

EPA/NSF PARTNERSHIP FOR ENVIRONMENTAL RESEARCH

*Interagency Announcement of
Opportunity for Grants in
Decision-making and Valuation for
Environmental Policy*

CLOSING DATE: *February 1, 1999*



ENVIRONMENTAL PROTECTION AGENCY



NATIONAL SCIENCE FOUNDATION

Interagency Announcement of Opportunity for Grants in Decision-making and Valuation for Environmental Policy

1.0 INTRODUCTION

The Environmental Protection Agency (EPA) and the National Science Foundation (NSF) announce their intent to continue to support an extramural grants program in fundamental environmental research in Fiscal Year (FY) 1999. This EPA/NSF competition has been developed based on a Memorandum of Understanding between the agencies which establishes a partnership emphasizing the support and merit review of fundamental environmental research. This is the fifth year of the joint special awards competition. Information on awards made in the FY 1995 through 1998 competitions may be found on the Internet through: <http://www.nsf.gov> or <http://www.epa.gov/NCERQA>.

The four research areas targeted this year are:

**Water and Watersheds
Technology for a Sustainable Environment
Decision-making and Valuation for Environmental
Policy Environmental Statistics**

This announcement solicits applications for Decision-making and Valuation for Environmental Policy (DMVEP). Awards made through this competition are dependent upon responsiveness of the proposals to the announcement, the quality of the proposed research, and the availability of funds. EPA and NSF anticipate making approximately 15 awards, totalling about \$2.5 million, in DMVEP. The projected range is from \$60,000 to \$250,000 per award per year, with durations from 1 to 3 years. Field experiments, survey research, and multi-investigator projects may require the higher funding level. Depending on the quality of proposals and the recommendations from merit review, the sponsoring agencies expect more than half the resources to be allocated to topic I.A., Economic Benefits, described below.

Proposals in response to this announcement must be received by February 1, 1999. It is anticipated that awards will be made by Fall 1999. Awards resulting from this competition may be made by either EPA or NSF, at the option of the agencies, not the grantee.

Further information, if needed, may be obtained from the EPA and NSF officials indicated below. E-mail inquiries are preferred.

General Information on the Competition:

Dr. Robert E. Menzer
EPA National Center for Environmental Research and
Quality Assurance
menzer.robert@epamail.epa.gov
voice (202) 564-6849

Dr. James L. Edwards
NSF Directorate for Biological Sciences
jledward@nsf.gov
voice (703) 306-1400

Dr. Robert Wellek
NSF Directorate for Engineering
rwellek@nsf.gov
fax (703) 306-0319

Mr. Jeff Fenstermacher
NSF Directorate for Social, Behavioral, and
Economic Sciences
jfenster@nsf.gov
voice (703) 306-1741

Information on Decision-making and Valuation for Environmental Policy:

Ms. Deborah Hanlon
(general questions, particularly concerning Part I)
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fax (202) 565-2447, voice (202) 564-6836

Dr. Alan Carlin
(substantive questions with regard to Part I)
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Dr. Rachele Hollander
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2.0 DECISION-MAKING AND VALUATION FOR ENVIRONMENTAL POLICY

Introduction

The Decision-making and Valuation for Environmental Policy (DMVEP) competition encourages research that will contribute to the development of practical, credible approaches for estimating the benefits and costs of environmental programs and improving decision-making about environmental issues.

The competition encourages proposals from researchers from all behavioral, social, and economic sciences. It encourages collaborations with non-social science disciplines when needed to answer social science-based questions. It supports both research conducted within a single disciplinary tradition, as well as novel, collaborative, and interdisciplinary scientific efforts. The competition especially values the latter type of proposal.

Since its initiation in FY 1995, the Decision-making and Valuation competition has supported research on a wide variety of topics. Because benefit-cost analyses are now required as input to the environmental policy making process at the federal level, and increasingly at the state level as well, a primary focus of the competition has been research on improving methods for estimating costs and benefits of environmental programs. Special emphasis is given to situations in which prices or comparable standards of value are deficient or missing. In addition to research within the benefit-cost tradition, the competition has solicited proposals on other methods for organizing and evaluating economic and social information relevant to environmental policy making – including techniques such as multi-criteria decision analysis, cost-effectiveness analysis, and consensus modeling.

The competition has encouraged research on ecosystem valuation – including topics such as the identification of valuable ecosystem functions and the effects of ecosystem changes on social welfare. Likewise, it has promoted research on the relationship between economic growth and environmental quality.

Regarding environmental decision making, a major focus of the competition has been on methodological and procedural innovations and improvements. For example, the competition has supported a number of studies of public participation and negotiation in environmental decision making. Since its inception, the competition has supported a number of research projects on human values and perceptions affecting environmental policy making.

Description

The FY1999 Decision-making and Valuation for Environmental Policy (DMVEP) competition solicits proposals in two areas:

- *The Relationship between the Economy and the Environment*
- *Environmental Decision-making*

For the first topic – the relationship between the economy and the environment – the competition will give preference to research that addresses pollution prevention and control programs, especially programs that are national in scope. Research at the regional or local level will be supported only if its results clearly will inform the analysis of national problems.

For the second topic – environmental decision making – recent competitions have resulted in a number of awards focusing on public participation and negotiation. In the present competition, preference will be given to proposals that address other types of innovative methods and processes, proposals that focus on ecosystem-level analyses, and proposals that examine social and cultural factors and their linkages to environmental policy formation and implementation.

I. Relationship between the Economy and the Environment

A. Economic Benefits of National Environmental Pollution Control and Prevention Policies and Programs (including ecosystem valuation)

The goal of national environmental policies and programs is to protect or improve the health and well being of humans, and the ecosystems vital to human welfare. Additionally, the policies and programs provide economic value and benefits to society. At present, several approaches to measuring economic value, including methods that rely on either revealed or stated preferences, are most often used. This component is encouraging proposals to improve existing methods or develop new methods for determining both use and non-use value. Examples of areas where government agencies have significant research needs on this topic include:

- Methods to value national economic benefits of changes to, or protection of, ecosystem services. Research that focuses on local ecosystem improvements or protections is encouraged, to the degree that the results could transfer to other environments or improve methods generally. Improved methods to value non-use benefits will be given priority.

- Methods to improve estimation of the economic value of reduced mortality and morbidity risks resulting from national environmental pollution control and prevention programs. Both carcinogenic and non-carcinogenic contaminants are of interest. Research is especially encouraged on methods that include productivity losses and variations in value from factors such as age, delayed onset of illness, voluntariness of exposure, degree of pain and suffering, disproportional risk to vulnerable populations (especially children), baseline quality of life, and expected remaining life years.
- Identification and improvement of methods for measuring the economic benefits of pollution prevention and control on human welfare not related to health (for example, recreation amenities or visibility), including distributional factors as well as efficiency. Improvement in benefit transfer methods for estimating substitution elasticities and aggregating transferred values from different studies.
- Improved methods to measure the economic value of protecting both latent and actively used resources that are in danger of pollution from a number of sources (e.g., groundwater).
- Methods to assess economic benefits of providing environmental pollution information (e.g., the Toxic Release Inventory, EMPACT) to consumers, investors, and/or producers of goods and services. Methods to evaluate benefits of voluntary compliance programs (e.g., agricultural best-management-practices, ISO 14000), along with assessments of why some voluntary programs work better than others.
- Theoretically sophisticated empirical research that compares estimated (*ex ante*) and realized (*ex post*) economic costs for pollution prevention and abatement at the plant, industry, market, and economy-wide levels. Most valuable would be the development of empirically based adjustment factors that mitigate the biases inherent in *ex-ante* economic cost analysis.
- Methodology to estimate the national cost savings from using economic incentives rather than other approaches to achieve environmental performance.
- Methods to value social costs directly; methods to translate direct compliance costs into changes in producer and consumer surplus; and methods to improve estimation of direct and indirect costs faced by regulating and regulated parties.
- Assessment of the reliability of past efforts to measure the national economic costs of achieving environmental protection in the United States (e.g., US Census PACE survey), with practical suggestions for methodological improvements.

C. Other Aspects of the Relationship between Economic Growth and National Environmental Pollution Control and Prevention Programs

Current national policy promotes both environmental pollution control and economic growth. Some take the view that economic growth leads inevitably to increased environmental pollution, while others believe that environmental pollution control and economic growth can coincide. Theoretically grounded empirical research can enlighten this and related debates. Topics of interest include:

- Measuring the effects of pollution control and prevention expenditures on national income and economic growth in the United States, including development of feasible methods for national income accounting that would better measure the effects of pollution control and prevention on productivity, assets, and welfare.
- Empirical research on the historical relationship between economic growth and environmental pollution levels; factors that have led to decreased environmental pollution levels in recent years are of particular interest. Empirical research on the historical relationship between pollution control performance and profitability in the United States; the impact of alternative approaches to environmental compliance on technology innovation and process modifications are of particular interest.
- Economic advantages and disadvantages of incentive-based approaches to pollution control and prevention,

B. Economic Costs of National Environmental Pollution Control and Prevention Policies and Programs

National environmental pollution control and prevention policies and programs entail compliance costs, government regulatory costs, losses to consumer and producer welfare, costs of displaced resources, and costs from changes in product quality, productivity, innovation, and market structure. Industry increasingly abates pollution by changes in production processes instead of emission control and waste treatment. As a consequence, dynamic models must augment traditional financial and engineering methods. These models should incorporate resource substitutions, conservation of energy and raw materials, increased process efficiencies and yields, higher product quality, toxicity reductions, and reduced future liabilities resulting from technological change and innovation. This component of the competition seeks to strengthen the conceptual and empirical basis for social cost estimation methods. Topics of interest include:

as compared with traditional command-and-control approaches. Effects of trading systems and information programs on innovation and dynamic efficiency in the market.

- Use of the Worldwide Web for information exchange to improve methods for measuring the value of environmental pollution control and prevention.

II. *Environmental Decision-making*

In this section of the announcement, the Environmental Protection Agency and the National Science Foundation wish to encourage proposals for research in three areas:

- methods and processes that help to understand and improve pollution prevention policies and programs,
- identification and analysis of factors that impede or promote environmental quality, and
- valuation and the interactions of social, physical, and biological systems.

Priority will be given to research that will contribute to understanding or evaluating national needs and programs for environmental quality. Research at the regional or local level will be supported only if its results clearly inform the analysis of national problems. The examples below should be regarded as illustrative, not exhaustive, of topics of interest in this component.

A. Methods and Processes

Prior competitions in the EPA/NSF Valuation program have resulted in research on new and improved ways to do economic valuation and values elicitation. Recent awards have added research on negotiation and public participation. This competition encourages the development and application of new methods, as well as innovative applications of existing ones. The agencies welcome research on such topics as:

- Methods for improving social impact analyses of environmental policy. Projects involving empirical tests in rural and urban communities are encouraged. Examples of methods include social vulnerability analysis, community profiling, rapid ethnographic assessment, and community-based GIS environmental decision tools.
- Methods to analyze the cultural, political, and social dynamics; values; or cultural or mental models that lead to environmental priorities and strategies which promote sustainable environmental practices (e.g., asset or social network mapping, the life-cycle of partnerships, conceptual understandings of cause-and-effect).

- Examination of social and political phenomena and processes that promote environmental justice, pollution prevention, or the ability of vulnerable groups to cope with environmental threats.
- Improvements in methods of formative and summative evaluation of national environmental programs.

B. Social Factors and Environmental Policy

Voluntary action and public participation in pollution prevention and remediation, ecosystem protection, and sustainable development are increasingly important for environmental policies and practices. To be most effective, these activities and programs need to be responsive to social, political, and cultural values and concerns, to the capabilities in communities, to their histories, and to their knowledge of and views about the environment. In this area, we are encouraging research on such topics as:

- Factors influencing outcomes from environmental protection policies, such as lead abatement and radon awareness programs. Such factors may include risk perceptions, local knowledge of environmental resources, and social capacity, among others.
- The role of public awareness, values, activities, and attitudes, as well as community coalitions and partnerships, in successful environmental protection and pollution prevention programs.
- Assessment of methods for changing behavior (particularly voluntary efforts) related to pollution prevention and sustainable development (e.g., social marketing, diffusion of innovation, education and information dissemination).
- Identification and analysis of ethical factors relevant to environmental problem solving, and their similarities and differences in different places; examination of how these different norms are adjudicated when policies cross national or state boundaries.

C. Ecosystem Valuation and Valuing Ecosystems

In this component we are encouraging proposals to identify and include non-economic values in ecosystem valuation. Research results should lead to better understanding of the interactions of social, physical, and biological systems and their implications for environmental policy and programs. Proposals should involve multi-disciplinary teams and approaches that integrate the social or behavioral sciences or environmental ethics with the relevant natural sciences and engineering. Examples of topics of interest here include:

- Modeling the interactions of ethical, social, political, economic and scientific factors in ecosystem valuation and valuing, and examining the relationships between scientific, policy, and public attention and ecosystem degradation or restoration.
- Development of approaches to model ecosystem characteristics and link the models to environmental decision making. Models should capture the large-scale and time-dependent characteristics of complex ecosystems. Analyses should consider the compatibility of the new models with the more traditional cost-benefit approaches currently incorporated in institutionalized decision-making processes.
- Comprehensive characterization of social and biological stresses on ecosystems that are noteworthy because of their physical or cultural characteristics, and development and analysis of alternative plans that can mitigate the stresses. Tests of methods that can be used to address controversies concerning ecosystems and ecosystem valuing and valuation.

2.1 Relationship to Current EPA Activities

The EPA/NSF Decision-making and Valuation for Environmental Policy activity relates to several EPA programs, including the:

- economy and environment program of the Office of Policy,
- economic analysis programs in most EPA program offices and several regions, and the
- sustainable ecosystems and communities program of the Office of Policy.

Personnel from these offices will assist the EPA Office of Research and Development in determining the program relevance of proposals, as described further in section 5.1 below.

2.2 Relationship to Current NSF Activities

This EPA/NSF activity relates to several NSF programs and initiative areas. NSF social sciences programs, especially the Decision, Risk, and Management Sciences program and the Societal Dimensions of Engineering, Science, and Technology program, support research directed at:

- increasing the understanding and effectiveness of problem solving, information processing, and decision making by individuals, groups, organizations, and society,

- improving approaches and information for decision making concerning management and direction of research, science and technology, and
- developing and transmitting knowledge about ethical and value dimensions associated with the conduct and impacts of science, engineering, and technology.

Other NSF social science programs supporting related research include the Political Science program, the Sociology program, the Economics program, the Geography program and the Cultural Anthropology program. The EPA/NSF activity also relates to NSF initiatives in the area of Environment and Global Change, particularly Human Dimensions of Global Change and Policy Sciences aspects of global change.

3.0 ELIGIBILITY

Academic and not-for-profit institutions located in the U.S., and State or local governments are eligible. Profit-making firms and federal agencies are not eligible to apply to this program. However, personnel in profit-making firms may participate as non-funded co-investigators or through sub-contracts with the awardee institution.

Federal employees may cooperate or collaborate with eligible applicants within the limits imposed by applicable legislation and regulations. However, federal agencies, national laboratories funded by federal agencies (FFRDCs), and federal employees are not eligible to submit applications to this program and may not serve in a principal leadership role on a grant. Under exceptional circumstances the principal investigator's institution may subcontract to a federal agency or FFRDC to purchase unique supplies or services unavailable in the private sector. Examples are purchase of satellite data, census data tapes, chemical reference standards, unique analyses or instrumentation not available elsewhere, etc. A written justification for such federal involvement must be included in the application, along with an assurance from the federal agency which commits to supply the specified service. Federal employees may not receive salaries or in other ways augment their agency's appropriations through grants made by this program. Potential applicants who are uncertain of their eligibility should contact Dr. Robert E. Menzer (listed in Section 1.0).

EPA and NSF welcome applications on behalf of all qualified scientists, engineers, and other professionals and strongly encourage women, minorities, and persons with disabilities to compete fully in any of the programs described in this announcement.

In accordance with Federal statutes and regulations and EPA and NSF policies, no person on grounds of race, color, age,

sex, national origin, or disability shall be excluded from participation in, denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from the Environmental Protection Agency or the National Science Foundation.

4.0 INSTRUCTIONS FOR APPLICATION SUBMISSION

4.1 Sorting Codes

In order to facilitate proper assignment and review of applications, each applicant must identify the topic area in which the application is to be considered. It is the responsibility of the applicant to identify correctly the proper sorting code. Failure to do so may result in delay or an improper review assignment. The Sorting Codes correspond to the topic areas within the solicitation and are shown below:

I. *Relationship between the Economy and the Environment*

A. Economic Benefits of National Environmental Pollution Control and Prevention Policies and Programs (including ecosystem valuation) **Code: IA**

B. Economic Costs of National Environmental Pollution Control and Prevention Policies and Programs **Code: IB**

C. Other Aspects of the Relationship between Economic Growth and National Environmental Pollution Control and Prevention Programs **Code: IC**

II. *Environmental Decision-making*

A. Methods and Processes **Code: IIA**

B. Social Factors and Environmental Policy **Code: IIB**

C. Ecosystem Valuation and Valuing Ecosystems **Code: IIC**

Proposals to the Decision-making and Valuation for Environmental Policy program are submitted to the NSF Division of Social, Behavioral and Economic Research (SBER). This division (DIV OF SOCIAL, BEHAVIORAL & ECON RESEAC) should be selected from the pull-down menu in the section titled "For Consideration by NSF Organizational Unit" on the NSF proposal cover sheet (NSF Form 1207). One Sorting Code (IA, IB, IC, IIA, IIB, or IIC) should be placed at the beginning of the project title on the cover sheet. EPA or NSF may reassign proposals to other or multiple sorting categories to ensure optimal review of proposals.

4.2 The Application

DMVEP proposals must conform to NSF proposal submission requirements. The NSF Grant Proposal Guide (GPG, NSF 99-2 or current issuance) provides detailed proposal preparation guidance. All proposals should be prepared in accordance with the GPG, except as modified in this announcement. (Especially, see section 4.3 below. Proposals must include the "Policy Relevance" discussion indicated there, and may include the other information noted.) All forms needed to apply are available in the GPG and in the Proposal Forms Kit. The GPG and Forms Kit are available electronically through the NSF Home Page at <http://www.nsf.gov/> Paper copies can be obtained from the NSF Publications Clearinghouse, 301-947-2722 or by e-mail from pubs@nsf.gov.

Applicants are strongly encouraged to prepare their proposals for full electronic submission using the FastLane system. Proposals may also be prepared for paper-copy submission; in that case, the cover sheet and project summary must be submitted through FastLane. For further information, see 4.5 How to Apply and Appendix 1 below.

To fulfill the requirements of section 4.3 below, applicants submitting through FastLane should place these additional pages, clearly labeled, at the end of the Project Description section. Paper-copy submissions should place these pages, clearly labeled, in Section I, Special Information and Supplementary Documentation, as identified in the GPG. Other than these additional pages, the 15 page limit on the Project Description section is in effect.

It is important that the application contain all the information requested in the formats described. If it does not, the application may be eliminated from review on administrative grounds. Once an applicant is chosen for award (i.e., after external peer review and internal programmatic review), EPA or NSF program officers may request additional documentation and forms.

4.3 Additional Pages – Project Description

To assist in the evaluation of how the research contributes to the decision needs of environmental agencies in general, and to EPA in particular, proposals to DMVEP **must** include a special section titled "Policy Relevance." For the purposes of this solicitation, the Policy Relevance discussion is limited to two pages and must contain an explicit statement on the policy relevance of the proposed research. In particular, the principal investigator (PI) must identify the "target group," or set of policy makers and/or policy analysts, likely to benefit from this research. Once identified, the PI must elaborate on the potential benefits of this research for the designated target group. The PI should also address ways that members of the research team intend to communicate the results to this group

or groups. EPA will consider this discussion in undertaking the program relevance review described in section 5.1 below.

In addition, if the project will produce data and information of value to the broader research community, the applicant should also include a discussion titled "Data and Information Availability." This discussion, not to exceed two additional pages, should describe the data and information products, the management plans for their validation, quality control, archiving, costs for these activities, and whether and under what conditions the data will be made available to interested parties. For awards that involve environmentally related measurements or data generation, these two pages should describe a quality system that complies with the requirements of ANSI/ASQC E4, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs." ANSI/ASQC E4 is available for purchase from the American Society for Quality Control, phone 1-800-248-1946, item T55. Only in exceptional circumstances should it be necessary to consult this document. Proposals involving interviews or surveys should include up to three additional pages with information about these instruments, titled "Protocols."

These additional pages do not count against the 15-page limit NSF has established for the Project Description section of proposals.

4.4 Additional Budgetary Guidance

Subcontracts for research to be conducted under the grant which exceed 40% of the total direct cost of the grant for each year in which the subcontract is awarded must be especially well justified.

Researchers may be invited to participate in an annual All-Investigators Meeting with EPA and NSF scientists and other grantees to report on research activities and to discuss areas of mutual interest. Budget requests should include travel funds to accommodate that eventuality.

4.5 How to Apply

A. Proposal Due Dates.

For paper submission of proposals, the paper copies MUST be received by 5:00PM, ET, February 1, 1999. For electronic submission of proposals, the proposal MUST be submitted by 5:00PM, local time, February 1, 1999.

In addition, all applicants should forward the signed proposal Cover Sheet (NSF Form 1207) to the following address, so that they will be received by NSF by 5:00PM, ET, February 8, 1999:

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

Informal, incomplete, or unsigned proposals will not be considered. A proposal may not be processed until the complete proposal (including signed Cover Sheet) has been received by NSF.

Proposals must be submitted to only one topic area, using a single sorting code. Proposals submitted to more than one topic will be assigned to the first sorting code designated on the application. If you wish to submit more than one application, you must ensure that the research proposed is significantly different from the research in other proposals that have been submitted to this solicitation or from other grants you are currently receiving from any Federal government agency.

B. FastLane Submission

The NSF FastLane system is available for electronic preparation and submission of a proposal through the Web at the FastLane Web site at <http://www.fastlane.nsf.gov>. A list of registered institutions and the FastLane registration form are located on the FastLane Web page. Instructions for preparing and submitting a standard NSF proposal via FastLane are located at <http://www.fastlane.nsf.gov/a1/newstan.htm>.

The Sponsored Research Office (SRO or equivalent) must provide a FastLane Personal Identification Number (PIN) to each Principal Investigator (PI) and co-PI to gain access to the FastLane "Proposal Preparation" application. Separately, PIs and co-PIs who have not submitted a proposal to NSF in the past must be added to the NSF PI database. This should be done as soon as the decision to prepare a proposal is made.

In order to use NSF FastLane to prepare and submit a proposal, the following is required:

Browser (must support multiple buttons and file upload) *
Netscape 3.0 or greater

- Microsoft Internet Explorer 4.01 or greater

PDF Reader (needed to view/print forms)

- Adobe Reader 3.0 or greater

PDF Generator (needed to create project description)

- Adobe Acrobat 3.01 or greater
- Aladdin Ghostscript 5.10 or greater

For questions or problems concerning submitting a proposal via FastLane, please send an e-mail message to flprop@nsf.gov or call 703-306-1142.

C. Paper Submission

The original and nineteen (19) copies of the fully developed application must be received by NSF no later than 5:00 P.M. EST on the closing date, February 1, 1999. The cover page and project summary must be prepared in accordance with the instructions for FastLane submissions.

Completed applications should be sent via regular or express mail to:

U.S. National Science Foundation
Proposal Processing Unit P060
4201 Wilson Blvd.
Arlington, VA 22230
Phone: 703-306-1118

5.0 REVIEW AND SELECTION

5.1 Review Procedures

EPA and NSF do an initial screening of all grant applications to determine their compliance with legal and administrative requirements. An appropriate peer review group reviews all appropriate applications. This review is designed to evaluate each proposal according to its scientific and technical merit. Each review group is composed primarily of academic social scientists.

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.

In evaluating the responsiveness of proposals to the research needs set forth in this solicitation, the review group will consider:

- 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?

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. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

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. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

Although budget information is not used by the reviewers as the basis for their evaluation of scientific merit, the reviewers are asked to provide their input on the appropriateness and/or adequacy of the proposed budget and its implications for the potential success of the proposed research. Input on requested equipment is of particular interest.

EPA and NSF coordinate project selection to avoid duplication. In making the final selection, the principal EPA programs to which this activity relates use criteria of program and policy relevance described in section 4.3 above. Besides the

NSF criteria indicated above, NSF program officers look at the overall portfolio to try to achieve balance or synergies from the meritorious proposals selected for support.

Copies of the evaluations by the technical reviewers will be provided to each applicant. Funding decisions are the sole responsibility of EPA and NSF. Grants are selected on the basis of technical merit, relevancy to the research priorities outlined, program balance, and budget.

5.2 Proprietary Information

By submitting an application in response to this solicitation, the applicant grants EPA and NSF permission to share the application with technical reviewers both within and outside the Agencies. Applications containing proprietary or other types of confidential information will not be reviewed.

6.0 GRANT ADMINISTRATION

Upon conclusion of the review process, meritorious applications may be recommended for funding by either EPA or NSF, at the option of the agencies, not the applicant. Subsequent grant administration procedures will be in accordance with the individual policies of the awarding agency.

6.1 EPA Grant Administration

The funding mechanisms for all awards issued under this solicitation will consist of grant agreements between EPA and the recipient. In accordance with Public Law 95-224, grants are used to accomplish a public purpose of support or stimulation authorized by Federal statute rather than acquisition for the direct benefit of the Agency. In using a grant agreement, EPA anticipates that there will be no substantial involvement during the course of the grant between the recipient and the Agency.

EPA grants awarded as a result of this announcement will be administered in accordance with 40 CFR Part 30 and 40 or the most recent FDP terms and conditions, depending upon the grantee institution.

EPA provides awards for research in the sciences and engineering related to environmental protection. The awardee is solely responsible for the conduct of such activities and preparation of results for publication. EPA, therefore, does not assume responsibility for such findings or their interpretation.

6.2 NSF Grant Administration

NSF grants awarded as a result of this announcement will be administered in accordance with the terms and conditions of the most recent NSF GC-1, "Grant General Conditions," or the

FDP-III, "Federal Demonstration Project General Terms and Conditions," depending on the grantee organization.

More comprehensive information on the administration of NSF grants is contained in the Grant Policy Manual (NSF 95-26, July 1995), Chapter II, available electronically on the NSF Web site. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, D.C. 20402. The telephone number at GPO is (202) 512-1800 for subscription information; the GPM can also be ordered through the GPO Web site at <http://www.gpo.gov>.

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" (NSF97-100) includes information on: Administration and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with 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?nsf97100>.

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 each budget period. Within 90 days after expiration of a grant, the PI must submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement. 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 progress and final reports in advance, to assure that they are keeping adequate data and records.

NSF has implemented a new electronic 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.

Effective October 1, 1998, PIs are required to use the new formats for these reports, and are strongly encouraged to submit their reports electronically via FastLane. For those PIs who cannot access FastLane, paper copies of the new formats may be obtained from the NSF Clearinghouse, 301-947-2722. NSF expects to require electronic submission of all reports via FastLane beginning in October 1999.

APPENDIX 1: Instructions for FastLane Cover-and-Summary Submission for DMVEP Proposals

If you are submitting your proposal using paper copies rather than electronically, you still are required to submit the proposal cover sheet and the project summary to NSF using FastLane. To access FastLane, go to the NSF Web site at <http://www.nsf.gov>, then select "FastLane," or go directly to FastLane (<https://www.fastlane.nsf.gov>).

Instructions for the Principal Investigator (PI):

Contact your institution's Sponsored Research Office (SRO) for a PIN number to gain access to the FastLane "Proposal Preparation" module. If you have not submitted a proposal to NSF in the past, you (and all co-PIs) must contact your SRO to be added to the NSF Principal Investigator (PI) database. You do this by sending an e-mail with all relevant information to fladmin@nsf.gov. Please do this as soon as you decide to prepare a DMVEP proposal.

As early as possible, enter your cover-sheet and project-summary information using the FastLane "Proposal Preparation" module. In the field labeled "Program Announcement" on the cover sheet type in "NSF 99-14" exactly as shown, with no additional spaces or characters. In the section titled "For Consideration by NSF Organizational Unit," click on DIV OF SOCIAL, BEHAVIORAL & ECON RESEAC. The Sorting Code (IA, IB, IC, IIA, IIB, or IIC) must be placed at the beginning of the project title.

Click on the "Allow SRO Access" button. Contact your SRO to inform it of your FastLane temporary proposal ID. Print the cover sheet and project summary and insert them into the printed copy of the proposal. *Allow time for your SRO to approve, copy and mail the proposal to meet the deadline.*

Instructions for the Sponsored Research Office (SRO):

Print the second page of the cover sheet in time to obtain the required institutional signatures.

Before assembling the proposal for copying, submit the cover sheet to NSF via Fastlane using the "Submit Proposal" function within the "Institutional Management of FastLane" module. This will generate a proposal number. Print a copy of

the cover sheet from FastLane; it will have the proposal number on it. Substitute the first page of the cover sheet for the one produced by the PI. Make copies of the proposal and submit to NSF according to the usual procedures for a paper proposal.

For FY1999, the paper copies of the proposal MUST be received at NSF by 5:00 p.m. Eastern Time on February 1, 1999, in order to be eligible. *PIs and SROs should allow sufficient time to be sure that all material will reach NSF in time.* Direct questions concerning FastLane or problems utilizing FastLane to flprop@nsf.gov. You can also contact FastLane user-support services at 703-306-1142.

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 (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 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.

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.

YEAR 2000 REMINDER

In accordance with Important Notice No. 120 dated June 27, 1997, Subject: Year 2000 Computer Problem, NSF awardees are reminded of their responsibility to take appropriate actions to ensure that the NSF activity being supported is not adversely affected by the Year 2000 problem. Potentially affected items include: computer systems, databases, and equipment. The National Science Foundation should be notified if an awardee concludes that the Year 2000 will have a significant impact on its ability to carry out an NSF funded activity. Information concerning Year 2000 activities can be found on the NSF web site at <http://www.nsf.gov/oirm/y2k/start.htm>.

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