Continental Dynamics (CD)

PROGRAM SOLICITATION
NSF 04-512

REPLACES DOCUMENT(S):
NSF 96-50

National Science Foundation

Directorate for Geosciences
Division of Earth Sciences

Preliminary Proposal Due Date(s) ***(required)*** (due by 5 p.m. proposer's local time):

April 01, 2005

and April 1 annually thereafter

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

November 15, 2004

November, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), NSF 11-1, was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in NSF 11-1 apply to proposals submitted in response to this funding opportunity.

Cost Sharing: The PAPPG has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited. In order to assess the scope of the project, all organizational resources necessary for the project must be described in the Facilities, Equipment and Other Resources section of the proposal. The description should be narrative in nature and must not include any quantifiable financial information. Mandatory cost sharing will only be required when explicitly authorized by the NSF Director. See the PAPP Guide Part I: *Grant Proposal Guide (GPG)* Chapter II.C.2.g(xi) for further information about the implementation of these recommendations.

Data Management Plan: The PAPPG contains a clarification of NSF's long standing data policy. All proposals must describe plans for data management and sharing of the products of research, or assert the absence of the need for such plans. FastLane will not permit submission of a proposal that is missing a Data Management Plan. The Data Management Plan will be reviewed as part of the intellectual merit or broader impacts of the proposal, or both, as appropriate. Links to data management requirements and plans relevant to specific Directorates, Offices, Divisions, Programs, or other NSF units are available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/dmp.jsp. See
Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

Postdoctoral Researcher Mentoring Plan: As a reminder, each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. Please be advised that if required, FastLane will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

Revision Summary: The preliminary proposal deadline date has been changed from June 1 annually to April 1 annually. This will allow enough time for the review of the preproposals and feedback to the Principal Investigators for the development of full proposals by the November 15 deadline. This is the only change in the CD program solicitation. The program solicitaion number remains NSF 04-512. The full proposal deadline date remains November 15 annually.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Continental Dynamics (CD)

Synopsis of Program:

The Division of Earth Sciences (EAR) will consider proposals for multidisciplinary research that focuses on an

improved understanding of the processes governing the origin, structure, composition, and dynamical evolution of the continents and continental building blocks. The program is particularly oriented toward projects whose scope and complexity require a cooperative or multi-institutional approach and multi-year planning and execution. The intent of the program is to fund only relatively large projects that do not fit easily within other Earth Sciences programs and that have broad support of major sections of the Earth Science community.

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Leonard E. Johnson, Program Director, 785 S, telephone: (703) 292-8559, fax: (703) 292-9025, email: lejohnso@nsf.gov

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

- 47.050 --- Geosciences

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant or Cooperative Agreement

Estimated Number of Awards: 20 to 30

Anticipated Funding Amount: $10,250,000 in FY 2004 and similar amounts in future years.

Eligibility Information

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Preliminary Proposals:** Submission of Preliminary Proposals is required. Please see the full text of this solicitation for further information.
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- **Cost Sharing Requirements:** Inclusion of voluntary committed cost sharing is prohibited.
- **Indirect Cost (F&A) Limitations:** Not Applicable
- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

- **Preliminary Proposal Due Date(s) *(required)*** (due by 5 p.m. proposer's local time):

  April 01, 2005

  and April 1 annually thereafter

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

  November 15, 2004

November, Annually Thereafter

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

Award Administration Information

Award Conditions: Standard NSF award conditions apply.

Reporting Requirements: Additional reporting requirements apply. Please see the full text of this solicitation for further information.

TABLE OF CONTENTS

I. INTRODUCTION

For more than three decades, the principles of the theory of plate tectonics have been successfully applied to help understand the history of and processes active in forming the major structural subdivisions of the earth. One significant advance is an understanding of the clear distinction between oceanic and continental crust. It has been shown that the oceans are the cradle of crustal formation and represent the result of a single episode in the plate tectonic cycle. The greatest advances have been made in quantitatively understanding the process of ocean crust formation and associated processes that contribute to the nature of the oceanic crust, its sediments and biota, and the global distribution of continents and oceans.

In contrast, the continents represent an accumulation of the residues of previous tectonic cycles and the addition of new material through geologic processes restricted to the continental crust and lithosphere. Although the result is a complex mass of superimposed units whose history is difficult to unravel, it is the library that stores the record of previous tectonic cycles and the principal data source to reconstruct the long-term history of the earth. In addition, the growth of the continents has resulted in structural units with bulk physical, chemical, and mechanical properties sufficiently different from those of the oceanic crust that the principles of plate tectonics have yet to be fully applied. Correspondingly, the geological, geophysical, and geochemical structure and evolution of the continents is still not clearly understood nor can the processes that control continental phenomena always be confidently placed within the plate tectonic theory.

A major unifying frontier of future research in the Earth Sciences is the study of the dynamical evolution of continents. In this perspective, the continent as a system includes continental crust, the subjacent lithosphere and asthenosphere, and the building blocks of continental evolution that include oceanic sediments, arcs, plateaus, and marginal basins. The dynamics of continental evolution involve processes that are currently active at the surface and extend into the mantle, including earthquakes, structural deformation, generation and movement of magmas, and the migration of chemically active fluids. The exposed rocks of the crystalline basement that record up to 4 billion years of earth history are the only resource of data to study continental evolution. The study of continental dynamics requires a combination of geological, geophysical, and geochemical studies of these rocks in the context of major studies of modern processes and three-dimensional structure.

II. PROGRAM DESCRIPTION

An effective organizational schema for the mobilization of scientific creativity and project implementation for continental dynamics research involves the concept of a field laboratory. Each field area would become an outdoor laboratory, in which techniques such as sampling, mapping, geophysical studies, and drilling are combined, over a number of years and a number of investigators. Data and samples that originate in the field laboratory then go indoors where many participating investigators engaged in sample analysis, computer modeling, and data processing work together to develop quantitative synthesis. In this context, research projects supported by the Continental Dynamics Program will normally be characterized by many of the following criteria:

- Be interdisciplinary, requiring coordination of efforts in geophysics, geology, and geochemistry.
- Be critically dependent on the ability to mobilize high technology tools for acquisition of data in the field, for study of materials in the laboratory, and for modeling systems on the computer.
- Include three-dimensional study of the subsurface by geophysical means, direct measurement of plate motions, detailed monitoring of earthquakes and of deformation near plate boundaries, and instrumentation and sampling of the subsurface through drilling.
- Often involve increased coordination and collaboration among scientists from universities and other government agencies as well as from industry.
- Be of such a scope that they will require a multiple year effort to complete.
- Be focused projects of finite duration.
- Involve an initial screening by means of a preliminary proposal process (see section on "Preliminary Proposals").

III. AWARD INFORMATION

Anticipated funding is $10,250,000 for new awards. The estimated number of awards is 20 to 30 standard or continuing grants or cooperative agreements per year.

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

IV. ELIGIBILITY INFORMATION

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the Grant Proposal Guide, Chapter I, Section E.

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Preliminary Proposals *(required):* Preliminary proposals are required and must be submitted via the NSF FastLane system, even if full proposals will be submitted via Grants.gov.

Proposals for CD projects will normally be submitted in a two-step process; step 1: a preliminary proposal, and step 2: a full proposal. The two steps have separate deadlines and separate formats as described below. The submission of a preliminary proposal is intended to provide a review of the basic concept of the project at an early stage of development, so that if the review is negative the principle investigators will not have invested a large amount of time and resources in the preparation of a full proposal. This process is also expected to improve the success rate at the full proposal review stage. Preliminary proposals will be treated as informal documents involving no commitment on the part of either the applying organization or the Foundation. They will not in any way preclude later submission of, or affect the review of, a full proposal and no signatures of institutional representatives or other formal commitment are required.

The submission of preliminary proposals is optional, but strongly encouraged. The preliminary proposal should provide a brief description of the proposed research, the need for a multidisciplinary, cooperative or multi-institutional consortia approach, the management structure, the key personnel and their duties, and a rough estimate of cost and duration. Preliminary proposals may not exceed ten pages in length (inclusive of figures). No appendices are to be included.

Preliminary proposals must be submitted using the Proposal Preparation module in FastLane. Complete the sections of the Cover Sheet that are appropriate for the preliminary proposal, and click on the "preproposal" check box.

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program 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/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program 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.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

Except as modified below, full proposals should be prepared in accordance with the guidelines in the Grant Proposal Guide.

In the Project Description section, particular attention should be given to the following:

1. Description of Research: The proposal should describe the proposed research activities in sufficient detail to allow assessment of their scientific merit. Indicate what impact the research will have on an improved understanding of the processes governing the origin, structure, composition, and dynamical evolution of the continents.
2. Rationale for a Collaborative Approach: Justify the need for a cooperative or multi-institutional approach. Indicate what unique opportunities will be provided by the collaborative approach compared to separate individual research projects.
3. Management Plan: Outline the capability of the group to conduct the research and manage the required personnel and equipment needed to successfully complete the proposal objectives. If there is joint use of equipment or facilities, describe the provisions for maintenance and a management plan for operation of shared-use equipment or facilities. Include specific details on the role of each principal investigator.
4. Duration of Project: The proposal should contain a carefully thought-out plan to complete the proposed research in a specified amount of time. Any project lasting more than five years will normally be required to submit a new formal proposal at the end of five years.
5. Distribution of Data and/or Samples and Publication of Results: Where data or samples are collected as part of the project, it is necessary to provide a management plan for the secure preservation of all materials, and the mechanisms by which they may be used by, or distributed to, responsible scientists. Provisions must also be made for the rapid publication of reports that describe the nature of stored data and sample resources and research results of the project.
6. Education and Human Resources: A statement must be included specifying the potential of the proposed research to contribute to the education and the development of human resources in science and engineering at the postdoctoral, graduate, and undergraduate levels. This statement may include, but is not limited to, the role of the research in student training, course preparation, and seminars, particularly for undergraduates. Special effectiveness or achievement in the area of producing professional scientists and engineers from groups presently underrepresented should be addressed.

7. Include at the front of the Project Description section a summary budget sheet indicating the total annual project cost for each institution.

   NOTE: THE SECTIONS OF THE PROPOSAL DEALING WITH ITEMS 1 THROUGH 7 ABOVE SHOULD NOT EXCEED A TOTAL OF 36 PAGES. THIS COUNT INCLUDES LISTS, TABLES AND FIGURES .

8. Biographical Sketches: Provide a biographical sketch that includes a list of only up to five (5) publications most relevant to the research proposed and only up to five (5) other significant research publications. Include biographical sketches for principal and co-principal investigators only.
9. Current and Pending Support: A table should be provided to summarize the current and pending support of each principal and co-principal investigator from all sources. The project title, current year's amount, source of funding, and future commitments should be included. Pending proposals should also be listed.
10. Budget: Include separate annual budget pages indicating the cost for each year. For any subawards, provide separate budget pages for each subawarding organization.
11. Official letters of support and/or participation: Only official letters that verify specific institutional and other sector resource commitments or participants should be included. (This information should be uploaded to Supplementary Documents.) NOTE: Cost sharing is not required. Any information submitted under this item is not considered to be cost sharing and is not auditable.

Continental Dynamics projects usually will involve principal investigators from several different institutions, each submitting his/her own proposal. Only the lead institutions proposal need contain the full text as described above. The other institutions' proposals need only contain cover sheets, project summary, budgets, and PI information (biographical sketches, current and pending support statements, results from prior NSF support) particular to the institution submitting the proposals.

Proposals that are related to a CD project or to the research focus of the CD Program, but do not meet the criteria for a CD proposal, will normally go to other EAR programs. If favorably reviewed, they may be eligible for split-funding by the CD Program and the other program.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

C. Due Dates

- **Preliminary Proposal Due Date(s)** ***(required)*** (due by 5 p.m. proposer's local time):

  April 01, 2005

  and April 1 annually thereafter

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D. FastLane/Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

  Detailed technical instructions regarding the technical aspects of 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 solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

  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. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp.

- **For Proposals Submitted Via Grants.gov:**

  Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www07.grants.gov/applicants/app_help_reso.jsp. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

  Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. 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 the reviewer is qualified to make judgements.

What is the intellectual merit of the proposed activity?
How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative 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?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf.

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

NSF staff also will give careful consideration to the following in making funding decisions:

Integration of Research and Education
One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

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

Additional Review Criteria:

Preliminary proposals will be evaluated by EAR Program Staff and the Continental Dynamics Review Panel. The response to the principal investigator will be a letter containing a summary of review comments that either encourages or discourages a full proposal. This response is the consensus of review by EAR staff members and the panel and represents their collective opinion of the prospect for eventual funding. The opinion is informal and does not preclude submission of a full proposal.

Review of full proposals is described above, with additional criteria as follows:

1. The scientific merit of the research for the overall project and the special justification for adopting a collaborative approach.
2. The relation of the project to the current, major scientific questions regarding the dynamic evolution of the continents.
3. The degree to which the proposed mix of principal investigators and their specialties match to achieve the broad objectives outlined in the proposal.
4. The proposed management plan to achieve the overall objectives of the project.
5. The adequacy and appropriateness of the budget items, including those in the subawards.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review 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.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's 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 Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

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 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.B. 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 (GC-1); * or Research Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. 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. Such reports provide information on activities and findings, project participants (individual and organizational), 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. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

Data Policy: Principal investigators are required to adhere to the EAR Data Policy available on the NSF website. Final reports for all awards should include a statement describing how the data policy requirements have been met.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Leonard E. Johnson, Program Director, 785 S, telephone: (703) 292-8559, fax: (703) 292-9025, email: lejohnso@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.
- Lerome D. Jackson, Program Technology Specialist, 785 S, telephone: (703) 292-8551, fax: (703) 292-9025, email: ljackson@nsf.gov

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, National Science Foundation Update is a free e-mail subscription service designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the NSF web site.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

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