

# Management and Operations of the National Optical Astronomy Observatories and the National Solar Observatory

---

## *Program Solicitation*

***NSF 01-80***

DIVISION OF ASTRONOMICAL SCIENCES

**PRE-LETTER OF INTENT BRIEFING: April 23, 2001**

**LETTER OF INTENT DUE DATE(S) (*required*): May 4, 2001**

**FULL PROPOSAL DEADLINE(S): July 20, 2001**



**NATIONAL SCIENCE FOUNDATION**



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 Web Site 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

**To Order Publications or Forms:**

Send an e-mail to: [pubs@nsf.gov](mailto:pubs@nsf.gov)

or telephone: (301) 947-2722

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

# SUMMARY OF PROGRAM REQUIREMENTS

---

---

## GENERAL INFORMATION

**Program Title:** Management and Operations of the National Optical Astronomy Observatories and the National Solar Observatory

**Synopsis of Program:** Proposals are solicited to manage and operate the National Optical Astronomy Observatories (NOAO) and the National Solar Observatory (NSO) through a cooperative agreement with the National Science Foundation (NSF). NOAO provides federally-funded, ground-based observing facilities for optical and infrared astronomy. NSO provides federally-funded, ground-based observing facilities for solar astronomy. Proposals should cover the 5 year period beginning April 1, 2003, and describe how the proposer will provide forefront observing capabilities and support for US astronomers; will lead development of new telescopes, instruments, and techniques; will support a top quality scientific staff; will archive and disseminate observational results; will provide education programs at all levels; and will coordinate partnerships with universities, non-federal observatories, and industry in support of these objectives. Proposals must provide budgets and management plans which provide administrative autonomy to NOAO and NSO within a single cooperative agreement.

### **Cognizant Program Officer(s):**

- Dr. Daniel W. Weedman, Program Director, National Optical Astronomy Observatories and National Solar Observatory, Division of Astronomical Sciences, Suite 1045, telephone: 703-292-4909, e-mail: [dweedman@nsf.gov](mailto:dweedman@nsf.gov).

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

- 47.049 --- Mathematical and Physical Sciences

## ELIGIBILITY INFORMATION

- **Organization Limit:** None
- **PI Eligibility Limit:** None
- **Limit on Number of Proposals:** None

## AWARD INFORMATION

- **Anticipated Type of Award:** Cooperative Agreement
- **Estimated Number of Awards:** One
- **Anticipated Funding Amount:** up to \$175,000,000

# PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

## *A. Proposal Preparation Instructions*

- **Pre-Letter of Intent Briefing:** At NSF, Arlington, VA on April 23, 2001. Please see the full program announcement/solicitation for further information.
- **Letters of Intent:** Submission of Letters of Intent is required. Please see the full program announcement/solicitation for further information.
- **Full Proposals:** Supplemental Preparation Guidelines
  - The program announcement/solicitation contains supplements to the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full program announcement/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. Deadline/Target Dates*

- **PRE-LETTER OF INTENT BRIEFING:** April 23, 2001
- **Letters of Intent (*required*):** May 4, 2001
- **Preliminary Proposals (*optional*):** None
- **Full Proposal Deadline Date(s):** July 20, 2001

## *D. FastLane Requirements*

- **FastLane Submission:** Full Proposal Required
- **FastLane Contact(s):**
  - Ms. Kim Elliot, Computer Specialist, Division of Astronomical Sciences, Room 1053, telephone: 703-292-4894, e-mail: [astfl@nsf.gov](mailto:astfl@nsf.gov).

# PROPOSAL REVIEW INFORMATION

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

## **AWARD ADMINISTRATION INFORMATION**

- **Award Conditions:** Additional award conditions apply. Please see the program announcement/solicitation for further information.
- **Reporting Requirements:** Additional reporting requirements apply. Please see the full program announcement/solicitation for further information.

## ***TABLE OF CONTENTS***

---

### SUMMARY OF PROGRAM REQUIREMENTS

#### I. INTRODUCTION

#### II. PROGRAM DESCRIPTION

#### III. ELIGIBILITY INFORMATION

#### IV. AWARD INFORMATION

#### V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

##### A. Proposal Preparation Instructions

##### B. Budgetary Information

##### C. Deadline/Target Dates

##### D. FastLane Requirements

#### VI. PROPOSAL REVIEW INFORMATION

##### A. NSF Proposal Review Process

##### B. Review Protocol and Associated Customer Service Standard

#### VII. AWARD ADMINISTRATION INFORMATION

##### A. Notification of the Award

##### B. Award Conditions

##### C. Reporting Requirements

#### VIII. CONTACTS FOR ADDITIONAL INFORMATION

#### IX. OTHER PROGRAMS OF INTEREST

## **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. In these regards, NSF supports a number of facilities which provide research capabilities in various scientific disciplines. The National Optical Astronomy Observatories (NOAO) and the National Solar Observatory (NSO) provide such facilities for research in optical and infrared astronomy and solar physics. The missions of NOAO and NSO are to:

- Provide forefront observing capabilities and observing support to US scientists on the basis of merit and regardless of institutional affiliation,
- Acquire, analyze, archive, and disseminate observational astronomical data,
- Lead development of new telescopes, instruments, and techniques,
- Support scientific staff who conduct research for its intrinsic value,
- Provide education and training programs which strengthen US astronomy education at all levels,
- Implement partnerships with universities, non-federal observatories, and industry to achieve mission goals for the benefit of the entire US astronomical community.

The combined observatories of NOAO and NSO are a Federally Funded Research and Development Center (FFRDC) funded by NSF. NOAO and NSO are currently managed through a cooperative agreement with the Association of Universities for Research in Astronomy, Inc. (AURA). This agreement expires March 31, 2003. NSF's governing body, the National Science Board, has adopted the principle that expiring NSF awards should be recompeted to assure the best use of NSF funds for supporting research and education. Through this program solicitation, NSF's Division of Astronomical Sciences (AST) is soliciting proposals for management and operations of NOAO and NSO beginning April 1, 2003 and continuing through a 5 year award period.

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

## **II. PROGRAM DESCRIPTION**

This solicitation encompasses management and operations for the facilities and programs described below within NOAO and NSO. Both NOAO and NSO will be included within a single cooperative agreement, but proposers must provide budgets and management plans that give administrative and financial autonomy to the two organizations.

### **A. Description of National Optical Astronomy Observatories**

NOAO's facilities are currently managed from headquarters in Tucson, Arizona and are located at Kitt Peak National Observatory (KPNO) near Tucson and at the Cerro Tololo Inter-American

Observatory (CTIO) near La Serena, Chile. Telescopes operated at KPNO are the 4-meter Mayall Telescope, optimized for wide field of view, the 3.5-meter Wisconsin-Indiana-Yale-NOAO (WIYN) telescope, optimized for image quality, and a 2.1-meter general purpose telescope. Telescopes operated by NOAO at CTIO are the 4-meter Blanco Telescope, optimized for wide field, the 4.3-meter Southern Astrophysical Research (SOAR) Telescope, optimized for image quality through adaptive optics, and a 1.5-meter general purpose telescope. Numerous tenant observatories operated by US universities are also located on Kitt Peak and Cerro Tololo and share infrastructure costs with NOAO. NOAO is responsible for developing and monitoring contractual arrangements with these tenants. Descriptions of KPNO and CTIO telescopes and associated instrumentation are available at <http://www.noao.edu/>.

NOAO is also responsible for the US Gemini Program Office (USGP), which is the gateway for US astronomers to their share of observing resources on the twin 8-meter Gemini Telescopes, located on Mauna Kea, Hawaii, and Cerro Pachon, Chile. The USGP at NOAO provides support to US astronomers for observing proposal preparation and implementation, data analysis, and instrumentation development. (NSF funding for the US share of Gemini construction and operations costs is provided through a separate cooperative agreement with the operating consortium for the International Gemini Project.) Descriptions of the USGP and the Gemini Telescopes are available at <http://www.noao.edu/usgp/>.

NOAO administers observing time to the astronomical community via competitive observing proposals; evaluation and allocation of up to 1000 observing proposals per year will continue to be a significant component of NOAO management. As part of this process, NOAO also administers time on those non-federal US optical and infrared telescopes for which observing time is made available to the entire US community in exchange for NSF support of instrumentation on those telescopes.

NOAO is the organization responsible for coordinating planning by the US community for major new NSF-funded initiatives in optical and infrared astronomy. This planning is in close partnership with US universities and non-federal observatories. Near term initiatives for which such coordination is underway include the Telescope Systems Instrumentation Program (TSIP) and the ground-based component of the National Virtual Observatory (NVO). Longer term planning includes the Large Synoptic Survey Telescope (LSST) and the Giant Segmented Mirror Telescope (GSMT).

NOAO 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), the Research Based Science Education initiative (RBSE), public visitor center and associated observing programs, and Web-based public outreach.

More extensive descriptions of the above items and of other NOAO objectives, along with budget estimates for the term 2001-2005, are available in the most recent Long Range Plan, <http://www.noao.edu/dir/lrplan/2000/>.

Primary funding for the operating budget of NOAO is from NSF AST; FY 2000 funding was approximately \$22,000,000. Staffing in full time equivalents is approximately 310. Additional support for specific activities may be provided from time to time by other federal agencies.

## B. Description of National Solar Observatory

NSO's facilities are managed from headquarters in Sunspot, New Mexico and are located on Sacramento Peak, NM, and on Kitt Peak, near Tucson, Arizona. The principal telescope at Sacramento Peak is the 0.76-meter Dunn Solar Telescope, a vacuum tower telescope optimized for high spatial resolution through use of solar adaptive optics. The principal telescope at Kitt Peak is the 1.5-meter McMath-Pierce solar telescope, world's largest solar telescope and optimized for infrared observations. Beginning in 2001, the Synoptic Optical Long-term Investigations of the Sun (SOLIS) suite of telescopes will be in operation on Kitt Peak. NSO also operates the worldwide network of 6 telescopes for the Global Oscillation Network Group (GONG) to monitor helioseismology. Descriptions of NSO telescopes and associated instrumentation are available at <http://www.nso.noao.edu/>.

NSO is the organization responsible for leading development of a proposed major new solar telescope, the Advanced Technology Solar Telescope (ATST), which will be approximately a 4-meter solar telescope fully utilizing adaptive optics.

NSO 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), public visitor center and programs, and Web-based public outreach.

More extensive details of the various NSO objectives and the associated budget estimates for the term 2001-2005 are available in the most recent Long Range Plan, <http://www.nso.noao.edu/lrp/>.

Primary funding for the operating budget of NSO is from NSF AST; FY 2000 funding was approximately \$8,000,000. Staffing in full time equivalents is approximately 85. Additional support for specific activities is also provided by other federal agencies.

## C. Description of Awardee Responsibilities

The awardee shall be responsible for the overall welfare of NOAO and NSO and for maximizing the benefits to the astronomical community of the resources within NOAO and NSO. The awardee shall 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 optical and infrared astronomy and in solar physics. The awardee shall 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 NOAO and NSO, and with the NSF to assure a mutual integration of the respective needs and priorities. In discharging these responsibilities, the awardee shall ensure that NOAO and NSO maintain their characters as institutions which primarily enable first rate visitor research, while also having strong internal research programs and leading community-based initiatives in the relevant disciplines.

Specifically, the awardee shall:

- Staff, manage, operate, maintain, and develop NOAO and NSO consistent with the capabilities, roles and objectives described above,

- Assure highly productive use by the US astronomical community of the twin telescopes of the International Gemini Project,
- Provide through the staff and facilities of the Observatories the support necessary for the conduct of research in the relevant disciplines, assuring that the primary criterion for the utilization of facilities be the scientific merit of the proposed research, as judged through appropriate merit review mechanisms,
- Develop new instruments, techniques, and software for astronomical observations, data analysis, and data utilization which exploit existing NOAO and NSO telescopes,
- Lead community-based planning, design, and development efforts for proposed new federally-funded initiatives in ground-based optical and infrared astronomy and solar physics, especially including the Advanced Technology Solar Telescope, the Telescope Systems Instrumentation Program, the National Virtual Observatory, the Large Synoptic Survey Telescope, and the Giant Segmented Mirror Telescope,
- Implement appropriate partnerships with US universities and non-federal observatories which could enhance observational capabilities available to the entire community,
- Utilize the knowledge and discoveries of astronomy to promote education at all levels.

### **III. ELIGIBILITY INFORMATION**

The categories of proposers identified in the [Grant Proposal Guide](#) are eligible to submit proposals under this program announcement/solicitation.

### **IV. AWARD INFORMATION**

The initial award will be a cooperative agreement for a duration of 5 years, beginning April 1, 2003, with anticipated annual funding amounts of up to \$35,000,000. 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 agreed to by NSF, subject to the availability of appropriated funds.

NSF will also fund transition costs through a separate grant for the 12 month period beginning April 1, 2002, if the new awardee is not the current awardee. During this transition period, a new awardee would have full access to NOAO personnel and facilities.

### **V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

#### **A. Proposal Preparation Instructions**

##### **NSF Briefing:**

Potential proposers with interest in this program solicitation are invited to attend a briefing at NSF in Arlington, VA, on April 23, 2001, where further information about NOAO and NSO will be provided and questions addressed from potential proposers in a common forum. Attendance at the briefing is at the expense of the attendees. Persons wishing to attend this briefing should contact the cognizant program officer regarding details of time, location, and format.

**Letters of Intent:**

Letters of Intent to submit a proposal must be received by 5 PM ET on May 4, 2001. They should be addressed to the cognizant program officer at the address given in this solicitation and may be submitted electronically or by mail. Letters of Intent do not obligate organizations to submit a proposal, but proposals will be accepted only from those organizations which have submitted Letters of Intent.

**Full Proposal:**

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 Web Site at: <http://www.nsf.gov/cgi-bin/getpub?nsf012>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

Proposers shall provide all staffing and budgeting information needed to describe how proposers will fulfill the expectations in sections I and II. FastLane submission requires a combined budget showing total costs for NOAO and NSO, but the budget division between NOAO and NSO shall be explained in separate spreadsheets included within the budget justification. Requested budget amounts, for each year of the proposal, should reflect the level considered necessary to perform the activities described in the proposal. However, proposers should be cognizant of budget constraints implied by the funding levels provided for FY 2000 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. The current awardee will cooperate with the successor to the extent necessary to facilitate uninterrupted support for NOAO and NSO during the transition period and to 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 NOAO and NSO. Waivers are allowed for page limits exceeding normal NSF guidelines. Each proposal shall include within the Project Description:

1.) A Management and Transition Plan.

This plan must fully describe the proposed organization for both NOAO and NSO. Particular attention should be given to oversight and user-feedback mechanisms and mechanisms for interacting with the larger astronomical community. Also, the mechanisms for reviewing and scheduling user access to NOAO and NSO must 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 NOAO and NSO. The current managing organization for NOAO and NSO is the Association of Universities for Research in Astronomy, Inc. (AURA). Except for positions defined for Key Individuals, the proposing organization must agree that all NOAO and NSO employees of AURA as of March 31, 2003, will be offered employment by the proposing organization at salary rates equivalent to those

being paid by AURA at the time of the offer of employment. Proposing organizations may propose as Key Individuals persons currently employed by AURA in those or other positions. The proposing organization must also describe what rights and privileges of employment will be granted to those individuals within NOAO and NSO who hold tenure within AURA as of March 31, 2003.

A proposing organization must agree to recognize employees' length of service within AURA to meet service credit requirements for vacation, sick leave, health insurance, severance pay, group insurance, and any other benefits. A proposing organization must agree to assume liability for current retiree benefits as previously granted by AURA and must describe benefits for future retirees. Costs for guaranteeing such benefits must be included in the proposal budget. A proposing organization must recognize the currently certified collective bargaining agents and their existing agreements and must accept responsibility and accountability for existing commercial and regulatory obligations of AURA on behalf of NOAO and NSO, 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 scientific objectives of the research to be supported by visiting astronomers and by the scientific staff. This plan must explain how the management of NOAO and NSO 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 NOAO and NSO in order to accomplish the scientific objectives. This includes plans for maintenance of existing capabilities, including telescopes, instrumentation, computer systems, etc. This also includes plans for upgrades of existing facilities or development of new capabilities, including major new telescopes or 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 and what mechanisms will be used for any decisions to decommission capabilities. It must also explain how NOAO and NSO 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, including public education, K-12 education, undergraduate and graduate education. 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 solicitation number (NSF 01-80) in the program announcement/solicitation block on the proposal Cover Sheet (NSF Form 1207). 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 is not required in proposals submitted under this Program Solicitation.

## **C. Deadline/Target Dates**

**PRE-LETTER OF INTENT BRIEFING:** April 23, 2001

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

**Letters of Intent (*required*):** May 4, 2001

**Full Proposals by 5:00 PM local time:** July 20, 2001

## **D. FastLane Requirements**

Proposers are required to prepare and submit all proposals for this Program 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 1-800-673-6188.

*Submission of Signed Cover Sheets.* The signed copy of the proposal Cover Sheet (NSF Form 1207) must be postmarked (or contain a legible proof of mailing date assigned by the carrier) within five working days following proposal submission and be forwarded to the following address:

National Science Foundation  
DIS – FastLane Cover Sheet  
4201 Wilson Blvd.  
Arlington, VA 22230

# **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.

Proposals will be reviewed against the following general review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgements.

### **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?

Principal Investigators should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both of 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 -- 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**

For this solicitation, the following additional and specific review criteria will be used in the evaluation of proposals.

- o Quality of proposing organization's overall vision for roles of NOAO and NSO in national and international astronomy,
- o Degree to which scientific programs, priorities and technical capabilities reflect needs of US astronomical community,
- o Suitability, quality and cost effectiveness of management plan for operating and maintaining NOAO and NSO,

- o Extent and quality of specified educational programs at all levels,
- o 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,
- o Suitability, experience, and professional stature of key management individuals, both within the proposing organization and within NOAO and NSO,
- o Proposing organization's experience in operating major scientific facilities, especially of a multi-national nature,
- o Experience and stature of key scientific and technical staff,
- o Potential for national and international scientific leadership by NOAO and NSO,
- o 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 Mail and/or 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.

NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. 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 its 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 Web site at [http://www.nsf.gov/home/grants/grants\\_gac.htm](http://www.nsf.gov/home/grants/grants_gac.htm). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto: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 Web site 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 Web site at <http://www.gpo.gov>.

### **Special Award Conditions**

Special award conditions as described in the current cooperative agreement will be made available to potential proposers who attend the NSF briefing described in section V.(A). A paper copy of this agreement will also be provided 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 NOAO and NSO. 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. 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.

NSF has implemented an electronic project reporting system, available through FastLane. 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 Management and Operations of the National Optical Astronomy Observatories and the National Solar Observatory should be made to:

- Dr. Daniel W. Weedman, Program Director, National Optical Astronomy Observatories and National Solar Observatory, Division of Astronomical Sciences, Suite 1045, telephone: 703-292-4909, e-mail: [dweedman@nsf.gov](mailto:dweedman@nsf.gov).

For questions related to the use of FastLane, contact:

- Ms. Kim Elliot, Computer Specialist, Division of Astronomical Sciences, Room 1053, telephone: 703-292-4894, e-mail: [astfl@nsf.gov](mailto:astfl@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 web site 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 (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) 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 program announcement/solicitation for further information.

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 1-800-877-8339.

The National Science Foundation is committed to making all of the information we publish easy to understand. If you have a suggestion about how to improve the clarity of this document or other NSF-published materials, please contact us at [plainlanguage@nsf.gov](mailto:plainlanguage@nsf.gov).

## **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.

Pursuant to 5 CFR 1320.5(b), 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, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 17th Street, N.W. Room 10235, Washington, D.C. 20503.

*OMB control number: 3145-0058.*