

Memorandum of Agreement

Between the

National Science Foundation  
Office of Polar Programs

And the

U.S. Department of Transportation  
Maritime Administration  
Office of Shipbuilding and Marine Technology

1. PURPOSE

This Memorandum of Agreement (MOA) establishes an agreement between the National Science Foundation (NSF) and the Maritime Administration (MARAD), U.S. Department of Transportation, through which NSF will pay MARAD for technical support in connection with a new Antarctic Research Vessel (ARV) and other related services as required by NSF.

2. BACKGROUND

NSF has initiated a program to assess and possibly implement the leasing of a new ARV to support science in the Antarctic as a replacement for the *Nathaniel B. Palmer* in 2008. Recently a number of workshops were conducted to assess future science requirements and these expanded requirements form the foundation for the development of a conceptual design with construction and leasing cost estimates. Subsequently, a decision will be made by NSF to proceed or not to proceed with the procurement process. Should the decision be made to proceed, the Foundation's prime support contractor, Raytheon Polar Services Corporation (RPSC), will prepare a request for proposal. The proposals received will be evaluated from both a technical and cost perspective. Assuming the final negotiated costs are within the anticipated range, a contract would be awarded and vessel detail design and construction would commence. Construction of the vessel, including outfitting the vessel with scientific equipment and instrumentation, would be performed to meet the scheduled research needs in the Antarctic.

### 3. AUTHORITY

The authority for NSF and MARAD to enter this agreement is:

The Economy Act, 31 U.S.C. § 1535 provides that an agency may place an order with a major organizational unit with the same agency or another agency for goods or services if:

- (1) Amounts are available;
- (2) The ordering agency decides the order is in the best interest of the United States Government;
- (3) The agency to fill the order is able to provide or get by contract the ordered goods or services; and
- (4) The agency decides ordered goods or services cannot be provided by contract as conveniently or cheaply by a commercial enterprise.

### 4. ECONOMY ACT FINDINGS

As set forth in the Determinations and Findings Pursuant to 48 CFR 17.503, NSF warrants that sufficient funding amounts are available when services are requested, that this agreement is in the best interest of the United States Government, and that the services requested cannot be provided as conveniently or cheaply by contracting directly with a commercial enterprise.

MARAD warrants that it can provide the required services to NSF.

### 5. TERMS AND CONDITIONS

NSF is purchasing engineering support services in the areas of ship design, naval architecture, marine engineering, cost and schedule analysis, construction oversight, tests and trials. Many of these activities may be performed in concert with an integrated team comprised of other government personnel and support contractors from the private sector, such as RPSC, all under the overall management of NSF.

MARAD will have responsibility for:

Designating a MARAD Project Manager, who will direct all elements of the MARAD participation in the project and be responsible for the technical content of the work products, which may include, among other things, ship design, technical management, naval architectural support, acquisition support, construction oversight and vessel acceptance.

Consulting services from private industry to assist in the government's development of conceptual designs and cost estimates, participation in technical aspects of the procurement phase, and construction oversight of the vessel, including tests and trials.

To properly assess the technical and financial implications of a new ARV on NSF resources, a number of naval architectural tasks need to be performed. Among these are the translation

of science requirements into naval architecture and marine engineering design criteria such that a baseline conceptual design and cost estimate are generated. As part of the technical effort, a comparison of the ARV's science and operational capabilities to that of the *Nathaniel B. Palmer* will be made. In addition, a number of studies may need to be performed that address such items as geotechnical drilling from the vessel, the deployment and recovery of autonomous underwater vehicles, acoustically quiet propulsion machinery, a bow form that allows bottom mapping during icebreaking operations, a hull form that improves the towing of nets and electronic gear during operations in ice and the use of rotatable podded propulsion systems that eliminate the need for rudders. Results will be presented at appropriate times during the technical effort and vessel drawings, specifications and a design history will be generated. As part of the effort, technical specifications and associated materials for preparation of a request for proposal will be provided including proposal technical evaluation plans.

#### 6. ANNUAL STATEMENT OF WORK AND FUNDING DETERMINATION

The Statement of Work (SOW) shall be adjusted annually. NSF and MARAD must mutually agree to the SOW and its budgeted cost.

#### 7. BILLING AND REIMBURSEMENT

NSF will fund this work from no year appropriations that are not subject to fiscal year limitations. MARAD will make its best efforts upon completion of the project to return any remaining funds to NSF as quickly as possible. However, in the unforeseen case that NSF should receive and use single year funds, the unobligated funds will be returned to NSF before the end of the period of availability of such funds, or completion of the project. All funding is provided subject to the Economy Act of 1932, as amended (31 U.S.C. 1535).

MARAD will submit a cost estimate to NSF for budget purposes after this agreement is in place.

NSF shall initiate requests for services with the applicable accounting information. MARAD may bill NSF using the On-Line Payment and Collection system (OPAC). MARAD will provide quarterly cost data to NSF, itemizing fund utilization and balance available.

The NSF point of contact for obligation and payment is:

Name: Bart Bridwell  
Phone: 703-292-7457  
E-mail: [bbridwell@nsf.gov](mailto:bbridwell@nsf.gov)

The MARAD point of contact for billing and cost status reporting is:

Name: John Hoban  
Phone: 202-366-5852  
E-mail: [john.hoban@marad.dot.gov](mailto:john.hoban@marad.dot.gov)

The Points of Contact of each part to this agreement are:

Alexander L. Sutherland  
Ocean Projects Manager  
Office of Polar Programs  
Room 755  
National Science Foundation  
4201 Wilson Boulevard  
Arlington, VA 22230  
Phone: 703-292-7457  
Fax: 703:292-9080  
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Richard P. Voelker  
Chief, Division of Advanced Technology  
Office of Shipbuilding and Marine Technology  
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Maritime Administration  
400 Seventh Street, SW  
Washington, DC 20590  
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E-mail: richard.voelker@marad.dot.gov

The parties agree that if there is a change regarding the information in this section, the party making the change will notify the other party in writing of such change.

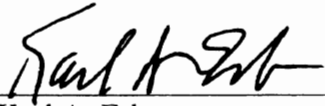
#### 9. DURATION OF AGREEMENT, AMENDMENTS AND MODIFICATIONS

This agreement will become effective when signed by all parties. The agreement will terminate upon the final acceptance of the vessel, but may be amended at any time by mutual consent of the parties. The parties will review this agreement at least once every three years to determine whether it should be revised, renewed, or canceled. Any party may terminate this agreement by providing 90 days written notice to the other party. This agreement is subject to the availability of funds.

#### 10. RESOLUTION OF DISAGREEMENT

Nothing herein is intended to conflict with the current NSF or DOT directives. If the terms of this agreement are inconsistent with the existing directives of either of the agencies entering into this agreement, then those portions of this agreement which are determined to be inconsistent shall be invalid, but the remaining terms and conditions not affected by the inconsistency shall remain in full force and effect. At the first opportunity for review of the agreement, all necessary changes will be accomplished either by an amendment to this agreement or by entering into a new agreement, whichever is deemed expedient to the interest of both parties.

Should disagreement arise on the interpretation of the provisions of the agreement, or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each party and presented to the other party for consideration. If agreement on interpretation is not reached within thirty days, the parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution.



Dr. Karl A. Erb  
Director, Office of Polar Programs

National Science Foundation  
4201 Wilson Boulevard  
Arlington, VA 22230

2/4/03

Date

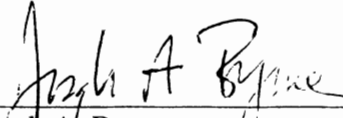


Patricia S. Williams  
Contracting Officer

National Science Foundation  
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2/4/03

Date



Joseph A. Byrne  
Director, Office of Shipbuilding and  
Marine Technology

Maritime Administration  
400 Seventh Street, SW  
Washington, DC 200590

2/10/03

Date