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Partnerships for Innovation (PFI)

FY 2004

Program Solicitation

NSF 04-556

Replaces Document 03-521



National Science Foundation

Directorate for Engineering

Office of Polar Programs

Directorate for Biological Sciences

Directorate for Computer and Information Science and Engineering

Directorate for Education and Human Resources

Directorate for Geosciences

Directorate for Mathematical and Physical Sciences

Directorate for Social, Behavioral, and Economic Sciences

Letter of Intent Due Date(s) (*optional*):

March 10, 2004

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

May 17, 2004

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Partnerships for Innovation (PFI)
Program Solicitation

Synopsis of Program:

The goals of the Partnerships for Innovation Program are to: 1) stimulate the transformation of knowledge created by the national research and education enterprise into innovations that create new wealth, build strong local, regional and national economies and improve the national well-being; 2) broaden the participation of all types of academic institutions and all citizens in NSF activities to more fully meet the broad workforce needs of the national innovation enterprise; and 3) catalyze or enhance enabling infrastructure necessary to foster and sustain innovation in the long-term. To develop a set of ideas for pursuing these goals, this competition will support 15-25 promising partnerships among academe, state/local/federal government and the private sector that will explore new approaches to support and sustain innovation.

Cognizant Program Officer(s):

- John C Hurt, Program Director, Directorate for Engineering, telephone: (703) 292-5332, fax: (703) 292-9051, email: jhurt@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.074 --- Biological Sciences
- 47.070 --- Computer and Information Science and Engineering
- 47.076 --- Education and Human Resources
- 47.041 --- Engineering
- 47.050 --- Geosciences
- 47.049 --- Mathematical and Physical Sciences
- 47.078 --- Office of Polar Programs
- 47.075 --- Social, Behavioral and Economic Sciences

Eligibility Information

- **Organization Limit:**

- **Limitation on the categories of organizations that are eligible to submit proposals:** Proposals must be submitted by U.S. universities and colleges located in the U.S., its territories and possessions, including universities, two-and four-year colleges and community colleges, hereafter referred to as universities and colleges, or academic institutions. A Partnership proposal must be submitted as a single administrative package by the lead institution. The submitting institution must serve as the lead institution or partner in the proposed partnership, that is, as the institution responsible for overall management of the partnership activity with administrative responsibility for the proposed effort. Partners may include, but are not limited to, other academic institutions, not-for-profit organizations, private sector firms, entrepreneurs, venture capitalists, state and local government entities, trade and professional associations, and Federal laboratories. At a minimum, proposed partnerships must include academic institutions and private sector organizations. Partnerships that include state/local government entities are strongly encouraged.

- **PI Eligibility Limit:**

A senior institutional administrator (dean or higher) in the lead institution must serve as Principal Investigator or Co-Principal Investigator.

- **Limit on Number of Proposals:** U.S. universities and colleges located in the U.S., its territories and possessions, including universities, two-and four-year colleges and community colleges, hereafter referred to as universities and colleges, or academic institutions may participate in no more than two partnership proposals. Such institutions may submit only one partnership proposal as the lead institution.

Award Information

- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** 15 to 25 - up to \$600,000 for total award durations of two or three years.
- **Anticipated Funding Amount:** \$9,000,000 in FY2004 pending availability of funds, and quality of proposals.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is optional. Please see the full text of this solicitation for further

information.

- **Full Proposal Preparation Instructions:** This solicitation contains information that supplements the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full text of this solicitation for further information.

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is Specialized. Please see the full text of this solicitation for further information.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Letters of Intent (*optional*)**
:
March 10, 2004
- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):
May 17, 2004

Proposal Review Information

- **Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

Award Administration Information

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

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I. INTRODUCTION

Innovation in science and technology has been the dominant source of productivity gains and new enterprises in the U.S. economy over the last fifty years, accounting for as much as fifty percent of U.S. economic growth. Innovation is the transformation of scientific and technological advances into new products, processes, systems, and services. Innovation has created astonishing, tangible benefits to society, including improved healthcare, transportation, and computer-communications capacities. Much of the capacity for innovation in the U.S. has resulted from Federal funding of research. For 50 years, NSF has enabled innovation through its support of discovery and the production of a scientifically and technologically knowledgeable workforce second to none. More recently, NSF has established centers and developed other programs that facilitate knowledge and technology transfer to the private sector. Since businesses and industries today are more dependent on research and technology advances and since the product development cycle in all industry sectors is more rapid than before, NSF's traditional roles are more proximate and relevant to economic development than at any time in our past.

In the Partnerships for Innovation program NSF seeks to stimulate and capitalize on innovation by catalyzing partnerships among colleges and universities, state and local governments, the private sector and other relevant organizations. Key factors in the innovation enterprise include creation of and access to new knowledge; a scientifically and technologically literate workforce prepared to capitalize on new knowledge; and an infrastructure that enables innovation. For the purposes of this program, innovation explicitly extends both to developing the people and tools and to creating the necessary organizational conditions to foster the transformation of knowledge into the products, processes, systems and services that fuel economic development, create wealth and generate improvements in the national standard of living. The academic institutions that are NSF's traditional clientele play an essential role in generating new knowledge and creating a scientifically and technologically literate workforce.

Partnerships are an important means for developing an innovation capability that links new knowledge and a knowledge-rich workforce to economic growth and other societal benefits. Partnerships involving various combinations of colleges and universities, private sector firms, and local, state, and federal governments, have the potential to increase the value of each of the partners' portfolios, and to mobilize innovation in a systemic manner. For example, private sector firms gain access to new knowledge and a workforce that can capitalize on it; academe gains financial support, the ability to capitalize on intellectual property, and access to real-world problems for field training; and local and state governments gain sustainable regional and local economic development activities. The innovation process is facilitated by students moving into the workplace.

Some of the nation's colleges and universities have a long tradition of active research and education programs and strong connections to the private sector, and many have offices responsible for enabling knowledge transfer and stimulating the growth of new businesses. However, few academic institutions have all of the necessary capacity to provide the infrastructure to foster innovation. Institutions that have not participated as actively in Federal R&D programs may not have capabilities and infrastructure that are as finely honed.

Likewise, many states have taken action to develop programs that facilitate innovation. Colleges and universities in some states have access to an infrastructure that allows them to tie their research emphases to areas the state regards as

important. This infrastructure enables innovation at the state and local level where innovation generally happens; at the same time it enhances the institutions' ability to conduct research. States without this infrastructure may find it more difficult to take full advantage of opportunities for innovation.

II. PROGRAM DESCRIPTION

The Partnerships for Innovation program is intended to forge connections between new knowledge created in the discovery process to learning and innovation, while broadening the participation of people and institutions in NSF activities. For the purposes of this program, innovation is defined as the transformation of knowledge into the products, processes, systems and services that fuel economic development, create wealth and generate improvements in the national standard of living. The goals of the program are to:

- Stimulate the transformation of knowledge created by the national research and education enterprise into innovations that create new wealth, build strong local, regional and national economies, and improve the national well-being;
- Broaden the participation of all types of academic institutions and all citizens in NSF activities to more fully meet the broad workforce needs of the national innovation enterprise; and
- Catalyze or enhance enabling infrastructure necessary to foster and sustain innovation in the long-term.

In order to accomplish these goals, proposals may propose any one or combination of the following activities: (1) research, technology transfer, and/or commercialization, (2) workforce education and/or training, and (3) establishing the infrastructure to accomplish or enable innovation. Proposals should show how all activities being proposed are related to innovation as the ultimate outcome. Proposals should also have a plan to ensure that the innovation can be sustained in the long term. Innovation should be the proposed outcome. Formation of partnerships should not be proposed as the outcome. Appropriate activities for projects in the program might also include the planning and/or implementation of new models for innovation that connect scientific and technological discovery to use through knowledge transfer; education and training activities that explicitly address the workforce needs of the innovation enterprise; and the development and deployment of new tools or mechanisms that support the innovation infrastructure. They may focus on creating a critical level of innovation activity in a technology area, an industry sector, or a geographical region. Since many emerging and small businesses fail for lack of sufficient business or marketing expertise, partnerships could include participation of the business or management schools where appropriate.

At a minimum, proposed Partnerships must include academic institutions as the lead and private sector organizations as partners. Partnerships that also include state/local government entities are strongly encouraged. The outcomes for proposed activities must foster economic and/or societal well-being that can be self-sustaining in the long term. In all Partnerships, NSF seeks to optimize the participation of the private sector to foster innovation-driven growth per se, as well as to ensure appropriate workforce development activities. Since innovation is critically dependent upon a diverse workforce poised to innovate, Partnerships led by and involving academic institutions of all types are essential for the program's success. The participation of institutions that serve groups currently underrepresented in the science, engineering and technological workforce, as well as those institutions that serve regions and or sectors not yet fully participating in the innovation enterprise, is strongly encouraged. NSF seeks to enhance the roles such institutions play in contributing to and participating in innovation.

Partnerships for Innovation may:

- Capitalize upon the shared interests of regional academic institutions, local and state governments and the private sector to contribute to the innovation enterprise;

- Enable small- and medium-sized businesses to utilize the resources and capabilities of academic institutions;
- Promote and enable innovation as a specific goal by increasing the scientific and technological capabilities of the workforce;
- Strengthen the capabilities of all academic institutions to contribute to the innovation process;
- Enable technological innovation through the synergistic development, integration and transfer of new knowledge to partners that can create economic or societal well-being; and
- Create and validate new generalized models that integrate research and education capacity to create a critical level of technological innovation in a state or a region.

This competition will support the planning and early implementation of new activities designed to support and sustain innovation in the long-term. Proposed Partnerships may request from NSF total budgets up to \$600,000 for total award durations of two or three years. A complete list of all current Partnerships for Innovation awards, with project descriptions is available at: <http://www.nsf.gov/home/crsspgrm/pfi/> The list of current awards is not to be interpreted to cover the entire range of activities or goals that can be proposed.

III. ELIGIBILITY INFORMATION

Proposing Partnerships: Each proposed Partnership must designate a lead organization; the lead organizations must be U.S. universities and colleges located in the U.S., its territories and possessions, including universities, two- and four-year colleges and community colleges. Partners may include, but are not limited to, not-for-profit institutions, private sector firms, state and local government entities, trade and professional associations, entrepreneurs, venture capitalists, and Federal laboratories. At a minimum, proposed Partnerships must include academic institutions and private sector organizations. Partnerships that include state/local government entities are strongly encouraged. A Partnership proposal must be submitted as a single administrative package by the lead institution, which is responsible for overall management of the Partnership activity and has administrative responsibility for the proposed effort.

PI Eligibility Limit: A senior institutional administrator (dean or higher) in the lead institution must serve as Principal Investigator or Co-Principal Investigator.

Limit on Number of Proposals: U.S. universities and colleges located in the U.S., its territories and possessions, including universities, two- and four-year colleges and community colleges, may participate in no more than two partnership proposals. Such institutions may submit only one partnership proposal as the lead institution.

Budget Limitations: Proposed Partnerships may request from NSF, total budgets up to \$600,000 for award durations of two or three years.

Cost Sharing: For eligibility purposes, cost sharing is required at a level of 10% of the requested NSF budget. See Section V. B. for details.

IV. AWARD INFORMATION

NSF will make 15-25 awards totaling approximately \$9.0 million, pending availability of funds and quality of proposals.

Proposed Partnerships may request from NSF total budgets up to \$600,000 for total award durations of two or three years. It is anticipated that award decisions will be publicly announced by October 2004.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent (*optional*):

The Principal Investigator at the lead institution representing a Partnership intending to submit a proposal is encouraged to submit a letter of intent (LOI) **via email ONLY** to: jhurt@nsf.gov by March 10, 2004. The LOI should briefly describe the proposed activity, the organizations and senior personnel involved in the Partnership. This description must not exceed 300 words. The LOI allows NSF to prepare for the review process. **The LOI is not mandatory and is non-binding.**

Full Proposal Instructions:

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Website at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

Proposal Content

The following instructions supplement or deviate from the GPG Guidelines.

Partnerships for Innovation proposals must include the following information:

1. Information about Principal Investigators/Project Directors. Note: A senior institutional administrator (dean or higher) in the lead institution must serve as Principal Investigator or Co-Principal Investigator.
2. Project Summary (one-page limit): Provide the title of the proposed Partnership for Innovation and the name of the PI. Identify the lead institution as well as other partner organizations vital to the success of the Partnership. Provide a summary of the proposed Partnership including its rationale, vision, distinguishing features and proposed activities to enable innovation. The summary must also clearly address in separate statements (within the one-page limit): (1) the intellectual merit of the proposed activity; and (2) the broader impacts resulting from the proposed activity. Where appropriate the summary should include statements describing potential economic and societal impact.

The Project Description (17- page limit) must contain the following sections, incorporating items (3) through (7)

3. Narrative Description (eight-page limit): The narrative must describe how the proposed activity will contribute toward realization of the goals of the Partnerships for Innovation program, especially the activities that stimulate and foster economic and/or societal well-being. It must also describe the Partnership's rationale, goals, and implementation plan to assure long-term sustainability. Clearly describe how all partner organizations are necessary to the innovation goals of the Partnership. A description of any related activities by the proposer or others, both historical and current, that are similar to those being proposed and an indication of success of various similar approaches should be provided. This section should provide an indication of knowledge of the published literature on innovation, industry-academe-government partnerships, as well as similar activities in the field by others. Proposals based on existing Partnerships must describe how the proposed effort will add value, change or enhance ongoing activities.

4. Management Plan (three-page limit): Describe the respective roles and responsibilities of each partner organization, the resources each partner will bring to the Partnership, and how the partners will work together to realize the proposed goals.
5. Innovation Outcomes (three-page limit): Describe plans to monitor and assess progress toward realizing the goals of the Partnerships for Innovation program and related outcomes that foster innovation.
6. List of Partnership Organizations and Personnel (two-page limit): Provide a list of Partnership organizations subdivided into the following categories: academic institutions, government laboratories, state and local governments, private sector organizations and others. In each category, list participating organizations alphabetically. Provide a list of each organization's senior personnel participating in the Partnership. In the subdivisions above, list the organizations alphabetically, with senior personnel participating in each organization. For personnel representing academic institutions, include the department(s) and/or school(s) with which the person is associated.
7. Intellectual Property Rights (one-page limit): Provide a concise statement on the proposed Partnership's policies on Intellectual Property Rights. Partnership policies must be consistent with the NSF policy found in section 730 of the NSF Grant Policy Manual (NSF 04-2).
8. Optional - List of Suggested Reviewers (one-page limit): Provide a list of appropriate or inappropriate reviewers for the proposed Partnership for Innovation (use FastLane module).
9. Budget and Budget Justification: Provide a budget for each of the years for which NSF support is requested (FastLane will automatically fill out a cumulative budget for your proposal). A budget justification (three-page limit) must be provided.

Submit a separate subaward budget in FastLane for each participating partner.

Identify items of equipment costing more than \$10,000; full justification for such equipment must be provided.

Cost sharing at a level of 10% of the requested NSF support is required for all proposals submitted. This cost sharing must be shown on line M of the budget. Proposals without the mandated amount of cost sharing will be ineligible and will be returned without review. See Sections V. B. for additional information.

NSF will not provide salary support for personnel employed by Federal agencies or Federally Funded Research and Development Centers.

10. Partner Commitment: A list of partner organizations and their respective commitments to the proposed Partnership must be provided. In addition, letters of commitment to the proposed effort, signed by the appropriate institutional or organizational representative, should be scanned into the Supplementary Docs module in FastLane. Hard copies should NOT be mailed to NSF.

Proposers are reminded to identify the program announcement/solicitation number (04-556) in the program announcement/solicitation block on the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

B. Budgetary Information

Cost Sharing:

A plan for long-term sustainability of the proposed activity after the award ends is a requirement for funding in the program. In addition, many of the awards involve changes in curriculum to provide a workforce to develop and sustain the regional economy over the long-term. Thus the academic institutions must provide a plan to provide sustainable tangible benefits after the award ends before they can be funded. Hence all proposals must have an acceptable plan that will result in sustainable tangible benefits after the award ends. This program solicitation requires cost sharing at a level of 10% of the total amount requested from NSF.

The proposed cost sharing must be shown on Line M on the proposal budget. Documentation of the availability of cost

sharing must be included in the proposal. Only items which would be allowable under the applicable cost principles, if charged to the project, may be included as the awardee's contribution to cost sharing. Contributions may be made from any non-Federal source, including non-Federal grants or contracts, and may be cash or in-kind (see OMB Circular A-110, Section 23). It should be noted that contributions counted as cost-sharing toward projects of another Federal agency may not be counted towards meeting the specific cost-sharing requirements of the NSF award. All cost-sharing amounts are subject to audit. Failure to provide the level of cost-sharing reflected in the approved award budget may result in termination of the NSF award, disallowance of award costs and/or refund of award funds to NSF.

Other Budgetary Limitations:

Budget Limitations: Proposed Partnerships may request from NSF, total budgets up to \$600,000 for total award durations of two or three years.

Travel: Cost for travel for the PI for one trip to Washington DC per year to report on progress or participate in workshops should be included in the requested budget.

C. Due Dates

Proposals must be submitted by the following date(s):

Letters of Intent (*optional*):

March 10, 2004

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

May 17, 2004

D. FastLane Requirements

Proposers are required to prepare and submit all proposals for this announcement/solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <http://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program announcement/solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this announcement/solicitation.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the [Grant Proposal Guide](#) for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Proposers are no longer required to provide a paper copy of the signed Proposal Cover Sheet to NSF. Further instructions regarding this process are available on the FastLane Website at: <http://www.fastlane.nsf.gov>

VI. PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest, at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority-serving institutions, or adjacent disciplines to that principally addressed in the proposal.

The National Science Board approved revised criteria for evaluating proposals at its meeting on March 28, 1997 ([NSB 97-72](#)). All NSF proposals are evaluated through use of the two merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

On July 8, 2002, the NSF Director issued [Important Notice 127](#), Implementation of new Grant Proposal Guide Requirements Related to the Broader Impacts Criterion. This Important Notice reinforces the importance of addressing both criteria in the preparation and review of all proposals submitted to NSF. NSF continues to strengthen its internal processes to ensure that both of the merit review criteria are addressed when making funding decisions.

In an effort to increase compliance with these requirements, the January 2002 issuance of the GPG incorporated revised proposal preparation guidelines relating to the development of the Project Summary and Project Description. Chapter II of the GPG specifies that Principal Investigators (PIs) must address both merit review criteria in separate statements within the one-page Project Summary. This chapter also reiterates that broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative.

Effective October 1, 2002, NSF will return without review proposals that do not separately address both merit review criteria within the Project Summary. It is believed that these changes to NSF proposal preparation and processing guidelines will more clearly articulate the importance of broader impacts to NSF-funded projects.

The two National Science Board approved merit review criteria are listed below (see the [Grant Proposal Guide](#) Chapter III.A for further information). The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which 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 the 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?

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

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These 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 -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

Additional Review Criteria:

- Responsiveness of the proposal to the goals of the Partnerships for Innovation program;
- The degree to which the proposed activity will stimulate new innovation opportunities for the partner organizations;
- The potential impact of the proposed innovation activities on the economic and/or societal well-being of the region;
- Potential of the proposed Partnership to foster and sustain innovation in the long-term;
- The degree to which the institutions that serve groups currently underrepresented in the science, engineering and technological workforce are involved in the proposed innovation activity; and,
- The degree to which institutions that serve regions and/or sectors not yet fully participating in the innovation enterprise contribute to the proposed activities.

In making the final award decisions, NSF will also consider:

- Geographic distribution and diversity of lead institutions;
- Likely distribution of societal impacts; and
- Distribution of technology or industry sectors served.

B. Review Protocol and Associated Customer Service Standard

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by panels, three members of which will provide written reviews .

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

In most cases, proposers will be contacted by the Program Officer after his or her recommendation to award or decline funding has been approved by the Division Director. This informal notification is not a guarantee of an eventual award.

NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the date of receipt. The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded 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. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that

makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See section VI.A. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which 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 award conditions, such as Grant General Conditions (NSF-GC-1); * or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/home/grants/grants_gac.htm. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Website at <http://www.nsf.gov/cgi-bin/getpub?gpm>. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is (202) 512-1800. The GPM may be ordered through the GPO Website at <http://www.gpo.gov>.

C. Reporting Requirements

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.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for the PI and all Co-PIs. 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. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding this program should be made to:

- John C Hurt, Program Director, Directorate for Engineering, telephone: (703) 292-5332, fax: (703) 292-9051, email: jhurt@nsf.gov

For questions related to the use of FastLane, contact:

- Esther Bolding, FastLane Contact, ENG/EEC, telephone: 703-292-8380, fax: 703-292-9051, email: EBolding@nsf.gov

IX. OTHER PROGRAMS OF INTEREST

The NSF *Guide to Programs* is a compilation of funding for research and education in science, mathematics, and engineering. The NSF *Guide to Programs* is available electronically at <http://www.nsf.gov/cgi-bin/getpub?gp>. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. Any changes in NSF's fiscal year programs occurring after press time for the *Guide to Programs* will be announced in the NSF *E-Bulletin*, which is updated daily on the NSF Website at <http://www.nsf.gov/home/ebulletin>, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's *Custom News Service* (<http://www.nsf.gov/home/cns/start.htm>) to be notified of new funding opportunities that become available.

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