EPSCoR Research Infrastructure Improvement Grant Program (RII)

National Science Foundation
Directorate for Education and Human Resources
    Office of the Experimental Program To Stimulate Competitive Research

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

   July 19, 2004

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

   EPSCoR Research Infrastructure Improvement Grant Program (RII)

Synopsis of Program:

   The Experimental Program to Stimulate Competitive Research (EPSCoR) is a program designed to fulfill the National Science Foundation's (NSF) mandate to promote scientific progress nationwide. The EPSCoR program is directed at those jurisdictions that have historically received lesser amounts of NSF Research and Development (R&D) funding. Twenty-four states, the Commonwealth of Puerto Rico and the U. S. Virgin Islands currently participate. Through this program, NSF establishes partnerships with leaders in the state government, higher education and industry designed to effect lasting improvements in a jurisdiction's research infrastructure and its national R&D competitiveness.

Cognizant Program Officer(s):

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

- 47.076 --- Education and Human Resources

Eligibility Information

- **Organization Limit:**

  Only organizations located in states/jurisdictions which meet the EPSCoR criteria are eligible to submit a proposal to the Research Infrastructure Improvement Grant Program. The state's EPSCoR governing committee must designate a fiscal agent/proposing organization as the awardee for the Research Infrastructure Improvement grant. Where possible, this should be the employing organization of the Project Director.

- **PI Eligibility Limit:** None Specified.
- **Limit on Number of Proposals:** 1. Only one Research Infrastructure Improvement proposal may be submitted in response to this solicitation by the designated fiscal agent/proposing organization, acting on behalf of a state's EPSCoR governing committee.

Award Information

- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** 4
- **Anticipated Funding Amount:** $12 Million in FY05 (pending availability of funds)

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 required (Percentage).
- **Cost Sharing Level/Amount:** 50%
- **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

- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):
  July 19, 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.

I. INTRODUCTION

Section 3(e) of the National Science Foundation (NSF) Act of 1950, as amended, states that: "...it shall be an objective of the Foundation to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education." Through its Congressional mandate, NSF promotes and advances scientific progress nationwide. However, in 1978, public concern about undue geographical concentration of federal funding of academic research and development (R&D) led Congress to further authorize NSF to conduct the Experimental Program to Stimulate Competitive Research (EPSCoR). These Congressional instructions, which established the Experimental Program to Stimulate Competitive Research, have been restated in subsequent Congressional authorizations of the Foundation's budget. Eligibility for EPSCoR participation is, therefore, restricted to those jurisdictions that have historically received lesser amounts of NSF R&D funding and have demonstrated a commitment to develop their research bases and to improve the quality of science, technology, engineering,

and mathematics (STEM) research conducted at their universities and colleges. Twenty-four states, the Commonwealth of Puerto Rico and the U. S. Virgin Islands currently participate in the NSF EPSCoR program. For the purposes of this solicitation, the word "state" includes all eligible jurisdictions. (See section I, paragraph B, for additional EPSCoR eligibility information).

A. EPSCoR Mission

EPSCoR is based on the premise that universities and their faculty and students in science, technology, engineering and mathematics (STEM) fields are valuable resources that can have positive influences on a state's development in the twenty-first century in much the same way that agricultural, industrial and natural resources did during the twentieth century. EPSCoR's goal, therefore, is to identify, develop, and fully utilize a state's academic science and technology resources in ways that will support a more creative environment and productive way of life for its citizens. To achieve this end, NSF cooperates with state leaders in government, higher education, and business to support sustainable long-term partnerships in support of common objectives. These partnerships are designed to stimulate local action that will result in lasting improvements to the state's STEM research and educational infrastructure and thereby, increased national R&D competitiveness.

EPSCoR increases the R&D competitiveness of an eligible state through the development and use of STEM resources residing in its research, educational, and industrial institutions.   While EPSCoR focuses primarily on those universities granting significant numbers of the state's Ph.D. degrees in STEM disciplines, effective partnerships between those universities and other institutions across the state (e. g., predominantly undergraduate universities and colleges, community colleges, and local school districts) are encouraged.

There is widespread agreement that our Nation's continued leadership in science, technology, engineering and mathematics (STEM) and the corresponding economic prosperity that it creates require that all of its educational and private sector resources be fully employed. Therefore, to ensure full participation of all our universities and colleges in our nation's economic and scientific future, opportunities for research experiences that interest and prepare citizens for STEM careers are essential. Such opportunities are especially true for institutions that have a major role in serving groups underrepresented in STEM careers (e.g., two-year colleges, large urban universities, and minority-serving institutions).

As a result of EPSCoR funding, it is expected that sustainable STEM infrastructure improvements at the state and institutional levels will be achieved, significantly increasing the movement of EPSCoR researchers into the mainstream of federal and private sector R&D support.

B. Criteria for Eligibility to Participate in NSF's Experimental Program to Stimulate Competitive Research (EPSCoR) Program

Eligibility to participate in the NSF EPSCoR program is based on the level of NSF research funding. Each year, the NSF EPSCoR Office compiles summary data for the preceding three years of NSF research funding by state. The data are reported by the NSF Office of Budget, Finance and Award Management and listed on the NSF's Budget Internet Information System. These data and eligibility criteria for new jurisdictions can be found on the NSF EPSCoR website at www.ehr.nsf.gov/epscor. Twenty-four states, the Commonwealth of Puerto Rico and the U. S. Virgin Islands currently participate in the NSF EPSCoR program.

Eligibility to participate in the current EPSCoR Research Infrastructure Improvement competition is restricted to those states that received **0.70%** or less of the total NSF research funds to all sources within a state averaged over the three-year period. Adjustment is made in the rare instances where a single large NSF-funded national or international facility skews the data.

Any currently participating EPSCoR state that does not meet the eligibility criteria for the Research Infrastructure Improvement competition will continue to be eligible for EPSCoR Co-Funding and EPSCoR Outreach (described below) for a period of three years. In such cases, the NSF EPSCoR Office may provide limited financial support to maintain the statewide EPSCoR administrative structure.

C. EPSCoR Investment Strategy

EPSCoR's investment portfolio is consistent with the Foundation's Strategic Outcome Goals of PEOPLE, IDEAS, and TOOLS as described:

- **People** - A diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, technologists and well-prepared citizens.

- **Ideas** - Discovery across the frontier of science and engineering, connected to learning, innovation and service to society.

- **Tools** - Broadly accessible, state-of-the-art S&E facilities, tools and other infrastructure that enable discovery, learning and innovation.

EPSCoR uses three major strategies to achieve its goal of improving the R&D competitiveness of the EPSCoR researchers and institutions: Co-funding, Outreach Travel Support for NSF staff, and Research Infrastructure Improvement.

1.   Co-Funding: Joint support may be provided for certain meritorious proposals submitted to the Foundation's ongoing research and education programs and special competitions. Co-funding is an internal NSF funding mechanism which does not involve any action on the part of the proposer. EPSCoR Co-funding is a major NSF cross- directorate activity, applicable to programs in all Directorates, the Office of Integrative Activities, and the Office of Polar Programs.

2.   Outreach Travel Support: Financial support is provided for outreach visits by NSF staff to acquaint the EPSCoR research community with NSF priorities, programs, and policies and to more fully acquaint NSF staff with the R&D resources and further potential residing within EPSCoR states.

3.   Research Infrastructure Improvement Grants: Research Infrastructure Improvement awards are 36 or 48 month grants of up to $9 million to support infrastructure improvements in research areas selected by the state's EPSCoR governing committee as having the best potential to strengthen to its future R&D competitiveness.   A 50% non-federal cost share, up to a maximum of $4.5 million over the term of the award is required.   Proposed cost share must not exceed 50% of the total requested funds for the project.

This solicitation describes the Research Infrastructure Improvement grant program and competition. Further information on the Co-funding and Outreach Travel Support strategies can be found at www.ehr.nsf.gov/epscor under "Investment Strategy."

II. PROGRAM DESCRIPTION

The purpose of an EPSCoR Research Infrastructure Improvement grant is to provide support for lasting improvements in a state's academic research infrastructure and increased national competitiveness. EPSCoR support is intended to add specific value to the state's academic infrastructure not generally available through other funding sources.

Each state must name an EPSCoR governing committee to work closely with leaders in academe, government and the private sector. The committee will identify potential R&D improvement strategies and activities that are most likely to advance the development of a nationally competitive academic R&D capability.

The EPSCoR Research Infrastructure Improvement proposal must describe the strategy and implementation mechanisms to develop, expand, and use the science and technology resources that reside in the state's universities. In preparation for submitting a proposal, the EPSCoR governing committee within each state is expected to have undertaken a comprehensive analysis of the strengths, barriers, and opportunities for development of its institutions in support of overall state objectives. Successful infrastructure improvement plans are likely to be those that represent the opportunities for enhanced academic R&D competitiveness among a state's universities, including plans for generation of sustained non-EPSCoR support. Most

importantly, the state's infrastructure improvement strategy must identify implementation mechanisms that have a high probability of realizing stated goals and objectives. In all instances, specification of performance milestones and a timetable for achieving such milestones is a requirement for EPSCoR support. With EPSCoR support, it is expected that the improvement strategies will enable targeted research areas to become nationally competitive and sustained by non-EPSCoR support after the award period.

It is important to note that a Research Infrastructure Improvement grant is **NOT** the appropriate mechanism to provide support for individual faculty research projects. Requests for support of such projects should be directed to NSF's regular research and educational grant programs. In addition, because EPSCoR investments are important to enhancing a state's competitiveness, it is expected that equipment purchased with EPSCoR funds will remain in the state and will not be transferred in the event that a Principal Investigator transfers to another state.

Since the amount of NSF support that may be requested in an EPSCoR Research Infrastructure Improvement proposal is limited to a maximum of $9 million over a period of 36 or 48 months, a state with a current Research Infrastructure Improvement grant is not eligible to receive a second such award during the 36 or 48 month period following the effective date of the current grant.

A. Examples of Infrastructure Improvements

Past EPSCoR experience indicates that infrastructure improvement strategies that sharply focus available fiscal and human resources on a limited number of research and educational areas and activities that are consistent with specified long-term institutional objectives are most successful. EPSCoR strives for improvements that will significantly increase an institution's R&D competitiveness for large scale and cross-cutting competitions, such as Science & Technology Centers, Partnerships for Innovation, ADVANCE, Biocomplexity in the Environment, Information Technology, and Nano-Scale Science and Engineering Research.   In each instance, EPSCoR support of a proposed research improvement activity should not duplicate other available federal, state, or institutional resources and should add significant value to the existing situation.

Some examples of research infrastructure improvement activities that are consistent with NSF/EPSCoR program objectives are:

- Support for competitive levels of start-up funding for new faculty including "seed funding" of faculty research leading to the submission of competitive grant proposals; faculty exchange programs with major centers of research activity; acquisition of state-of-the-art research instrumentation that is unavailable through NSF's regular grant programs;
- Meaningful partnerships among EPSCoR colleges and universities; partnerships between EPSCoR colleges, universities and nationally recognized centers of R&D activity (e.g. federal and industrial R&D laboratories, NSF-sponsored research centers, and academic institutions with nationally-recognized research capabilities);
- Productive partnerships between the state's research universities and the private sector, especially those that increase linkages between EPSCoR researchers and their counterparts in research and/or technology based small businesses and increase the competitiveness of the jurisdiction's S&T entrepreneurial talent in competitions for federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grant funding;
- Innovations in STEM education and human resource development that will expand student career options and facilitate the entry of members of underrepresented groups within the state (i.e. minorities, women and persons with disabilities) into S&T fields;
- Competitive support for the acquisition of equipment for research experiences and instruction by predominately undergraduate research institutions;
- Creation of graduate research training groups, or similar appropriate mechanisms that: integrate education and research; encourage multidisciplinary educational experiences; establish links with industry and national laboratories; and nurture a synergistic "corporate" educational and research responsibility;
- Development of nationally competitive high-performance computing and networking capabilities to strengthen and enrich the environment for research/educational collaborations;
- Establishment of region-based collaboratives that jointly create science and engineering knowledge that is applicable to significant issues of regional relevance and national importance;
- Mini-sabbaticals for EPSCoR researchers to existing research centers to gain experience in the research activities and administration of such facilities in the United States and abroad; funding to avail researchers of opportunities to enhance their research and education programs through international collaborations; support for creative means for reducing teaching loads to encourage faculty research and submission of competitive proposals.

To insure maximum impact of limited EPSCoR funds, NSF support should not duplicate or replace existing institutional, state, federal or private sector funding to maintain existing activities, however excellent they may be. EPSCoR funding should not be used as an alternative to research and instrumentation support available through NSF's regular grant programs and special competitions. Requests for EPSCoR funding must: (1) add significant and measurable value to existing research capability in S&T areas of high institutional and state priority and (2) present a detailed strategy to generate subsequent sustained non-EPSCoR funding from federal, state, or private sector sources.

B. Eligible Activities

The NSF recognizes that local considerations strongly influence the scope and nature of EPSCoR activities within a state and therefore, NSF does not require that a set of specific activities be carried out as part of EPSCoR awards. However, all proposals for EPSCoR-supported projects must:

- provide convincing background and rationale for the projects proposed;
- adhere to EPSCoR objectives as decribed in this solicitation;
- meet national standards of excellence, including persuasive evidence of the ability to produce demonstrable achievements within the award period;
- describe the plan to obtain subsequent non-EPSCoR support from federal, state, and/or private sector sources;
- demonstrate the value that the NSF EPSCoR support adds to the current R&D enterprise in the state and in its educational institutions; and,
- include a management plan which includes management team member roles/responsibilities and participation of the state governing committee in the project (as detailed in the section below on Project Description Requirements).

Proposals requesting support for Research Infrastructure Improvement may include support for academic, state, profit and non-profit organizations, as well as individuals employed by such organizations both inside and outside the state. In addition, cooperative programs among research universities within or among EPSCoR states, or between a state's research universities and predominately undergraduate institutions, are eligible for EPSCoR support. In all cases however, Project Directors/Principal Investigators of proposed EPSCoR projects must be affiliated with research universities, agencies, or organizations within the participant state. In addition, all activities carried out under an EPSCoR award are subject to the restrictions concerning eligible science, technology, engineering, and mathematics disciplines and activities detailed in the NSF Grant Proposal Guide found on the NSF website at http://www.nsf.gov/cgi-bin/getpub?gpg.

III. ELIGIBILITY INFORMATION

Limit: Only organizations located in states/jurisdictions which meet the EPSCoR criteria are eligible to submit a proposal to the Research Infrastructure Improvement Grant program. The state's EPSCoR governing committee must designate a fiscal agent/proposing organization as the awardee for the Research Infrastructure Improvement grant. Where possible, this should be the employing organization of the Project Director.

  PI Eligibility Limit: None specified.

Limit on Number of Proposals: 1. Only one Research Infrastructure Improvement proposal may be submitted in response to this solicitation by the designated fiscal agent/proposing organization, acting on behalf of a state's EPSCoR governing committee.

IV. AWARD INFORMATION

Anticipated Type of Award: Standard or Continuing Grant

Estimated Number of Awards: Up to 4

Duration: Award duration of up to 36 or 48 months

Anticipated Funding Amount: $12 Million in FY05 (pending availability of funds)

 Limitation of Awards:

- RII award amount not to exceed $9 million over the 36 or 48 month duration.
- States with current Research Infrastructure Improvement (RII) grants are not eligible to receive second RII awards during the 36 or 48 month period following the effective date of the current grant.   Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

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.

The following instructions are specific to proposals submitted to the Research Infrastructure Improvement competition and supplement the NSF Grant Proposal Guide (GPG):

- The state's EPSCoR governing committee shall designate a fiscal agent/proposing organization for the project. Where possible, this should be the employing organization of the Project Director.

PROJECT DESCRIPTION REQUIREMENTS

The proposal section labeled Project Description may not exceed 15 pages, including text, as well as any graphic or illustrative materials. The Project Description must include the following elements:

1. The current status of the state's academic R&D enterprise, including a comprehensive analysis of the strengths, barriers, and opportunities for development of its research institutions in support of overall state R&D objectives. The proposal narrative should explain the relationship of the proposed activities with the state's science and technology plans and policies.

2. The proposed overall strategy and accompanying implementation mechanisms to improve the state's competitiveness for federal, state, and private sector R&D funding.

3. The specific S&T infrastructure improvement activities identified as being most likely to advance the state's future research competitiveness and their relationship to the development of nationally competitive research focus areas.

4. A description of planned outreach activities that will expand institutional participation, student career options and facilitate the entry of members of women, underrepresented groups and institutions within the state, into STEM fields.

5. A Management Plan. The management plan is a critical component of the RII project. The EPSCoR management team is responsible for implementing the proposed research infrastructure improvement activities and managing all aspects of the project.

Therefore, it is important that the project's management team be sufficient in number and level of effort to assume technical and administrative oversight of the project and accomplishment of project milestones. In addition, it is expected that the EPSCoR management team will coordinate with other offices (e.g., sponsored research offices) to identify funding opportunities and facilitate outreach. The management team must make optimal use of resources and respond to emerging opportunities as they develop. The management team is also responsible for enhancing public understanding about the importance of the role of science in service to society.

The management plan must contain the following:

- Project monitoring and assessment: milestones and a timetable for achieving state and institutional EPSCoR objectives and the plan and criteria for monitoring and evaluating program effectiveness.

- EPSCoR governing committee: committee composition and its role in project governance, including specific management responsibilities.

- EPSCoR management team: the role and responsibilities of the Project Director (and Co-Directors), administrative support personnel and other team members.

- Funding strategy: a strategy, including milestones for obtaining non-EPSCoR funding from federal, state, and/or private sources to sustain EPSCoR-initiated infrastructure improvements.

- Outreach strategy: a strategy for broadening the participation of institutions, women, and underrepresented groups in the activities of the project. Examples of support include faculty and student exchanges, summer research experiences for high school students and undergraduates, undergraduate research equipment grant programs, and curriculum development.

- Technical assistance and evaluation plan: A plan to ensure that adequate scientific, technical, and management expertise and assistance are available. In addition, proposers should plan for review and evaluation of RII activities by a diverse group of external experts during the award period. Technical assistance may include, but is not necessarily limited to: (1) assisting with planning of proposals to be submitted to major NSF grant competitions; (2) developing frameworks for university-industry-government collaboration; (3) bringing experts to an institution/ state in a mentoring capacity, either individually or in a workshop context.

Proposers are reminded to identify the program announcement/solicitation number (04-564) 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 at a level of 50 percent of the requested total amount of NSF funds is required for all proposals submitted in response to this announcement/solicitation. 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 in 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:

Funding request must be for **a total** of up to $9 million with an award duration of up to 36 or 48 months. Annual budgets for NSF support should not exceed $3 million.

Cost sharing at a level of 50 percent (up to $4.5 million) of the requested total amount (up to $9 million) of NSF funds is required for all proposals submitted in response to this solicitation.

Budgets should include sufficient funding for annual state EPSCoR conferences.

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):

      July 19, 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:

Reviewers will be asked to evaluate the proposal using the following EPSCoR-specific criteria:

1. Strategic Fidelity - Are the proposed research infrastructure improvement plans and strategies appropriate and responsive to the strengths, barriers, and opportunities identified in the proposal?

2. Value Added - Do the proposed activities add value at the state, institutional, STEM and educational levels?

3. Sustainability - Are the plans to obtain non-EPSCoR funding clear and reasonable?

4. Outreach Strategy - Is the outreach strategy likely to be effective in broadening participation (e.g., institutions, women and underrepresented minorities) in the activities of the proposed project?

5. Management Plan - Is the management plan likely to be effective? Do the Project Director and the management team demonstrate the vision, experience and capacity to manage a complex, multi-faceted research, education and knowledge transfer enterprise? Are the membership and roles of the state EPSCoR governing committee and external advisors clearly identified, and their involvement in the project clearly demonstrated?

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 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.)

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:

The annual progress and final reports must identify the numbers of women and members of other underrepresented groups in faculty and staff positions and as participants in the activities funded by the award. The annual report must include the results of efforts to increase the participation of women and members of other underrepresented groups in project staffing and project activities. Future funding will be based, in part, on progress in increasing the numbers of women and members of other underrepresented groups in the activities funded by this award.

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.

Annual cost-sharing certifications and reporting through the FastLane system are required.

The annual and final reports must include identification of numbers of women and members of other underrepresented groups in faculty and staff positions and as participants in the activities funded by the award. See Special Award Condition above.

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:

- B. Jane Harrington, Program Director, Directorate for Education & Human Resources, Office of Experimental Program To Stimulate Competitive Research, 875 S, telephone: (703) 292-8683, fax: (703) 292-9047, email: bharring@nsf.gov

- Martha L. James, Program Manager, Directorate for Education & Human Resources, Office of Experimental Program To Stimulate Competitive Research, 875 S, telephone: (703) 292-7772, fax: (703) 292-9047, email: mjames@nsf.gov

- Julio E. Lopez-Ferrao, Program Director, Directorate for Education & Human Resources, Office of Experimental Program To Stimulate Competitive Research, 875 S, telephone: (703) 292-8683, fax: (703) 292-9047, email: jlopezfe@nsf.gov

- Karen L. Sandberg, Program Director, Directorate for Education & Human Resources, Office of Experimental Program To Stimulate Competitive Research, 875 S, telephone: (703) 292-8683, fax: (703) 292-9047, email: ksandber@nsf.gov

For questions related to the use of FastLane, contact:

- Patricia A. Ferguson, Senior Program Assistant, Directorate for Education & Human Resources, Office of Experimental Program To Stimulate Competitive Research, 875 S, telephone: (703) 292-8683, fax: (703) 292-9047, email: pferguso@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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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**   (703) 292-5111
  (NSF Information Center)**:**

- **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

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.

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