Management and Operations of the National Astronomy and Ionosphere Center

Program Solicitation
NSF 04-515

National Science Foundation
Directorate for Mathematical and Physical Sciences
Division of Astronomical Sciences

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

March 12, 2004

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Management and Operations of the National Astronomy and Ionosphere Center

Synopsis of Program:

Proposals are solicited to manage and operate the National Astronomy and Ionosphere Center (NAIC) through a cooperative agreement with the National Science Foundation (NSF). NAIC provides Federally-funded, ground-based observing facilities for radio astronomy, planetary radar, and terrestrial aeronomy. Proposals should cover the five-year period beginning October 1, 2005, and should describe how the proposer will provide forefront observing capabilities and support for US astronomers; lead development of new instruments and techniques; support a top quality scientific staff; archive and disseminate observational results; provide education programs at all levels; and coordinate partnerships with universities, non-Federal observatories, and industry in support of these objectives.

Cognizant Program Officer(s):

- Richard E. Barvainis, Program Manager, Directorate for Mathematical & Physical Sciences, Division of Astronomical Sciences, 1045 S, telephone: (703) 292-4891, fax: (703) 292-9034, email: rbarvai@nsf.gov

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

- 47.049 --- Mathematical and Physical Sciences

Eligibility Information

- **Organization Limit:**

  Proposals for the management and operation of NAIC may be submitted by U.S. academic institutions, non-profit organizations, for-profit organizations, or consortia thereof, subject to the qualifications outlined in the Grant Proposal Guide (GPG).

- **PI Eligibility Limit:** None Specified.
- **Limit on Number of Proposals:** None Specified.

Award Information

- **Anticipated Type of Award:** Cooperative Agreement
- **Estimated Number of Awards:** 1
- **Anticipated Funding Amount:** $70,000,000 over 5-year award

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **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 not required.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Not Applicable.

C. Due Dates

- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):
  March 12, 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:** Additional award conditions apply. Please see the full text of this solicitation for further information.
- **Reporting Requirements:** Additional reporting requirements apply. Please see the full text of this solicitation for further information.

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Summary of Program Requirements

I. INTRODUCTION

The National Science Foundation (NSF) is authorized by the National Science Act of 1950, as amended, to initiate and support basic and applied scientific research and to initiate and support programs to strengthen scientific research potential. To achieve these goals, NSF supports facilities which provide research capabilities in various scientific disciplines. One such facility, the National Astronomy and Ionosphere Center (NAIC), provides instrumentation for research in radio astronomy, planetary radar, and terrestrial aeronomy. The mission of NAIC is to:

- Provide forefront observing capabilities in radio astronomy, radar astronomy, and atmospheric sciences, and observing support to US scientists on the basis of merit and regardless of institutional affiliation,
- Acquire, analyze, archive, and disseminate observational astronomical and aeronomical data,
- Lead the development of new instruments and techniques,
- Support scientific staff who conduct research in the above areas for its intrinsic value, and
- Provide education and training programs which strengthen US astronomy and aeronomy education, and public awareness of science, at all levels.

NAIC is a Federally Funded Research and Development Center (FFRDC) funded by NSF, and is currently managed through a cooperative agreement with Cornell University. NSF's governing body, the National Science Board, has adopted the principle that NSF awards should, on occasion, be competed to assure the best use of NSF funds for supporting research and education. Through this program solicitation, NSF's Division of Astronomical Sciences (AST) hereby solicits proposals for management and operations of NAIC beginning October 1, 2005 and continuing through a five-year award period.

During the award period for which proposals are being solicited, the management and operation of NAIC will include maintaining and upgrading existing facilities, incorporating new facilities currently under construction, and planning for future new initiatives.

II. PROGRAM DESCRIPTION

A. Description of the National Astronomy and Ionosphere Center

NAIC`s principal research facilities are located on approximately 120 acres of Government-owned land in Barrio Esperanza, Arecibo, Puerto Rico, at an approximate latitude of 18 degrees North and an approximate longitude of 67 degrees West. The Center`s main instrument is a 305-meter diameter, fixed spherical reflector located at the observatory site, some 10 miles inland from the city of Arecibo. The antenna is used for radio and radar astronomy and for upper atmospheric physics research; it is the world`s largest radio/radar telescope. It was recently equipped with aberration-correcting Gregorian optics and is outfitted with a suite of state-of-the-art, low-noise receivers which cover frequency bands ranging from 400 MHz to 10 GHz. A 1 MW S-band (2380 MHz) radar system is available for solar system studies, and a 430 MHz incoherent scatter radar serves as a key instrument for atmospheric research. Several lidars are located on-site as well. Further details about NAIC`s facilities and operations may be found on the World Wide Web at http://www.naic.edu.

NAIC administers observing time to the astronomy and aeronomy communities via competitive observing proposals; evaluation and allocation of observing time for up to 100 observing proposals per year is a significant component of NAIC management.

NAIC administers educational and public outreach programs at all levels. These programs include observing support for graduate students, Research Experiences for Undergraduates (REU), Research Experiences for Teachers (RET), Web-based public outreach, and operating and maintaining the state-of-the-art NAIC visitor center.

Of the total five-year award of $70,000,000, approximately $60,000,000 will be provided by the Division of Astronomical Sciences (AST), and approximately $10,000,000 will be provided by the Division of Atmospheric Sciences (ATM). AST supports the basic operations of the Arecibo Observatory, while ATM provides incremental support for use of the facility for research in ionospheric and upper atmospheric physics. In FY 2003, AST provided about 82% of the Center`s $13.2 million operating budget and ATM provided about 14% of the budget. The National Aeronautics and Space Administration (NASA) provided about 4% of the budget to support S-band planetary radar operations. NASA support will be phased out by the end of FY 2005, after which the S-band radar program will be taken over by AST.

FY 2003 expenditures were as follows (in millions of dollars):

Operations and management support, AST..... $10.93

Increment for upper atmospheric research, ATM..... $ 1.80

Increment for radar astronomy, NASA .....$ 0.50

B. Description of Awardee Responsibilities

The awardee will be responsible for the overall welfare of NAIC and for maximizing the benefits to the astronomical community of the resources within NAIC. The awardee will be responsible for the planning, initiation, and execution of programs and activities designed to serve the optimal interests of the US scientific community involved in centimeter wavelength radio and radar astronomy, and atmospheric science. The awardee will accomplish this by utilizing recommendations such as those provided by the Astronomy and Astrophysics Survey Committee of the National Research

Council, by interacting with the affected scientific community, with NAIC, and with the NSF to assure a mutual integration of the respective needs and priorities. In discharging these responsibilities, the awardee will ensure that NAIC maintain its character as an institution which primarily enables first rate visitor research, while also having strong internal research programs and leading community-based initiatives in the relevant disciplines.

Specifically, the awardee will:

- Staff, manage, operate, maintain, and develop NAIC in a manner consistent with the capabilities, roles and objectives described above,
- Assure productive use by the US astronomical community of NAIC facilities,
- Provide through the staff and facilities of the Center the support necessary for research in NAIC's disciplines, assuring that the criteria for the utilization of facilities be the scientific merit and broader impacts of the proposed research (see Section VI.A., "NSF Proposal Review Process"), as judged through appropriate merit review mechanisms,
- Develop new instruments, techniques, and software for astronomical, radar, and aeronomical observations, data analysis, and data utilization which exploit existing NAIC capabilities,
- Implement appropriate partnerships with US universities and non-federal observatories which could enhance observational capabilities available to the entire community, and
- Utilize the knowledge and discoveries made at NAIC to promote education at all levels.

III. ELIGIBILITY INFORMATION

Proposals for the management and operation of NAIC may be submitted by U.S. academic institutions, non-profit organizations, for-profit organizations, or consortia thereof, subject to the qualifications outlined in the GPG.

IV. AWARD INFORMATION

The initial award will be a cooperative agreement for a duration of 5 years, beginning October 1, 2005, with anticipated annual funding of approximately $14,000,000, averaged over the life of the award. The award is subject to approval by the National Science Board. Annual funding increments will be determined on the basis of annual program plans submitted by the awardee to NSF and approved by NSF subject to the availability of appropriated funds.

In the event that a new awardee is chosen to replace the incumbent, NSF will also fund appropriate transition costs through a separate grant for the 12 month period beginning October 1, 2004. During this transition period, the new awardee will have appropriate access to NAIC personnel and facilities. The transition grant would then be followed by a 5-year cooperative agreement.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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.

Page Limits:

While the GPG specifies a 15 page limit for the Project Description, for this solicitation the limit is 50 pages. For potential new awardees, a transition plan is required (see below). This plan should be included as an appendix not to exceed 10 pages.

Who May Submit:

Proposals for the management and operation of NAIC may be submitted by U.S. academic institutions, non-profit organizations, for-profit organizations, or consortia thereof, subject to the qualifications outlined in the GPG.

General Information:

For additional information on NAIC, the competition for its management, and NSF's practices and policies regarding its National Centers, please contact the cognizant program officer. A visit to NSF may be arranged if desired by the prospective manager.

Copies of the current NAIC Program Plan and the current cooperative agreement for the management of NAIC will be made available upon request. A detailed list of property for which the current awardee is responsible will be provided at the NAIC informational site visit (see below).

Informational Site Visit:

NSF/AST/ATM is prepared to arrange a one-day site visit at the Arecibo Observatory for prospective managers prior to the submission of proposals. The purpose of this visit is to provide proposers an opportunity to inspect the site and gather information relevant to the development of a proposal. The site visit will be held during the third week in January 2004 (January 20 through 23, 2004), and should be arranged through the cognizant program officer.

Proposal:

Proposers shall provide all staffing and budgeting information needed to describe how proposers will fulfill the expectations in Sections I and II of this solicitation. Requested budget amounts for each year of the proposal should reflect the level considered necessary to perform the activities described in the proposal. Proposers should also be cognizant of budget constraints implied by the funding levels provided for FY 2003 under the current cooperative agreement, as described in Section II, Program Description.

Proposing organizations other than the current awardee must also provide a detailed transition plan and budget for the 12 month period preceding the new award. If a new awardee is selected to operate NAIC, the incumbent will cooperate with the successor to the extent necessary to facilitate uninterrupted support for NAIC during the transition period and will provide transfer of legal rights to relevant property and equipment. NSF will support appropriate transition costs by a successor awardee if different from the current awardee.

Each proposal should address the proposing organization's scientific, technical, and managerial qualifications to operate NAIC, and should include the following:

1.) A Management and Transition Plan.

This plan must fully describe the proposed organization for NAIC. Particular attention should be given to oversight and user-feedback mechanisms and to mechanisms for interacting with the larger astronomical community. Mechanisms for reviewing and scheduling user access to NAIC must also be described.

The plan must identify and provide professional biographical information for persons identified as Key Individuals, such as directors and heads of units within NAIC. The current managing organization for NAIC is Cornell University. Except for positions defined for Key Individuals, the proposing organization must agree that all NAIC employees of Cornell as of September 30, 2004, will be offered employment by the proposing organization at salary rates equivalent to those being paid by Cornell at the time of the offer of employment. Proposing organizations may propose as Key Individuals persons currently employed by Cornell in those or other positions.

A proposing organization must agree to recognize employees' length of service within Cornell to meet service credit requirements for vacation, sick leave, health insurance, severance pay, group insurance, and any other benefits. Proposing organizations must also agree to assume liability for current retiree benefits as previously granted by Cornell and must describe benefits for future retirees. Costs for guaranteeing such benefits must be included in the proposal budget. Proposing organizations must likewise recognize the currently certified collective bargaining agents and their existing agreements and must accept responsibility and accountability for existing commercial and regulatory obligations of Cornell on behalf of NAIC, including (but not limited to) insurance policies, banking agreements, permits and licenses, subcontracts, purchase orders, etc.

2.) A Scientific Program Plan

The proposal must describe the expected scientific themes to be carried out by visiting scientists and by the scientific staff. This plan must explain how the management of NAIC is directed toward accomplishing scientific objectives and how the priorities for these objectives will be determined.

3.) A Technical Program Plan

The proposal must describe the technical needs of NAIC in order to accomplish the scientific objectives. This includes plans for maintenance of existing capabilities, including the telescope, instrumentation, computer systems, etc. This also includes plans for upgrades of existing facilities or development of new capabilities, including major new instruments. Such development plans must include associated budgets and clear explanations of what technical accomplishments can be included within base budgets and which will require budget increments based on future proposals. The proposal must describe mechanisms to be used for prioritizing capabilities and new initiatives. It must also explain how NAIC would implement partnerships with US universities and non-Federal observatories which could enhance observational capabilities available to the entire community.

4.) An Education and Outreach Plan

The proposal must describe planned education and public outreach activities at all levels. Staffing and budget details must be sufficient to show clearly which activities are included within proposed base budgets.

Proposers are reminded to identify the program announcement/solicitation number (04-515) 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:

Cost sharing is not required in proposals submitted under this Program Solicitation.

C. Due Dates

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

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

March 12, 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:

In addition to individual reviews of each proposal by outside experts, a panel will be convened to assess the relative merits of all proposals submitted and provide a rank ordering for consideration by the NSF Program Officer. All proposers will be required to make a presentation to the panel and answer questions from the panel, in a "reverse site visit" to be held at the NSF offices in Arlington, VA. For this solicitation, the following additional and specific review criteria will be used in the evaluation of proposals.

- The quality of the proposing organization's overall vision for NAIC,
- The degree to which scientific programs, priorities and technical capabilities reflect the needs of the US astronomical community,
- The suitability, quality and cost effectiveness of the management plan for operating and maintaining NAIC,
- The extent and quality of specified educational programs,

- The extent and quality of specified research and education activities which will enhance diversity in the US astronomical community, including gender, ethnic, racial and geographic diversity,
- The suitability, experience, and professional stature of key management individuals, both within the proposing organization and within NAIC,
- The proposing organization's experience in operating scientific facilities,
- The experience and stature of key scientific and technical staff, and
- The potential for appropriate partnerships with universities, non-Federal observatories, and industry.

A summary rating and accompanying narrative will be completed and signed 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.

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 Ad Hoc Review followed by Panel Review.

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.

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.

Special Award Conditions:

Special award conditions as described in the current cooperative agreement will be made available upon request sent to the cognizant program officer listed in Section VIII.

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.

The managing organization will be required to provide annual program plans, annual long range plans, and quarterly reports for both the astronomy and aeronomy programs at NAIC. In addition, as a requirement under the Government Performance and Results Act (GPRA), the NSF is required to report on the Federal Performance Goals for Facilities. Any and all facilities with an annual budget exceeding a specific threshold must report on their operations activities; and any and all construction/ upgrade projects that exceed a total project cost of a specific threshold must report on their construction/upgrade activities. Therefore, awardee will be required, upon request of the cognizant NSF program officer, to submit annual reports related to the GPRA performance goals. This may include the collection and submission of specific data related to the NSF GPRA requirements.

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:

- Richard E. Barvainis, Program Manager, Directorate for Mathematical & Physical Sciences, Division of Astronomical Sciences, 1045 S, telephone: (703) 292-4891, fax: (703) 292-9034, email: rbarvai@nsf.gov

For questions related to the use of FastLane, contact:

- Kim S. Elliott, Computer Specialist, Directorate for Mathematical & Physical Sciences, Division of Astronomical Sciences, 1053 S, telephone: (703) 292-4894, email: kelliott@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.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees 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 from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete 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 (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the GPG Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at http://www.nsf.gov

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
- **For General Information** (NSF Information Center)**:** (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090 or (800) 281-8749
- **To Order Publications or Forms:**

  Send an e-mail to: pubs@nsf.gov

  or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

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; 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 applicant 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 this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

OMB control number: 3145-0058.

The National Science Foundation
4201 Wilson Boulevard, Arlington, Virginia 22230, USA
Tel: 703-292-5111, FIRS: 800-877-8339 | TDD: 703-292-5090 or (800) 281-8749