DIVISION OF OCEAN SCIENCES (OCE):

PROPOSAL SUBMISSION GUIDELINES FOR RESEARCH SHIP OPERATIONS, INSTRUMENTATION AND EQUIPMENT, AND TECHNICAL SERVICES SUPPORT

NSF 00-39

Instructions for the preparation of proposals requesting support for:

- SHIP OPERATIONS
- OCEANOGRAPHIC TECHNICAL SERVICES
- OCEANOGRAPHIC INSTRUMENTATION
- SHIPBOARD SCIENTIFIC SUPPORT EQUIPMENT
- SHIP ACQUISITION AND UPGRADE
- MISCELLANEOUS ACTIVITIES

National Science Foundation
Division of Ocean Sciences

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http://www.nsf.gov

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PROPOSAL SUBMISSION GUIDELINES

TABLE OF CONTENTS

Summary of Program Requirements

GENERAL INFORMATION

Program Names: Ship Operations, Oceanographic Technical Services, Oceanographic Instrumentation, Shipboard Scientific Support Equipment, Ship Acquisition and Upgrade, and Miscellaneous Activities

Short Descriptions/Synopses of Programs:
Ship Operations: Ship Operations awards provide support for direct and indirect costs arising from the maintenance and operation of research vessels. Allowable costs include salaries and related expenses of crew members and marine operations staff; acquisition of minor or expendable equipment; maintenance, overhaul and repair; insurance; and direct operating costs such as fuel, food, supplies, and pilot and agent fees. Shore facilities costs are provided only to the extent that they relate directly to the ship operation.

Oceanographic Technical Services: The Oceanographic Technical Services Program provides support to enhance the scientific productivity of research programs using major facilities, primarily research vessels. Effective use of such facilities is enhanced by providing institutional technical support services to all users of an institution's facilities. Services encompass maintenance, calibration, quality assurance, scheduling, logistical assistance, and at-sea supervision of the instrumentation and shared-use equipment available to sea-going researchers. Technical support requested must be directly attributable to NSF-sponsored use of the facilities.

Oceanographic Instrumentation: The Oceanographic Instrumentation Program provides support to enhance the scientific capabilities and productivity of seagoing research projects that use major facilities, primarily research vessels. Proposals for shared-use instrumentation may include items for the collection, processing and analysis of oceanographic data. Typical items which qualify are data loggers, water sample rosettes, biological net systems, coring equipment and autoanalyzers. Requested instrumentation must be justifiable in terms of multi-project cooperative utilization.

Shipboard Scientific Support Equipment: The Shipboard Scientific Support Equipment Program provides support to improve safety systems and enhance scientific capabilities and productivity of seagoing research projects that use major facilities, primarily research vessels. Proposals may include permanent installations and equipment required to outfit a vessel to conduct ocean science research. This includes such items as winches, cranes, the entire range of navigation and communication equipment, and safety items. Requests for both replacement and installation of new equipment are considered.

Ship Acquisition and Upgrade: From time to time, OCE makes awards for the design, construction, acquisition, upgrade, or conversion of research vessels. These awards are dependent upon the availability of funds appropriated for this purpose and are made only on strong evidence of scientific need for a new or reconditioned vessel. Most awards in recent years have been for the conversion or upgrade of ships already in service whose age, configuration, or operating costs have impaired their usefulness.

Miscellaneous Activities: OCE supports workshops, research and study projects, and some specialized facility operations related to quality control improvement, facilities enhancement and developmental activities. All projects must focus on shared-use facilities for the ocean science research community.

Cognizant Program Officers:
Ship Operations: Dr. Linda Goad, Program Officer, Room 725, Division of Ocean Sciences, telephone 703-292-8581, email: lgoad@nsf.gov Shipboard Scientific Support Equipment, and Ship Acquisition and Upgrade Programs: Ms. Emma (Dolly) Dieter, Program Officer, Room 725, Division of Ocean Sciences, telephone 703-292-8581, email: edieter@nsf.gov. Oceanographic Technical Services and Oceanographic Instrumentation Programs: Dr. Alexander Shor, Program Officer, Room 725, Division of Ocean Sciences, telephone 703-292-8581, email: ashor@nsf.gov.

Applicable Catalog of Federal Domestic Assistance (CFDA) No.: 47.050 — Geosciences

ELIGIBILITY

- Limitation on the categories of organizations that are eligible to submit proposals: **OCE support for major facilities is concentrated at a limited number of institutions suitably located to carry out operations in support of ocean science research. Ship operator institutions may include colleges and universities, nonprofit research institutions, and associations of colleges and universities. To qualify for an award from the Ship Operations, Oceanographic Technical Services, Oceanographic Instrumentation, Shipboard Scientific Support Equipment, or Ship Acquisition and Upgrade Program, an institution must have a substantial in-house ocean science research program, and must demonstrate the capability to operate the facility effectively and economically with procedures to support qualified researchers from other parts of the oceanographic community.**

  A concurrent Ship Operations Program award is required to qualify for Oceanographic Technical Services support.

- PI eligibility limitations: **None**

- Limitation on the number of proposals that may be submitted by an organization: **None**

AWARD INFORMATION

- Type of awards anticipated:
  Oceanographic Technical Services Program: multi-year continuing awards
  Oceanographic Instrumentation and Shipboard Scientific Support Equipment Programs: standard grants
  Ship Operations Program: cooperative agreements
  Ship Acquisition and Upgrade: may require contracts
  Miscellaneous Activities: standard grants

- Number of awards anticipated, FY 2001 through FY 2005: 105-115 per year

- Amount of funds available: $45.5 million to $55.0 million per year

- Anticipated date of awards: November 2000 through August 2005

PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS

- **Proposal Preparation Instructions**

  - Letter of Intent requirements: **None**

  - Preproposal requirements: **None**

  - Proposal preparation instructions: **Standard NSF Grant Proposal Guide (NSF 00-2, or later) instructions, with the NSF Form 831 (NSF-UNOLS Ship Time Request Form) included for sea-going projects.**

  - Supplemental proposal preparation instructions: **See detailed description for each program**

- Deviations from standard (GPG) proposal preparation instructions: **Exempt from 15-page project description limit**

♦ **Budgetary Information**

- Cost sharing/matching requirements: **None**
- Indirect cost (F&A) limitations: **None**
- Other budgetary limitations: **None**

FASTLANE REQUIREMENTS

- FastLane proposal preparation requirements: **FastLane use required**
- FastLane point of contact: **Kandace Binkley, Division of Ocean Sciences, (703) 292-8580; ocefl@nsf.gov**

TARGET DATES

Ship Operations Program	Oct. 1
Oceanographic Technical Services	Oct. 15
Oceanographic Instrumentation	Sept. 15
Shipboard Scientific Support Equipment	Sept. 1
Ship Acquisition or Upgrade	Contact Program
Miscellaneous	Contact Program

PROPOSAL REVIEW INFORMATION

♦ Merit Review Criteria: **Standard National Science Board approved criteria, with additional evaluation criteria for service activities (see detailed description in each program).**

AWARD ADMINISTRATION INFORMATION

♦ Grant Award Conditions: **Standard Grant General Conditions (GC-1) or Federal Demonstration Partnership Phase III (FDP III) Terms and Conditions; cooperative agreements also administered in accord with NSF Cooperative Agreement Terms and Conditions (CA-1)**

♦ Special grant conditions anticipated: **None anticipated**

♦ Special reporting requirements anticipated: **Specific requirements set forth in OCE contracts and cooperative agreements.**

OVERVIEW

The Division of Ocean Sciences makes awards for the operation, acquisition, conversion and upgrade of oceanographic facilities. Oceanographic facilities include those required for near-shore, Great Lakes, and estuarine research as well as open-ocean platforms.

Awards are directed principally to the support of large, costly facilities that lend themselves to shared usage. Most of these facilities also receive partial support from other Federal agencies, state and local governments and private sources. The National Science Foundation encourages such broad-based funding.

The primary objective of these awards is to ensure the availability of appropriate facilities to investigators supported by NSF research programs. More broadly, these facilities are coordinated by the University-National Oceanographic Laboratory System (UNOLS), an association of marine science institutions. However, UNOLS membership is not a prerequisite for NSF support.

ELIGIBILITY

OCE support for major facilities is concentrated at a limited number of institutions suitably located to carry out operations in support of ocean science research. Operator institutions may include colleges and universities, nonprofit research institutions, and associations of colleges and universities.

To qualify for an award, an institution must have a substantial in-house ocean science research program and must demonstrate the capability to operate the facility effectively and economically with procedures to support qualified researchers from other parts of the oceanographic community. Appropriate quality control, safety, shared-use instrumentation access and technical support procedures must be provided.

PROPOSAL REQUIREMENTS AND ELECTRONIC SUBMISSION

Proposals must be submitted electronically using the NSF FastLane system, available at the FastLane Home Page (http://www.fastlane.nsf.gov).

General information about NSF policies and procedures on proposals, declinations and awards are in the current Grant Proposal Guide (GPG) provided on the NSF Home Page (http://www.nsf.gov). Investigators must use the most up-to-date guidelines. These general provisions apply, except as modified by these instructions.

Instructions for electronic submission can be found on the FastLane Home Page. The Sponsored Research Office (SRO) or equivalent must provide a FastLane Personal Identification Number (PIN) to each Principal Investigator to gain access to the "Proposal Preparation" application.

Proposals to these programs must meet the requirements in this announcement and are exempt from the GPG 15-page limit. The instructions focus on the Project Description of the proposals and the presentation of data on the facility operations and support requirements. Essential forms which must be submitted as part of any proposal can be found in the GPG.

Ocean Sciences has FastLane User Support for questions or problems when submitting a proposal (ocefl@nsf.gov or, phone Kandace Binkley at (703) 292-8580).

PROPOSAL FORMAT

All proposals must include the following items as specified in the Grant Proposal Guide (GPG):

• *Information about Project Directors*. This information is automatically submitted to NSF along with your proposal when you submit via FastLane.

• *Cover Sheet*. Project Director (PD) and Authorized Institutional Representative signatures are required.

• *Table of Contents.* (Automatically generated by FastLane).

• *Project Summary*. Proposals must contain a brief summary of the proposed activity suitable for public release.

• *Project Description*. This is the main body of the proposal. See individual program descriptions for format and content.

• *Summary Proposal Budget, NSF Form 1030*.

• *Biographical Sketch of PD and Co-PDs*. Do not exceed 2 pages per person.

• *Statement of Current and Pending Support.*

RELATIONSHIP TO OTHER NSF PROGRAMS

OCE facility awards are generally limited to support for shared-use facilities. Equipment or other facility requirements generated by a single research project should be included as an integral part of the scientific funding request for that project. Prospective principal investigators seeking scientific support should refer to the NSF Guide to Programs located on the NSF Home Page (http://www.nsf.gov) or science program descriptions.

All research proposals for support in ocean sciences and related fields that request support for research ship time must include NSF Form 831, "NSF-UNOLS SHIP TIME REQUEST." (Appendix A) This form serves several purposes:

• Identifies for NSF program staff and external reviewers projects including field work on research vessels;

• Assists ship scheduling;

• Enables OCE to predict and plan for requirements; and

• Serves as advance notice to the UNOLS office of cases where an investigator has not identified ship time or schedule arrangements.

NSF Form 831 can be obtained from the OCE homepage (http://www.geo.nsf.gov/oce/) or the UNOLS web site. Any investigator who needs assistance in requesting ship time or scheduling the use of other oceanographic facilities should contact the Executive Secretary of UNOLS at the following address:

UNOLS Office
8272 Moss Landing Road
Moss Landing, CA 95039
Telephone: (831) 632-4410
Fax: (831) 632-4413
E-mail: office@unols.org
Website: http://www.unols.org

ADMINISTRATION OF AWARDS

Charter party agreements, contracts, and cooperative agreements usually specify requirements for administration, reporting, and monitoring. Grants are administered in accord with the terms and conditions of *Grant General Conditions* (http://www.nsf.gov/home/grants.htm).

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

PROJECT DIRECTION

For most awards, responsibility for general project oversight is vested in a Project Director (PD), named in the award letter. Operating within the policies of his or her parent institution, the PD is responsible for technical direction of the project, overall compliance with the provisions of the award, and preparation of required technical reports. Written prior approval from the NSF Grants Officer is required for a change in designation of Project Director. FastLane should be used to identify and obtain approval for significant change in the level of effort of a previously approved PD.

The term Principal Investigator (PI), as used in this brochure, refers to scientists responsible for the direction of a research project and should not be confused with the Project Director (PD) of an OCE facility award.

REPORTS

Specific reporting requirements are set forth in OCE contracts and cooperative agreements. For grants, reporting requirements are given in the *NSF Grant Proposal Guide (GPG)*.

Ship operating institutions must comply with prevailing requirements for the submission of cruise prospectuses, clearance requests, post-cruise reports and final project reports for international cruises (see UNOLS website at http://www.unols.org).

SHIP OPERATIONS PROGRAM

Ship Operations awards provide support for direct and indirect costs arising from the maintenance and operation of research vessels. Allowable costs include salaries and related expenses of crew members and marine operations staff; acquisition of minor or expendable equipment; maintenance, overhaul and repair; insurance; and direct operating costs such as fuel, food, supplies, and pilot and agent fees. Shore facilities costs are provided only to the extent that they relate directly to the ship operation. Budgets should be in accord with standard definitions of operating days, sea days, maintenance days, and days out of service (Appendix B). Support for shipboard technicians and for purchases of major equipment must be sought separately.

Content

Proposals from many institutions are evaluated concurrently and information from all applicants must be similarly arranged and presented. The name of the institution should be included as a heading on each page. This makes it possible to identify key sections (budget, Table 1, etc.) with data from other institutions for comparative review. Formats and instructions are provided for each of the required sections. Institutions which have not previously received NSF ship operations support may not be able to provide data exactly as prescribed. In such cases, estimates and approximations are acceptable.

The ship operating year is the calendar year, January through December. Some sections of the proposal require institutions to provide information on four calendar years' operations: two years past, the past year, the current year, and the next year. The "next year" is the award year (the operating year covered by the proposal). Thus, for example, proposals for Calendar Year 200(X) operations would be due on 1 Oct 200(X-1). Those proposals would give actual

figures for 200(X-3) operations ("two years past"); 200(X-2) operations ("the past year"); a combination of actual figures to date and estimates for the rest of 200(X-1) ("current year"); and estimates for the 200(X) operating year ("next year").

Institutions which have sold, laid up, or replaced a supported ship, or which intend to do so, should continue to include project and budget data in the appropriate sections of the proposal for the period the ship operated. If there are aspects of operations which cannot be adequately treated in the prescribed format, include an optional Section 8a to provide additional comment or documentation.

Evaluation Criteria

In addition to the standard National Science Board (NSB) approved review criteria (see 'Proposal Review Information,' below), the main supplementary criteria used in the evaluation of ship operation proposals are:

- The quality and effectiveness of support for seagoing research projects
- The amount of scientific utilization of the ship, particularly by NSF-supported investigators;
- The logistic, managerial and quality control capability of the proposing institution; and
- The capabilities and operating costs of the vessel(s).

Proposal Format

Each proposal includes:

- *Information about Project Director (PD).*
- *Cover Sheet.* Enter "Ship Operations" for NSF ORGANIZATION UNIT and "NSF 00-39" for PROGRAM ANNOUNCEMENT.
- *Table of Contents* (Automatically generated by FastLane).
- *Project Summary.* Provide a brief description of the overall ship operations and research projects projected for support during the proposed award year suitable for public release. Do not use the Project Summary for description of ship(s) or for general descriptions of institutional structure, required in Section 1.
- *Project Description.* EACH OF THE FOLLOWING SECTIONS SHOULD START ON A NEW PAGE:
    - *Section 1. Description of Vessel(s).*
    - *Section 2. NSF Projects Requesting Ship Time in Next CY.*
    - *Section 3. Ship Operating Schedules with Cruise Tracks.*
    - *Section 4. Personnel, Management and Training Data.*
    - *Section 5. Table 1, Ship Time Costs per Project.*
      Table 1 A. Past CY
      Table 1 B. Current CY
      Table 1 C. Next CY
    - *Section 6. Detailed 4 Year Ship Budgets.*
      A. R/V (NAME)
      B. R/V (NAME)
      (repeat for each ship)
    - *Section 7. Budget, Insurance and Inspection Discussion.*
      A. Budget
      B. Insurance
      C. Inspection
    - *Section 8. Cumulative Summary Budget.*

- *Summary Proposal Budget*, NSF Form 1030.
- *Biographical Sketch of PD and Co-PDs.*
- *Statement of Current and Pending Support.*

(New Page)
(Name of Institution)

Section 1

DESCRIPTION OF VESSEL*
R/V (NAME)

BUILT/CONVERTED: (year)

LENGTH: (length over all)

BEAM: (extreme)

DRAFT: (max)

GROSS TONNAGE: (tons)

DISPLACEMENT: (long tons)

COMPLEMENT:
- CREW: (number)
- TECHNICIANS: (number)
- SCIENTIFIC PERSONNEL: (number)

MAIN PROPULSION: (hp)

BOW THRUSTER: (hp)

SHIP'S SERVICE GENERATOR(S): (kw)

PROPELLER(S): (number and type)

SPEED: (knots)
- CRUISING:
- FULL:
- MINIMUM:

ENDURANCE: (days, limiting factor)

RANGE: (days, limiting factor)

FUEL CAPACITY: (gals)

LABORATORIES: (sq.ft.)
MAIN:
- WET:
- DRY:
- OTHER:

SEWAGE SYSTEM:
- MSD: (gal/day)
- HOLDING TANK:(gal)

INCINERATOR: (lbs/day)

DOCUMENT/STATE I.D.#

OWNERSHIP: Title held by_____

Nature of operating arrangement, if title held by other than institution

_____

Add a narrative description of the ship emphasizing the scientific capabilities. This section should briefly define the capabilities of the ship including special capabilities such as communications, navigation, winches and major support equipment. One example of format follows. Include a brief explanation of future planned upgrade/refit of the ship or major equipment systems. Do not exceed two pages total for each ship.

***** Repeat for each vessel operated by the institution.

SAMPLE DATA

Section 1
(Oceanic University)

DESCRIPTION OF VESSEL
Scientific Capabilities

Brief Description:
The *R/V Butterscotch* is a general purpose oceanographic vessel designed by Tim Sails Associates and built by Smith Builders in 1976, sponsored by the National Science Foundation. The ship underwent an extensive mid-life upgrade in 1996 to improve scientific capability, improve the energy efficiency of the vessel and extend its service life. Installed equipment on *Butterscotch* includes:

Navigation:

GPS	Two on bridge: Differential signal receiver for both commercial and USCG transmissions and a Trimble "TASMAN" P(Y) Code GPS receiver.
Speed Log	Acoustic Doppler on bridge.

Communication:

Cellular phone	1-bridge and 1-laboratory
Satellite	Inmarsat A: Voice, data, and fax capability in various places on ship.
VHF Marine Band	Two fixed units on bridge and 4 hand-held units.

Winches:

Hydrographic	Markey DESH-5, 75 HP electric with interchangeable drums holding 10,000 meters of .322 inch EM cable and 9,000 meters of ¼ inch 3x19 wire.
Trawl	Markey DESH-6, 40 HP with several interchangeable drums including 6,000 meters of 3/8 inch 3x19 wire, 7,000 meters of 7/32 inch single conductor EM cable.

Deck Equipment:

Main Crane	Hydraulic general purpose crane mounted on 01deck, centerline.
Air Tuggers	Four pneumatic portable units, two with 1,000 pound line pull and two with 2,000 pound line pull for general instrument and equipment handling.

Installed Scientific Equipment:

ADCP	150 and 300 kHz.
Data Acquisition System	XMIDAS, provides conventional SAIL loop with enhancements, logs navigational data, and meteorological and sea surface parameters.

Vans:
1- portable 8 x 10 laboratory for radioisotope work.

Future Upgrades/Refits:
An upgrade for R/V Butterscotch over the side equipment will be proposed for 2001-2. The upgrade will include replacement of general purpose crane and associated support structure and installation of a Dynacon Traction Winch and associated sheaves and wire train.

(New Page)
(Name of Institution)

Section 2

LIST OF NSF PROJECTS REQUESTING SHIP TIME IN NEXT CY

Name of Principal Investigator (PI)	Project Title	NSF Grant or Proposal No.	Effective Dates	Total Award or Request	Ship Requested

ACTIVE AWARDS

List only funded awards which will require ship time in next CY. If a renewal has been or will be requested mark the grant number with an asterisk (*). **The grant number and project title must be accurate and complete.** (PI is assigned a proposal number through Fastlane.)

Grants should be listed for:

- Principal Investigators from your institution who intend to use your ship(s).
- Principal Investigators from other institutions who intend to use your ship(s).

PROPOSALS UNDER REVIEW

List proposals which have been submitted to NSF for review. List only those projects that would require ship time in the next CY operating period. **The proposal number and title must be accurate and complete.**

Each project appearing on the Section 3 schedules for the next CY or listed in Section 5, Table 1C of this proposal should be listed in Section 2. These 3 sections should agree with one another.

(New Page)
(Name of Institution)

Section 3

SHIP OPERATING SCHEDULES
W/CRUISE TRACKS FOR CURRENT AND NEXT CY
R/V (NAME)

- Schedule should be in **approved UNOLS** format, with a **summary** of operating days by agency (see UNOLS homepage, at http://www.unols.org).
- A schedule for each ship with UNOLS map index codes must be included.
- It is not necessary to include cruise tracks for vessels under 100 feet.
- Cruise tracks for vessels over 100 feet should be disclosed on a world chart.
- Transits may be broken out for individual cruises.

SUMMARY (EXAMPLE)

Agency	Funded	Pending	Total
NSF	100	10	110
ONR	30	0	30
NOAA	20	2	22
State	5	5	10
OTHER	10	5	15
Total	165	22	187

(New Page)
(Name of Institution)

Section 4

PERSONNEL, MANAGEMENT and TRAINING DATA

Part 1. Personnel

This section should list **every position** for which ship operations provides support. Indicate the percentage or portion each position is paid from ship operations funds. Personnel costs are provided only to the extent they relate directly to ship operations.

Ship and Shore Facility Personnel: names, titles, and salary totals for each category listed below.

A. Officers, Crew and Relief Crew (by ship).
B. Professional and Administrative Marine Operations Staff.
C. Other Shore Facility Staff, including any Marine Technicians supported by this award.
D. Indicate any new positions or change in personnel.

Part 2. Management

Provide a brief explanation of quality control improvements proposed for year 200(X). This should be operational or scientific support improvements, not maintenance or overhaul.

Part 3. Training

Provide a brief list of crew and management training completed in year 200(X-1) with cost. List training proposed for year 200(X) with estimated costs.

SAMPLE DATA

(Oceanic University)

Section 4

Part 1

PERSONNEL

Position	**Name**	**CY 200(X-1) Ship Operations Portion**	**CY 200(X) Ship Operations Portion**
A. Officers and Crew (by ship)			
R/V BUTTERSCOTCH			
Captain	Captain Bligh	1.00	1.00
First Mate	John Pitcarin	1.00	1.00
2nd Mate	TBD	1.00	1.00
Chief Engineer	Mark Wrench	1.00	1.00
Steward	Ernest Cook	1.00	1.00
Relief Engineer	TBD	0.25	0.00
Total FTE *		5.25	5.00
Salaries **		$204,982	$195,725
B. Marine Operations Staff			
Marine Manager	John Doe	.75	.75
Port Captain	Sam Smith	.50	.75
Port Engineer	Ruth Drake	.80	.50
Admin. Assistant	Sally Kinney	.20	.25
Total FTE *		2.25	2.25
Salaries **		$145,000	$135,125
C. Other Facility Staff			
Electronic Tech I	M. Smith/Joe Jones	.33	.33
Marine Facilities	Bill Crane	.00	.50
Engineer++	Total FTE *	.33	.83
Salaries **		$16,154	$40,040
Total Salaries ***		$366,136	$370,890

Total Ship and Shore Facility Personnel

A. Officers and Crew	6
B. Marine Operations Staff	4
C. Other	3

*FTE (Full Time Equivalent) - equivalent to one full-time position.
**Salaries - all salaries, including overtime, but not benefits.
***Total Salaries for Section 4 should agree with Section 6.
++ New Position

SAMPLE DATA
(Oceanic University)

Section 4
Part 2 and 3

MANAGEMENT and TRAINING DATA

Part 2. Management

Proposed quality control improvements onboard the *R/V Butterscotch* for 200(X) include replacement of existing data transmission system with new super speed data transmission system; installation of a new GPS Differential Correction Receiver for science office; and replacement of chemical exhaust hood in main laboratory. Implement post cruise meetings to discuss positive and negative issues and means of improvement.

Part 3. Training

The following is a list of training completed in CY200(X-1), proposed training for CY200(X), and estimated training costs, for both the *R/V Lollipop and R/V Butterscotch* crews:

R/V Lollipop	**CY 2000(X-1)**			**CY 200(X)**	
Trainee(s) (#)	**Training Type**	**Cost**	**Trainee(s)(#)**	**Training Type**	**Cost**
Marine Superint. (1)	6 Sigma	$900	Captain (1)	6 Sigma	$900
All Crew (12 X $250)	STCW Basic Safety	$3,000	New Crew (2 X $250)	STCW Basic Safety	$500
Captain (1)	Bridge Resource Mgmt.	$750			
All Crew (12 X $750)	Basic Fire Fighting	$9,000	Mates (2 X $725)	Advanced Fire Fighting	$1,450
	Total:	$13,650		**Total:**	$2,850

R/V Butterscotch	**CY 200(X-1)**			**CY 200(X)**	
Trainee(s) (#)	**Training Type**	**Cost**	**Trainee(s) (#)**	**Training Type**	**Cost**
Captain (1)	6 Sigma	$900			
All Crew (12 X $350)	Emergency Medical	$4,200	New Crew (1)	Emergency Medical	$250
Captain (1)	GMDSS	$950			
Mates (2 X $725)	Basic Fire Fighting	$1,450	Mates (2 X $725)	Advanced Fire Fighting	$1,450
	Total:	$7,500		**Total:**	$1,700

(New Page)
(Name of Institution)

Section 5

SHIP TIME COST PER PROJECT TABLES
GENERAL INSTRUCTIONS

Table 1 is one of the most important elements of the proposal and must be complete and accurate. The purpose of Table 1 data is to relate ship costs to research projects. In the review of the proposal, it is important to know how ship operations funds are used in support of specific projects. This includes the past completed operating year, the current year and the proposed operating year for ship time supported by NSF or other agencies. Section 3 (Ship Operating Schedule), Section 5 (Ship time Cost Per Project) and Section 6 (Detailed Budget) must be internally consistent.

Because of the complexity of Table 1, both a general format and a sample are provided. Please organize your submission exactly as indicated.

Three versions of Table 1 are required:

- Table 1A-Ship time costs per project for CY200(X-2). This table is for the past year and should show actual use and cost.

- Table 1B-Ship time costs per project for CY200(X-1). This table is for the current CY and is a combination of operations to date and estimated use and cost for the remainder of the year.

- Table 1C-Ship time costs per project for CY200(X). This table is for the proposed operating year and is an estimate of use and cost.

In Table 1A and 1B, **the NSF section must include the total NSF ship operations award for that CY as shown in the format example.**

Transits to the area of operations should be shown separately.

Shipyard transits and sea trials are not operating days. The costs of these days should be rolled into the cost of operation as part of the cost/day and charged to all users.

(BASIC FORMAT)
(SEE SAMPLE ON NEXT PAGE)

(Name of Institution)

Section 5

TABLE 1 (A, B OR C)
SHIP TIME COSTS PER PROJECT CY _ _ _ _

Project Identification	Annual Research Support	Name of Ship (Daily Rate)	Name of Ship (Daily Rate)	Actual/Estimated costs of Ship time per Grant* or Contract **
Project performed using NSF-supported ship time:				
NSF Projects: Award No., PI Name, PI Institution (if other than your own) Research support ***	$_____	# Operating Days _____	# Operating Days _____	$_____
Total NSF	$_____	_____	_____	$_____
Total NSF Ship Operations Award (Table 1A and 1B only)				$_____
Projects performed using (agency)-supported ship time ****				
Total (agency)	$_____	#_____	#_____	$_____
Summary Totals:				
Projects performed with ship time supported by:		# Operating Days	# Operating Days	
NSF	$_____	_____	_____	$_____
ONR	$_____	_____	_____	$_____
NOAA	$_____	_____	_____	$_____
Agency A	$_____	_____	_____	$_____
etc.****	$_____	_____	_____	$_____
Total	$_____	#_____	#_____	$_____

*Additional column each ship.
**Actual cost for Table 1A; estimated costs for Table 1B and 1C.
***Annual project support rate. Indicate with an asterisk those projects for which final approval has not been received.
****Repeat for each agency providing ship support: e.g., ONR, NOAA, USGS, State government, university, or private sources.

SAMPLE DATA
(Oceanic University)

Section 5
TABLE 1 C
SHIP TIME COSTS PER PROJECT CY 200 _

Project Identification	Annual Research Support	R/V MARS Days ($6,200)	R/V JUPITER Days ($7,600)	Estimated Costs of Ship Time per Grant or Contract
NSF				
OCE 99-14126 R. Smith	$172,000	0	10	$76,000
OCE 99-24695 F, Jones	97,000	15	0	93,000
*DEB 99-04629 L. Cox	212,000	21	0	130,200
OCE 99-09648 J. James	51,000	7	0	43,000
OCE 99-19731 R. Thomas	196,000	0	28	212,800
OCE 99-26836 T. Rogers	153,000	21	0	130,200
OCE 99-06429 R.Andrews	173,000	0	24	182,400
OCE 99-11417 R. Anawait	367,000	0	51	387,600
*OCE 99-10049 J. Simpson	104,000	17	0	105,400
Total NSF	**$1,525,000**	**81**	**113**	**$1,360,600**
ONR				
N0014-99-C-0073 R. Williams	$183,000	20	0	$124,000
N0014-99-C-0124 T. Welch	270,000	0	36	273,000
*N0014-99-C-0057 N. Hecker	445,000	10	20	373,000
Total ONR	**898,000**	**30**	**56**	**$770,000**
NOAA				
14008-0001-13579 A. Brooks	$406,000	0	60	$456,000
14-08-0001-26514 J. Foerster	102,000	12	0	74,400
Total NOAA	**$508,000**	**12**	**60**	**$530,400**
STATE				
Student Cruises S. Packard	$0	30	0	$186,000
Fisheries Research T. Rowe	57,000	40	10	324,000
Total State	**$57,000**	**70**	**10**	**$510,000**
SUMMARY TOTALS				
NSF	$1,525,000	81	113	$1,361,000
ONR	898,000	30	56	771,200
NOAA	508,000	12	60	530,400
State	57,000	70	10	510,000
Total	**$2,988,000**	**193**	**239**	**$3,172,600**

*Proposals for which final approval has not been received.

(New Page)

(Name of Institution)

Section 6

DETAILED 4-YEAR BUDGET *

Calendar Year	200(X-3)	200(X-2)	200(X-1)	200(X)
Ship Name ** Estimate	**Actual**	**Actual**	**Current Plan**	

I. Salaries & Wages:
- A. Ship's Crew:
  1. Salaries .....
  2. Overtime .....
  3. Shore Leave .....
  4. Fringe Benefits .....
  - Total .....
- B. & C. Marine Operations and Facility Staff:
  1. Salaries .....
  2. Overtime .....
  3. Fringe Benefits .....
  - Total .....

II. Repair, Maintenance & Overhaul:
- A. Normal Maint. & Repair .....
- B. Major Overhaul .....

III. Other Expenses:
- A. Fuel & Lube Oil .....
- B. Food .....
- C. Insurance .....
- D. Stores, Minor Equip., & Supplies .....
- E. Travel
  - Domestic .....
  - Foreign .....
- F. Shore Facilities Support
  - (Incl. utilities) .....
- G. Miscellaneous .....
  - Total .....

Total Direct Costs .....

IV. Indirect Costs .....

V. Total Operating Costs .....

VI. Miscellaneous Data:
- A. Number of cruises or legs .....
- B. Operating Days .....
- C. Days at Sea .....
- D. Maintenance Days .....
- E. Days Out of Service .....
- F. Daily Rate .....
- G. Date of Last Major Overhaul .....
- H. Expected Date of Next Major Overhaul .....

*** Same definition of years as used in Table 1.**

**** USE SEPARATE PAGE FOR EACH SHIP ****

(New Page)
(Name of Institution)

Section 7

BUDGET, INSURANCE and INSPECTION DISCUSSION

A. BUDGET

This section provides the justification for the operation costs, include an explanation for the following items.

1. *Increases in Excess of 10%* - Any increase within a line item in excess of 10% over last year.
2. *Personnel* - Any increase or change in personnel. Salaries and wages should agree with personnel and costs itemized in Section 4. Provide an explanation of what is included in shore leave.
3. *Maintenance* - Provide a short explanation of plans and cost estimates for projected Normal Maintenance and Repair activities. Provide an explanation and status of shipyard reserve funds (MOSA) for major overhaul(s). Narrative should provide an overview of workplan and a short list of the major projected overhaul items with a short explanation of the estimated cost per item. The description must provide sufficient detail to justify the budget request for the shipyard reserve fund account. If a mid-life refit/upgrade will be proposed in the next 3-4 years, include a brief description here or in Section 1.
4. *Fuel* - Provide consumption rates and price estimates used to compute next years' fuel requirements. Include consumption rates for full speed and average operations in gallons/day. Identify fuel quotes with refueling ports.
5. *Minor Equipment* - Identify all items included in Minor Equipment Items and Costs (Section 6, III-D). List items related to science programs, e.g. regulated power supplies, refrigerator for science materials storage, air conditioner for electronics.
6. *Travel* - Provide explanation for both domestic and foreign travel (Section 6, III-E).
7. *Shore Facility Support* - Identify items included in Shore facility support (Section 6, III-F).
8. *Miscellaneous* - Identify items included in Miscellaneous Costs (Section 6, III-G).
9. *Indirect costs* - Provide explanation of how overhead is determined, e.g. MTDC vs. % salaries, rates, etc.
10. *Unusual or non-recurring costs* - Identify and give explanation of any projected carry-forward of funds from previous years. Provide explanation of any non-recurring costs, such as lay-up costs.

B. INSURANCE

For each ship list type of Insurance (P&I, Towing, pollution, salvage), limits, deductible and cost. Coverage must conform to the NSF/ONR guidelines set forth in the Insurance Policy letter of 18 March 1993.

Provide current Proof-of-Insurance including premium, limits of coverage, deductible, broker, date of expiration, and underwriter as an appendix to your proposal.

C. INSPECTION

Attach a “Summary of Recommendations” for each ship’s most recent NSF or Navy inspection. Provide a short summary of actions taken to date on each recommendation. For action taken, do not use paraphrases such as “completed” – state what was done.

(New Page)
(Name of Institution)

Section 8

CUMULATIVE SUMMARY BUDGET
12 MONTH BUDGET

Ship Operating Costs

Estimated costs for R/V(s) (NAMES) for the period:
_____ to _____

Salaries and Wages		$	
Overtime		$	
Fringe Benefits		$	
Other Direct Costs	+	$	
Total Direct Costs		$	
Indirect Costs (_____% of_____)	+	$	
Total Cost		$	
Less Anticipated Support From Other Sources * (itemize below)	-	$	**
NSF Portion		$	**

* Itemize other support here:
e.g. ONR $ _____
NOAA $ _____
University $ _____

** The NSF portion and Other support shown here should be the same as Ship Support Cost Summary totals shown on Table 1 C, Section 5.

The NSF Summary Budget Form 1030 must be completed as per its instructions and should immediately follow Section 8. Only the NSF portion of the requested funds should be included on the Form 1030.

OCEANOGRAPHIC TECHNICAL SERVICES PROGRAM

The purpose of the Oceanographic Technical Services Program is to enhance the scientific productivity of research programs that make use of major facilities, primarily research vessels. Effective use of such facilities is enhanced by providing institutional technical support services to all users of an institution's facilities. Services encompass maintenance, calibration, quality assurance, scheduling, logistical assistance, and at-sea supervision of the instrumentation and shared-use equipment available to sea-going researchers. Technical support requested must be directly attributable to NSF-sponsored use of the facilities.

Scope

The primary focus of the Oceanographic Technical Services Program is to provide technical support services aboard academic research vessels that receive operational funding from NSF. To qualify for Oceanographic Technical Services support, the institution should have a concurrent Ship Operations award. The program is limited to technical support activities associated with shared-use oceanographic facilities utilized by NSF-sponsored projects. Shared-use equipment and instrumentation are defined here as tools maintained by the proposing institution to which any NSF-funded scientist has access when using the institution's facilities.

All institutions requesting Oceanographic Technical Services support are to provide minimum basic at-sea and shore-based technical services as described below. The full extent of basic services considered for support will depend on the shared-use instruments made available, the scientific capabilities of the research vessel(s) operated by the institution and the management structure of the technical support activities. Institutions may also include requests for specialized instrument support associated with scheduled, NSF-funded shipboard research projects. To qualify for such support, the specialized shared-use instrumentation must be maintained and operated under the direction of the Oceanographic Technical Services Program.

Basic services include both shore support and sea-going support provided to all ship users. Charges for this support are based on the total annual operating days of each ship and assessed as a daily rate for each ship. Support for basic services provided by NSF will be proportional to the ship time used by NSF-funded investigators.

Specialized instrument support services include use of instruments that normally require extra technical services personnel at sea above the basic level for their successful operation. Support for these services is not included as part of the daily rate charged to all users of the vessel.

Technical Services Activities

The Oceanographic Technical Services Program has three components: Basic Activities Ashore, Basic Activities at Sea, and Specialized Instrument Support Activities. All proposals must have the first two components; the third component is optional.

Basic Technician Activities Ashore:

A. *Communication and Coordination*

In advance of each cruise:

1. Learn cruise objectives and what equipment and services will be required.

2. Advise users and agencies of any costs or fees for equipment and services not covered by basic funding.

3. Coordinate logistics.

4. Inform users of ship layout, capabilities, and availability of shared-use equipment, including computers, communication systems, and procedures to operate user-provided instruments and computers on the vessel.

B. *Maintenance, Repair, Storage, and Calibration*

1. Maintain appropriate quality assurance procedures for all instrument systems including appropriate property control and use records.

2. Perform routine maintenance procedures and coordinate specialized maintenance and calibration tasks requiring service of others.

3. Maintain calibration and maintenance logs.

4. Assure proper storage of shared-use gear when not in service.

C. *Shipping, Staging and Preparation*

1. Prepare shared-use equipment and project-specific gear for shipment to and from ports of call.

2. Accept, prepare and control project-specific gear for staging prior to cruises.

3. Coordinate vessel loading and unloading.

D. *Monitor Hardware and Software Developments*

Monitor scientific hardware and software developments and take appropriate steps to provide modern and effective common-use science capability.

E. *Data Archiving*

Assist researchers in providing digital and sample data acquired with shared-use instrumentation to National Data Centers for permanent archiving in accordance with NSF Data Policy.

Basic Technician Activities at Sea:

The principal activity at sea is to assist with the interactions between the facility operators and the research project personnel. Technicians funded by this Program have broad responsibilities for providing the coordination and assistance needed for the successful at-sea completion of the research projects.

A. *Prior to Departure*

Prior to departure and during initial phases of the cruise, technicians:

1. Assist in stowage of all scientific gear.

2. Assist in assignment of scientific personnel lab and berthing spaces.

3. Assist in setting up laboratories and equipment, giving special attention to safe and effective use at sea.

4. Assist in instructing or updating scientific personnel in proper and safe use of equipment and ensure that established safety and other appropriate ship procedures are observed.

B. *While At Sea*
While at sea, technicians:

1. Assure that facility-provided science instrumentation operates efficiently.

2. Provide liaison between ship's crew and scientific personnel, especially with regard to safety and over-the-side operations.

3. Assist with scientific operations and repair of facility-provided shared-use instrumentation. Assist with repair of researcher-provided scientific gear as primary responsibilities permit.

4. Provide assistance to scientists in maintaining appropriate communication with shore via voice and/or computer communications.

C. *Post Cruise*
Post-cruise activities include:

1. Coordinate necessary off-loading and shipping activities upon completion of cruise.

2. Ensure that data from shared-use instrumentation used during the cruise is available to scientists in a useable format.

3. Maintain adequate inventory of spare parts and supplies for shipboard scientific gear.

4. Take appropriate measures to repair, service and calibrate shared-use scientific gear, and provide information regarding pre-cruise and post-cruise calibration to users when available.

Specialized Instrument Support Activities:

The principal responsibility is to ensure that specialized instrumentation provided by the facility is available, properly maintained and operated, and appropriately calibrated for use in the research program. Normal maintenance and calibration activities fall under the Basic Services component of the Program; specialized activities may include:

A. Shipping instruments to research vessel.

B. Installation of instruments on research vessel.

C. Technician(s) salary and overtime required for operation of specialized instruments at sea.

D. Extra technician travel to and from the vessel.

E. Spare parts and expendable supplies required for operation of specialized instruments.

Technical Support Activities Not Included:

While acknowledging variation exists in both institutional management policies and practices and individual research project requirements, the Oceanographic Technical Services Program is not intended to support:

A. Upkeep and operation of scientific instrumentation that is under development or maintained for individual research projects.

B. Routine underway watch standing at the detriment of performing primary activities.

C. Data reduction or analysis. Support is available, however, for activities related to archiving of standard oceanographic data at National Data Centers, when appropriate justification is provided demonstrating that this

activity is more appropriately supported via the Oceanographic Technical Services Program rather than by individual investigators.

Evaluation Criteria

In addition to the standard National Science Board (NSB) approved review criteria (see 'Proposal Review Information,' below), the following supplementary criteria are considered in the evaluation of proposals:

- The quality and effectiveness of proposed activities to support seagoing research projects.

- The extent to which the scope of basic technical support services match the facility, i.e. research vessel operating areas and schedule for the calendar year, size and capability of the vessel, and its scientific outfit and capability.

- The degree to which specialized instrument support activities, if requested, match the capabilities of the institution, vessel and technical support personnel.

- The proportion of NSF-sponsored activities supported by the institutional facilities relative to total technical support activities and available funding.

Proposal Format

Proposals from many institutions are evaluated concurrently and information from all applicants must be similarly arranged and presented. Proposals may be returned if the required format is not followed.

Each proposal includes

- *Information about Project Directors.*
- *Cover Sheet.* Enter "Oceanographic Technical Services Program, GEO/OCE" for the NSF ORGANIZATION UNIT and "NSF 00-39" for PROGRAM ANNOUNCEMENT.
- *Table of Contents.*
- *Project Summary.*
- *Project Description.*
  - *Section 1. Description of Management Structure.*
  - *Section 2. Inventory of Shared-Use Instrumentation and Services Provided.*
  - *Section 3. Proposed Year Program.*
    Schedule
    Table 1.A.
    Table 2.A.
    Description of Services
    Table 3.0
  - *Section 4. Summary 12 Month Budgets.*
    Basic Technical Services Budget
    Table 3.1 - 3.x for Specialized Instrument Support Services
  - *Section 5. Progress Report - Current Year Program.*
    Schedule
    Table 1.B.
    Table 2.B.
    Description of Services
- *Summary Proposal Budget,* NSF Form 1030.
- *Biographical Sketch of PD and Co-PDs.*
- *Statement of Current and Pending Support.*

(New Page)
(Name of Institution)

Section 1

DESCRIPTION OF MANAGEMENT STRUCTURE

Provide a brief (2 pages or less) description and chart of the institutional management structure of which the technician group is a part. This narrative should include information on patterns of supervision, organizational location(s) of the technician function, and any additional information needed to evaluate the proposal.

(New Page)
(Name of Institution)
Section 2

INVENTORY OF SHARED-USE INSTRUMENTATION AND SERVICES PROVIDED

List institutional holdings of major shared-use instrumentation and equipment maintained and operated by the technical services group with funding requested in this proposal. List separately any instrumentation for which a fee is charged. Provide information on how scientists access information about shared-use instrumentation and services, including electronic access addresses.

List basic services provided with funding requested in this proposal. Indicate normal work hours for technicians at sea, and any costs associated with operations outside of normal work hours. List separately any services that incur a cost to the user. Include a fee schedule for any services for which a fee is charged if not described in Section 3.

(New Page)
(Name of Institution)
Section 3

PROPOSED YEAR PROGRAM

Provide proposed year schedule(s) in a format similar to that used for electronic posting of ship schedules (see EXAMPLE 1), but include a column listing technicians assigned to each cruise for basic technical support requested in Section 3.A. and specialized technical support requested in Section 3.B. DO NOT list technicians covered by individual project support; note with asterisk (*) those for whom support is requested in Section 3.B.

A. Basic Technical Services

Provide Table 1.A. Basic Technical Services Per Project (proposed calendar year). See format provided for Table 1. Projects and ship operating days listed in this table should be identical to the Ship Operations proposal Table 1.C. Include the proposed daily rate for basic technical services under the name of each ship listed.

Provide a brief narrative description of basic technical support activities provided for each listed project, including the amount and type of technical services required. Basic at-sea support is generally limited to one or two technicians per cruise. If additional technical support is required for any cruise beyond the basic level, it should be described in 3.B. below.

Technical service support days used for calculation of basic services daily rates should be identical to operating days in the Ship Operations proposal Table 1.C. Operating days include transit and in-port days as per Ship Operations guidelines, whether or not technicians are on board the vessel.

Describe any exchange of personnel with other institutions or personnel training programs scheduled during the year. Include details of these programs and list costs.

Provide Table 2.A. Calendar Months Charged to Basic Oceanographic Technical Services Program (proposed calendar year). See format provided for Table 2. This table includes calendar months charged for all projects, contracts, etc., of all agencies and organizations listed in Table 1.A.

Explain formulas used to compute calendar months charges. Explain any unusual amounts of overtime or sea duty bonus anticipated. If 6 months or less of support is requested for any person**,** if a person spends less than one month at sea, or if an individual is included in both 3.A. and 3.B., describe that person's duties and activities related to the Oceanographic Technical Services Program. Explain any significant changes in level of effort from levels in the Current Year Plan (Table 2.B. of Section 5.A.).

B. Specialized Shared-Use Instrument Support Services (Optional)

Instrument systems should generally be supported as part of basic technical services if they do not require technical personnel at sea for their operation beyond the shipboard technicians supported in Section 3.A. However, the operator may determine some services are best provided as specialized services owing to special factors. Any given instrument system may be supported by only one method for the duration of an award.

*Provide Table 3.0 Summary of Specialized Instrument Support Requested***.** List full amounts of support requested from all agencies and organizations, amount requested from NSF, and proposed rate for all systems for which support is requested in the subsequent tables. Amounts on Table 3.0 should be identical to totals shown on Tables 3.1 to 3.x. in Section 4.B.

For each system include a brief narrative description of the instrumentation and services provided, including any limitations on use, and relevant information on system resolution, calibration, handling systems, etc. Detail costs of equipment and supplies requested, and describe shipboard and shore-based responsibilities for all individuals for whom salaries are requested. If individuals are included in both basic and specialized services support requests, indicate how effort is to be divided between different responsibilities.

The number of systems for which support is requested should be limited, and follow broad categories rather than many discrete rates for optional subsystems (e.g. it is preferred that CTD services, if to be supported as specialized instrumentation, have one or (at most) two rates for different configurations, rather than separate rates for each sensor, rosette, bottle configuration, etc.). The basis for calculating rates must be consistently applied, and a single method be used for each system. For systems in which technician salaries are a major component of the cost, the unit basis will normally be the vessel operating day, although units such as per cruise, per deployment and per system operating day are acceptable if consistently applied.

EXAMPLE 1

Please note: Each institution's normal format for ship schedules may be used with the addition of a column for technicians assigned to each cruise. The format presented here is an example only.

R/V Butterscotch: Cruise Schedule and Oceanographic Technical Services (Proposed Year: 2000)
University of Northern California

Cruise Dates	Area Purpose	PI/Inst. Proposal #	Ports	Operating Days	Technicians Assigned
01 Jan 13 Jan	NP9/North Pacific Biology	Bugge/Kansas NSF/OCE9812345	At sea Adak, AK	15	Adams (ET) Smith (MT) Jones*
17 Jan 28 Feb	NP9-NP12 Geology	Sanders/Scripps NSF/OCE9954321	Adak, AK Honolulu, HI	47	Taylor (ET) Smith (MT) Young*
04 Mar 13 Mar	NP12/Off Hawaii Phys Oc	Watters/UW ONR	Honolulu, HI Honolulu, HI	12	McDonald (ET) Coles (CT)
16 Mar 26 Mar	NP12-NP9 Phys Oc	Gummint/NOAA NOAA	Honolulu, HI Salinas, CA	11	McDonald (ET) Coles (CT)
27 Mar 30 Jun		Maintenance	Salinas, CA		
01 Jul 31 Jul	NP9-NP13 Chemistry	Ketone/UNC NSF/OCE9698765	Salinas, CA Colon, Panama	34	Taylor/MT Adams/ET
04 Aug 04 Sep	P13/Off Mexico Chemistry	Alkene/Delaware NSF/OCE9698763	Colon, Panama Manzanillo, MX	35	Taylor (MT) McDonald (ET)
10 Sep 30 Sep	NP13-NP9 Chemistry	Ketone/UNC NSF/OCE9698765	Manzanillo, MX Salinas, CA	23	Smith (MT) Taylor (ET)
15 Oct 25 Oct	NP9/Off California Phys Oc	Moore/UNC NSF/OCE9756789	Salinas, CA Salinas, CA	11	Jones (ET) Coles (MT)
08 Nov 18 Nov	NP9/Off California Phys Oc	Moore/UNC NSF/OCE9756789	Salinas, CA Salinas, CA	11	Coles (ET) Frank (MT)
01 Dec 10 Dec	NP9/Off Oregon Instrument test	Builder/UNC State	Salinas, CA Mudhut, OR	11	Smith (ET) Coles (MT)
12 Dec 23 Dec	NP9/Off California Phys Oc	Moore/UNC NSF/OCE9756789	Mudhut, OR Salinas, CA	12	Smith (ET) Coles (MT)

Operating days by source:

	Funded	Pending	Total
NSF:	188	0	188
ONR:	12	0	12
NOAA:	11	0	11
State:	11	0	11
Total:	222	0	222

(FORMAT FOR TABLE 1 AND TABLE 2)

(Name of Institution)

Section 3

TABLE 1 (A OR B)
BASIC OCEANOGRAPHIC TECHNICAL SERVICES PER PROJECT, CY _ _ _ _

Project Identification	**Ship Name (Tech Services Daily Rate)**	**Ship Name[1] (Tech Services Daily Rate)**	**Basic Tech Service Days[2]**	**Actual/Estimated Costs of Basic Tech Support per Project**
Projects performed using NSF-supported ship time:				
Grant/contract No., PI's Name, PI's Institution	# Operating Days	# Operating Days	# of Days	
Total NSF.....	#_____	#_____	#_____	$_____
Total NSF Award[3].....				$_____
Projects performed using (agency)-supported[4] ship time:				
Total (Agency).....	#_____	#_____	#_____	$_____
Total (Agency) Award[3].....				$_____
Summary Totals:				
Technical services supported by:	# Operating Days	# Operating Days	# Days	
NSF	#_____	#_____	#_____	$_____
Agency A	#_____	#_____	#_____	$_____
Agency B	#_____	#_____	#_____	$_____
Agency C	#_____	#_____	#_____	$_____
etc. [4]	#_____	#_____	#_____	$_____
Total[5]	#_____	#_____	#_____	$_____
Total awards[3].....				$_____
Expenditures (Estimated as of end of year) [3]				$_____
Carry-Forward or Deficit[3]				$_____

[1] Additional column for each ship.
[2] This number should equal ship operating days.
[3] Required for current calendar year (Table 1.B.) only.
[4] Repeat for each agency providing technical support: e.g. ONR, NOAA, State Government, University, or private sources.
[5] For Table 1.A. should equal budget listed in Section 4.A.: Summary 12 Month Budget - Basic Oceanographic Technical Services.

TABLE 2 (A OR B)
CALENDAR MONTHS CHARGED TO
BASIC OCEANOGRAPHIC TECHNICAL SERVICES PROGRAM

Technician Name	Title	Total Months	Months At Sea	Months Ashore
Total Months Charged for Basic Technical Support		#_____	#_____	#_____

SAMPLE DATA

(University of Northern California)

Section 3

TABLE 1 A
BASIC OCEANOGRAPHIC TECHNICAL SERVICES PER PROJECT, CY 2000

Project Identification	R/V Butterscotch ($1,800)	R/V Calmwater ($800)	Basic Tech Support Days	Actual/Estimated Costs of Basic Tech Support per Project
Projects performed using NSF-supported ship time:				
OCE98-12345 D. Bugge, Kansas	15		15	$ 27,000
OCE99-54321 S Sanders, Scripps	47		47	$ 84,600
OCE96-98765 N Ketone, U North Cal	57		57	$102,600
OCE96-98763 N Alkene, Delaware	35		35	$ 63,000
OCE97-56789 A Moore, U North Cal	34		34	$ 61,200
OCE99-13579 L Guy, U North Cal		9	9	$ 7,200
OCE97-97531 W Coast, CSU Long Beach		30	30	$ 24,000
* DEB98-65432 E Kologie, Michigan		32	32	$ 25,600
Total NSF.....	188	71	259	$395,200
Projects performed using ONR-supported ship time:				
N0014-98-A-0001 B Watters	12		12	$ 21,600
* N0014-97-B-0002 N Shore		42	42	$ 33,600
N0014-96-C-0003 N Fredd		28	28	$ 22,400
Total ONR.....	12	70	82	$ 77,600
Projects performed using NOAA-supported ship time:				
(Unknown) B Gummit	11		11	$ 19,800
Total NOAA.....	11	0	11	$ 19,800
Projects performed using State-supported ship time:				
A Builder	11	11		$ 19,800
A Sampler		15	15	$ 12,000
Total State.....	11	15	26	$ 31,800

Summary Totals: Technical services supported by:	# Operating Days	# Operating Days	# of Days	
NSF	188	71	259	$395,200
ONR.....	12	70	82	$ 77,600
NOAA	11	0	11	$ 19,800
State	11	15	26	$ 31,800
Total	222	156	378	$524,400

* Proposals for which final approval has not been received.

SAMPLE DATA

(University of Northern California)

Section 3

TABLE 2 A
CALENDAR MONTHS CHARGED TO BASIC OCEANOGRAPHIC TECHNICAL SERVICES PROGRAM, CY 2000

Technician Name	Title	Total Months	Months At Sea	Months Ashore
Alan Smith	Electronics Tech II	12.0	6.7 (141 d)	5.3
Linda Coles	Marine Tech II	12.0	7.4 (156 d)	4.6
Bob Jones[4]	Marine Tech I	9.5	4.0 (85 d)	5.5
Anne Taylor	Electronics Tech I	12.0	3.9 (81 d)	8.1
Carl McDonald	Computer Tech I	12.0	3.2 (68 d)	8.8
Kim Frank[1]	Chemistry Tech II	4.0[1]	3.2 (69 d)	0.8
Abbie Adams[2]	Office Manager	6.0[2]	0.0[2]	6.0
Harvey White[3]	STG Director	6.0[3]	0.5[3] (11 d)	5.5
Total Months Charged for Basic Technical Support		**73.5**	**28.9**	**44.6**

[1]Taylor to sail as relief for Jones on Chemistry cruise. Normal employment in Marine Chemistry Department.
[2]Office Manager time shared 50% Ship Operations, 50% Shipboard Technical Group.
[3]50% of Shipboard Technical Group Director White's salary paid by University, 50% from technical support grants.
[4]Jones terminates10/15 to begin M.S. program in Marine Chemistry at UNC. No replacement anticipated until 2000.

(New Page)
(Name of Institution)

Section 3

TABLE 3.0

SUMMARY OF SPECIALIZED INSTRUMENTATION SUPPORT PROPOSED

	Total annual cost (all sources)	**NSF request**	**Proposed rate**
Table			
3.1 (System)	_____	_____	_____per _____
3.2 (System)	_____	_____	_____per _____
3.3 (System)	_____	_____	_____per _____
... etc.	_____	_____	_____per _____
Total:	_____	_____	

(New Page)
(Name of Institution)

Section 4

SUMMARY 12 MONTH BUDGETS

A. *Basic Technical Services*. Provide a budget for the complete basic oceanographic technical services program in the format provided. This budget must include costs for all grants, contracts, etc. for all agencies listed in Table 1.A. Allocation of costs to various agencies and organizations are detailed in Section 3.A. and are proportional to ship use as proposed in Table 1.A. Do not include costs from Section 3.B. Provide suitable explanation of budget items to allow adequate evaluation.

B. *Specialized Shared-Use Instrumentation Support Services*. Provide budgets for specialized instrumentation support activities described in Section 3.B. in the format indicated for Tables 3.1 to 3.x. These budgets must include costs for all projects from all sources of support for each instrument category. Institutions requesting support for instruments used on more than one vessel should indicate whether separate rates apply for different vessels, and if so, separate tables must be provided. Provide suitable explanation of items in each budget to allow adequate evaluation.

Allowable costs in Section 4.B. include the following:

- Salary, benefits and overtime for technicians to operate specialized instrumentation at sea.
- Travel for extra technical personnel to and from the vessel.
- Shipping of specialized instrumentation to and from the vessel.
- Mobilization and demobilization costs related to use of specialized instrumentation.
- Costs of spare parts and expendable supplies related to operation of specialized instrumentation.
- Other direct costs related to operation of specialized instrumentation, with justification.
- Appropriate indirect costs.

Costs which are NOT allowable in Section 4.B. include:

- Costs of Technical Services Group management.
- Costs which are otherwise part of the Basic Technical Services daily rate.
- Costs of individuals who are part of the scientific party of the project.
- Costs related to data processing or analysis.
- Costs of routine watchstanding.
- Costs related to projects which are not supported by NSF research grants or contracts.

(New Page)
(Name of Institution)

Section 4

SUMMARY 12 MONTH BUDGET - BASIC SERVICES

I. Salaries and Wages

Name	Title	Months Charged to Basic Services	Total Program Budget
Total Salaries and Wages	.....		$
Total Overtime	.....		$
Total Fringe Benefits	.....		$
Total	.....		$

II. Other Direct Costs

A. Travel

1. Domestic (amount)
2. Foreign (List origin & destination of each trip, number of people, and full cost(s)).

Example:

Curacao-Providence and return (2 @ $469).....…….	$ 938
Per diem: 8 days @ $75.....…….	$ 600
Total Travel Cost.....	$

B, C, D, etc., as required for
repairs, calibrations, tools, parts, supplies, communication, shipping, rental, etc., directly related to technician activities.
Sufficient detail must be provided to evaluate requests.

Total Other Direct Costs..... $

III. Total Direct Costs (I. + II.)..... $

IV. Indirect Costs (_____% of _____).....…. $

V. Total Program Budget..... $
Less Funds from Other Sources (List by agency or organization) … $

VI. Total NSF Request..... $

(BASIC FORMAT FOR TABLES 3.X)

(Name of Institution)

Section 4

SPECIALIZED INSTRUMENTATION SUPPORT, CY _ _ _ _

(Name of Research Vessel(s))

X. (Type of Specialized Instrumentation)

(Use separate page for each system; may be used for multiple ships if same rate to apply to all.)

Usage Summary:

NSF Projects	**Ship Operating Days**	**Technician Name**	**Start, End Ports**
Grant/contract No., PI Name, Institution			
Project 1	_____	_____	_____
Project 2	_____	_____	_____
...etc.	_____	_____	_____
Total NSF Usage	_____	_____	_____
Non-NSF Projects			
Project 1	_____	_____	_____
...etc.	_____	_____	_____
Total Non-NSF Usage	_____	_____	_____
Total Usage (NSF + Non-NSF)	_____	_____	_____

Summary of annual costs: (Instrument type)

(Include projects from all funding sources):

Salaries and Wages	Effort, months	Amount
Technician 1	_____	
Technician 2	_____	
...etc.	_____	
Total salaries and wages	_____	_____
Overtime		_____
Fringe benefits		_____
Total salary, wages, OT, fringe		_____
Materials and supplies		_____
Equipment		_____
Travel, domestic		_____
Travel, foreign		_____
Other costs		_____
Total direct costs		_____
Indirect costs		_____
Total project costs		_____
Fraction of cost allocated to NSF (%) (=NSF operating days/total operating days)		_____
Total requested from NSF (= Total project costs x NSF fraction)		_____
Daily rate for system operation (= Total project costs / total operating days)		_____

SAMPLE DATA

(University of Northern California)

Section 4

TABLE 3.1

SPECIALIZED INSTRUMENTATION SUPPORT, CY 2000

R/V Ocean Cruiser

1. Multibeam Echosounder

Usage Summary:

NSF Projects	**Operating Days**	**Technician Name**	**Start, End Ports**
OCE-9876543			
Baldwin, Old Dominion	28	Taylor	Valp'o, Manz'o
EAR-9910101			
Ankleworst, SLU	30	Taylor	San Diego, San Diego
Total NSF Usage	**58**		
Non-NSF Projects			
ONR			
Admiral, ODGO	19	Taylor	San Diego, San Francisco
NOAA			
Climateguy, OSU	23	Baldwin	Corvallis, Seattle
Total Non-NSF Usage	**42**		
Total Usage (NSF + Non-NSF)	**100**		

Summary of annual costs: Multibeam echosounder

(Include projects from all funding sources):

Salaries and Wages	Effort, months	Amount
Taylor	7.0	
Baldwin	2.0	
Total salaries and wages	9.0	$39,500
Overtime		8,200
Fringe benefits		10,250
Total salary, wages, OT, fringe		$57,950
Materials and supplies		3,500
Equipment		16,000
Travel, domestic		3,800
Travel, foreign		2,600
Other costs		-0-
Total direct costs		$83,850
Indirect costs (@ 17% MTDC=$66,850)		11,365
Total project costs		**$95,215**
Fraction of cost allocated to NSF (%)		**58.0%**
(=NSF operating days/total operating days)		
Total requested from NSF		**$55,225**
(= Total project costs x NSF fraction)		
Daily rate for system operation		**$952/day**
(= Total project costs / total operating days)		

(New Page)
(Name of Institution)

Section 5

PROGRESS REPORT - CURRENT YEAR PROGRAM

Provide current year schedule(s) in the format used in Section 3.

A. Basic Technical Services

Provide Table 1.B. Basic Technical Support Activities for (current calendar year). Use same format as for Table 1.A. Include the approved current year daily rate for basic technical services under the name of each ship listed. Give a brief narrative description of basic technical support activities required for each project listed, including the amount and type of technical services provided. If deficiencies are cited in cruise assessment submittals during the most recent July 1 - June 30 period, indicate cruise number, nature of basic technical support problem, and measures taken to correct it.

Show amount of funding received from each agency or institution, and any expected carry-forwards from current NSF award increment (surplus or deficit).

Carry-forward is defined as CF = (drf x odf) - (dra x oda)
where drf = daily rate funded,
odf = operating days funded (NSF only),
dra = daily rate actual, and
oda = operating days actual (NSF only).
In general, drf = dra; explain change in daily rate between funded and actual, if any.

Describe any exchange of personnel with other institutions or personnel training programs scheduled during the year. Include details of these programs and list costs.

Provide Table 2.B. Basic Technician Activities in (current calendar year). Use same format as for Table 2.A. in Section 3.A. Explain formulas used to compute calendar month charges only if different from that used in Section 3.A. Explain any significant differences in Table 2.B. from effort anticipated at time of current year award, including personnel changes, substantial changes in level of effort required, etc.

B. Specialized Shared-Use Instrumentation Support Services (Optional)

Provide Table 4.0 Summary of Specialized Instrumentation Support Awarded, using same format indicated for Table 3.0 in Section 3.B. List actual amounts of support received from all agencies and organizations, and approved rates for all systems for which support was awarded. Explain any differences between amounts shown in Table 4.0 and amounts in Table 3.0 of current year award.

For each system, include a brief narrative description of any problems or special circumstances during the current calendar year which affected or will affect operations or costs in current or proposed year. A narrative discussion of any problems identified in cruise assessment submittals during the most recent July 1 - June 30 period is required along with discussion of measures to resolve the problems. If significant changes in anticipated effort or costs for a system occurred or are expected in the current year, include updated versions of Tables 3.1 to 3.x from current year award, renumbered and updated as Tables 4.1 to 4.x here, and address the nature of problem in the narrative.

OCEANOGRAPHIC INSTRUMENTATION PROGRAM

The purpose of the Oceanographic Instrumentation Program is to enhance the scientific capabilities and productivity of seagoing research projects that use major facilities, primarily research vessels.

Scope

Proposals for shared-use instrumentation may include items for the collection, processing and analysis of oceanographic data. Typical items which qualify are data loggers, water sample rosettes, biological net systems, coring equipment and autoanalyzers. Requested instrumentation must be justifiable in terms of multi-project cooperative utilization. Instrumentation which is project-specific in nature, i.e. justifiable in terms of a single project or principal investigator, must be requested from an appropriate source of research support.

Proposals for the acquisition or upgrading of major items of specialized multi-user instrumentation for laboratory-based research, e.g. mass spectrometers, computer systems, etc., should be submitted to the appropriate NSF science or instrumentation program as standard research proposals or to the NSF Major Research Instrumentation (MRI) program. Joint funding may be considered for projects that include both shore-based and sea-going research capabilities.

Content

Proposals must contain sufficient detail to justify the requested acquisitions on the basis of (1) effective shared use, (2) need for maintaining and/or updating present capabilities, (Does request represent upgrade or replacement? How does it relate to present inventory?), and (3) increased capability to support NSF ocean sciences research. Proposals that include acquisition of major electronic and mechanical systems should demonstrate that technical expertise is available to maintain and manage the system.

Evaluation Criteria

In addition to the standard National Science Board (NSB) approved review criteria (see 'Proposal Review Information,' below), the following supplementary criteria are considered in the evaluation of proposals:

- Urgency of the instrumentation for the support of NSF sponsored seagoing research projects.
- Adequacy of the instrumentation for shared-use applications.
- Appropriateness of the instrumentation for the institution and seagoing facilities available.
- Demonstration of effective and accountable shared-use plans and maintenance procedures for the instrumentation.

Proposal Format

Proposals from many institutions are evaluated concurrently and information from all applicants must be similarly arranged and presented. Proposals may be returned if the required format is not followed.

Each proposal includes:

- *Information about Project Director (PD).*
- *Cover Sheet.* Enter "Oceanographic Instrumentation" for NSF ORGANIZATION UNIT and "NSF 00-39" for PROGRAM ANNOUNCEMENT. The project director or co-project director must provide direct, first order management and oversight of the instrumentation.
- *Table of Contents* (Generated automatically by Fastlane).

- *Project Summary*.
- *Project Description.*

  - *Outline of Instrumentation Requests.* An annotated list of requested instrumentation must be provided. The annotations highlight the relative importance of the requested items only. Exhibit I shows the outline format, and Exhibit II provides a sample page.

  - *Background and Justification.* The following information must be provided for each item in the sequence of the outline:

  1. A technical description of the item with supporting statement of expected improvements in ocean research capabilities. Identify any handicaps that exist in the absence of the item. The description must permit technical evaluation by external merit reviewers. Any existing items of the type requested that are in current institutional shared-use inventories must be described with their relation to the request.

  All equipment items designated by manufacturer's name and type should be identified in this manner only for the purpose of categorizing the particular item as to function, specifications and cost. Requirements may be satisfied by equivalent products.

  2. Justification for NSF support must be provided. The need for the instrumentation items for multiple project use or increased capabilities and/or efficiency for ship operation and research projects, both current and long-term should be addressed. Brief descriptions of research projects with the principal scientists involved can provide current demand estimates. The basis for anticipated continuing need for the item must also be described.

  3. Total cost of the instrument item.

  - *Ranking.* A summary page with the relative importance, in rank order, of each item requested.

  - *Management Plan and Quality Control.* The procedures and responsible persons that manage, maintain, enable cooperative use, and assure quality control for all instrumentation must be provided. Describe any related instrumentation pools or cost centers, sources of spare parts and expendable supplies, and inventory procedures for instrumentation provided by NSF and that obtained through other sources.

  If the overall management of any item(s) will differ significantly from the general procedures, the relevant management plan must be provided in the individual item justification.

  - *Budget*. Seven main headings are provided for the budget in Exhibit III (i.e., I, II, III, etc.). Items costing more than $1,000 must be identified and priced separately. Shipping and handling charges must be explicitly identified if they exceed 5 percent of the purchase price, otherwise they may be included in the cost of purchase. Installation charges are an allowable cost associated with acquisitions. These charges, however, must always appear as separate items and be explained.

- *Summary Proposal Budget*, NSF Form 1030.

- *Biographical Sketch of PD and Co-PDs.*

- *Statement of Current and Pending Support.*

- *Appendices.* Certain materials are required as supporting information to reinforce the justification statements and to provide technical data and specifications. The following types of supporting materials must be provided, but the number of pages must be the minimum essential for describing any given item.

  a. Item descriptions. This may consist of pages reproduced from catalogs or brochures. Information on commonly used instruments need not be included.

  b. Price quotations.

c. Any additional information required to document or justify the requests.

Exhibit I

OCEANOGRAPHIC INSTRUMENTATION

I. Data management systems and components
II. Sea water measurements, sampling and analysis
III. Sea floor sampling and analysis
IV. Acoustic signaling systems and components
V. Instrument deployment, tracking and retrieval
VI. Shore laboratory instrumentation
VII. Other

(SAMPLE PAGE)

Exhibit II

OUTLINE OF INSTRUMENTATION REQUESTS

Oceanographic Instrumentation

I. Data management systems and components
None *

II. Sea water measurements, sampling and analysis

A. Deep sea reversing thermometers. To add to current inventory for pooled use.	$7,850
B. Rosette system. To add water sampling capability to R/V Butterscotch	$22,000

III. Sea floor sampling and analysis

A. Piston corer modifications. To improve and standardize unit for use on R/V's Waterway and Steamer	$8,000
Total	$37,850

* NOTE: Include sub-item of the outline even if you are not requesting anything under them and indicate "None."

(SAMPLE PAGE)

Exhibit III

SUMMARY 12 MONTH BUDGET

Oceanographic Instrumentation

II.	Sea water measurements, sampling and analysis	
	Deep sea reversing thermometers for the R/V SNOOPY	$ 7,850
	Rosette system	22,000
	Subtotal II	$29,850
III.	Sea floor sampling and analysis	
	Piston corer modifications for the R/Vs SPOTLESS and PIT BULL	$ 8,000
	Subtotal III	$ 8,000
	Total Cost	$37,850
	Less Funds from Other Sources *	-0-
	Total requested from NSF	$37,850

* List amounts by source

SHIPBOARD SCIENTIFIC SUPPORT EQUIPMENT PROGRAM

The purpose of the Shipboard Scientific Support Equipment program is to improve safety systems and to enhance scientific capabilities and productivity of seagoing research projects that use major facilities, primarily research vessels.

Scope

Proposals may include permanent installations and equipment required to outfit a vessel to conduct ocean science research. This includes such items as winches, cranes, the entire range of navigation and communication equipment, and safety items. Requests for both replacement and installation of new equipment are considered.

Requested equipment must be justifiable in terms of multi-project cooperative utilization. Equipment which is project-specific in nature, i.e. required for a single project or principal investigator, should be requested from an appropriate source of research support.

Content

Proposals must contain sufficient detail to justify the requested support based on needs for maintaining and updating present capabilities and acquiring additional capabilities consistent with UNOLS goals for fleet ships and capability to support NSF ocean sciences research.

Evaluation Criteria

In addition to the standard National Science Board (NSB) approved review criteria (see 'Proposal Review Information,' below), the following supplementary criteria are used in the evaluation of proposals:

- Purpose (e.g. potential for improving ship as oceanographic research platform, degree of multi-project use, relationship to NSF-sponsored research)

- Justification (e.g. history and description of existing equipment, examination of alternatives, details of desired equipment, installation details, maintenance plans, and appropriateness of NSF support)

- Timeliness (e.g. safety, condition of existing equipment, science research requirements)

- Costs (e.g. appropriate for task, budget detail, price quotations)

Proposal Format

Proposals from many institutions are evaluated concurrently and information from all applicants must be similarly arranged and presented. Proposals may be returned if the required format is not followed.

Each proposal includes:

- *Information about Project Director (PD).*

- *Cover Sheet.* Enter "Shipboard Scientific Support Equipment" for the NSF ORGANIZATION UNIT and "NSF 00-39" for PROGRAM ANNOUNCEMENT. The project director or co-project director must provide direct, first order management and oversight of the shipboard equipment .

- *Table of Contents (Generated automatically by FastLane).*

- *Project Summary.*

- *Project Description.*

  - *Outline of Equipment Requests.* An annotated list of equipment or services requested must be provided. The annotations highlight the relative importance of the requested items only. Exhibit I shows the outline format, and Exhibit II provides a sample page.

  - *Background and Justification*. The following information must be provided for each item in the sequence of the outline.

    1. A technical description of the item with supporting statement of expected improvements in meeting safety requirements and standards or the operational or scientific mission of the ship. Identify any handicaps that exist in the absence of the item. The description must permit technical evaluation by external merit reviewers. If the item is a component of a larger system or is dependent on inputs from other shipboard equipment, explain the interrelationship and compatibility to the larger system. Possible advantages of commonality with equipment and/or spares on hand should be discussed, as well as any pool arrangements applicable to the handling or use of the equipment.

       All equipment items designated by manufacturer's name and type should be identified in this manner only for the purpose of categorizing the particular item as to function, specifications, and cost. Requirements may be satisfied by equivalent products.

    2. Justification for NSF support must be provided. The need for the equipment in terms of safety requirements or increased efficiency for ship operations and research projects, both current and long-term needs, should be addressed. Requirements to enhance NSF-sponsored research and increased efficiency for at-sea operations for multiple project use of the ship should be addressed. Indicate funding in hand or being sought from other sources.

    3. Total cost of the equipment item. If the equipment is being co-sponsored by other research sponsors or the institution, identify the status of those funds.

  - *Ranking.* A summary page with the relative importance, in rank order, of each item requested.

  - *Management Plan and Quality Control.* The procedures and responsible persons that manage, maintain, and assure quality control for all equipment must be provided. Describe anticipated sources of support for operations and any related equipment pools or cost centers that contribute to oversight of the equipment.

  - *Budget.* Four main headings are provided for the budget in Exhibit III (i.e., I, II, etc.). Items costing more than $1,000 must be identified and priced separately. Shipping and handling charges must be explicitly identified if they exceed 5 percent of the purchase price, otherwise they may be included in the cost of purchase. Installation charges are an allowable cost associated with acquisitions. These charges, however, must always appear as separate items and be explained.

- *Summary Proposal Budget*, NSF Form 1030.

- *Biographical Sketch of PD and Co-PDs.*

- *Statement of Current and Pending Support.*

- *Appendices.* Certain materials are required as supporting information for proposals to reinforce the justification statements and to provide technical data and specifications.
  The following types of supporting materials must be provided, but the number of pages must be the minimum essential for describing any given item:

  a. Item descriptions. This may consist of pages reproduced from catalogs or brochures.

b. Price quotations. More than one quote for items costing more than $10,000 is encouraged.
c. Any additional information required to document or justify the requests.

Appendix materials must follow the same sequence as the Outline of Equipment Requests (Exhibit I).

Exhibit I

SHIPBOARD SCIENTIFIC SUPPORT EQUIPMENT

I. Deck Equipment
II. Navigation Equipment
III. Communications Equipment
IV. Other Equipment

(SAMPLE PAGE)

Exhibit II

OUTLINE OF EQUIPMENT REQUESTS

Shipboard Scientific Support Equipment

I. Deck Equipment	
A. Modification of trawl winch tension assembly on R/V BUTTERSCOTCH Necessary to meet UNOLS minimum standards.	$ 7,500
II. Navigation Equipment	
A. Differential GPS system for R/V LOLLIPOP Present unit's reliability is less than desirable.	$ 2,500
B. Back-up Radar for R/V WATERWAY Present unit is unreliable and beyond economical repair.	$13,600
III. Communications Equipment None*	
IV. Other Equipment	
A. Inflatable boat for R/V SWIMMER To replace heavily used boat no longer suitable for use at sea.	$ 5,950
B. Fire Fighter Suit, Helmut, Boots and Gloves To meet safety guidelines	$ 902
Total	$30,452

* Include sub-items of outline even if you are not requesting anything under them and indicate "None".

(SAMPLE PAGE)

Exhibit III

DETAILED BUDGET

Shipboard Scientific Support Equipment

I.	Deck Equipment	
	Modification of tension assembly on the R/V BUTTERSCOTCH	$ 7,500
	Subtotal I	$ 7,500
II.	Navigation Equipment	
	Differential GPS for the R/V LOLLIPOP	$ 2,500
	Radar for the R/V WATERWAY	$12,400
	Antenna installation	$ 1,200
	Subtotal II	$16,100
IV.	Other Equipment	
	Inflatable Boat for the R/V SWIMMER	$ 4,800
	Boat Cover	$ 300
	Boat Cradle	$ 850
	One Fire Fighter Suit, Helmet, Boots and Gloves	$ 902
	Subtotal IV	$ 6,852
	Total Cost	$30,452
	(Less funds from other sources *)	-0-
	Total requested from NSF	$30,452

* List amount by source

SHIP ACQUISITION AND UPGRADE PROGRAM

Occasionally, OCE makes awards for the design, construction, acquisition, upgrade, or conversion of research vessels. These awards are dependent upon the availability of funds appropriated for this purpose and are made only on strong evidence of scientific need for a new or reconditioned vessel. Most awards in recent years have been for the conversion or upgrade of ships already in service whose age, configuration, or operating costs have impaired their usefulness.

Ship acquisition and upgrade proposals are evaluated principally in terms of the scientific need for the particular vessel in the academic ocean science community as a whole. Proposals which fulfill this basic requirement are then reviewed further as to the design, configuration, and cost of the ship itself, and the ability of the institution to operate it effectively.

Nature and Duration of Awards

Ship acquisition awards are generally made in the form of contracts. Title to ships built or acquired with NSF funds will be retained by the Federal government. New vessels are assigned to operating institutions through five-year charter party agreements.

Submission of Proposals

Institutions must consult with the appropriate Program Officer in advance of any proposal submission. There is no prescribed format for Acquisition and upgrade proposals. The NSF proposal requirements specified in the latest version of *Grant Proposal Guide* must be met. Upgrade proposals must describe the proposed changes, urgency and rationale (e.g., safety, improvements, existing conditions, science requirements, etc.), provide strong justification (e.g., examination of alternatives, engineering studies and designs, time schedule, etc.) and include cost details.

MISCELLANEOUS ACTIVITIES

OCE supports specialized facility operations such as the National Deep Submergence Science Facility, workshops, and research and study projects related to quality control improvement, facilities enhancement, and development, testing and utilization needs.

Criteria for evaluation of proposals for this type of support will vary according to the project but all activities must focus on shared-use facilities of use to the ocean science research community.

The NSF proposal requirements specified in the latest version of *Grant Proposal Guide* must be met. Before submitting proposals for miscellaneous activities, potential project directors should contact the appropriate Program Officer to determine if the activity is appropriate.

PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions.

Proposals submitted in response to these guidelines should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG), NSF 00-2 (or later). The complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: <http://www.nsf.gov/>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone 703.292.7827 or by e-mail from pubs@nsf.gov.

Proposers are reminded to identify the specific program and NSF 00-39 in the program announcement/solicitation block on the NSF Form 1207, "*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.

Proposals need not adhere to the 15-page limit.

B. Budgetary Information.

Cost Sharing Requirements:

No cost sharing is required for proposals submitted in response to this announcement.

C. Proposal Target Dates.

All proposals must be submitted via FastLane by 5:00PM, proposer's local time, on the program target dates (see page 6), unless otherwise approved by the cognizant program officer.

A proposal may not be processed until the complete proposal (including the signed Cover Sheet) has been received by NSF. A proposal is considered complete when the proposal, including the Project Description, has been submitted to NSF. The receipt date will be the date the sponsored projects office transmits the proposal to NSF.

Copies of the signed proposal cover sheet (NSF Form 1207) must be postmarked (or provide a legible proof of mailing date assigned by the carrier) within five working days following the electronic submission of the proposal and forwarded to the following address:

NSF 00-39
National Science Foundation
DIS-FastLane Cover Sheet
4201 Wilson Blvd.
Arlington, VA 22230

D. FastLane Requirements.

Proposers are required to prepare and submit proposals using the NSF FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at https://www.fastlane.nsf.gov/a1/newstan.htm.

The signed paper copy of the proposal Cover Sheet (NSF Form 1207) should be forwarded to NSF within five working days following proposal submission in accordance with FastLane proposal preparation and submission instructions referenced above.

PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process.

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by program officers charged with the oversight of the review process. NSF invites the proposer to suggest, at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority serving institutions or adjacent disciplines to that principally addressed in the proposal.

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.

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?

PIs should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give these factors careful consideration 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 learner 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 -- are 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.

A summary rating and accompanying narrative will be completed and signed by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are mailed to the Principal Investigator/Project Director by the program office. In addition, the proposer will receive an

explanation of the decision to award or decline funding. In addition to standard National Science Board-approved merit review criteria, the following programs have supplementary review criteria considered:

- Ship Operations (see page 10)
- Oceanographic Technical Services (see page 28)
- Oceanographic Instrumentation (see page 42)
- Shipboard Scientific Support Equipment (see page 46)

B. Review Protocol and Associated Customer Service Standard

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

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A program officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation. In most cases, proposers will be contacted by the program officer after his or her recommendation to award or decline funding has been approved by his or her supervisor, the division director. This informal notification is not a guarantee of an eventual award. NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt. The interval ends when the division director accepts the program officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a grants 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 an 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 officer does so at its own risk.

II. 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 (DGA). Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator.

B. Grant Award Conditions.

An NSF grant consists of: (1) the award letter, which includes any special provisions applicable to the grant 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 grant conditions, such as Grant General Conditions (NSF GC-1)* or Federal Demonstration Partnership Phase III (FDP) Terms and Conditions* and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative Agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF grants to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

***** These documents may be accessed electronically on NSF's Web site at: <http://www.nsf.gov/>. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone 703.292.7827 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, (NSF 95-26) available electronically on the NSF Web site. The GPM also is available in paper copy by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO Web site at: <http://www.gpo.gov>. The telephone number at GPO for subscription information is (202) 512-1800.

C. Reporting Requirements.

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

Within 90 days after expiration of a grant, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. 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 reports in advance to assure availability of required data.

NSF has implemented a new electronic project 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.

D. 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" (NSF 99-78) includes information on: Administrative and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with NSF 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?nsf9978>.

E. Contacts for Additional Information.

General inquiries should be made to the Division of Ocean Sciences, National Science Foundation, Arlington, VA 22230, telephone (703) 292-8580. For questions related to use of FastLane, contact Kandace Binkley, 292-8580, or ocefl@nsf.gov.

III. OTHER PROGRAMS OF INTEREST

The NSF Guide to Programs is a compilation of funding for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG. Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF Bulletin, available monthly (except July and August), and in individual program announcements. The Bulletin is available via the NSF website at http://www.nsf.gov. The URL for recent issues of the Bulletin is http://www.nsf.gov/od/lpa/news/publicat/bulletin/bulletin.htm Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

ABOUT THE NATIONAL SCIENCE FOUNDATION

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/solicitation for further information.

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) 292-5090 or through FIRS on 1-800-877-8339.

We want all of our communications to be clear and understandable. If you have suggestions on how we can improve this document or other NSF publications, please email us at plainlanguage@nsf.gov.

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.

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 – 17th Street, N.W. Room 10235, Washington, D.C. 20503.

OMB #3145-0058
NSF 00-39 (replaces NSF 94-124)

UNOLS SHIP TIME REQUEST FORM - SECTION ONE

Help

P.I. Name	Last First MI.	
Institution Name		Research vessel required for:
Institution Address		○ **Ancillary Only** ○ **Principal Use** ○ **No Ship Required**
Phone: Fax: **E-mail:**		
Co P.I. Name	Institution	Co P.I. Name / Institution
Title:		

Large Program Name: ---???--- If OTHER, specify:	Research Purpose of Cruise: ---???--- If OTHER, specify:

		Foreign EEZ? ○ No ○ Yes - see Handbook (List countries' clearance required) Area of Operations Code (from standard Naval Chart) **Area of Operation:** AN1 AN2 AN3 Latitudes & Longitudes (ie 20N 30W) Beginning: Ending:
◉ New Proposal? Inst. Proposal # Agency Proposal # ○ Renewal	**Agency submitted to:** ---???--- Amount $ Requested: Start Date: (mm/dd/yy) End Date: (mm/dd/yy)	

Grant #		

Year	Ship(s) Requested Name or size	Science Days Required	Optimum Dates Month/Day/Year	Alternate Dates Month/Day/Year
---???---	---???---			
---???---	---???---			
---???---	---???---			
Total Science & Ship Days Needed: Number in Science Party:		Start Port:	Intermediate Port:	End Port:

Equipment Required:

Vans Dynamic Positioning	P-Code GPS Multibeam	MCS SCS	ALVIN ROV	AMS 120 .680 Cond.

Other Special Equipment;

Comments:

If this is a new submission, enter an 4-10 character password, to use when you recall this form for reprinting or modification.

Password:

After submission, a copy of section one of this form will be sent to the UNOLS office and forwarded to the appropriate institution(s) operating the ship(s) and federal funding agency. This information will be part of a UNOLS database.

To submit section one of the form press either the DRAFT button to enter a partially completed form into the system or the FINAL button to submit a completed version of section one to UNOLS. Your request will not be sent to UNOLS until the FINAL button is pressed. The Draft version of your form will then be purged. Draft forms will be purged from the system after 30 days.

Include a copy of section one with your research proposal. Print the completed section one screen from your browser, or print the email return copy you receive. Either will substitute for NSF Form 831.

Complete section two (below) only after funding has been approved. Recall the form using your password, complete section two, then submit the form by hitting the FINAL submit button at the bottom of section two. Your completed form (sections one and two) will then be forwarded to UNOLS, appropriate funding agencies, and concerned ship operators. You will receive a receipt copy also.

DRAFT Form Submission | FINAL Form Submission | Clear form

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UNOLS SHIP TIME REQUEST FORM - SECTION TWO

(To be completed after funding of your cruise has been confirmed)

Submit this portion of the UNOLS Ship Time Request Form only after funding of your cruise has been confirmed or upon notification of your Program Manager. This form is an extension of section one. If there are changes needed to section one they can be made and will be included upon submission of this section. The purpose of this section is to permit the ship operator to understand better the science mission of the cruise and therefore provide the services needed for a successful cruise.

A message file will also be opened for each cruise. Anyone associated with the cruise can file messages here. The messages will be filed automatically by copying office@unols.org your messages and including in the subject lines the last 6 digits of the UNOLS Request ID number found on your comeback copy of the first submission above. Access to the file can be found through the Ship Time Request menu on the UNOLS Homepage.
When submitted, the entire UNOLS Ship Time Request Form (sections one and two) will automatically be forwarded to the PI, funding agency, ship(s) involved in the cruise and the UNOLS Office. The form will be accessible to the public via the Web through the UNOLS Homepage. It will be indexed by PI and, through a world chart, by geographical location of your planned cruise.
Please review the information submitted on section one of this form and update changes.

Other Scientists Involved in Multi-P.I. Program:

Name	Institution	Phone	E-mail

Are there special considerations of the science party or cruise scheduling? Consider science time constraints; coordination of equipment shipping; two-ship operations; weather windows; mooring turn-around; teaching schedules and others that will affect scheduling decisions.

SCUBA Diving? ○ No ○ Yes -- Designate Lead Institution:

Individual dives: # Divers on board:

A list of all divers and their certification information must be submitted to the ship's marine superintendent.

Special Science Party Considerations

☐ Foreign Nationals ☐ Medical Conditions ☐ Disabled Persons ☐ Other

Please explain

Use of Hazardous Materials ? ○ No ○ Yes, (List type, quantity, and disposal plans)

Radioactive? Type [ ] Quantity [ ]

Disposal Plan [ ]

Explosives? Type [ ] Quantity [ ]

Disposal Plan [ ]

Other? Type [ ] Quantity [ ]

Disposal Plan [ ]

Have you read the RVOC Safe ty Training Manual - Chapter 1 ? ○ No ○ Yes

Technician Required:(CTD, SCS, MCS, etc): [ ]

Equipment to be used:

Winches: ☐ Dredge/Trawl ☐ Hydro ☐ CTD ☐ Capstans	Wire: Mechanical ☐ 9/16" ☐ 1/2" ☐ 1/4"	Conductor ☐ 0.680" ☐ 0.322" ☐ .225" ☐ Single ☐ Multi	Navigation: ☐ GPS ☐ DGPS ☐ Loran ☐ Dynamic Positioning ☐ Other	Communication ☐ Inmarsat ☐ ATS ☐ FAX ☐ Cellular ☐ SEANET
☐ 12kHz Echosounder ☐ 3.5 kHz Echosounder		☐ Multibeam Sounder ☐ Magnetometer		☐ Air Compressor

☐ Pingers ☐ Gravity Corers	Vans: ☐ Refrigerated ☐ Magazine	Nets: ☐ Dip net ☐ Plankton

☐ Piston Corers ☐ Box Corers ☐ Rock Dredges ☐ Airgun/watergun system ☐ Explosive Handling Gear ☐ Thermometers ☐ CTD ☐ Rosette Sys. ☐ Niskin bottles -Size and number	☐ Isotope Isolation ☐ Lab ☐ Storage ☐ Berthing ☐ Chest Freezers ☐ Refrigerators ☐ Auto Analyzer ☐ Salinometer ☐ Nutrients ☐ Oxygen titration ☐ Liquid Scintillation Counter ☐ Uncontaminated seawater intake	☐ Neuston ☐ Bongo ☐ Mid-water trawl ☐ MOCNESS (Size) ☐ Work boats ☐ Computer/peripherals ☐ PC computers ☐ SAIL system ☐ Digital XBT ☐ ADCP ☐ Gravimeter ☐ IMET

Other Special Equipment; Equipment Requiring Special Handling, Storage or Installation; Comments:

All members of the science party are expected to have read the RVOC Safety Training Manual - Chapter 1 . Access it here. Copies should also be available aboard ship.

FINAL Form Submission | Clear form

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UNIFORM OPERATIONS & COST ACCOUNTING TERMINOLOGY

The following definitions are proposed for uniform usage within UNOLS:

OPERATING DAYS - *All days away from homeport in an operating status incident to the scientific mission. Includes days in other ports for the purpose of fueling, changing personnel, etc. Includes transit time. Includes day of arrival and day of departure from homeport. Does not include maintenance or lay days described below. Does not include any days in homeport except unusual cases to meet a specific cruise need. Operating Day is the basic unit for ship time funding and support.*

DAYS AT SEA - All days actually at sea incident to the scientific mission. Includes day of arrival and day of departure. Includes transit time. Includes time anchored (except in port call anchorages), hove to, and drifting. Does not include days in foreign ports.

LAY DAYS - Days in homeport for purposes of fitting out, cruise preparation, crew rest, and upkeep. May in rare cases include similar periods in other ports.

MAINTENANCE DAYS - Days undergoing overhauls, drydocking or other scheduled or unscheduled repairs during which the ship is not available for service.

DAYS OUT OF SERVICE - Periods during which ship is layed up out of service for an extended period for reasons of economy, unemployment or unfit for service.

DAILY RATE - Daily cost factor for a ship arrived at by dividing the total operating costs for the scientific mission (including indirect costs but excluding depreciation) by the operating days for the same period. Unless otherwise specified, the daily rate ordinarily reflects a one year period.