air carrier can be paid for in excess foreign currency.

(iv) 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; or

(c) if a U.S.-Flag air carrier involuntarily reroutes the traveler via a Foreign-Flag carrier, the Foreign-Flag air carrier may be used notwithstanding the availability of alternative U.S.-Flag air carrier service.

c. Use of Foreign-Flag Air Carriers

(i) Travel To and From the U.S. Use of a 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 carrier; or

(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 2 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.

- (ii) Travel Between Points Outside the U.S. Use of a Foreign-Flag air carrier is permissible if travel by a:
 - (a) Foreign-Flag air carrier would eliminate two or more aircraft changes en route;
 - (b) 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 and the travel is not part of the trip to or from the U.S.; or
 - (c) U.S.-Flag air carrier would require a connecting time of four hours or more at an overseas interchange point.
- (iii) 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.
- d. NSF-Supported Activities in Greenland. All research projects in Greenland must be approved in advance by the Government of Denmark. Applications for projects in which U.S. citizens and U.S. nationals are involved in any way (logistical, operational and/or financial support) shall be submitted to the Danish Government through diplomatic channels (i.e., through the U.S. Department of State and the American Embassy, Copenhagen) to the Danish Ministry of Foreign Affairs. Application forms, deadline dates and instructions are available from the Director, Office of Polar Programs, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230.

4. Passports and Visas

NSF assumes no responsibility for securing passports or visas required by any person because of participation in an NSF-supported project. 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 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.

The Federal Assistance Award Data System (FAADS) <http://www.census.gov/govs/www/faads.html> notifies the States of Federal assistance awards. FAADS is a computer-based management information system that provides information on assistance awards, including NSF grants, on a quarterly basis. These reports are distributed to the States, and meet the objective of 31 USC §6502.

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.

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. 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.

M. 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.

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.

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.

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 grant.

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 administering 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.2a and Chapter VII.B.2b, 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.2c, 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.

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;

- (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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