

Proposal Solicitation for Construction of an Alaska Region Research Vessel and Operator Selection (ARRV)

Program Solicitation
NSF 07-515



National Science Foundation
Directorate for Geosciences
Division of Ocean Sciences

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

January 29, 2007

REVISION NOTES

In furtherance of the President's Management Agenda, NSF has identified programs that will offer proposers the option to utilize Grants.gov to prepare and submit proposals, or will require that proposers utilize Grants.gov to prepare and submit proposals. Grants.gov provides a single Government-wide portal for finding and applying for Federal grants online.

In response to this program solicitation, proposers may opt to submit proposals via [Grants.gov](#) or via the [NSF FastLane](#) system.

Due to the complexity of the proposals being submitted, however, use of FastLane to prepare and submit proposals is strongly encouraged.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Proposal Solicitation for Construction and Operation of an Alaska Region Research Vessel (ARRV)

Synopsis of Program:

The Division of Ocean Sciences (OCE) Integrative Programs Section (IPS) is soliciting proposals to identify an organization to manage the construction contract of the Alaska Region Research Vessel (ARRV) using the existing NSF-funded design, and once constructed, manage the vessel operations to support NSF and other Federally funded science activities.

The ARRV design was completed in 2004 through a grant made to the University of Alaska. As designed, the vessel will be a 236 foot multipurpose oceanographic research ship capable of operating in seasonal sea

ice and open ocean regions around Alaska, mainly in the Chukchi, Beaufort and Bering Seas as well as the Gulf of Alaska, coastal southeast Alaska and Prince William Sound.

Cognizant Program Officer(s):

- Emma Dieter, telephone: 703-292-8583, fax: 703-292-9085, email: edieter@nsf.gov

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

- 47.050 --- Geosciences

Award Information

Anticipated Type of Award: Cooperative Agreement

Estimated Number of Awards: 1

Anticipated Funding Amount: \$98,000,000 Up to \$98,000,000 will be available over a period of two years for vessel construction and associated construction activities that will lead to final vessel delivery and acceptance. Award funding is contingent upon appropriations by Congress. Annual vessel operational costs following construction will be funded through a separate Cooperative Agreement.

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- To qualify for an award, an organization must be a U.S. based college, university, non-profit research institution, or association of colleges and universities that have a substantial in-house ocean science research and education programs and can demonstrate the ability to manage a large facility construction project and subsequently operate the facility effectively and economically. The vessel must be able to economically and efficiently carry out science mission operations, the majority of which will be conducted in the ocean and coastal environments of the Alaska region.

PI Limit:

None Specified

Limit on Number of Proposals per Organization: 1

One proposal per Organization is allowed.

Limit on Number of Proposals per PI: 1

One proposal per PI is allowed.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Full Proposals:**
 - Full Proposals submitted via FastLane: 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/bfa/dias/policy/docs/grantsgovguide.pdf>)

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:** Not Applicable
- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

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

January 29, 2007

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria apply.

Award Administration Information

Award Conditions: Additional award conditions apply. Please see the full text of this solicitation for further information.

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

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I. INTRODUCTION

NSF is a participating agency of the Federal Oceanographic Facilities Committee (FOFC) and subscribes to its fleet renewal plan published in December, 2001 entitled, "Charting a Future for the National Academic Research Fleet: A Long-Range Plan for Renewal." The FOFC Fleet Renewal Plan identified the need for multiple vessel replacements over the next 20 years, including an Alaska Region Research Vessel (ARRV). The highest priority in the Fleet Renewal Plan was replacement of the oldest and smallest federally-owned ocean-going vessel in the fleet, R/V ALPHA HELIX, by a more robust and capable research vessel. NSF supported conceptual designs for such a vessel over many years, leading to a detailed "contract" design in December 2004 which is available at http://www.sfos.uaf.edu/arrv/constructdesign/contract_specs.pdf. Based on strong scientific justification, acquisition of such a vessel was approved by the NSF National Science Board (NSB) as a Major Research Equipment Facilities Construction (MREFC) project in August 2003 (NSB/PPP-03-16). Construction funds were requested in the President's FY 2007 Budget Request to Congress. Proposers will prepare the contract vessel design completed in December 2004 for shipyard bid to construct the ARRV. Vessel construction and outfitting costs will be split over two fiscal years.

Satellite observations have shown that the perennial ice in the arctic is thinning at a rate of 9 percent per decade, and recent research suggests the thinning is beginning to have major regional and global consequences. Research is urgently needed on topics ranging from climate change, ocean circulation, ecosystem studies and fisheries research to natural hazards and cultural anthropology. Most of these cutting edge science projects require a technologically advanced oceanographic ice-capable platform in the Alaska region to conduct field research and long-term observations.

The ARRV will operate in seasonal sea ice and open ocean regions near Alaska, including Chukchi, Beaufort, and Bering Seas, Gulf of Alaska, Prince William Sound and coastal Southeast Alaska. The vessel will operate year round. As we strive to understand a variety of complex regional and global ecosystem and climate issues, the need to conduct research at the ice edge and in seasonal ice (up to 2.5 feet thick) has become increasingly urgent. The ARRV will provide greatly improved access to the region, enabling further exploration to address critical issues.

The construction of this ship will represent a major NSF contribution to the long-term research objectives of International Polar Year (IPY), by providing the legacy of research infrastructure necessary for future IPY related research. It is anticipated that the increased capability of the ARRV over the existing R/V Alpha Helix, both with regard to its ability to accommodate much larger interdisciplinary research teams and greatly enlarged geographical and seasonal ranges, will stimulate innovative interdisciplinary proposals for research in this area.

Selection of the organization to operate the ARRV does not imply that its staff will have exclusive or favored access to ship use. NSF intends that the Awardee will seek University-National Oceanographic Laboratory System (UNOLS) membership (See <http://www.unols.org>) and the ship will be scheduled through the UNOLS scheduling process, allowing all interested funded scientists equal access to the facility. The Awardee organization must demonstrate its ability to undertake the successful direction, management and technical oversight of the procurement, construction, scientific outfitting, seatrials and post delivery activities of the vessel, and develop a Project Execution Plan as outlined in the following section.

Post-construction, the Awardee will manage the operations and maintenance of the vessel to support NSF and other Federally-funded research projects. The U.S. government will retain title to the ARRV.

Operational funds for the ARRV will be reviewed and negotiated annually through a separate five-year Cooperative Agreement.

II. PROGRAM DESCRIPTION

The Division of Ocean Sciences (OCE) Integrative Program Section (IPS) is soliciting proposals to identify and select an

organization to manage the construction of an Alaska Region Research Vessel (ARRV), and once constructed, manage the vessel operations to support NSF and other Federally funded science activities. The objective of this open competition is to select the most appropriate Awardee to construct and operate the ARRV on behalf of NSF in support of community wide activities.

A proposal must be compelling, technically sound and must thoroughly address the two major phases: 1) Vessel Construction and 2) Vessel Operations. For the vessel construction phase, the Proposer must demonstrate in the proposal the ability to effectively facilitate and manage the construction contract for the ARRV within cost, schedule and scope criteria. For the vessel operation phase, the Proposer must (1) demonstrate past experience in managing high-latitude vessel operations in support of science and education; and (2) demonstrate in the proposal the ability to accommodate the ship at a docking facility appropriate for a vessel the size and tonnage of the ARRV in order to maintain high quality vessel conditions (NSF will not provide construction or modification funds for docking facility and associated costs). If a Proposer plans to divest itself of an existing UNOLS vessel in order to operate the ARRV, an "end-of-service life" plan should be included in the proposal, including a listing of equipment for cross decking and a financial accounting from any proceeds from vessel sale (if applicable) to be applied towards the ARRV.

NSF notifies proposers that it is the sense of the U.S. Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available by NSF should be American-made.

Phase 1: Vessel Construction

An essential element of the proposal is a conceptual, or preliminary, Project Execution Plan (PEP). After an award is made, the Awardee will refine and fully develop the plan adding all necessary detail. No construction contract can be made by the Awardee until NSF approves the PEP through formal establishment of a project baseline. The PEP will address the following 11 areas of the construction project management. The proposal is only required to address these 11 program management fundamentals conceptually or in outline, but must address how the detailed PEP will be developed within 90 days of the Cooperative Agreement award.

Project Execution Plan Components:

- 1. Organizational Structure:** The project organization, internally and externally, will show clear lines of authority, responsibility and communication between NSF, any partners and the Awardee, and will include a discussion of all significant interfaces between internal and external entities and how these will be coordinated (e.g., how, and how often, will interface with the user community be accomplished?). Organizational wiring diagrams to demonstrate lines of authority and communication among the different performing and oversight entities should be included in the PEP. The Awardee must designate one person – with strong project management experience – to be the Project Director, with overall authority and responsibility for the project and interactions with the Program Officer. In executing the Project Execution Plan, the Project Director manages the project “to the baseline” (the approved cost, schedule and performance requirements), which is a full time job and takes a dedicated individual. The Project Director must be supported by a competent technical staff committed to the project knowledgeable of the principles of sound project management, construction contract negotiation and shipyard/building experience, including an Operator’s Shipyard Representative with demonstratable experience in ship design and construction management. Resumes/CVs of the key personnel, or position descriptions if personnel are not yet on staff, should be included as an appendix in the PEP to demonstrate qualifications of project staff.
- 2. Baseline Project Definition:** This contains the project cost, schedule and performance requirements to be used as the benchmark against which all progress on the project will be measured.

Cost: Estimate of all costs, including inflation in accordance with annual guidance issued by the Office of Management and Budget (available from NSF’s Budget Division: <http://www.nsf.gov/bfa/bud/index.jsp>) or other accepted measures and contingency (based on industry standards or experience gained from establishing similar facilities) to complete the project. Costs for project review and oversight committee meeting reviews should be included in project costs.

Schedule: Schedule for the overall project and each major subsystem that includes system integration, commissioning, acceptance, testing and transition activities; major milestones and milestones for reviews (including oversight committee reviews); review reporting, critical decisions and deliverables.

Performance: Technical characteristics that the facility must be capable of performing upon completion in order to meet the science or engineering needs.

- 3. Work Breakdown Structure (WBS):** A product-oriented grouping of project tasks that organizes and defines the total scope of the project. The WBS is a multi-level framework that organizes and displays each project component

that represents work to be accomplished. Each descending level provides detailed definition of a project component. WBS integrates and relates all project work (cost, schedule and scope) and is used throughout the project management to identify and monitor project process. For the proposal, only a system-level WBS is required. For the final Baseline Review by NSF, a "bottom-up" contingency estimate derived from the WBS will be required.

4. **Risk Assessment and Management:** Once NSF approves a Baseline Project Definition there is an expectation by NSF management, the Office of Management and Budget and the Congress that the project will be managed by the Awardee, with appropriate oversight by the Program Officer, to achieve the stated cost, schedule and performance requirements. Therefore, it is essential for the Awardee to analyze the risks associated with achieving the Baseline Project Definition early in the process. Risk is an inherent part of any project to establish a facility, but diligence in assessing and managing the risk affords benefits and opportunities. Risk management is a prepared, prescribed, and disciplined approach, focused on the necessary steps to determine and control risks to an acceptable level. The risk management plans must identify the potential risks to the project and document appropriate strategies for managing those risks. Because risk management is a continuous process of identifying, analyzing, responding to and controlling risks to maximize the potential for success, risk management plans must be reviewed and updated periodically.
5. **Contingency Management:** The Project Manager will include 'risk dollars' as part of the cost estimate for each WBS component as appropriate. These dollars are the project funds reserved to deal with unexpected events during the project. The method used should be adapted to the specific needs of the project. Contingency is the portion of the project budget that can be held by NSF and/or the Awardee in reserve to accommodate the unknowns regarding requirements.
6. **Configuration Management and change control:** This identifies and defines items in a project, controlling changes of these items, controlling and managing through a documented process how requirements are to be met. The Awardee is responsible for establishing a program, conducting inspections and retaining records of the inspections conducted.
7. **Quality Assurance and Quality Control Program:** The awardee is responsible for establishing a program, conducting inspections and retaining records of the inspections conducted.
8. **Safety, Environmental and Health Issues:** The Awardee must develop a plan that addresses safety, health, environment and quality issues and is integrated throughout all the project phases. This plan will ensure that worker, environmental and public safety is appropriately addressed in performing every task, and include plans for securing human subjects clearances, if applicable (e.g., assessments of education-related activities). Also discuss any likely environmental permitting requirements, if applicable (e.g., marine mammals).
9. **Financial and Business Operations Controls:** Controls will be used to ensure that the project is in compliance with NSF policies and procedures and Federal regulations. Earned Value Reporting and a Document Control Center amongst other safeguards will be required.
10. **Plans for System Integration, Commissioning, Testing and Acceptance:** The Project Director establishes a turnover, occupancy, and acceptance process that includes a punch list item resolution, user walk-downs, verification of compliance with project requirements, system startup for proper operations.
11. **Plans for transitioning from construction and/or acquisition to operations:** A planned, structured and organized project transition includes the identification of the budget necessary for required activities, as well as adequate staffing.

As noted above, the proposal is only required to address these 11 program management fundamentals conceptually or in outline, but must address how the detailed Project Execution Plan will be developed within 90 days of the Cooperative Agreement award. Once the Cooperative Agreement is negotiated, the Awardee will establish an external group subject to NSF approval to assist the Awardee by reviewing the scientific merit of project-specific plans and processes including, but not limited to, cost and schedule realism, adequacy of budgeted contingency, and review of organizational structure and management. This group should provide guidance to the Awardee during the development of the PEP for the project baseline review. The Awardee will promptly provide NSF with any reports and/or guidance provided to it by the external group and report on Awardee responses/actions. The PEP will be submitted to NSF for review prior to the selection of a ship construction bid and before the release and expenditure of any construction funds. The Baseline Review will be conducted prior to the commencement of actual construction, following the award of the contract to the successful construction bidder. For the Baseline Review, the topics listed in Appendix 4 of the NSF *Guidelines for Planning and Managing the Major Research Equipment and Facilities Construction (MREFC) Account*, must be fully addressed (Available at: <http://www.nsf.gov/bfa/docs/>)

Phase 2: Vessel Operations

The proposal must include:

- A. Description of scientific use visualized for the vessel, which includes likely involvement of scientists and educators of the proposing institution(s), other likely users such as outreach programs (i.e., those promoting education and diversity), and sponsoring federal and state agencies; and
- B. Description of the Awardee's experience and demonstrated successful track record of the effective management of an oceanographic research vessel, including operating in ice conditions.
- C. Support systems for vessel operation
 - i. Precise description of the location, size, design and extent of docking and related storage facilities for the safe, cost-effective and efficient long-term accommodation, maintenance and staging of the ARR V (or documentation from the Proposer that it will be in place by end of vessel construction); and
 - ii. Plans for seeking status under UNOLS.
- D. Itemization of personnel qualifications
 - i. Description of the crew complement, capability of existing and planned maintenance and operations staff (if not in existence, identify the recruitment plan and timeline), and staffing plans for any shore-based facilities; and
 - ii. Provide proposed organizational and reporting flow charts for personnel to be associated with vessel operations, include crew complement, marine technicians, shore based support staff and organizational leaders.
- E. Cost Estimates
 - i. Provide a tentative one year ship operating budget using the format provided in the Proposal Submission Guidelines for the Integrative Programs Section (IPS) (NSF04-052) (See <http://www.nsf.gov/pubs/2004/nsf04052/nsf04052.pdf>), Ship Operations Program, Section 5, Table 1C and include a description of estimated 1-year operating costs from a maintenance and logistical perspective for this period (use Section 6, Detailed 4-Year Budget Table of the IPS Guidelines as a template). An estimate of the scope and cost of marine technical services should also be provided using the format identified in Section 4 of the Ship Technician Program guidelines found within the IPS Guidelines (noted above); and
 - ii. A plan for the Awardee to divest itself of an existing UNOLS vessel if the institution is currently the operator of a UNOLS vessel.

III. AWARD INFORMATION

Up to \$98,000,000 will be available over a period of two years for vessel construction and associated construction activities that will lead to final vessel delivery and acceptance. Award funding is contingent upon appropriations by Congress. Annual vessel operational costs following construction will be funded through a separate Cooperative Agreement. Estimated program budget and duration are subject to the availability of funds.

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- To qualify for an award, an organization must be a U.S. based college, university, non-profit research institution, or association of colleges and universities that have a substantial in-house ocean science research and education programs and can demonstrate the ability to manage a large facility construction project and subsequently operate the facility effectively and economically. The vessel must be able to economically and efficiently carry out science mission operations, the majority of which will be conducted in the ocean and coastal environments of the Alaska region.

PI Limit:

None Specified

Limit on Number of Proposals per Organization: 1

One proposal per Organization is allowed.

Limit on Number of Proposals per PI: 1

One proposal per PI is allowed.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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 pubs@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/bfa/dias/policy/docs/grantsgovguide.pdf>). 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 pubs@nsf.gov.

Refer to Section II, Program Description, for specific proposal preparation information and instructions. The proposal page limit is 250, including all diagrams, charts and figures. The entire proposal, including all charts, diagrams and figures, must be submitted via Fastlane or Grants.gov. Due to the complexity of the proposals being submitted, however, use of FastLane to prepare and submit proposals is strongly encouraged.

B. Budgetary Information

Cost Sharing: Cost sharing is not required by NSF in proposals submitted to the National Science Foundation.

C. Due Dates

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

January 29, 2007

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. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: <http://www.grants.gov/CustomerSupport>. 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 and, if they meet NSF proposal preparation requirements, for review. 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 with the proposer.

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 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 and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc, Panel, Internal NSF, and/or Site Visit Reviews.

Use of one or a combination of the review methods (Ad hoc, Panel, Internal NSF and/or Site Visit) will be decided by the Program Director in consultation with the OCE Division Director.

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 date of receipt. 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 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 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/general_conditions.jsp?org=NSF. 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 and other important information on the administration of NSF awards is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpm.

Special Award Conditions: The award associated with this solicitation will be a Cooperative Agreement that will fund vessel construction and associated construction activities that will lead to final vessel delivery and acceptance.

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.

Failure to provide the required annual or final project reports 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.

Additional reporting requirements

A construction contract and related subawards cannot be entered into without the approval of NSF and without NSF's review and approval of a PEP.

Prior to vessel construction, frequent communication between the PI and the NSF Program Director will be expected. In addition to annual and final reports, during vessel construction, weekly interim project reports submitted via FastLane to the cognizant NSF Program Director will be required. More detailed reports, addressing such issues as project progress, project timelines, budget, and any deviations from the original vessel design will be required on a monthly basis during vessel construction and will also be submitted via FastLane as interim reports. Failure to provide interim project reports may also delay NSF review and processing of future funding increments and pending proposals for that PI.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Emma Dieter, telephone: 703-292-8583, fax: 703-292-9085, email: edieter@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@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, MyNSF (formerly the Custom News Service) is an information-delivery system 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 or the user's Web browser each time new publications are issued that match their identified interests. MyNSF also is available on NSF's Website at <http://www.nsf.gov/mynsf/>.

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.

The National Science Foundation Information Center may be reached at (703) 292-5111.

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** (NSF Information Center): (703) 292-5111
- **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


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; and 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 proposer 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 or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; 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," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). 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 Office of Management and Budget (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 the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

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