

# **RURAL SYSTEMIC INITIATIVES IN SCIENCE, MATHEMATICS AND TECHNOLOGY EDUCATION**

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## ***PROGRAM SOLICITATION, INFORMATION, AND GUIDELINES***

**NSF 00-47 (replaces NSF 97-33)**

**DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES  
NATIONAL SCIENCE FOUNDATION**

**PROPOSAL DEADLINE:**

**Development, Phase II, and Tribal Colleges and Universities  
Proposals due April 19**

**Implementation Proposals due October 1**



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## SUMMARY OF PROGRAM REQUIREMENTS

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### GENERAL INFORMATION

**Program Name:** NSF Rural Systemic Initiatives Program (RSI)

**Short Description/Synopsis of Program:**

This program supports activities that promote systemic reform of science and mathematics education in schools and districts in rural, economically disadvantaged areas.

**Cognizant Program Officers:** Dr. Gerald Gipp and Dr. Jody Chase, Division of Educational System Reform, Room 875, telephone (703) 306-1682, e-mail [ggipp@nsf.gov](mailto:ggipp@nsf.gov) or [jchase@nsf.gov](mailto:jchase@nsf.gov).

**Applicable Catalog of Federal Domestic Assistance (CFDA) Nos.:** 47.041, 47.049, 47.050, 47.070, 47.074, 47.075, 47.076, and 47.078

### ELIGIBILITY

- ◆ Limitation on the categories of organizations that are eligible to submit proposals:

*Proposals may be submitted only by institutions of higher education, or non-profit or governmental organizations on behalf of consortia of school districts and communities representing the educational interests of their students in eligible regions. Proposing consortia should include representatives from state and local education agencies, schools, community colleges, business and industry, health and human service agencies, and economic development agencies; and may include private foundations and four-year colleges and universities.*

- ◆ PI eligibility limitations:

**None.**

- ◆ Limitation on the number of proposals that may be submitted by an organization:

**An institution may submit only one proposal per competition. Institutions with active Development awards may submit only one Implementation award per competition. Institutions with active Implementation awards may not submit proposals for additional RSIs.**

## AWARD INFORMATION

- ◆ Type of award anticipated: **Cooperative Agreement (Implementation, Phase II, and Tribal Colleges and Universities Awards)**  
**Standard Grant (Development Awards)**
- ◆ Number of awards anticipated in FY2000: **20**
- ◆ Amount of funds available: **Approximately \$14 million in FY2000 pending availability of funds**
- ◆ Anticipated date of award: **April 19 (Development, Tribal Colleges and Universities [TCU], and Phase II) and October 1 (Implementation) annually**

## Proposal Preparation & Submission Instructions

### ◆ Proposal Preparation Instructions

- Letter of Intent: **None**
- Preproposal requirements: **None**
- Proposal preparation instructions: **Standard NSF *Grant Proposal Guide* (GPG) instructions**
- Supplemental proposal preparation instructions: **None.**
- Deviations from standard (GPG) proposal preparation instructions: **None.**

### ◆ Budgetary Information

- Cost sharing/matching requirements: **5%**

**Cost sharing at a level of 5% of the requested total amount of NSF funds is required for all proposals, except Development proposals, submitted in response to this announcement. The proposed cost sharing must be shown on line M on the proposal budget (NSF Form 1030).**

- Indirect cost (F&A) limitations: **None**
- Other budgetary limitations: **None**

#### ◆ **FastLane Requirements**

- FastLane proposal preparation requirements: **Use of FastLane is required.**
- FastLane points of contact: **Ramona Lyon e-mail: [rlyon@nsf.gov](mailto:rlyon@nsf.gov), Division of Educational System Reform, Room 875, telephone (703) 306-1682**

#### ◆ **Deadline/Target Dates**

- Full proposal deadline: **April 19 annually (Development, Phase II, and TCU) and October 1 annually (Implementation)**

### **PROPOSAL REVIEW INFORMATION**

- ◆ Merit review criteria: **Standard National Science Board approved criteria, supplemented by program-specific criteria described in this program announcement**

### **AWARD ADMINISTRATION INFORMATION**

- ◆ Grant Award Conditions anticipated: **GC-1 or FDP III**
- ◆ Special grant conditions anticipated: **None**
- ◆ Special reporting requirements anticipated: **None**

### **INTRODUCTION**

The role of science and technology in American society is undergoing dramatic change. In an increasingly technology-oriented society, a basic understanding of science and mathematics is essential to maintain a population prepared to meet the need for a technically competent work force. Emerging jobs require higher skill levels in science, mathematics, engineering and technology (SMET) than ever before and more effective education and human resources initiatives are needed if the U.S. is to maintain its technological leadership in the world marketplace. NSF is committed to providing strong and continuing leadership and support for the nation's efforts to improve SMET education, as well as general scientific and mathematical awareness and understanding.

The Directorate for Education and Human Resources (EHR) has primary responsibility for NSF's educational activities. The programs supported by EHR span preschool through professional levels. Programs include student-centered activities, curriculum and instructional materials development, informal science education, education research, teacher and faculty enhancement,

and comprehensive systemic improvement efforts at the precollege and undergraduate levels. Activities range from programs to improve public science understanding to those designed to enhance the diversity and the preparation of the Nation's scientists, mathematicians, and engineers.

Systemic reform of education is increasingly recognized as an important strategy to provide sustainable improvements in the nation's educational enterprise. *Systemic* refers to fundamental, comprehensive and coordinated changes made in science, mathematics and technology education through attendant changes in policy, financing, governance, management, content and conduct. *Systemic reform* occurs when all essential features of schools and school systems are engaged and operating in concert; when policy is aligned with a clear set of goals and standards; when the forthcoming improvements and innovations become an intrinsic part of the ongoing educational system for all children; and when the changes become part of the school system's ongoing operating budget.

NSF past experience shows that successful systemic reform results in:

- Implementation of a comprehensive, standards-based curriculum and/or instructional materials aligned with instruction and assessment, available to every student served by the system and its partners.
- Development of a coherent, consistent set of policies that supports provision of: high-quality mathematics and science education for each student; excellent preparation, continuing education, and support for mathematics and science teachers (especially at the elementary level); and support for administrators who have responsibility for implementing science and mathematics education reform.
- Convergence of all resources that are designed for or that reasonably could be used to support science and mathematics education--fiscal, intellectual, and material--both in formal and informal education settings--into a focused program that upgrades and continually improves the educational program in mathematics and science for all students.
- Broad-based support from parents, policy makers, institutions of higher education, business and industry, foundations, and other segments of the community for the goals and collective value of the initiative.
- Clear evidence that the program is significantly enhancing student achievement and participation in science and mathematics through a set of indices that might include achievement in standard and performance-based tests, portfolio assessments, course enrollments, college admission rates, higher level courses passed, advanced-placement tests taken, perceptions of local employers, and college majors in SMET.
- Significant reductions in the achievement disparities among students that can be attributed to socioeconomic status, race, ethnicity, gender, or learning styles.

## **THE DIVISION OF EDUCATIONAL SYSTEM REFORM**

Within EHR, the Division of Educational System Reform (ESR) serves as a focal point for the Directorate's involvement in systemic reform efforts managing large-scale programs for states, urban centers, and rural areas to strengthen science and technology education infrastructure. The programmatic activities of ESR have focused on stimulating states and selected major cities to initiate comprehensive efforts for making lasting improvements in their science, mathematics, and technology education. In FY 1993, ESR began developing an initiative for rural regions.

This solicitation calls for development and implementation awards under the Foundation's systemic educational reform effort, the Rural Systemic Initiatives (RSI) in Science, Mathematics, and Technology Education. The RSI Program began in FY 1994, making planning and development awards to representative institutions on behalf of coalitions of educational stakeholders in six rural, impoverished regions. In 1995, the program made four implementation awards to six of these sites. By early 1999, the program had made implementation or development awards to eleven regions. Information about these awards is available by contacting ESR, and on the World Wide Web at <http://red.www.nsf.gov>. Currently, the program seeks to expand participation in reform beyond large-scale consortia.

## **THE RURAL SYSTEMIC INITIATIVES**

National tests in science and mathematics achievement indicate a performance gap across regions of the nation. This gap has been attributed to a variety of factors, but is strongly linked with the level of economic poverty of students and the regions in which they reside. Course-taking patterns are strong predictors of the likelihood that students will enroll and succeed in advanced science and mathematics courses or in programs that lead to scientific or technical degrees. Therefore, the lack of students' access to appropriate science and mathematics courses in school severely limits their educational career choices and their ability to be competitive in the increasingly technical workplace. Data show those students in extreme rural or disadvantaged urban areas receive the least exposure to science and mathematics courses.

Schools are increasingly challenged to provide up-to-date, relevant science and mathematics instruction. Rural schools in areas of high poverty have often been isolated from the mainstream of systemic reform efforts that many states have undertaken. Declining tax bases in economically disadvantaged regions have disproportionately increased the barriers faced by rural and inner city schools to ensure curricular improvements in these vital subjects.

The Rural<sup>1</sup> Systemic Initiatives (RSI) Program addresses the barriers to adequate science, mathematics and technology education in economically disadvantaged regions of the nation. By

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<sup>1</sup> For the purposes of this program, NSF includes as "rural" those districts classified by the U.S. Department of Education, National Center for Education Statistics, as rural or small town.

stimulating systemic reform efforts among the communities, school districts, and classrooms of rural areas, RSI encourages the development of strategies that will result in sustainable, adaptable, and systemic improvements in science, mathematics, and technology education in schools and colleges. While the primary focus of the program is on providing leadership and support for educational reform in a rural region, RSI also hopes to encourage discussions geared toward economic growth for the region that bear on student access to, and achievement in, these subjects. RSI's strategy for accomplishing this is to bring together the education, economic, and community leaders as partners, to allow the development of a comprehensive plan for community development, by the impetus of systemic science, mathematics and technology educational reform.

## **RSI GOALS**

The goals of the RSI program are:

1. The improvement of science, mathematics and technology education in rural, economically disadvantaged regions of the nation, including, but not limited to, access to high quality, standards-based instruction, innovative use of educational technologies for interactive delivery of instruction, and the training of the teaching workforce to meet the demands of a new instructional paradigm;
2. Increased student achievement in the fields of science, mathematics, and technology, as measured by higher scores on standards-based assessments, increasing enrollment in higher level courses, and greater articulation to institutions of higher education;
3. The preparation of a technologically competent workforce, by strengthening the science, mathematics and technology instructional capacities in K-12 schools, through partnerships with two-year and four-year institutions of higher education, particularly as it relates to technician education, lower division instruction of technical curricula, and science and mathematics instruction of the future teaching workforce;
4. The enhancement of scientific understanding and appreciation among students and the general community in rural, economically disadvantaged regions of the nation; and
5. The development of community infrastructure to provide resources to sustain educational improvements, including education policy and economic development, governmental commitment, resource reallocation, and community support and involvement in rural schools and districts.

## **Successful RSI proposals will develop:**

- **a sound plan** for science, mathematics and technology learning that includes: high-quality, standards-based curriculum; instruction that engages all students; development of a talented and creative teacher work force; assessment plans that serve children and instruction; articulation strategies, particularly those that encourage the transition from high school to lower division college instruction; provision of appropriate materials and equipment; explicit public accountability strategies and reporting mechanisms; and a nurturing environment.
- **a system** that allows all students equitable access high quality science and mathematics instruction. This includes appropriate changes in district/school policies, structure, and decision-making, as well as the need to provide for a secure environment that includes access to health and social services, despite the fact that funds and expertise for these areas must be sought from sources other than NSF.
- **collaboration** that extends across school systems and between school systems and institutions of higher education, particularly community colleges, resulting in the meaningful alignment of funding, curriculum, instruction, assessment, and teacher preparation and enhancement in science, mathematics and technology instruction.
- **partnerships** among the schools and such attendant groups as: parents; community organizations; teachers' unions; institutions of higher education, particularly community colleges; museums and other informal science centers; local and state governments; federal agencies; private foundations; business and industry; professional associations; and the media. The focus should be on partnerships that help create, support, and redesign the system.
- **linkages** with all significant or major mathematics and science technology programs in the region, particularly NSF's Statewide Systemic Initiatives (SSI), the Urban Systemic Initiatives (USI), the Urban Systemic Program (USP), Local Systemic Change Through Teacher Enhancement (LSC), Collaboratives for Excellence in Teacher Preparation (CETP), Centers for Teaching and Learning (CTL), and the Experimental Program to Stimulate Competitive Research (EPSCoR); as well as reforms supported through other federal agencies; through private foundations, business, and industry; and by the states themselves.
- **district- or school-based strategies** that are grounded in the systemic reform principles as articulated in the Systemic Reform Drivers and *must* state measurable goals for evaluating the Initiative's success in terms of student achievement.

## ELIGIBILITY INFORMATION

**Eligible Districts.** The Rural Systemic Initiatives Program is designed to fund sustainable reform in the science, mathematics and technology education of students in rural, economically disadvantaged regions. Therefore, eligible districts are those designated as “rural” or “small town” by the the U.S. Department of Education, National Center for Education Statistics, and in which greater than 30% of the school-age children are living in poverty. Please see <<http://nces.ed.gov/ccdweb/school/district.asp>> or <<http://nces.ed.gov/edfin/search/Search.html>>. In exceptional circumstances, proposers may seek waivers to include partner schools or districts not meeting these criteria, with documentation to justify the consideration for an exception. Proposers are strongly encouraged to confer with an appropriate ESR program director prior to submission.

Eligible rural coalitions may encompass connected school districts located in different states, or school districts that are non-contiguous but are meaningfully linked by common educational goals and community issues (e.g., tribal schools or migrant education networks). RSI regions will typically range from 5-20 school districts, but coalitions seeking to establish larger programs are encouraged to discuss their plans with an appropriate ESR program director.

**Eligible Organizations.** Many components of a community are necessary to provide leadership, direction, support and sustainability to systemic reform of education. NSF believes that partnerships involving representatives of these components provide the most viable mechanism for ensuring the accomplishment of this reform. RSI will accept proposals from institutions of higher education, or non-profit or governmental organizations on behalf of consortia of school districts and communities representing the educational interests of their students in eligible regions. Proposing consortia should include representatives from state and local education agencies and schools, and may include community colleges, business and industry, health and human service agencies, economic development agencies, private foundations, and four-year colleges and universities.

## AWARD INFORMATION

1. **Development Awards**--The complexity of systemic educational reform generally requires discussion and planning, and consensus-building is essential for successful implementation of a reform agenda. Development awards will be made to established coalitions that have articulated visions and goals for educational improvement. They will typically support a self-study of the region, the development of base-line data, an in-depth study of proposed activities and their feasibility in this context, articulation of implementation strategies, and determination of financial commitment of the relevant partners. Support under RSI is available for, but not limited to: staff release time, consultants' fees, travel, computer network time, and related office costs. The size of a given award will be dependent on the nature and scope of the project but will typically range from \$100,000 to \$200,000. Development awards will typically be of 12 months duration.

**2. Implementation Awards**--While the establishment of regional coalitions is a key component, the primary goal of RSI is the successful and sustainable improvement of science, mathematics, and technology education at the kindergarten through high school (K-12) and lower division undergraduate levels in rural, economically disadvantaged, remote, and sparsely populated areas. Proposers must have demonstrated readiness to achieve systemic educational reform through comprehensive planning that has: (1) produced a regional vision for science, mathematics and technology education; (2) resulted in commitment to policy, fiscal, and instructional practice reforms on the part of the participating districts; (3) identified strengths and weaknesses in current programs; (4) secured local, state, and national resources, both public and private, to promote necessary changes; and (5) focused on needed state and local policy changes to expedite reform.

Support under RSI is available for but not limited to: identification, adaptation, and implementation of standards-based science and mathematics curriculum; purchase or adaptation of instructional materials in concert with appropriate teacher enhancement activities; teacher in-service and pre-service enhancement activities specifically targeted to the needs of rural teachers and which support the goals of RSI; electronic and telecommunications training and support (within a specified, limited timeframe); leadership activities for teachers and school administrators; development and delivery of workshops that are specifically tailored to the goals of RSI, e.g., increasing parental and community involvement in science and mathematics education; regional meetings of the consortia and potential partners; project staff salaries; travel; clerical services; consultants; and technical assistance. Funds should be included for the principal investigator(s) (PI) and project director (PD) (no more than 4 people) to attend an annual meeting and a semi-annual technical assistance meeting, and a one-day annual performance review in Washington, DC. RSI will not support curriculum or instructional materials development; purchase of instructional materials to supplant school resources; purchase of general purpose office equipment; purchase of permanent scientific equipment or instrumentation; or purchase of telecommunications or computer equipment, except as deemed essential by the program officer for effective management and deployment of the activities.

Implementation proposals will be accepted only from consortia that have received Development Awards. Implementation awards are expected to be funded at a level of \$500,000-\$1.5 million per year, depending upon the size of the consortium, not to exceed \$6 million in 5 years. Funding for each year subsequent to Year 1 will be contingent upon achievement of a series of benchmarks mutually agreed upon by the proposers and the Foundation, and specified in a cooperative agreement.

### **Cost-Sharing**

Cost-sharing at a level of 5% of the requested total amount of NSF funds is required for all proposals, excluding Development proposals, submitted in response to this announcement.

**PHASE II** (Available to RSI awardees that have successfully completed five years with NSF support)

RSIs have developed creative strategies for accomplishing their goals, and many have shown substantial results in terms of student accomplishment and achievement and serve to constitute a momentum for educational reform in the region. Having achieved the momentum for reform, projects report a need to have an enhanced opportunity to capitalize on their accomplishments, and to extend the scope of their reform work. Therefore, it is the decision of NSF to facilitate the work by offering limited additional support to those regions that can provide evidence of significant accomplishment to date and an innovative plan for pushing their accomplishments further. These regions are expected to have been actively involved with a full-scale RSI. The additional funding is designated *RSI Phase II funding*, to distinguish the higher expectations NSF holds for these mature projects from those for new projects.

By April 19, NSF will accept proposals from RSIs that are in the fifth year of implementation funding, on behalf of the participating schools or districts of the original consortium, at up to \$1.5 million per year, not to exceed \$6 million in 5 years.

It is expected that the second phase of any systemic initiative design will build upon the successes and lessons of the first phase, but should expand its scope and stretch its goals. Therefore, successful proposals will take the initiative beyond that which was envisioned and proposed for the first five years. Moreover, successful proposals are expected to document student achievement gains attributable to the reform strategy, among their other justifications for further funding.

### **Tribal Colleges and Universities Component**

In response to Presidential Executive Order 13021, “White House Initiative for Tribal Colleges and Universities,” the NSF will consider individual proposals from Tribal Colleges and Universities (TCUs) to promote systemic reform in K-12 schools within their service areas. TCUs participating in the current Tribal College Rural Systemic Initiative may independently apply for funding to continue Phase II activities as previously described. In some limited cases, colleges may consider directing a portion of the initial Phase II effort toward reinforcing partnerships, strengthening school participation and promoting community development activities. Colleges are encouraged to discuss their plans with an appropriate ESR program director prior to finalizing their proposals.

TCU Implementation awards are expected to be funded at a level of \$100,000 to \$250,000 per year, depending upon the scope of the proposed activities, for up to 5 years; funding for each year subsequent to Year 1 will be contingent upon achievement of a series of benchmarks mutually agreed upon by the proposers and the Foundation, and specified in a cooperative agreement or grant.

TCUs currently not engaged in the RSI program are eligible to apply independently for Developmental Awards to conduct self-studies and establish coalitions to promote systemic

reform strategies for mathematics, science, and technology education in K-12 schools in their service areas. In instances where a RSI project is already established for the service area, coordination of efforts to prevent duplication will be a consideration for any new RSI effort. Colleges are encouraged to confer with the appropriate RSI program director prior to proposal development. Typically, Developmental Awards will be funded at \$50,000 for 12 months.

### **Other Related Activities**

RSI projects are encouraged to consider the following programmatic sub-strategies to enhance the reform of mathematics, science and technology education:

- **Teacher education:** Strategies to promote the development of a cadre of teachers drawn from their local areas. Two-year and four-year institutions of higher education collaborative partnerships with the RSI programs for the production of a local quality workforce in science, mathematics and technology.
- **Learning Centers:** Extended academic activities after regular school hours. Strategies to provide supplemental after-school academic activities to enhance mathematics, science and technology education and promote community and parental participation.
- **Technology education:** Provisions for quality instruction and state of the art technology equipment. RSI projects should actively seek resources to train teachers, purchase equipment and materials to enhance the use of technology in the classroom.
- **State Departments of Education:** Historically the special needs of rural schools have not been adequately addressed. The supportive role of State Departments of Education is critical to achieving parity in educational reform. A component within the RSI program should be to work with State Departments of Education to develop deeper collaborative efforts and promote full implementation of standards-based SMT education.
- **Research:** RSI programs are encouraged to study and conduct research-related activities on the learning process. Collaborative efforts with appropriate Institutions of higher education and researchers will be necessary to design and implement research efforts.
- **Economic Development:** Where feasible, awardees are encouraged to establish linkages with ongoing economic development activities.

## **PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS**

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

Proposals submitted in response to this program announcement should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG), NSF 00-2. The complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: <<http://www.nsf.gov/>>. 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 are reminded to identify the program announcement number (NSF 00-47) in the program announcement/solicitation block on the NSF Form 1207, “*Cover Sheet for Proposal to the National Science Foundation.*” 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 Requirements.**

Cost-sharing at a level of 5% of the requested total amount of NSF funds is required for all Implementation, Phase II, and Tribal Colleges and Universities proposals submitted in response to this announcement. Cost-sharing is not required of Development proposals.

The proposed cost sharing must be shown on line M on the proposal budget (NSF Form 1030.)

The amount of cost sharing must be shown in the proposal in enough detail to allow NSF to determine its impact on the proposed project. Documentation of availability of cost sharing must be included in the proposal.

Only items which would be allowable under the applicable cost principles, if charged to the project, may be included as the grantee’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 grant.

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

Additional funds made available through Federal sources (e.g. Eisenhower Program, Title I and Title II, Perkins and other funds) should be specifically identified as leveraging, but not listed as cost-share.

Possible areas for cost-sharing, in addition to financial resources, include staff release time, allowable participant costs, and the purchase of new materials related to initiative activities. The use of school buildings, equipment, and materials during normal hours of operation is not considered cost-sharing.

### **C. Proposal Due Dates**

Proposals for the Rural Systemic Initiatives Program must be submitted electronically to NSF no later than 5 PM, local time, on **April 19** for Development, Phase II , and TCU proposals; **October 1** for Implementation proposals. **Note:** A signed paper copy of the Cover Sheet must be mailed to the address below within 5 working days following proposal submission. Other pertinent information, such as letters of support and letters of commitment to institutional cost-sharing and industrial partnerships may be submitted through FastLane or mailed to the following address.

Division of Educational System Reform  
ATTN: Rural Systemic Initiatives Program  
National Science Foundation  
4201 Wilson Boulevard  
Suite 875  
Arlington, VA 22230

### **D. FastLane Requirements**

Proposers are required to prepare and submit proposals for this Program Announcement through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at <<https://www.fastlane.nsf.gov/a1/newstan.htm>>.

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 in accordance with FastLane proposal preparation and submission instructions referenced above.

For questions or problems concerning submitting a RSI proposal via FastLane, please contact a FastLane User Support person at electronic mail: [ESRRSI@nsf.gov](mailto:ESRRSI@nsf.gov) or phone (703) 306-1682. For non-FastLane questions related to the RSI competition, please contact the RSI program at (703) 306-1682.

## **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 merit 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 judgments.

### **What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

### **What are the broader impacts of the proposed activity?**

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

PIs should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give these factors 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 learner perspectives.

## **Integrating Diversity into NSF Programs, Projects, and Activities**

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- are essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

RSI proposals will be reviewed by experts selected from the science, mathematics, engineering and technology research and education communities. The review process may include site visits by NSF staff and selected reviewers, or other methods of gathering additional information deemed desirable for award determination. Special efforts will be made to secure reviews from individuals with strong records of achievement in the educational or scientific disciplines impacted by the proposal. Final award recommendations will be made by program staff and will reflect both reviewer comments and program priorities.

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 mailed 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.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A 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 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 an 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 Officer does so at its own risk.

## **Elaboration of Review Criteria**

Reviewers of RSI proposals will be asked to consider the extent to which the following have been addressed.

### **Development and Implementation Awards**

- a. demonstration of a consortium framework and program-driven goals for science and mathematics education improvement
- b. shared leadership among consortium partners
- c. potential impact on the target population

### **Implementation Awards**

- a. demonstration that the proposal is built on self-assessment
- b. roles and levels of commitment of each stakeholder/segment involved in process
- c. challenging and attainable goals for student achievement
- d. evidence that the following have been considered:
  1. community knowledge base and views
  2. economic development
  3. curriculum frameworks applicable to state and/or local levels
  4. pre- and inservice professional development
  5. alignment with regional, state, national education goals
- e. extent to which the proposers identify, address, and plan to modify potential or actual impediments to systemic reform, including:
  1. structure and governance of local educational agencies
  2. administrative practices
  3. parental/community involvement

4. intra- and intercommunications
- f. fiscal responsibility aimed at local levels,
- g. evaluation that includes methods of assessing improvements in instruction and performance, and
- h. plans for sustaining improvements beyond award duration.

## **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 (DGA). 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.

### **B. Grant Award Conditions.**

Development Awards made as a result of this competition will be made as grants; Implementation Awards will be made as cooperative agreements.

An NSF grant consists of: (1) the award letter, which includes any special provisions applicable to the grant and any numbered amendments thereto; (2) the budget, 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 grant conditions, such as Grant General Conditions (NSF GC-1)\* or Federal Demonstration Partnership Phase III (FDP) Terms and Conditions\* and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Electronic mail notification is the preferred way to transmit NSF grants to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

\* These documents may be accessed electronically on NSF's Web site at: <<http://www.nsf.gov/>>. 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).

Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1).

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, (NSF 95-26) available electronically on the NSF Web site. The GPM also is available in paper copy by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO Web site at: <<http://www.gpo.gov>>. The telephone number at GPO for subscription information is 202.512.1800.

### **C. Reporting Requirements.**

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

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

NSF has implemented a new electronic project reporting system, available through FastLane, which 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. Reports will continue to be required annually and after the expiration of the grant, but PIs will not need to re-enter information previously provided, either with the proposal or in earlier updates using the electronic system.

### **D. New Awardee Information.**

If the submitting organization has never received an NSF award, it is recommended that the organization's appropriate administrative officials become familiar with the policies and procedures in the NSF *Grant Policy Manual* which are applicable to most NSF awards. The "Prospective New Awardee Guide" (NSF 99-78) includes information on: Administrative and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with NSF Awards. This information will assist an organization in preparing documents that NSF requires to conduct administrative and financial reviews of an organization. The guide also serves as a means of highlighting the accountability requirements associated with Federal awards. This document is available electronically on NSF's Web site at: <<http://www.nsf.gov/cgi-bin/getpub?nsf9978>>.

## **OTHER PROGRAMS OF INTEREST**

The NSF Guide to Programs is a compilation of funding for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG. Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF Bulletin, available monthly (except July and August), and in individual program announcements. The Bulletin is available electronically via the NSF Web Site at <http://www.nsf.gov>. The direct URL for recent issues of the Bulletin is <http://www.nsf.gov/od/lpa/news/publicat/bulletin/bulletin.htm>. Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

## **ABOUT THE NATIONAL SCIENCE FOUNDATION**

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Grantees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals 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 or contact the program coordinator at (703) 306-1636.

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 regarding NSF programs, employment, or general information. TDD may be accessed at (703) 306-0090 or through FIRS on 1-800-877-8339.

We want all of our communications to be clear and understandable. If you have suggestions on how we can improve this document or other NSF publications, please email 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 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.

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: Reports Clearance Officer; Information Dissemination Branch, DAS; National Science Foundation; Arlington, VA 22230.

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