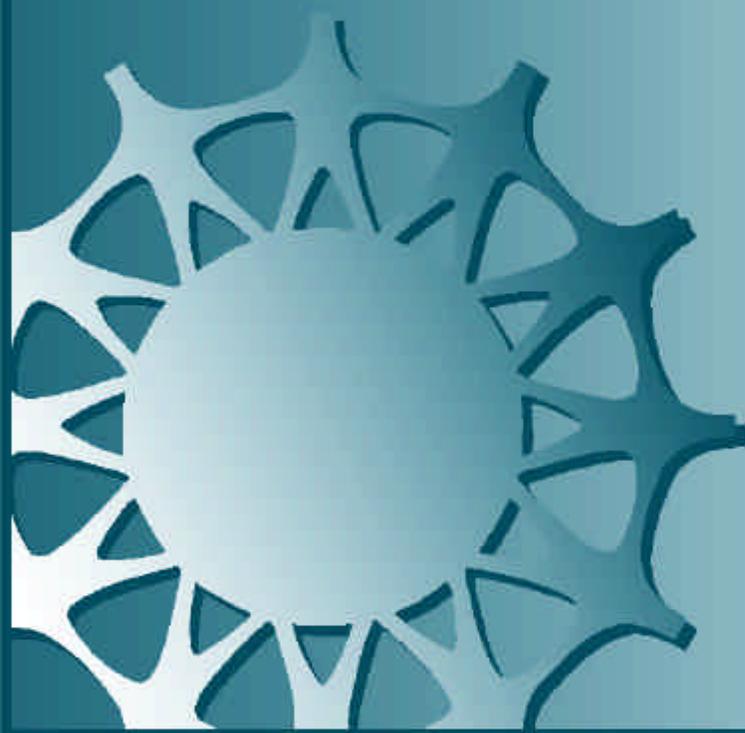


National Science Foundation

GRANT PROPOSAL GUIDE



NSF 01-2 (*Addendum*)

June 2001



NATIONAL SCIENCE FOUNDATION
Office of Budget, Finance & Award Management
4201 Wilson Boulevard
Arlington, VA 22230

June 1, 2001

Dear Colleagues:

We have published an addendum to the NSF *Grant Proposal Guide* (GPG) (NSF 01-2) that is effective for proposals submitted on or after June 1st, 2001. This addendum implements a new electronic signature process for use in submission of proposals to NSF. This new signature capability is an important next step in realizing NSF's electronic vision for the future that was outlined in Important Notices 123 and 126.

Effective June 1st, 2001, all proposals to NSF are required to be electronically signed by the Authorized Organizational Representative (AOR). To implement this change, effective immediately, all organizations are required to designate in FastLane the individual(s) authorized to sign on behalf of their organizations. Additional instructions regarding this new process are available on the FastLane website at: <http://www.fastlane.nsf.gov>. Proposals submitted after June 1st that respond to a standing or existing announcement or solicitation must comply with the electronic signature requirement, even if the announcement or solicitation specified that a signed paper Cover Sheet should be submitted.

This addendum incorporates the following significant changes:

- ❖ Eliminates the requirement that all identified PIs and Co-PIs sign the proposal Cover Sheet;
- ❖ Eliminates the requirement to submit a signed **paper** proposal Cover Sheet. All required proposal certifications will be provided electronically by the Authorized Organizational Representative and must be submitted within 5 working days following the electronic submission of the proposal;
- ❖ Removes the requirement that subawardee organizations provide signed budgets. Submission of a paper budget signed by the Authorized Organizational Representative of the subawardee organization is no longer necessary; and
- ❖ Requires supplemental funding requests to be submitted electronically via the Supplemental Funding Request module in FastLane. A signed paper copy of the supplement budget is no longer required to be submitted to NSF.

Other sections have been revised, as appropriate, to specify changes in policy and procedure brought about by the electronic signature process. A summary of significant changes is included in this document. To facilitate use, this version incorporates all of the changes from this addendum, as well as those specified in NSF 01-2, thus resulting in one complete reference document.

As was mentioned previously, the prior edition of the GPG was the last printed version of this document. The GPG is available on the NSF website at: <http://www.nsf.gov> in a variety of formats. Organizations or individuals unable to access the GPG electronically may order paper copies (maximum of 5 per request) by either of the following means:

- ❖ Phoning the NSF Publications Clearinghouse at (301) 947-2722; or
- ❖ Sending a request to pubs@nsf.gov or the NSF Publications Clearinghouse, P.O. Box 218, Jessup, MD 20794-0218.

Please address any questions or comments regarding the GPG to the Policy Office, Division of Contracts, Policy & Oversight at (703) 292-8243 or by email to policy@nsf.gov.

A handwritten signature in black ink that reads "Thomas N. Cooley".

Thomas N. Cooley
Chief Financial Officer &
Director, Office of Budget, Finance & Award Management

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 institutions throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 30,000 proposals each year for research, education and training projects, of which approximately 10,000 are funded. In addition, the Foundation receives several thousand applications for graduate and post-doctoral fellowships. NSF grants typically are awarded to universities, colleges, academic consortia, non-profit institutions and small businesses. 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, US participation in international scientific efforts, and educational activities at every academic level.

NSF is structured much like a university, with grants-funding divisions 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 helped by advisors from the scientific community 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; proposers get 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.

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.

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.

The National Science Foundation 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, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

This Guide (NSF 01-2) is available electronically on the NSF website at <http://www.nsf.gov/cgi-bin/getpub?gpg> in a variety of formats including HTML, ASCII text, and Portable Document Format (PDF). Paper copies may be ordered from:

NSF Clearinghouse
P.O. Box 218
Jessup, MD 20794-0218

Telephone: (301) 947-2722

For information on ordering publications e-mail: pubs@nsf.gov

All NSF publications should be clear and understandable. If you have suggestions on how NSF can improve this or other NSF publications, please email plainlanguage@nsf.gov.

FOREWORD

General information about NSF programs may be found in the NSF *Guide to Programs* at <http://www.nsf.gov/cgi-bin/getpub?gp>. 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 appears in the *NSF E-Bulletin*, an electronic publication available at <http://www.nsf.gov>. Program deadline and target date information also appears in individual program announcements and solicitations and on relevant NSF Divisional websites. A listing of all upcoming deadlines, sorted by date and by program area is available on the NSF website at <http://www.nsf.gov/home/deadline/deadline.htm>.

NSF generally utilizes grants in support of research and education in science, mathematics, engineering and technology. In cases where assistance projects require substantial NSF technical or managerial involvement during the performance period, NSF uses cooperative agreements. While this Guide is generally applicable to both types of assistance awards, cooperative agreements may include different or additional requirements.

Informal information about NSF activities can be obtained on the Grants Bulletin Board. To make arrangements to access the bulletin board, send your electronic mail address along with your complete name, address and telephone number to grants@nsf.gov.

For detailed information about the award and administration of NSF grants and cooperative agreements, proposers and grantees may refer to the NSF *Grant Policy Manual* (GPM) available electronically at <http://www.nsf.gov/cgi-bin/getpub?gpm>. The Manual is a compendium of basic NSF policies and procedures for use by the grantee community and NSF staff and is available by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO website at <http://www.gpo.gov>.

Catalog of Federal Domestic Assistance

NSF programs fall under the following categories in the latest Catalog of Federal Domestic Assistance 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

A listing of NSF Divisions, by CFDA number, is available on the NSF website at <http://www.nsf.gov/bfa/cpo/policy/cfa.htm>.

SUMMARY OF SIGNIFICANT CHANGES

This amendment to the Grant Proposal Guide implements a new electronic signature capability for all proposals submitted to NSF. This new capability would require receipt of electronic signatures from Authorized Organizational Representatives only. As part of this new process, organizations will be required to designate, within FastLane, the individual(s) authorized to sign on behalf of the organization. Further instructions regarding this process are available on the FastLane website at: <http://www.fastlane.nsf.gov>. The specific changes are as follows:

- ❖ **Chapter I — Section B, *Proprietary or Privileged Information***, has been revised to reflect that Proprietary or Privileged Information, if included as a separate statement, should now be sent to the FastLane address specified in the GPG.
- ❖ **Chapter I — Section E.1, *Special Instructions for Proposals that Contain High Resolution Graphics and Other Graphics Where Exact Color Representations are Required for Proper Interpretation by the Reviewer***, has been updated to state that only the first page of the proposal Cover Sheet needs to be submitted with the color copies of the proposal.
- ❖ **Chapter I — Section E.2, *Submission Instructions***, eliminates the requirement to provide a signed paper proposal Cover Sheet. PIs and co-PIs are no longer required to sign the proposal Cover Sheet. All required proposal certifications will be provided electronically by the Authorized Organizational Representative.
- ❖ **Chapter II — Section B.1, *Proposal Pagination Instructions***, has been clarified to state that each section of the proposal that is uploaded as a file (whether PDF or a word processing file) must be individually paginated before upload to FastLane.
- ❖ **Chapter II — Section C, *Cover Sheet for Proposal to the National Science Foundation***, has been revised to eliminate the requirement to provide a signed paper proposal Cover Sheet. By electronically signing the proposal, the Authorized Organizational Representative will be providing all of the required proposal certifications. This section also states that Lobbying Disclosures (SF LLL), when applicable, should be accompanied by a copy of the proposal Cover Sheet and sent to the NSF Proposal Processing Unit.
- ❖ **Chapter II — Section C.3, *Project Description***, has been changed to specify that Project Descriptions must be submitted as a PDF file or a word processing file capable of being converted through FastLane into a PDF file for use by NSF.
- ❖ **Chapter II — Section C.6.a.(iii), *Confidential Budgetary Information***, has been changed to specify that the instructions in Chapter I, Section B should be followed when submitting Confidential Budgetary Information Statements.
- ❖ **Chapter II — Section C.6.f.(v), *Subawards***, removes the requirement that subawardee organizations must provide signed budgets. Submission of a paper budget signed by the Authorized Organizational Representative of the subawardee organization is no longer necessary.
- ❖ **Chapter II — Section C.11.b.(ii), *Simultaneous Submission of Proposals from Different Organizations***, has been updated with new FastLane submission procedures for collaborative proposals which involve simultaneous submission of proposals from different organizations.
- ❖ **Chapter III — Section C, *Revisions to Proposals Made During the Review Process***, has been supplemented with language to specify that a signed paper copy of the budget is not required when submitting revised budgets to NSF.

-
- ❖ **Chapter V — Section B.4, *Supplemental Funding***, has been revised to specify that Supplemental Funding requests can now be submitted completely electronically via FastLane. A signed paper copy of the supplement budget is no longer required to be submitted to NSF.
 - ❖ **Chapter VI — Section B, *Prior Approval Requirements***, updates the listing of postaward actions that cannot be completed electronically via FastLane. This includes: Change of PI, Transfer of a Significant Portion of the Project Effort (Subaward), and PI Transfers. With implementation of the electronic signature capability Foundation-wide, NSF is in the process of converting these remaining paper processes to electronic formats. Further information on processing of these transactions will be provided, when available.

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION	1
A. OVERVIEW	1
B. THE PROPOSAL	1
PROPRIETARY OR PRIVILEGED INFORMATION	2
C. WHO MAY SUBMIT PROPOSALS	2
CATEGORIES OF PROPOSERS	2
D. WHEN TO SUBMIT PROPOSALS	3
E. HOW TO SUBMIT PROPOSALS	4
1. Electronic Requirements	4
Special Instructions for Proposals That Contain High Resolution Graphics or Other Graphics	
Where Exact Color Representations are Required for Proper Interpretation by the Reviewer	4
2. Submission Instructions	4
3. Acknowledgement of Proposal Receipt	5
 CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS	 7
A. CONFORMANCE WITH INSTRUCTIONS FOR PROPOSAL PREPARATION	7
B. FORMAT OF THE PROPOSAL	7
1. Proposal Pagination Instructions	7
2. Proposal Margin and Spacing Requirements	7
C. SECTIONS OF THE PROPOSAL	8
Information About Principal Investigators/Project Directors and co-Principal Investigators/co-Project Directors	8
Deviation Authorization	8
List of Suggested Reviewers or Reviewers Not to Include	9
Cover Sheet for Proposal to the National Science Foundation	9
1. Project Summary	11
2. Table of Contents	11
3. Project Description (Including Results from Prior NSF Support)	11
Group Proposals	11
Results from Prior NSF Support	12
4. References Cited	13
5. Biographical Sketches	13
6. Budget	14
a. Salaries and Wages	14
(i) Policies	14
(ii) Procedures	15
(iii) Confidential Budgetary Information	15
b. Fringe Benefits	15
c. Equipment	16
d. Travel	16
(i) General	16
(ii) Domestic Travel	16
(iii) Foreign Travel	16
e. Participant Support	16
f. Other Direct Costs	17
(i) Materials and Supplies	17
(ii) Publication/Documentation/Dissemination	17
(iii) Consultant Services	17

(iv) Computer Services	17
(v) Subawards	17
(vi) Other	18
g. Total Direct Costs	18
h. Indirect Costs	18
i. Total Direct and Indirect Costs	18
j. Residual Funds	18
k. Amount of This Request	18
l. Cost Sharing	19
m. Unallowable Costs	20
(i) Entertainment	20
(ii) Meals and Coffee Breaks	20
(iii) Alcoholic Beverages	20
7. Current and Pending Support	20
8. Facilities, Equipment and Other Resources	20
9. Special Information and Supplementary Documentation	20
10. Appendices	21
11. Special Guidelines	21
a. Small Grants for Exploratory Research (SGER) Proposals	21
b. Collaborative Proposals	22
c. Proposals for Equipment	23
d. Proposals Involving Vertebrate Animals	24
e. Proposals Involving Human Subjects	24
f. Proposals for Conferences, Symposia and Workshops	24
g. Proposals to Support International Travel	25
h. Proposals for Doctoral Dissertation Research	25
CHAPTER III: NSF PROPOSAL PROCESSING AND REVIEW	27
A. REVIEW CRITERIA	27
What is the intellectual merit of the proposed activity?	27
What are the broader impacts of the proposed activity?	27
B. ADMINISTRATIVE CORRECTIONS TO FASTLANE PROPOSALS	28
C. REVISIONS TO PROPOSALS MADE DURING THE REVIEW PROCESS	28
D. AWARD RECOMMENDATION	29
E. COPIES OF REVIEWS	29
CHAPTER IV: WITHDRAWALS, RETURNS AND DECLINATIONS	31
A. WITHDRAWALS	31
B. RETURNS	31
C. DECLINATIONS	31
D. RECONSIDERATION	31
E. RESUBMISSION	32
CHAPTER V: THE AWARD AND CONTINUED SUPPORT	33
A. STANDARD AND CONTINUING GRANTS	33
EFFECTIVE/EXPIRATION DATES AND PREAWARD COSTS	33
B. ADDITIONAL SUPPORT	33
1. Incremental Funding	33
2. Renewal Proposals	33
Traditional Renewal	34
Accomplishment-Based Renewal	34

3.	Two-Year Extensions for Special Creativity	34
4.	Supplemental Funding	34
C.	NO-COST EXTENSIONS	35
1.	Grantee-Authorized Extension	35
2.	NSF-Approved Extension	35
CHAPTER VI: GRANT ADMINISTRATION HIGHLIGHTS		37
A.	GENERAL REQUIREMENTS	37
B.	PRIOR APPROVAL REQUIREMENTS	37
C.	TRANSFER OF PI	37
D.	EQUIPMENT	38
E.	EXCESS GOVERNMENT PROPERTY	38
F.	SUSPENSION OR TERMINATION OF GRANTS	38
G.	GRANT REPORTS	38
1.	Annual and Final Project Reports	38
2.	Quarterly and Final Expenditure Reports	38
H.	SHARING OF FINDINGS, DATA AND OTHER RESEARCH PRODUCTS	39
I.	ACKNOWLEDGMENT OF SUPPORT AND DISCLAIMER	39
J.	RELEASE OF GRANTEE PROPOSAL INFORMATION	39
K.	LEGAL RIGHTS TO INTELLECTUAL PROPERTY	39
APPENDIX A: DRUG-FREE WORKPLACE CERTIFICATION		41
APPENDIX B: DEFINITIONS OF CATEGORIES OF PERSONNEL		43

CHAPTER I: INTRODUCTION

A. OVERVIEW

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 this Guide, and, in such cases, the guidelines provided in the solicitation must be followed. Contact with NSF program personnel prior to proposal preparation is encouraged.

The Foundation considers proposals 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. Research in bioengineering, with diagnosis or treatment-related goals, however, 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.

The NSF website (<http://www.nsf.gov/>) 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, the NSF Custom News Service is an information-delivery system designed to keep potential proposers and other interested parties apprised of the issuance of new program announcements and solicitations (as well as other NSF publications and policies) through Internet e-mail or the user's Web browser. Subscribers are informed each time new publications are issued that match their identified interests. The Custom News Service is available on NSF's website at <http://www.nsf.gov>.

Research proposals to the Biological Sciences Directorate (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 managers 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)¹ 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 proposal Cover Sheet.

B. THE PROPOSAL

The proposal should present the (1) objectives and scientific or educational significance of the proposed work; (2) suitability of the methods to be employed; (3) qualifications of the investigator and the grantee organization;² (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. Sufficient information should be provided so that reviewers will be able to evaluate the proposal in accordance with the two merit review criteria established by the National Science Board. (See Chapter III.)

¹ As used in this Guide, the term "Principal Investigator" also includes the term "Project Director."

² Unless otherwise specified, the term "organization" refers to all categories of proposers.

NSF expects strict adherence to the rules of proper scholarship and attribution. The responsibility for proper attribution and citation rests with authors of a proposal; all parts of the proposal should be prepared with equal care for this concern. Serious failure to adhere to such standards can result in findings of misconduct in science. NSF policies and rules on misconduct in science and engineering are discussed in *Grant Policy Manual (GPM)* Section 930.

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 accompanying page 1 of the proposal Cover Sheet and submitted within 5 working days following the electronic submission of the proposal to the following address:

National Science Foundation
DIS-FastLane
4201 Wilson Blvd.
Arlington, VA 22230

The box for “Proprietary and 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 Chapter VI, Section J, “Release of Grantee Proposal Information.”)

C. WHO MAY SUBMIT PROPOSALS

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. The Foundation also provides support specifically for women and minority scientists and engineers, scientists and engineers with disabilities, and faculty at primarily undergraduate academic institutions.

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**— US universities and two- and four-year colleges (including community colleges) acting on behalf of their faculty members.
2. **Non-profit, non-academic organizations** — Independent museums, observatories, research laboratories, professional societies and similar organizations in the US that are directly associated with educational or research activities.
3. **For-profit organizations** — US 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 US and US citizens may be eligible for support, provided that the individual is not employed by, or affiliated with, an organization, and:
 - ❖ the proposed project is sufficiently meritorious and otherwise complies with the conditions of any applicable proposal generating document;
 - ❖ 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 US and foreign organizations, provided support is requested only for the US 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). A scientist, engineer or educator, however, 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. Under unusual circumstances, other Federal agencies and FFRDCs may submit proposals directly to NSF. Preliminary inquiry should be made to the appropriate program before preparing a proposal for submission.

D. WHEN TO SUBMIT PROPOSALS

Many NSF programs accept proposals at any time. Other programs, however, establish target dates³, deadlines⁴ or submission windows⁵ for submission of proposals to allow time for their consideration by review panels that meet periodically. These target dates, deadlines, and submission windows are published in specific program announcements and solicitations that can be obtained from the NSF Clearinghouse at pubs@nsf.gov or electronically through the NSF website at <http://www.nsf.gov>.⁶ Unless otherwise stated in a program announcement or solicitation, proposals must be received by the specified date (and time, where indicated.) If the deadline date falls on a weekend, it will be extended to the following Monday; if the date falls on a holiday, it will be extended to the following business day. The deadline date only will be waived in extenuating circumstances. Inquiry about submission also may be made to the appropriate program.

Proposers should allow up to six months for programmatic review and processing (see 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 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) only will be accepted for review 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.

³ Target dates are dates after which proposals will still be reviewed, although they may miss a particular panel or committee meeting.

⁴ Deadlines are dates after which proposals usually will not be accepted for review by NSF.

⁵ Submission windows are designated periods of time during which proposals will be accepted for review by NSF.

⁶ A listing of upcoming target dates and deadlines, sorted by date and by program area is available electronically on the NSF website at <http://www.nsf.gov/home/deadline/deadline.htm>.

E. HOW TO SUBMIT PROPOSALS

1. Electronic Requirements

In order to provide better service to its customer communities, and to achieve significantly greater efficiencies in proposal handling and internal record-keeping, the National Science Foundation is rapidly moving toward all-electronic business practices. To accomplish this goal, in September 1998, the NSF Director issued Important Notice 123, *Working Towards a Paperless Proposal and Award System* (<http://www.nsf.gov/cgi-bin/getpub?iin123>). Important Notice 123 describes NSF's vision for the future in electronic business and outlines the schedule for implementation. As stipulated in this Notice, effective October 1, 2000, **ALL** proposals to NSF must be submitted electronically via the NSF FastLane system.⁷ For proposers who cannot submit electronically, a deviation must be approved in advance of submission of the paper proposal in accordance with GPG Chapter II, Section A.

Upon receipt of the proposal by NSF, proposals are generally converted to hard copy for distribution to the reviewer community. The rationale for this step is that the wide variance of equipment available to reviewers may not, at this time, assure that an all-electronic review process would be successful or totally fair to proposers. In the near future, NSF envisions that it will be possible to avoid this printing step and send proposals out for review solely by electronic means.

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. Therefore, PIs generally should not rely on colorized objects to make their arguments. PIs who must include in their project descriptions very 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 a paper copy of page 1 of the proposal 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.

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 selected.⁸ 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.

Unless the proposal contains very high resolution graphics or other graphics where exact color representations are critical to the review of the proposal, proposers **should not** send in paper copies.

2. Submission Instructions

A proposal needs to be submitted only once to NSF, even if the proposer envisions review by multiple programs. 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 Chapter IV, Section B for further information on proposal return.)

⁷ 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 should be used for proposal preparation; 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 <http://www.fastlane.nsf.gov>.

⁸ Detailed instructions for submission of proposals that include very high resolution graphics or exact color representations that are required for proper interpretation by reviewers are available on the FastLane website at <http://www.fastlane.nsf.gov/a1/newstan.htm#color>.

In submission of a proposal for funding, the Authorized Organizational Representative (AOR)⁹ is required to provide certain proposal certifications. (See Chapter II, Section C. for listing.) This process can concurrently occur 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.

Further instructions for this process are available on the FastLane website at <http://www.fastlane.nsf.gov>.

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

3. Acknowledgement of Proposal Receipt

The acknowledgement of the receipt of the proposal will reference both the NSF proposal number and the cognizant NSF program to which the proposal has been assigned. Once the proposal is submitted, PIs can access the proposal number via the "View Submitted Proposal" list in the FastLane Proposal Preparation module. If a proposal acknowledgement is not received or 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.

When the proposal is assigned to an NSF program, the 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.

⁹ AOR is the individual(s) authorized to sign on behalf of the organization.

CHAPTER II:

PROPOSAL PREPARATION INSTRUCTIONS

Organizations applying for the first time, or which have not received an NSF award within the preceding two years, should refer to GPM Section 501 (<http://www.nsf.gov/cgi-bin/getpub?gpm>), for instructions on specific information that may be requested by NSF or consult the *Prospective New Awardee Guide* (NSF 99-78) on the NSF website at <http://www.nsf.gov/bfa/cpo/oversite/start.htm>.

To facilitate proposal preparation, Frequently Asked Questions (FAQs) regarding proposal preparation and submission are available electronically on the NSF website at <http://www.nsf.gov/bfa/cpo/policy/ques.htm>. FAQs regarding FastLane proposal preparation and submission are available at <http://www.fastlane.nsf.gov/a0/about/a1faq.htm>.

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 a deviation has been approved. Proposals that are not consistent with these instructions may not be considered by NSF. Particular attention is given to proposal length, content and formatting, including the page limitation on the Project Description and other proposal sections, such as the use of Appendices and required content of the Biographical Sketches.

Any deviations from these instructions must be authorized in advance by NSF. Deviations may be authorized in one of two ways:

1. through specification of different requirements in an NSF solicitation; or
2. by the written approval of the cognizant NSF Assistant Director/Office Head or designee. These deviations may be in the form of a “blanket deviation” for 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 identify the deviation in one of the following ways as appropriate: (a) by identifying the program solicitation number that authorized the deviation in the appropriate block on the Cover Sheet; or for individual deviations, (b) 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

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 before upload to FastLane.

2. Proposal Margin and Spacing Requirements

Proposals must have 2.5 cm margins at the top, bottom and on each side. The type size must be clear and readily legible, and conform to the following three requirements: 1) the height of the letters must not be smaller

¹⁰ Requests for approval of a deviation from NSF’s electronic submission requirement must be forwarded to the cognizant NSF program for review and approval prior to submission of the paper proposal.

CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS

than 10 point; 2) type density must be no more than 15 characters per 2.5 cm; (for proportional spacing, the average for any representative section of text must not exceed 15 characters per 2.5 cm); and 3) no more than 6 lines must be within a vertical space of 2.5 cm. The type size used throughout the proposal must conform to all three requirements. While line spacing (single-spaced, double-spaced, etc.) is at the discretion of the proposer, established page limits must be followed. (Individual program solicitations may eliminate this proposer option.)

While the guidelines specified above establish the **minimum** type size requirements, PIs are advised that readability is of paramount importance and should take precedence in selection of an appropriate font for use in the proposal.

C. SECTIONS OF THE PROPOSAL

- ❖ Information About Principal Investigators/Project Directors and co-Principal Investigators/co-Project Directors
- ❖ Deviation Authorization (if applicable)
- ❖ List of Suggested Reviewers or Reviewers Not to Include (optional)
- ❖ Cover Sheet for Proposal to the National Science Foundation
- A. Project Summary
- B. Table of Contents
- C. Project Description (including Results from Prior NSF Support)
- D. References Cited
- E. Biographical Sketches
- F. Proposal Budget (cumulative and annual budgets, including subaward budget(s), if any, and up to three pages of Budget Justification)
- G. Current and Pending Support
- H. Facilities, Equipment and Other Resources
- I. Special Information and Supplementary Documentation
- J. Appendices (Include only if approved in advance of proposal submission by NSF Assistant Director/Office Head, or designee, or by program solicitation)

❖ **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 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 provided for that purpose.

❖ **Deviation Authorization (If applicable)**

Instructions for obtaining a deviation from NSF proposal preparation instructions are provided in Chapter II, Section A.

❖ **List of Suggested Reviewers or Reviewers Not to Include (optional)**

Proposers may include a list of suggested reviewers that 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. The cognizant Program Officer handling the proposal considers the suggestions and may contact the proposer for further information.

❖ **Cover Sheet for Proposal to the National Science Foundation**

Proposers are required to select the applicable program announcement, solicitation or program description. If the proposal is not submitted in response to a specific program announcement, solicitation, or program description, proposers should select "*Grant Proposal Guide*." Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Proposers must then follow instructions for selection of an applicable NSF Division and Program(s) to which the proposal should be directed.

A block is included for the proposer to enter its organization's Data Universal Numbering System (DUNS) number. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services. If the proposer does not have a DUNS number, it must contact Dun and Bradstreet by telephone directly at (800) 333-0505 to obtain one. A DUNS number will be provided immediately by telephone at no charge.

Should the project be performed at a place other than where the award is to be made, that should be identified in the block entitled, "Name of Performing Organization." Examples are as follows:

Grantee Organization	Performing Organization
Northern Virginia University	Northern Virginia University Health Center
Southern Virginia University Research Foundation	Southern Virginia University

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.

Some NSF program solicitations require submission of both a preliminary and full proposal as part of the proposal process. A block is provided to identify, in submission of the full proposal, any related preliminary proposal number assigned by NSF.

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 when such durations are technically and managerially advantageous. Specification of a desired starting date for the project is important and helpful to NSF staff; however, requests for specific effective dates may not be met. Except in special situations, requested effective dates must allow at least six months for NSF review, processing and decision. Should unusual situations (e.g., a long lead time for procurement) create problems regarding the proposed effective date, the PI should consult his/her organization's sponsored projects office.

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

CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS

The AOR must electronically sign the proposal Cover Sheet to submit the following required certifications:

Certification for Authorized Organizational Representative or Individual Applicant: The Authorized Organizational Representative (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. The AOR's electronic signature is required. It is the proposing organization's responsibility to assure that only properly authorized individuals sign in this capacity.

Certification Regarding Conflict of Interest: A certification also is included that requires an organizational representative to certify that the institution has implemented and is enforcing a written policy on conflicts of interest consistent with the provisions of GPM Section 510; 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's¹¹ conflict of interest policy. Conflicts that cannot be satisfactorily managed, reduced or eliminated must be disclosed to NSF.

Drug-Free Workplace: By electronically signing the proposal, the AOR (or individual applicant) is providing the Drug-Free Workplace Certification. See Appendix A for the full text of the Drug-Free Workplace Certification.

Certification Regarding Lobbying: The certification on Lobbying Restrictions, entitled Certification for Contracts, Grants, Loans and Cooperative Agreements, is included in full text on the FastLane submission screen. This certification is applicable when the proposal exceeds \$100,000. Only if, pursuant to paragraph 2 of the certification, submission of the "Disclosure of Lobbying Activities," SF LLL, is required, must the box for "Disclosure of Lobbying Activities" be checked on the Cover Sheet. A PDF version of this form is available on the Office of Management and Budget website at <http://www.whitehouse.gov/omb/grants/sflllin.pdf>.

The SF LLL, when applicable, should be accompanied by a copy of page 1 of the proposal Cover Sheet and sent within 5 working days following the electronic submission of the proposal to the following address:

National Science Foundation PPU
4201 Wilson Boulevard, Room P60
Arlington, VA 22230

Profit-making organizations must certify their status by completing each of the appropriate submitting organization boxes on the Cover Sheet, using the following guidelines:

- a. 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.
- b. 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.
- c. 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.

¹¹ 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.

1. Project Summary — Proposal Section A

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, methods to be employed and the potential impact of the project on advancing knowledge, science and mathematics education, and/or human resource development. 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.

2. Table of Contents — Proposal Section B

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

3. Project Description (Including Results from Prior NSF Support) — Proposal Section C

All proposals to NSF will be reviewed utilizing the merit review criteria described in greater length in Chapter III. The main body of the proposal should be a clear statement of the work to be undertaken and should 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 statement should outline the general plan of work, including the broad design of activities to be undertaken, an adequate description of experimental methods and procedures and, if appropriate, plans for preservation, documentation, and sharing of data, samples, physical collections and other related research products.

The statement also should indicate any broader impacts of the proposed activity, addressing the following: indicate how the project will integrate research and education by advancing discovery and understanding while at the same time promoting teaching, training, and learning; discuss any ways in which the proposed activity will broaden the participation of underrepresented groups; if relevant, discuss how the project will enhance the infrastructure for research and/or education, such as facilities, instrumentation, networks, and partnerships; indicate how the results of the project will be disseminated broadly to enhance scientific and technological understanding; and, identify potential benefits of the proposed activity to society at large.

On September 20, 1999, the NSF Director issued Important Notice 125, *Merit Review Criteria*. This Important Notice reminds proposers of the importance of ensuring that, in addition to the criterion relating to intellectual merit, the criterion relating to broader impacts is considered and addressed in the preparation and review of proposals submitted to NSF. The Important Notice also indicates NSF's intent to continue to strengthen its internal processes to ensure that both criteria are appropriately addressed when making funding decisions.

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

Group Proposals

A group proposal is one submitted by 3 or more investigators whose activities are combined into one administrative unit. In general, group proposals that contain up to ten pages of overall project description (including overall progress under the appropriate prior award) plus up to five pages (per person) of individual project descriptions will be acceptable. PIs who are unsure of the appropriateness of their proposal as a group proposal should contact the cognizant program officer prior to submission. (See also Chapter II, Section C.11.b. for instructions on preparation and submission of collaborative proposals.)

CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS

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 as supplementary documentation and included in Proposal Section I.

The project description must be submitted as a PDF file or a word processing file capable of being converted through FastLane into a PDF file for use by NSF. Detailed instructions for creation of the PDF file are available at <http://www.fastlane.nsf.gov/a1/pdfcreat.htm>. Instructions for uploading other file formats are available at <http://www.fastlane.nsf.gov/a1/A1AcceptableFileExtensions.html>. (See also “Special Instructions for Proposals That Contain High Resolution Graphics or Other Graphics Where Exact Color Representations are Required for Proper Interpretation by the Reviewer”, Chapter I, Section E.1.)

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 reprints¹² 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 Chapter V, Section B.2 for additional information on preparation of Renewal Proposals.)

All proposals for renewed support of research projects from academic institutions *only* must include, as part of Results from Prior NSF Support, information about any contribution of the completed project to the education and development of human resources in science and engineering at the postdoctoral, graduate and undergraduate levels. Non-academic organizations are exempt from this requirement. (See Chapter V, Section B.2. for more information.)

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 prior award(s) is required. Each PI and co-PI that has received *more than one prior 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. summary of the results of the completed work, including, for a research project, any contribution to the development of human resources in science and engineering;
- d. publications resulting from the NSF award;
- e. brief description of available data, samples, physical collections and other related research products not described elsewhere; 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.

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 are also encouraged to use metric units in reports, publications and correspondence relating to proposals and awards.

¹² Reprints should be provided as supplementary documentation and included in Proposal Section I.

4. References Cited — Proposal Section D

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 title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically. 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.

5. Biographical Sketches — Proposal Section E

Biographical sketches are limited to two pages each and are required for all senior project personnel. (See Appendix B for the definition of Senior Personnel.) The following information must be provided in the order and format specified below:

- 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.** (i) A list of up to 5 publications most closely related to the proposed project. (ii) A list of up to 5 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 title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

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. Only the list of 10 will be used in the review of the proposal.

- d. **Synergistic Activities.** A list of up to five examples that demonstrate the broader impact of the individual's professional and scholarly activities that focus 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**

- (i) **Collaborators.** 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 this proposal. Include collaborators on this proposal. If there are no collaborators, this should be so indicated.

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

CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS

- (iii) **Thesis Advisor and Postgraduate-Scholar Sponsor.** A list of all persons (including their organizational affiliations), over the last five years with whom the individual has had an association as thesis advisor or postgraduate-scholar sponsor. The total number of graduate students advised and postdoctoral scholars sponsored also must be identified.

The information in part e of the biographical sketch is used to help identify potential conflicts or bias in the selection of reviewers.

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)

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

- a. Short biographical sketch
- b. List of up to five publications most closely related to the proposed acquisition

6. Budget — Proposal Section F

Each proposal must contain a budget for each year of support requested and a cumulative budget for the full term of requested NSF support, unless a particular program solicitation stipulates otherwise. Completion of the budget does not eliminate the need to document and justify the amounts requested in each category. A budget justification of up to three pages is authorized to provide the necessary justification and documentation.

The proposal may request funds under any of the categories listed so long as the item and amount are considered necessary to perform the proposed work and are not precluded by specific program guidelines or applicable cost principles.

A full discussion of the budget and the allowability of selected items of cost is contained in the following sections, the GPM, as well as other NSF program solicitations.

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

(i) Policies

As a general policy, NSF recognizes that salaries of faculty members and other personnel associated directly with the project constitute appropriate direct costs and may be requested in proportion to the effort devoted to the project.

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. Grant funds may not be used to augment the total salary or rate of salary 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 science and engineering education program solicitations for weekend and evening classes or for administrative work done as overload. (See GPM Section 611.)

Summer salary for faculty members on academic-year appointments is limited to no more than two-ninths of their regular academic-year salary. This limit includes summer salary received from all NSF-funded grants.

These same principles apply to other types of non-academic organizations, such as research institutes. Since their employment periods are usually annual, salary must be shown under "calendar months." For such persons, "summer salary" is normally inappropriate under an NSF grant.

Sometimes an independent institute or laboratory proposes to employ college or university faculty members on a part-time basis. In such cases, the general intent of the policies above apply, so that an individual's total income will not be augmented in ways that would not be possible under a grant to an academic institution.

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, however, 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. 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.

(ii) Procedures

The names of the PI(s), faculty, and other senior personnel and the estimated number of full-time-equivalent academic-year, summer, or calendar-year person-months for which NSF funding is requested and the rates of pay, must be listed. For postdoctoral associates and other professionals, each position must be listed, with the number of full-time-equivalent person-months and rate of pay (hourly, monthly or annual). 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 per year in each category is required. Salaries requested must be consistent with the organization's regular practices.

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. Any direct costs requested for tuition remission must be listed in the "Other" category under "Other Direct Costs".

(iii) 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 Chapter I, Section B, "Proprietary or Privileged Information." 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 and Privileged Information" must be checked on the proposal Cover Sheet when the proposal contains confidential budgetary information.¹³

b. Fringe Benefits (Line C on the Proposal Budget)

If the grantee's usual accounting practices provide that its contributions to employee benefits (social security, retirement, etc.) be treated as direct costs, NSF grant funds may be requested to defray such expenses as a direct cost, but only in proportion to salaries and wages requested in the budget.

¹³ See FastLane proposal preparation instructions at <http://www.fastlane.nsf.gov/a1/newstan.htm> for further instructions.

c. 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. Items of needed equipment must be listed individually by description and estimated cost, including tax, and adequately justified. 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, is not eligible for support unless primarily or exclusively used in the actual conduct of scientific research. (See Chapter II, Section C.6.f.(iv).)

d. Travel (Line E on the Proposal Budget)

(i) 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 enhance the PI's ability to perform the work, plan extensions of it, or disseminate its results.

Allowance for air travel normally will not exceed the cost of round-trip, economy air fares. (See also GPM Section 614.) Persons traveling under NSF grants must travel by US-flag carriers, if available.

(ii) Domestic Travel

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

(iii) 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:

- (a) the individual is a key person who is essential to the research on a full-time basis;
- (b) 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
- (c) the dependent's travel allowance is consistent with the policies of the organization administering the grant.

e. 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. (See Chapter II, Section C.11.f) 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* (NSF 00-107) have special instructions for treatment of participant support. See relevant program solicitation for further information.

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

Any costs charged to an NSF grant must be 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, tuition remission, 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 required for the project.

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

The budget must indicate the general types of expendable materials and supplies required, with their estimated costs. The breakdown should be more detailed when the cost is substantial.

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

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

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

Anticipated consultant 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, also may be included. Payment for a consultant's services, exclusive of expenses, may not exceed the consultant's normal rate or the daily maximum rate established annually by NSF, whichever is less.¹⁴

(iv) 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. A justification based on the established computer service rates at the proposing organization must be included. The budget also may request costs, which must be shown to be reasonable, for leasing of automated data processing equipment. Special purpose computers or associated hardware and software, other than general purpose PCs, may be requested as items of equipment and justified in terms of their necessity for the activity proposed.

(v) Subawards¹⁵ (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. At a minimum, the disclosure must include a clear description of the work to be performed, and the basis for selection of the subawardee (except for collaborative/joint arrangements) and a separate budget for each subaward. Submission of a paper budget signed by the AOR of the subawardee organization is no longer necessary.

¹⁴The current maximum consultant daily rate is available at <http://www.nsf.gov/bfa/cpo/policy/faqs.htm#cons>.

¹⁵The term "subaward" also includes contracts, subcontracts and other arrangements.

(vi) 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 justified in the budget justification.

g. Total Direct Costs (Line H on the Proposal Budget)

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

h. 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 Federal negotiating agency must be used in computing indirect costs (F&A) for a proposal. If an organization has no established indirect cost rate, it should contact the Cost Analysis/Audit Resolution Branch of NSF's Division of Contracts, Policy and Oversight. An organization may obtain guidelines for submitting rate proposals from that Branch, telephone (703) 292-8244. These guidelines also are available electronically at <http://www.nsf.gov/bfa/cpo/oversite/indirect.htm>. Within Government guidelines, unless otherwise indicated in a specific program solicitation, 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, except grants:

- ❖ solely for the support of travel, equipment, construction of facilities, or doctoral dissertations;
- ❖ for participant support costs;
- ❖ to foreign grantees; and
- ❖ to individuals (i.e., Fellowship awards).

i. 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.

j. Residual Funds (Line K on the Proposal Budget)

This line is used only for budgets for incremental funding requests on continuing grants. Grantees must provide a rationale for residual funds in excess of 20% as part of the annual project report.

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

The total amount of funds requested by the proposer will be the same as the amount entered on Line J unless the Foundation disapproves the carry-over of residual funds. If disapproved, Line L will be equal to Line J minus Line K.

I. Cost Sharing (Line M on the Proposal Budget)

In accordance with Congressional requirements (see GPM 330), NSF requires that each grantee share in the cost of research projects resulting from unsolicited proposals.¹⁶ The grantee may meet the statutory cost sharing requirement by choosing either of two alternatives:

1. by cost sharing a minimum of one percent on the project; or
2. by cost sharing a minimum of one percent on the aggregate costs of all NSF-supported projects requiring cost sharing.

The statutory cost sharing referenced above is not required for grants that provide funds solely for the following purposes (not considered to be support of “research”), although such awards may be subject to other cost sharing requirements identified in a specific solicitation:

1. international travel;
2. construction, improvement or operation of facilities;
3. acquisition of research equipment;
4. ship operations;
5. education and training;
6. publication, distribution and translation of scientific data and information;
7. symposia, conferences and workshops; and
8. special studies authorized or required by Subsections 3a(5) through 3a(7) of the NSF Act, as amended.

For research proposals submitted solely in response to the *Grant Proposal Guide*, only the statutory cost sharing amount (1%) is required. Such amounts should not be entered on Line M of the proposal budget. If organizational or other commitments in excess of NSF’s statutory requirement are voluntarily included in the proposal, the amount of these contributions must be included on Line M of the proposal budget. The sources and amounts must be included in the budget justification. Any amount listed on Line M shall be included as a condition of the award, should an award ultimately be made.

Proposals submitted in response to NSF solicitations may be subject to special cost sharing requirements. Proposers are advised that all cost sharing commitments, if incorporated into the award, are subject to audit.

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.¹⁷

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

¹⁶ In addition to proposals submitted solely in response to the *Grant Proposal Guide*, proposals submitted in response to NSF program announcements are considered unsolicited and are therefore subject to the statutory cost sharing requirement. Proposals submitted in response to program solicitations are considered “solicited”. This means that the resulting awards are **not** subject to statutory cost sharing. Cost sharing is not required unless explicitly included in the solicitation.

¹⁷ Section .23 of OMB Circular A-110 describes criteria and procedures for the allowability of cash and in-kind contributions in satisfying cost sharing and matching requirements.

m. Unallowable Costs

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

(i) Entertainment

Costs of entertainment, amusement, diversion and social activities and any costs directly associated with such activities (such as tickets to shows or sports events, meals, lodging, rentals, transportation and gratuities) are unallowable. Expenses of grantee employees who are not on travel status are unallowable. This includes cases where they serve as hosts or otherwise participate at meals that are primarily social occasions involving speakers or consultants. Costs of employees on travel status are limited to those allowed under the governing cost principles for travel expenses. (See GPM Section 614.)

(ii) 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.

(iii) Alcoholic Beverages

No NSF funds may be spent on alcoholic beverages.

7. Current and Pending Support — Proposal Section G

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 Chapter I, Section A.

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.

8. Facilities, Equipment and Other Resources — Proposal Section H

This section of the proposal is used to assess the adequacy of the organizational resources available to perform the effort proposed. Proposers must describe only those resources that are directly applicable.

9. Special Information and Supplementary Documentation — Proposal Section I

Except as specified below, special information and supplementary documentation must be part of the project description (or part of the budget justification) if it is relevant to determining the quality of the proposed work. Information in the following areas should be included in Section I and not counted as part of the 15-page project description limitation. This Special Information and Supplementary Documentation section 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.

- ❖ Rationale for performance of all or part of the project off-campus or away from organizational headquarters. (GPM Section 633)
- ❖ Documentation of collaborative arrangements of significance to the proposal through letters of commitment. (GPG Chapter II, Section C.11)
- ❖ Environmental impact statement for activities that have an actual or potential impact on the environment. (GPM Section 830) Where applicable, the box for “National Environmental Policy Act” must be checked on the Cover Sheet.
- ❖ 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. (GPM Section 763)
- ❖ Research in the Antarctic and Greenland. (GPM Section 763)
- ❖ Research in a location designated, or eligible to be designated, a registered historic place. (GPM Section 840) Where applicable, the box for “Historic Places” must be checked on the Cover Sheet.
- ❖ Research involving field experiments with genetically engineered organisms. (GPM Section 712)
- ❖ Documentation regarding research involving the use of human subjects, hazardous materials, vertebrate animals, or endangered species. (GPM Section 710, GPG Chapter II, Sections C.11.d and e)
- ❖ Projects that involve technology utilization/transfer activities, that require a management plan, or that involve special reports or final products.
- ❖ Special components in new proposals or in requests for supplements, such as *Facilitation Awards for Scientists and Engineers with Disabilities*, *Research Opportunity Awards* or *Research Experiences for Undergraduates* (See NSF 00-107 for information.)
- ❖ *Research in Undergraduate Institutions*. (See program solicitation for information.)
- ❖ *Research Experiences for Undergraduates*. (See program solicitation for REU site proposals [NSF 00-107] for further 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.

10. Appendices — Proposal Section J

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.** Chapter II, Section A. contains information on deviations.

11. Special Guidelines

a. Small Grants for Exploratory Research (SGER) Proposals

Proposals for small-scale, exploratory, high-risk research in the fields of science, engineering and education normally supported by NSF may be submitted to individual programs. Such research is characterized as:

- ❖ preliminary work on untested and novel ideas;
- ❖ ventures into emerging research ideas;

CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS

- ❖ application of new expertise or new approaches to “established” research topics;
- ❖ having a severe urgency with regard to availability of, or access to data, facilities or specialized equipment, including quick-response research on natural disasters and similar unanticipated events; or
- ❖ efforts of similar character likely to catalyze rapid and innovative advances.

Investigators are **strongly encouraged** to contact the NSF program(s) most germane to the proposal topic before submitting an SGER proposal. This will facilitate determining whether the proposed work meets the guidelines described above and availability and appropriateness for SGER funding, or whether the work is more appropriate for submission as a fully reviewed proposal. The project description must be brief (two to five pages) and include clear statements as to why the proposed research should be considered particularly exploratory and high risk, the nature and significance of its potential impact on the field, and why an SGER grant would be a suitable means of supporting the work.

Brief biographical information is required for the PI and co-PI(s) only, and must list no more than five significant publications or other research products. The box for “Small Grant for Exploratory Research” must be checked on the Cover Sheet.

These proposals will be subject to internal NSF merit review only. Renewed funding of SGER awards may be requested only through submission of a non-SGER proposal that will be subject to full merit review. The maximum SGER award amount will not exceed \$100,000. Although the maximum award amount is \$100,000, the award amount usually will be substantially less than a given program’s average award amount. The project’s duration will normally be one year, but may be up to two years.

For participating directorates and at the discretion of the Program Officer, with the concurrence of the Division Director, a small fraction of especially promising SGER awards may be extended for a period of six additional months and supplemented with up to \$50,000 in additional funding.¹⁸ The SGER award extensions will be possible for awards of two-year initial duration as well as for those of shorter initial duration. Requests for extensions must be submitted one to two months before the expiration date of the initial award. A project report and outline of proposed research, not to exceed five pages, must be included.

b. 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.

(i) Submission of a single proposal

The single proposal method allows investigators from two or more institutions 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 institutions may be designated as co-PIs.

¹⁸The Biological Sciences and Education and Human Resources Directorates do not permit the extension or supplementation of SGER awards.

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 Chapter II, Section C.6.f.(v) for additional instructions on preparation of this type of proposal.)

(ii) Simultaneous submission of proposals from different 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 proposal 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. 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 two step process must be completed:¹⁹

- (a) 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.
- (b) 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.

c. 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.

Note: Many organizations within NSF have formal instrumentation programs that may include special guidelines such as cost sharing or other requirements. It is important to use the applicable guidelines in these competitions. The appropriate program should be consulted.

Instrumentation and equipment proposals must follow the format of research proposals. 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 research proposal, and must emphasize the intrinsic merit of the activity and the importance of the equipment to it. A brief summary will suffice for auxiliary users.

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 must also 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.

¹⁹ Detailed instructions for preparation and submission of collaborative proposals are available on the FastLane website at <http://www.fastlane.nsf.gov/a1/newstan.htm#collaborative>.

CHAPTER II: PROPOSAL PREPARATION INSTRUCTIONS

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

- ❖ overall acquisition plan;
- ❖ 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.

The terms of a grant require that special-purpose equipment purchased or leased with grant funds be subject to reasonable inventory controls, maintenance procedures and organizational policies that enhance its multiple or shared use on other projects, if such use does not interfere with the work for which the equipment was acquired.

If the government retains title, those items must be included in the annual inventory submitted to the NSF Property Administrator. 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.

d. Proposals Involving Vertebrate Animals

For proposals involving the use of vertebrate animals, sufficient information must be provided within the 15-page project description to allow for evaluation of the choice of species, number of animals to be used, and any necessary exposure of animals to discomfort, pain or injury. All projects involving vertebrate animals must have approval from the organization's Institutional Animal Care and Use Committee (IACUC) prior to the issuance of an NSF award. The box for "Vertebrate Animals" must be checked on the Cover Sheet with the IACUC approval date (if available) identified in the space provided. If the IACUC has not reviewed the proposed work, the proposer should include the date at which the review is scheduled to be completed.

e. Proposals Involving Human Subjects

Projects involving research with human subjects must ensure that subjects are protected from research risks in conformance with 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) identify the applicable subsection exempting the proposal from IRB review, as established in Section 101(b) of the Common Rule. The box for "Human Subjects" must be checked on the Cover Sheet with the IRB approval date (if available) or exemption subsection from the Common Rule identified in the space provided.

f. 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 US 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 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. Requests should generally be

made at least a year in advance of the scheduled date. Conferences or meetings, including the facilities in which they are held, funded in whole or in part with NSF funds, must be accessible to participants with disabilities.

A conference, symposium or workshop proposal (that complies with the page and font size instructions in Chapter II, Section B) must contain the following elements:

- ❖ *Cover Sheet for Proposal to the National Science Foundation;*
- ❖ Summary of one page or less indicating the objectives of the project;
- ❖ Statement of the need for such a gathering and a list of topics;
- ❖ Recent meetings on the same subject, including dates and locations;
- ❖ 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;
- ❖ 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;
- ❖ Estimated total budget for the conference, together with an itemized statement of the amount of support requested from NSF; (The budget may include participant support for transportation (when appropriate), per diem costs, stipends, publication and other conference-related costs. Participant support costs must be excluded from the indirect cost base. (See Chapter II, Section C.6.e.); and
- ❖ Support requested or available from other Federal agencies and other sources. (Chapter II, Section C.7 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 GPM Section 625.

g. Proposals to Support International Travel

Proposals for travel support for US participation in international scientific and engineering meetings held abroad are handled by the NSF organizational unit with program responsibility for the area of research 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 US participation in one or more international scientific meeting(s) abroad. Group travel grants 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 GPM Section 765.) 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.

h. 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 Division of International Programs. 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.

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. REVIEW CRITERIA

The National Science Board approved revised criteria for evaluating proposals at its meeting on March 28, 1997 (NSB 97-72). The criteria are designed to be useful and relevant across NSF's many different programs, however, NSF will employ special criteria as required to highlight the specific objectives of certain programs and activities.

On September 20, 1999, the NSF Director issued Important Notice 125, *Merit Review Criteria*. This Important Notice reminds proposers of the importance of ensuring that, in addition to the criterion relating to intellectual merit, the criterion relating to broader impacts is considered and addressed in the preparation and review of proposals submitted to NSF. The Important Notice also indicates NSF's intent to continue to strengthen its internal processes to ensure that both criteria are appropriately addressed when making funding decisions.

The merit review criteria are listed below. Following each criterion are considerations that the reviewer may employ in the evaluation. These considerations are suggestions and not all will apply to any given proposal. While reviewers are expected to address **both** merit review criteria, each reviewer will be asked to address only those considerations that are relevant to the proposal and for which he/she 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 and original 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?

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?

PIs should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to the above-described NSF merit review criteria. NSF staff will give these elements careful consideration 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 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.

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. ADMINISTRATIVE CORRECTIONS TO FASTLANE PROPOSALS

NSF recognizes that minor, non-content-related errors may occur in proposal development and that these errors may not be discovered until after the proposal submission to NSF. To enable organizations to correct such errors, FastLane provides a 60-minute "grace period," that begins immediately following proposal submission. This grace period does not extend the proposal deadline (e.g., if a proposal deadline is 5:00 p.m. proposer's local time, the proposal must be submitted by 5:00 p.m., and administrative corrections are allowed until 6:00 p.m., proposer's local time). During this grace period, authorized sponsored project office personnel are authorized to make administrative corrections to Cover Sheet and Budget data. These corrections do not include changes to identified PIs, co-PIs, or other senior project personnel. Access to the Administrative Corrections utility is via the Organizational Management module on the FastLane website at <https://www.fastlane.nsf.gov> through use of the "Submit Proposals to NSF" function.

C. 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 key personnel, etc.) that might materially affect the outcome of the review of a pending proposal, the proposer must contact the Program Officer to whom the proposal is assigned 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 Officers 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 institutional 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. In situations when the budget has been reduced by 10% or more and the NSF Program Officer, PI and organization, however, clearly agree that the project as proposed can be carried out at a lesser level of support from NSF with no expectation of any uncompensated organizational contribution beyond that formally reflected as cost sharing, the "impact" section of the Revised Proposal Budget module must be used to document that agreement.

Note: A signed paper copy of the revised budget is not required to be submitted to NSF.

D. 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 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 or other programmatic approval is obtained, then the recommendation goes to the Division of Grants and Agreements for review of business, financial and policy implications and the processing and issuance of a grant or other agreement. The Division of Grants and Agreements generally makes awards to academic institutions within 30 days after the program division 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 Grants Officer in the Division of Grants and Agreements 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 Officer does so at its own risk.

E. COPIES OF REVIEWS

When a decision has been made (whether an award or a declination), verbatim copies of reviews, excluding the names of the reviewers, and summaries of review panel deliberations, if any, are provided to the PI. Proposers also may request and obtain any other releasable material in NSF's file on their proposal. Everything in the file except information that directly identifies either reviewers or other pending or declined proposals is usually releasable to the proposer

CHAPTER IV: WITHDRAWALS, RETURNS AND DECLINATIONS

A. WITHDRAWALS

A proposal may be withdrawn at any time before a final decision is made. Both the PI and the Authorized Organizational Representative must sign a request for withdrawal. NSF will send confirmation of withdrawal requests. 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 letter to the PI and the Authorized Organizational Representative without waiting for the official withdrawal request.

NSF does not normally return the copies of withdrawn proposals to the proposer but does retain a file copy. Copies of reviews received by NSF before a proposal is withdrawn will be provided to the PI.

NSF provides copies of withdrawal, return, declination, reconsideration or resubmission information to both the PI and the Authorized Organizational Representative.

B. RETURNS

Proposals may not be considered for review by NSF for the following reasons: (1) inappropriate for NSF funding; (2) submitted with insufficient lead time before activity is to begin; (3) does not meet NSF requirements for proposal content, page limitations, format, electronic submission via FastLane (unless a deviation has been obtained in advance of the paper submission [see Chapter II, Section A. for further information on deviations]) etc.; (4) does not meet announced proposal deadline date requirements; (5) the proposal was previously reviewed and declined and has not been substantially revised; or (6) the proposal is a duplicate of or substantially similar to a proposal already under consideration by NSF.

C. DECLINATIONS

A PI whose proposal for NSF support has been declined generally 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.

D. RECONSIDERATION

If the explanation provided does not satisfy the PI, he/she may request that the cognizant NSF Assistant Director or Office Head reconsider the action to determine whether the proposal received a fair and reasonable review, both substantively and procedurally. A PI whose proposal has not been accepted because it is inappropriate for consideration by NSF may also request reconsideration of this determination. The request for reconsideration must be in writing and must be received within 90 days after the date of the declination letter or return. If the proposing organization is still not satisfied after reconsideration by the responsible Assistant Director/Office Head, it may, within 60 days after the determination by the Assistant Director/Office Head, request further reconsideration by the NSF Deputy Director. Consult GPM Section 900 (<http://www.nsf.gov:80/bfa/cpo/gpm95/ch9.htm#ch9-1>) for additional information on the NSF reconsideration process.

E. RESUBMISSION

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

CHAPTER V: THE AWARD AND CONTINUED SUPPORT

A. STANDARD AND CONTINUING GRANTS

NSF awards two types of grants:

Standard Grants, 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, and

Continuing Grants, 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 of the project for additional periods, provided funds are available and the results achieved warrant further support.

Notification of an NSF grant is by a letter signed by an NSF Grants Officer, addressed to the Grantee Organization. An NSF grant consists of: (1) the award letter, which includes any special provisions applicable to the grant and any numbered amendments thereto; (2) the budget, that indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable grant conditions,²⁰ such as Grant General Conditions (NSF GC-1) or Federal Demonstration Partnership (FDP) Terms and Conditions and (5) any NSF brochure, program guide, solicitation or other NSF issuance that may be incorporated by reference in the award letter. Electronic mail notification is the preferred way to transmit NSF grants to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

Effective/Expiration Dates and Preaward Costs. The grant period begins on the effective date specified in the award letter or, in its absence, the date of the award letter and runs until the expiration date indicated. Expenditures incurred within the 90-day period preceding the effective date of the grant may be authorized by the grantee organization. Such expenditures, however, are made at the grantee's risk. Expenditures after the scheduled expiration date of the grant only may be made to honor documented commitments made on or before the expiration date. PIs should consult their business offices for details.

B. ADDITIONAL SUPPORT

1. Incremental Funding

Incremental funding for continuing grants within the total duration of the project is based on NSF review of project reports and does not require submission of a new proposal. NSF must receive an annual project report for each increment of funding at least three months prior to the end of the current funding period. See Chapter VI, Section G.1. for information on NSF's electronic reporting system.

2. Renewal Proposals

Renewal proposals are requests for additional funding for a support period subsequent to that provided by a standard or continuing grant. Renewal proposals compete with all other pending proposals and 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 previous proposals.

²⁰ Additional coverage on the NSF grant conditions (e.g., GC-1 and FDP) is contained in GPM Section 240. These conditions are also available at grantee organization sponsored projects offices as well as on the NSF website at <http://www.nsf.gov>.

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.²¹ 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 can 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.

- ❖ **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.
- ❖ **Accomplishment-Based Renewal.** In an “Accomplishment-Based Renewal” (ABR) proposal, the project description is replaced by copies of no more than six reprints²² 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. In addition, a brief summary (not to exceed four pages) of plans for the proposed support period must be submitted. 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 proposal Cover Sheet. ABR proposals may not be submitted for consecutive renewals.

3. 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 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.

4. Supplemental Funding

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. The grantee must submit a request for supplemental funding to the cognizant NSF Program Officer at least two months before funds are needed.

Requests for supplemental funding may be initiated in the FastLane system using the “Supplemental Funding Request” function.²³ Such requests must include a summary of the proposed work, a brief justification, and a budget for the requested funds.

Note: A signed paper copy of the revised budget is no longer required to be submitted to NSF because all necessary certifications are provided at the time of submission of the supplemental funding request.

²¹ This requirement applies to both types of renewal proposals: Traditional Renewal and Accomplishment-Based Renewal.

²² Reprints should be provided as supplementary documentation and included in Proposal Section I.

²³ Detailed instructions for preparation and submission of supplemental funding requests are available on the FastLane website at <http://www.fastlane.nsf.gov/a1/newstan.htm#supplemental>.

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, or for more than six months, may require additional merit review. Supplemental funding requests will not be approved for such purposes as defraying costs associated with increases in salaries or additional indirect cost reimbursement. Grantees should contact the cognizant Program Officer prior to submitting a request for supplemental funding.

C. NO-COST EXTENSIONS

1. Grantee-Authorized 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. This one-time extension may not be exercised merely for the purpose of using the unliquidated balances. 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-authorized extension notifications must be submitted via the FastLane system. For grantee authorized extensions, no amendment will be issued.

2. NSF-Approved Extension

If additional time beyond the extension provided by the grantee is required and exceptional circumstances warrant, a formal request must be submitted to NSF. 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 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. Any NSF-approved no-cost extension will be issued by an NSF Grants Officer 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.

CHAPTER VI:

GRANT ADMINISTRATION HIGHLIGHTS

The administration of grants is governed by the actual conditions of the grant. (See Chapter V, Section A. for additional information regarding the contents of an NSF grant.) The following information highlights frequently asked grant administration questions.

For additional information about the award and administration of NSF grants, proposers and grantees may refer to the *NSF Grant Policy Manual*. Frequently Asked Questions (FAQs) regarding grant administration are available on the Division of Grants & Agreements website at <http://www.nsf.gov/bfa/dga>.

The grantee organization has primary responsibility for general supervision of all grant activities and for notifying NSF of significant problems relating to misconduct in science and engineering or administrative matters. The PI is responsible for the conduct of the research or educational work, the publication of results, and is expected to provide technical leadership to the project whether or not any salary is provided from grant funds.

A. GENERAL REQUIREMENTS

Grants for financial assistance are subject to certain statutory and other general requirements, such as compliance with the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and other laws and regulations prohibiting discrimination; prohibition of misconduct in science and engineering; Drug-Free Workplace requirements; restrictions on lobbying; patent and copyright requirements; cost sharing; and the use of US-flag carriers for international travel. These are identified in the GPM and are summarized in the NSF Grant Conditions.

B. PRIOR APPROVAL REQUIREMENTS

Prior written authorization from NSF is required for the following: (1) transfer of the project effort; (2) change in objectives or scope; (3) change in PI; (4) a substantial change in PI effort; (5) reallocation of funds budgeted for participant support; or (6) construction activities costing \$25,000 or more. Changes in participant support costs only require Program Officer approval; all the other changes listed above require Program Officer and Grants Officer approval. (See also GPM Exhibit III-1, which highlights grantee notifications to and requests for approval from NSF.) With the exception of Change of PI, Transfer of a Significant Portion of the Project Effort (Subaward), and PI Transfers, all requests for prior approval to NSF must be submitted electronically via the NSF FastLane system. With implementation of the electronic signature capability Foundation-wide, NSF is in the process of converting these remaining paper processes to electronic formats. Further information on processing of these transactions will be provided when available.

C. TRANSFER OF PI

If a PI plans to leave an organization during the course of a grant, the organization has the prerogative to nominate a replacement PI or request that the grant be terminated. Replacement PIs are subject to NSF approval. In those cases where a particular PI's participation is integral to a given project and the PI's original and new organizations agree, NSF will arrange a transfer of the grant and the assignment of remaining unobligated funds to the PI's new organization. (See GPM Section 312 and GPM Exhibit III-2 for NSF Form 1263, *NSF Grant Transfer Request*, or on the NSF website at <http://www.nsf.gov/bfa/cpo/forms/start.htm>.) Upon transfer of the grant to the new organization, any monetary discrepancies must be resolved between the original and the new grantee. In circumstances where NSF's interests are adversely affected by such discrepancies, it reserves the right to resolve the situation. The NSF FastLane system is not yet available for NSF Grant Transfer Requests.

D. EQUIPMENT

Title to equipment purchased or fabricated by an academic institution or other non-profit organization with NSF grant funds normally vests in the grantee organization. Title to equipment acquired through an NSF grant by a small business or other commercial organization normally will vest in the Government. When title to specialized equipment purchased with grant funds vests in the grantee organization and the PI moves to another non-profit organization, NSF encourages transfer of the equipment to the new organization provided it is not required at the organization holding title, the cost of the transfer (shipping charges, freight, etc.) is not excessive, and the PI continues the project at the new location.

E. EXCESS GOVERNMENT PROPERTY

As a means of providing additional support and conserving supply and equipment funds, NSF may sponsor the transfer of a limited quantity of excess Government-owned scientific equipment to an NSF grantee. To learn more about the NSF Grantee Excess Property Program, grantees should refer to GPM Section 546 or write to:

National Science Foundation
Mission Support Section, DAS, Room 295
4201 Wilson Boulevard
Arlington, VA 22230

Before transfer of excess Government equipment can be authorized, justification must be provided to NSF by the grantee that the equipment will further the objectives of an active NSF grant. The NSF grant numbers must be cited.

F. SUSPENSION OR TERMINATION OF GRANTS

NSF grants may be suspended or terminated in accordance with the procedures contained in the Grant Conditions. Grants may also be terminated by mutual agreement. Termination by mutual agreement shall not affect any commitment of grant funds that, in the judgment of NSF and the grantee, had become firm before the effective date of the termination. (See GPM Section 910.)

G. GRANT REPORTS

1. Annual and Final Project Reports

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports).

Within 90 days after expiration of a grant, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project reporting system, available through FastLane, for preparation and submission of annual and final project reports. Such reports provide information on project participants (individual and organizational); activities and findings; publications; and, other specific products and contributions.

2. Quarterly and Final Expenditure Reports

Quarterly and final expenditure information is provided by grantees through the *Federal Cash Transaction Report*, SF 272. The report must be submitted by the grantee's financial officer through the Business Office functions in FastLane. Contact the Division of Financial Management for additional information at (703) 292-8280.

H. SHARING OF FINDINGS, DATA AND OTHER RESEARCH PRODUCTS

NSF advocates and encourages open scientific communication. NSF expects significant findings from supported research and educational activities to be promptly submitted for publication with authorship that accurately reflects the contributions of those involved. It expects PIs to share with other researchers, at no more than incremental cost and within a reasonable time, the data, samples, physical collections and other supporting materials created or gathered in the course of the work. It also encourages grantees to share software and inventions, once appropriate protection for them has been secured, and otherwise act to make the innovations they embody widely useful and usable.

NSF program management will implement these policies, in ways 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. Adjustments and, where essential, exceptions may be allowed to safeguard the rights of individuals and subjects, the validity of results and the integrity of collections, or to accommodate legitimate interests of investigators.

I. ACKNOWLEDGMENT OF SUPPORT AND DISCLAIMER

An acknowledgment of NSF support and a disclaimer must appear in publications (including Web pages) of any material, whether copyrighted or not, based on or developed under NSF-supported projects:

“This material is based upon work supported by the National Science Foundation under Grant No. (grantee must enter NSF grant number).”

NSF support also must be orally acknowledged during all news media interviews, including popular media such as radio, television and news magazines.

Except for articles or papers published in scientific, technical or professional journals, the following disclaimer must be included:

“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.”

J. 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 Chapter I, Section B.) 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.

A proposal that does not result in an NSF grant will be retained by NSF for a prescribed time (currently five years), but will be released to the public only with the consent of the proposer or to the extent required by law.

K. LEGAL RIGHTS TO INTELLECTUAL PROPERTY

NSF normally allows grantees to retain principal legal rights to intellectual property developed under its grants. This policy provides incentive for development and dissemination of inventions, software and publications that can enhance their usefulness, accessibility and upkeep. It does not, however, reduce the responsibility of researchers and organizations to make results, data and collections available to the research community.

APPENDIX A:

DRUG-FREE WORKPLACE CERTIFICATION

INSTRUCTIONS FOR CERTIFICATION

1. By signing the NSF Proposal Cover Sheet, NSF Form 1207, 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

APPENDIX A: DRUG-FREE WORKPLACE CERTIFICATION

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 Contracts, Policy & Oversight, NSF, Arlington, VA 22230)

APPENDIX B:

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

- (1-5) **(co) Principal Investigator(s)** — the individual(s) 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.

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 Associate** — an individual who received a Ph.D., M.D., D.Sc. or equivalent degree less than five years ago, who is not a member of the faculty at the performing institution, and who is not reported under Senior Personnel above.
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 associate 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.

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 *Federal Register* 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 *Federal Register* 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

PRESORTED STANDARD
POSTAGE & FEES PAID
National Science Foundation
Permit No. G-69

RETURN THIS COVER SHEET TO ROOM P35 IF YOU DO NOT WISH TO RECEIVE THIS MATERIAL , OR IF CHANGE OF ADDRESS IS NEEDED , INDICATE CHANGE INCLUDING ZIP CODE ON THE LABEL (DO NOT REMOVE LABEL).

www.nsf.gov



4201 Wilson Boulevard • Arlington, VA 22230

OMB No. 3145-0058

NSF 01-2