Research in Disabilities Education (RDE)

National Science Foundation
Division of Human Resource Development
Directorate for Education and Human Resources

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

March 07, 2005

Demonstration, Enrichment, and Information Dissemination (RDE-DEI) and Focused-Research Initiatives (RDE-FRI) tracks only.

Preliminary Proposal Due Date(s) *(required):*

February 28, 2005

Regional Alliances for Persons with Disabilities (RDE-RAD) track only.

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

April 18, 2005

All program tracks.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Research in Disabilities Education (RDE)

Synopsis of Program:

The Research in Disabilities Education (RDE) program supports efforts to increase the participation and achievement of persons with disabilities in science, technology, engineering, and mathematics (STEM) education and careers. Meritorious projects from a diversity of institutions are supported via the RDE Demonstration, Enrichment, and Information Dissemination (RDE-DEI) program track. Promising research efforts are also developed further via awards under the Focused-Research Initiatives (RDE-FRI) program track. In the third program track, broadly applicable methods and products are disseminated for widespread

use, commercialization, or inclusion in the activities of program-sponsored Regional Alliances for persons with disabilities in STEM education (RDE-RAD). RDE Alliances serve to inform the public, government, and industry about proven-good practices in the classroom, promote broader awareness of disabilities issues, and define specific areas of accessibility and human learning in need of further attention by educators and the research community.

Cognizant Program Officer(s):

- Ted A Conway, Ph.D., Program Director, Research in Disabilities Education, 4201 Wilson Blvd., #815, Arlington, VA, 22230, USA telephone: (703) 292-4655, fax: (703) 292-9018, email: tconway@nsf.gov

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

- 47.076 --- Education and Human Resources

- **Organization Limit:**

  There is no organization limit on proposals submitted under the RDE-DEI and RDE-FRI program tracks. The categories of proposers identified in the *Grant Proposal Guide* (GPG) are eligible to submit proposals under both of those program tracks.

  A proposal submitted under the RDE-RAD program track must be submitted by a U.S. college or university in the United States.

  Joint or linked proposals are not permitted and may be returned without review. Cooperative or collaborative efforts should instead be presented as subcontracted components on a single proposal that is submitted by the lead organization.

  Colleges and universities already participating as a lead or partner institution within a current RAD award are not eligible to be a lead institution on a new RAD proposal until their current project funding has ended.

  Proposals from minority-serving institutions, including Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions, and Tribal Colleges and Universities are especially encouraged to apply.

- **PI Eligibility Limit:**

  Each PI may submit only 1 proposal to this year's RDE competition, regardless of program track and including possible Co-PI designations on competing proposals.

  An individual who is a PI on one RDE proposal may not be included as a PI or a Co-PI on any competing proposal. An individual who is a Co-PI on one RDE proposal may not be included as a PI or a Co-PI on any competing proposal.

  Note: RDE funds instuitional sponsors to conduct basic and applied research in STEM fields as related to disabilities. The program does not offer individual stipends, scholarships, or living expenses in direct support of individuals with disabilities. However, in some circumstances, individuals may qualify to apply for sub-grants from RDE projects as identified in the proposal and sanctioned by the PI and his or her institutional sponsor. For further details on Facilitation Awards for Scientists and Engineers with Disabilities (FASED), consult the guidelines presented in NSF 02-115, as applicable to all NSF programs.

- **Limit on Number of Proposals:** 1. Only one RDE proposal may be submitted by a RAD lead institution or by a DEI, FRI or RAD principal investigator or co-principal investigator to each year's competition. An institution or organization may be included in only one RDE proposal, either as a lead institution or as a partner organization, but not both.

Award Information

- **Anticipated Type of Award:** Standard or Continuing Grant or Cooperative Agreement
- **Estimated Number of Awards:** 10 to 12 - Six to 7 standard grants (RDE-DEI); 3 to 4 continuing grants (RDE-FRI); and 1 Cooperative Agreement (RDE-RAD)
- **Anticipated Funding Amount:** $4,400,000 Pending availability of funds. Up to $100,000 and up to 1 year's duration for RDE-DEI standard grants. Up to $300,000 and up to 3 years' duration for RDE-FRI continuing grants. Up to $3,000,000 and up to 5 years' duration for RDE-RAD agreements

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is optional. Please see the full text of this solicitation for further information.
- **Preliminary Proposals:** Submission of Preliminary Proposals is required. Please see the full text of this solicitation for further information.
- **Full Proposal Preparation Instructions:** Standard GPG Guidelines apply.

B. Budgetary Information

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

C. Due Dates

- **Letters of Intent** *(optional)***:**
    March 07, 2005
        Demonstration, Enrichment, and Information Dissemination (RDE-DEI) and
        Focused-Research Initiatives (RDE-FRI) tracks only.
- **Preliminary Proposals** *(required)* **:**
    February 28, 2005
        Regional Alliances for Persons with Disabilities (RDE-RAD) track only.
- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):
    April 18, 2005
        All program tracks.

Proposal Review Information

- **Merit Review Criteria:** National Science Board approved criteria apply.

Award Administration Information

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Additional reporting requirements apply. Please see the full text of this solicitation for further information.

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I. INTRODUCTION

The National Science Foundation (NSF) strives to ensure the vitality of the United States in all areas of the scientific and technical enterprise. Such efforts include the utilization of the full diversity and ability of the nation's diverse human capital. The programs of the Division of Human Resource Development (HRD), located in the Directorate for Education and Human Resources (EHR), contribute to this goal by supporting activities that increase the participation of communities traditionally underrepresented in science, technology, engineering, and mathematics (STEM). Such communities particularly include underrepresented minorities, women and girls, and persons with disabilities.

Within HRD, the Research in Disabilities Education (RDE) program is committed to increasing the number of persons with disabilities engaged in STEM careers by:

- Encouraging needed changes in academic and professional climates;
- Developing the awareness and recognition of the needs and capabilities of students with disabilities;
- Promoting the accessibility and appropriateness of instructional materials, media, and educational technologies; and
- Increasing the availability of student-enrichment resources, including mentoring activities.

In short, RDE efforts are dedicated to changing the factors that historically have restricted the approaches to STEM disciplines that are available to persons with disabilities. Reducing such barriers is prerequisite to the advancement of such individuals as they prepare for engaging education and fulfilling careers in STEM fields. The RDE program is dedicated to providing an enriching, supportive, and relevant experience in STEM education for persons with disabilities at all academic

levels. Outcomes of the program's diverse areas of support seek the proportionate and fully inclusive participation of persons with disabilities in the nation's STEM workforce.

For Fiscal Year 2005, RDE will support awards in: Demonstration, Enrichment, and Information Dissemination (RDE-DEI); Focused Research Initiatives (RDE-FRI); and Regional Alliances for Persons with Disabilities in STEM education (RDE-RAD). See Section II. Program Description for details about each of these program tracks.

II. PROGRAM DESCRIPTION

Previous projects designed to recruit, train, and retain students with disabilities in STEM activities have consistently identified common elements that succeed in increasing the number of such students in STEM education and preparing them for STEM careers. Key among these activities are:

- Hands-on science experiences in pre-college science education environments;
- Early identification and nurturing of an interest in STEM in K-12;
- Formal research experiences as undergraduates;
- Educating and guiding faculty and caregiver attitudes toward full inclusion of students with disabilities;
- Inclusive curricula;
- Accessible laboratories;
- Fostering student self advocacy and encouraging peer interaction;
- Coordinated bridge programs between academic levels; and
- Mentoring by successful STEM professionals and students who have disabilities.

Comprehensive projects that are able to implement most or all of these elements have demonstrated success in recruiting, preparing, and retaining students with disabilities in STEM education. Such projects have demonstrated particular success in graduating students with disabilities with baccalaureate degrees leading directly to graduate training or to employment in STEM fields.

In addition to these proven methods, the RDE program supports efforts to search for new and innovative technologies that facilitate the students' ability to succeed in STEM activities. It is expected that appropriate Assistive Technology (AT) will be integrated into the learning activities of students' involved in the projects. An evaluation of the effectiveness of the AT, with recommendations for further improvement and universality of design, should also be conducted. As need requires, innovative AT development should also be a part of the proposed activities with universality of application being a main design component.

Project Evaluation

All proposals submitted to the Research in Disabilities Education program under any track must identify the specific project outcomes to be targeted for each year of the proposed award. Techniques and/or instruments to be used for measuring these outcomes must be described in the Project Description as a part of the evaluation plan.

Awardees will be required to participate in a program-level evaluation by which NSF can assess quantitative gains in relevant measures for students with disabilities and make qualitative assessments of the process of change. Projects are expected to have the capability of collecting and analyzing data derived from program evaluation activities. In addition, it is expected that each project will complement this effort with its own formative evaluation extending beyond the progress stipulated in the proposal.

Outcome Measures

For all RDE proposals, the effort required for developing a research and evaluation plan and collecting, measuring, and reporting appropriate outcome data should be supported in the proposed budget. The following are illustrative of outcome measures to be reported: number of total participants, including demographics; number of students with disabilities enrolled in STEM courses (majors and non-majors); accommodations or assistive-technology used and their level of success; number

of these students obtaining degrees in a STEM discipline; the number of participants entering graduate school or careers in STEM fields; and comparable data for activities not directly supported by the project (i.e., 'control' cohorts).

Similar outcome measures must be reported for participants in faculty-enhancement activities. Complete bibliographic citations for journal publications, conference presentations (date, location, number of attendees), media coverage, workshops, software developed, survey results, uniform resource locators (URLs) and other products derived from RDE support are expected in the project's annual progress reports. Addressing relevant educational research questions and the publication of such results in peer-reviewed journals (in mainstream as well as disabilities-related areas) are especially encouraged.

Use of Human Subjects

NSF adheres to Subpart A (The Common Rule for the Protection of Human Subjects) of 45 CFR Part 690: Federal Policy for the Protection of Human Subjects. This document defines a human subject as: "A living individual about whom an investigator (whether professional or student) conducting research obtains 1) data through intervention or interaction with the individual, or 2) identifiable private information. Intervention includes both physical procedures by which data are gathered (e. g., venipuncture) and the manipulations of the subject or the subject's environment that are performed for research purposes. Interaction includes communication or interpersonal contact between investigator and subject. Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects." The Inspector General does monitor and audit such declarations, and RDE panelists will be asked to check for appropriate IRB certification on all proposals. The certification may not be finalized at the time of proposal submission (and ultimately does not apply to declined submissions) but should be dated and recorded as pending, as applicable, and included along with all full proposal submissions. Principal Investigators who are unsure whether their project applies as using human subjects according to their institutional guidelines should check with their institutional review board (IRB) or sponsored projects office (SPO).

Demonstration, Enrichment, and Information Dissemination (RDE-DEI)

The goals of RDE awards in the Demonstration, Enrichment, and Information Dissemination (RDE-DEI) program track are to:

- Further institutionalize products and other educational materials that promote accessibility to STEM disciplines and career experiences by students with disabilities;
- Enhance the STEM learning experience for students with disabilities; and
- Disseminate information about model programs, exceptional products, successful research methods, and proven education practices to a broad national audience.

Proposals to the RDE-DEI track are evaluated on their potential for innovation and promise for future research efforts within a short time for development and testing (up to 1 year) and a limited budget (up to $100,000).

RAD Pilot Studies

If appropriate, DEI proposals of up to $100,000 and 1 year's duration may be submitted to conduct pilot studies and information exchange with the intent of submitting a stronger proposal to the RAD track in a later competition. Such proposals are distinct from the preliminary proposals required for the RAD track. Submitting a proposal for RAD pilot studies renders the proposer ineligible for proposal submissions to other RDE tracks in the same competition. As with other DEI proposals, appropriate attention must be given to project evaluation, outcome measures, and the use of human subjects.

See Section III. Eligibility Information for further information specific to the RDE-DEI program track.

Focused Research Initiatives (RDE-FRI)

The goals of the RDE awards for Focused Research Initiatives (RDE-FRI) are to:

- Encourage research and development of specific but utilitarian assistive technologies that will help persons with disabilities pursue careers in STEM;
- Build tools for students with disabilities that can quickly be developed and effectively deployed in the educational environment; and
- Add value to the education of persons with disabilities in STEM.

Proposals to the RDE-FRI track are evaluated on their potential for solving specific problems in a short period of time (up to 3 years) with a limited budget (up to $300,000) and the immediate educational impact of applying this research.

See Section III. Eligibility Information for further information specific to the RDE-FRI program track.

Regional Alliances for Persons with Disabilities in STEM Education (RDE-RAD)

RDE supports the design and operation of comprehensive Regional Alliances for Persons with Disabilities in STEM education (RDE-RAD). RAD projects emphasize broader implementation of elements that have proven successful under prior NSF or other support. These Regional Alliances are conceived as networks established by universities and colleges with linkages throughout academe and in partnership with industry, government, and national research laboratories. Academic partnerships should include 2-year and 4-year institutions as well as pre-college educational entities.

The Alliances must be comprehensive, multidisciplinary programs designed to: 1) increase the quantity and quality of students with disabilities receiving associate and baccalaureate degrees in STEM disciplines; 2) identify early potential in STEM students with disabilities, then nurture such interest with appropriate activities, relevant content, and advisement for careers or advanced study; and/or 3) support and sustain the intellectual endeavors of STEM professionals who have acquired disabilities later in their careers. To achieve these goals, RDE Regional Alliances provide comprehensive educational and research experiences, quality support services for recruitment and retention, and career-development activities for students, counselors, and faculty alike.

Proposals to the RDE-RAD track are evaluated on their potential for incorporating and disseminating proven-good practices in disabilities education and research (including the outcomes of DEI and FRI projects); changing faculty and employer attitudes and institutional cultures by making curricula and employment programs more inclusive and accessible; and developing student self-advocacy, STEM literacy and workforce preparation. The proposed efforts are expected to be expansive, involving a multi-faceted network of institutions in a Cooperative Agreement representing a substantial investment of time (up to 5 years) and funding (up to $3,000,000) with an eye toward autonomy of the Alliance after federal support is expended.

In their project design, proposers are strongly encouraged to give specific attention to the critical issues that hinder or deter the inclusion and participation by persons with disabilities in STEM education and careers. These activities include, but are not limited to:

- Full participation in elementary, secondary, and undergraduate-level mathematics and science courses;
- Participation in science-enrichment activities through intra- and extra-curricular, hands-on research experiences;
- Access to appropriate mathematics and science instructional materials, media, educational technologies, and laboratory experiences;
- Interaction with appropriate role models and mentors;
- Scheduled and drop-in STEM tutorial centers with resources applicable to students with disabilities;
- Positive, informed, and resourceful attitudes of pre-college teachers, counselors, and higher education faculty;
- Relevant STEM summer internships, career guidance, and research experiences for high school and undergraduate students with disabilities; and
- Bridge programs encouraging coherent transitions between academic levels and institution types.

RDE Regional Alliances should also conduct appropriate formative and summative evaluation and research activities to assess the effectiveness of strategies that improve participation of students with disabilities in STEM education. Examples of activities that are appropriate in this category include, but are not limited to:

- Examination of effective methods for teaching science or mathematics so that students with disabilities perform competitively with other students on their education level;
- Adaptation of existing science or mathematics curricula so that they are appropriate for all students including those with disabilities (to be conducted collaboratively with the publisher or other disseminators to ensure rapid dissemination of the new products);
- Development or adaptation of educational technology or media to ensure independent use by students with disabilities;
- Efforts to overcome stereotyping of persons with disabilities among parents, teachers, peers, and co-workers;
- Provision of science-enrichment activities for students with disabilities; and
- Exploration of the fullest use of scientists with disabilities as mentors to improve the interest, performance, and retention of students with disabilities in STEM education.

Note: The activities listed above represent general guidelines; the strongest proposals will detail specific plans, timelines, and activities in pursuit of these ends, as suited to the particular and quantified needs of the community to be addressed in the proposed scope of work.

See Section III. Eligibility Information for further information specific to the RDE-RAD program track.

III. ELIGIBILITY INFORMATION

General Criteria for all RDE Proposals

- Proposals from minority-serving institutions, including Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions, and Tribal Colleges and Universities are especially encouraged to apply.

- It is strongly recommended that the budget and timeline estimates submitted be reasonable for the scale and scope of work, as proposed. Proposals that significantly differ from the recommended duration or amount of funding stipulated in this solicitation may be returned without review.

- Joint or linked proposals are not permitted and may be returned without review.

See Section II. Program Description for further details on the RDE program tracks.

Specific Criteria for RDE-DEI Proposals

- The categories of proposers identified in the *Grant Proposal Guide* (GPG) are eligible to submit proposals under the RDE program tracks.

See Section II. Program Description for further details on the RDE-DEI program track.

Specific Criteria for RDE-FRI Proposals

- Principal investigators with previous support in the form of RDE-DEI planning or standard grants or prior funding from other disabilities-related programs are especially encouraged to submit proposals, however, such support is not prerequisite to RDE-FRI proposals.

- The categories of proposers identified in the *Grant Proposal Guide* (GPG) are eligible to submit proposals under the RDE program tracks.

See Section II. Program Description for further details on the RDE-FRI program track.

Specific Criteria for RDE-RAD Proposals

- International cooperation is encouraged, however, the lead institution must be a U.S. college or university. Accordingly, the predominant beneficiaries of the Alliance should be U.S. students and professionals with disabilities participating in STEM fields.

- One institution is expected to submit the RAD proposal on behalf of the entire Alliance. Joint or linked proposals are not permitted and will be returned without review. If all or part of the project will be performed off-campus or away from organizational headquarters, a rationale for this should be provided.

- For the purposes of RAD proposals, the 'region' applied to the proposed Alliance is at the proposer's discretion. It does not denote any particular geographic uniqueness and may include intra-state, multi-state, national or international cooperation between institutions, industry, associations, non-profit organizations and societies, and government agencies, as appropriate to the proposed scope of work.

- The proposal should describe clearly the role of the all partner organizations, and should specify the managerial arrangements contemplated. Partner institutions may be listed as secondary grantees or subcontractors, as appropriate.

See Section II. Program Description for further details on the RDE-RAD program track.

IV. AWARD INFORMATION

RDE-DEI awards will be standard grants of up to $100,000 and up to 1 year's duration. Six to 7 such awards are anticipated in FY 2005.

RDE-FRI awards will be standard or continuing grants of up to $300,000 and up to 3 years' duration. Three to 4 such awards are anticipated in FY 2005.

RDE-RAD awards are Cooperative Agreements of up to $3,000,000 and up to 5 years' duration. One such award is expected in FY 2005.

Estimated program budget, number of awards, and average award size/duration are subject to the availability of program funds. **Awards will not necessarily be made in all program categories detailed in this solicitation for any given year**.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent *(optional):*

Letters of intent are optional and should be submitted for DEI and FRI proposals only. Letters of intent are informal and may be submitted by U.S. Mail (to 4201 Wilson Blvd., Room 815, Arlington, VA 22230), by fax (to (703) 292-9018), or by e-mail (to tedquist@nsf.gov). Letters of intent are expected to be brief and should not be developed as preliminary proposals. They should include the names and affiliations of the key investigators with a brief (50- to 100-word) summary of the problem to be addressed.

Preliminary Proposals *(required):*

Preliminary proposals are required and should be submitted for RAD proposals only. Preliminary proposals should be submitted via FastLane using the instructions for submission provided there. Preliminary proposals should identify the key investigators and institutions involved in the proposed alliance (via biographical sketches and prior support statements), a narrative of unique alliance activities, timeline, and budget, quantified needs of the community to be addressed and letters of preliminary community support. The entire preliminary proposal submission package should not exceed 25 single-spaced pages in 12-point type (or the equivalent). A full proposal will be "encouraged" or "discouraged" based on the review of the preliminary proposal. Only those preliminary proposals encouraged by RDE staff should be prepared as full RAD proposals for submission by the April 18 deadline.

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.

Proposers are reminded to identify the program announcement/solicitation number (04-610) in the program announcement/solicitation block on the NSF *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:

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

Indirect Cost (F&A) Limitations:

Not applicable.

Other Budgetary Limitations:

RDE-DEI awards are standard grants of up to $100,000 and 1 year's duration.

RDE-FRI awards are standard or continuing grants of up to $300,000 and 3 years' duration.

RDE-RAD awards are Cooperative Agreements of up to $3,000,000 and 5 years' duration.

C. Due Dates

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

Letters of Intent *(optional):*

> March 07, 2005
> > Demonstration, Enrichment, and Information Dissemination (RDE-DEI) and
> > Focused-Research Initiatives (RDE-FRI) tracks only.

Preliminary Proposals *(required):*

> February 28, 2005
>> Regional Alliances for Persons with Disabilities (RDE-RAD) track only.

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

> April 18, 2005
>> All program tracks.

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: https://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.

B. Review Protocol and Associated Customer Service Standard

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by Ad Hoc and/or panel review.

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

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 proposers whether their proposals have been declined or recommended for funding within six months. The time interval begins on the closing date of an announcement/solicitation, or the date of proposal receipt,

whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

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

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1); * or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

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

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

C. Reporting Requirements

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

See subsections on Project Evaluation and Outcome Measures in Section II. Program Description.

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:

- Ted A Conway, Ph.D., Program Director, Research in Disabilities Education, 4201 Wilson Blvd., #815, Arlington, VA, 22230, USA telephone: (703) 292-4655, fax: (703) 292-9018, email: tconway@nsf.gov

- Toni Edquist, Program Assistant, HRD, Directorate for Education & Human Resources, Division of Human Resource Development, Room 815 N. Telephone: (703) 292-4649, fax: (703) 292-9018, email: tedquist@nsf.gov.

For questions related to the use of FastLane, contact:

- email: fastlane@nsf.gov
- Victoria A. Smoot, Financial Operations Specialist, Directorate for Education & Human Resources, Division of Human Resource Development, 815 N, telephone: (703) 292-4677, fax: (703) 292-9018, email: vsmoot@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.

Biomedical Engineering and Research to Aid Persons with Disabilities (NSF/ENG)

Course, Curriculum, and Laboratory Improvement (NSF/EHR)

Human Computer Interaction (NSF/CISE)

Small Business Innovation Research (NSF/ENG)

Teaching Professional Continuum (NSF/EHR)

Universal Access (NSF/CISE)

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

- **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

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the

Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

OMB control number: 3145-0058.

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