

Research Vessel Operator's Committee
Summary Report
of the
1993 Annual Meeting

Hosted By

Texas Institute of Oceanography
Texas A&M University

Sessions held at the
Holiday Inn-Galveston
and onboard the
M/V Texas Clipper
Galveston, TX

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**Minutes of the 1993 Annual RVOC Meeting
Texas Institute of Oceanography
Texas A&M
Galveston, Texas
26-28 October 1993**

**Holiday Inn
Tuesday 26 October 1993**

Welcoming Remarks

The meeting was called to order by Chairman Mike Prince, Marine Superintendent of Moss Landing Marine Labs.

Dean Letzring, Marine Superintendent Texas A&M welcomed the RVOC to Galveston, Texas and extended a greeting on behalf of Dr. Robert Duce Director.

Agenda

The meeting followed the Agenda outlined in Appendix I. Registered attendees are listed in Appendix II.

1992 Meeting Minutes

A motion was made, seconded and passed to accept the minutes of the 1992 meeting.

RVOC Meeting

The newsletter will continue with 2 or 3 issues per year. The requirement and benefits of having a newsletter versus electronic mail were discussed with the point being made that a newsletter allows a wider dissemination of information of interest to RVOC beyond the RVOC membership.

Inspection of Chartered Vessels, Guidelines

The Guidelines for Inspection of Chartered Vessels have been approved by the UNOLS Council and mailed out to all institutions. The guidelines are to be considered for inclusion in the next revision to the UNOLS Safety Standards in Chapter 17. Further responsibility for updates or amendments were assigned to the Safety Committee.

Legislative Agenda

GPS P-Codes:

Dolly Dieter advised that she had spoken with the Department of Defense about the MOA for placing P-Code receivers on board oceanographic ships and had been assured she would have it in the succeeding week. DOD intends to initially assign 3 devices. The devices will be assigned to the institutions rather than by vessel. The institutions receiving the initial assignment are SCRIPPS, WHOI, and UW. She noted that several institutions had requested the capability, but asked whether there was a scientific requirement.

Joe Coburn advised that the classified portion of this system is a module with a classification of Confidential. In addition individuals with the Confidential clearance must have a COMSEC designation. The module itself is used to set up the receiver to decode the signal. Once the GPS receiver is set up the module can be removed and locked up. The codes change every year. Joe noted the quality of positioning information is such they are able to dynamic position the Knorr without a bottom transponder net.

It was noted that differential GPS systems were being setup around the country and that navigational accuracy was equivalent to that achieved by use of a GPS receiver with P-Codes. Further discussions continued relating to differential GPS systems being installed around the country by the Coast Guard and private organizations. The range of Coast Guard differential GPS systems is out to about 200 miles off shore with MBARI system being capable of providing good fixes from 80-100 miles off.

Radio Officer:

Paul Ljunggren reported on the requirement for radio officers on vessels over 1600 gross tons and two bills sponsored by Senator Inouye which are before Congress. These bills deal with the implementation of GMDSS and a change to the Communications Safety Act of 1934.

The one bill changes the Communications Safety Act such that ships over 1600 gross tons will no longer be required to carry a Radio Officer when they are fully outfitted with GMDSS required equipment.

GMDSS provides for maintenance of this equipment by a shoreside maintainer when backup equipment is on board or an onboard maintenance person. The second bill requires an onboard maintainer and eliminates the option of shoreside maintainer for large vessels.

The legislative issues and movement of these bills are dominated by the radio officers unions and commercial vessel operators. There has been little movement.

Captain's Post Cruise Report

Jack Bash reported on the summary he had prepared based on the Captain's Post Cruise Reports. The summary is organized by vessel. Copies of this summary were included in the last RVOC Newsletter and they were also distributed at the UNOLS Council meeting. It is not clear what benefit this report will have. He asked whether there were other questions to be asked or was the process more important? Some suggestions on the form and summary included:

- Summaries should be grouped by Chief Scientist.
- Include the word technician in the title since the report reflects the technician's input and perhaps should include a section specifically for the technician in the report.
- Include a section to note to what extent the Chief Scientist followed rules for Hazardous Materials.

A point noted by Dennis Nixon was that safety related issues identified in this report needed to be addressed. It was decided that a copy of the summary prepared by Jack Bash should be forwarded to the RVOC Safety Committee.

Since the form is fairly new many felt that the immediate benefit was derived from completing the form and that making changes could wait.

Safety Training Manual (added to the agenda)

A short discussion was held which centered around whether the training manual was effective and being used. Of interest was whether or not the Chapter 1 supplement for scientists was being used. Some felt that in order to get the basic safety information to the scientists you needed an even shorter document or a video. The matter was given over to the Safety Committee.

Committee and Liaison Reports

UNOLS

Jack Bash reviewed the issues of interest to UNOLS and the activity of various committees. He noted:

- The ALVIN Review Group is now the Deep Submergence Science Committee.
- Fleet Improvement Committee is looking at the new emphasis on coastal oceanography and where it is going.
- The Arctic Research Vessel is off the 1994 NSF budget. It may reappear in the 1995 budget.
- A major break through occurred this year when a group of scientists were embarked on a U.S. Navy nuclear submarine for a cruise in August-September 1993. The cruise was considered a success by all involved.
- Ship's Scheduling Committee will change the scheduling process. A notice is out which eliminates the June meeting.
- It was planned that the KNORR would eventually become the submersible handling vessel replacing the ATLANTIS II. AGOR 25 which was to take over for the KNORR is presently out of the budget. The impact of this is not yet clear.
- UNOLS will have a booth at the AGU in San Francisco this year. A video is being prepared.
- R/V Sea Diver has been added to the UNOLS fleet.
- Smithsonian Tropical Research lab is now a member of UNOLS.

Safety Committee

Tom Smith announced plans to review the safety standards for the next revision due in October 1995. Members of the committee include Tom Smith, Ken Palfrey, Tim Askew, Bill Hahn, and Joe Coburn. Eugene Almendinger volunteered to join as well.

Joe Coburn presented accident rate statistics for the first three quarters of this year based on input from 11 operators. Reporting will continue to be a quarterly event. Joe will work to improve the data collection process. At present only crew data is collected. Possible changes would include data on scientists and information on types of accidents and lessons learned.

RVTECH

Steve Rabalais reported on the September meeting. Agenda included:

- Workshop on CTD data processing and calibration.
- Listing of all shared use instrumentation on ship's was being developed.
- Technician database of technical expertise.
- Technician exchange and training program.
- Data standards.
- ADCP Workshop

Fleet Improvement Committee(FIC)

Joe Coburn reported on the FIC.

At the last meeting a retrospective view and analysis had been presented looking at the last fleet improvement plan and where it should be in 1995. If all the AGOR's proposed for acquisition are constructed we will be on track. In another view of the fleet, an analysis of the fleet based on earlier operating costs was made and corrected for inflation. When these costs were corrected for inflation it was found that fleet operating costs have declined.

Future issues to be looked at are fleet size and distribution.

New Business

Medical Services Contract and RFP

Jack Bash discussed the current medical services contract and the RFP. He asked for specific comments on the RFP in the next two months after which the RFP will be published. Three companies had expressed interest in competing for the contract.

Oil Spill Response Plan

Proposals have been received from organizations to provide generic or specific oil spill response plans for UNOLS vessels. The need for these will be an item for discussion by the Control of Pollution and Hazardous Materials Workshop.

Agency Reports

National Science Foundation

Dolly Dieter, in a less than 10 minute presentation, reviewed the NSF budget which in 1994 is 10% higher than in 1993. Nevertheless, it was believed that the % increase to be seen by research and ship operations would be somewhat less.

She noted that operators who scheduled a cruise for one operating year and postpone it to the next operating year should not request funds in support of that cruise in the new operating year.

She reported on an International Ship Operators (ISO) meeting she had recently attended. Among the items discussed were safety standards, insurance, and cable safe work loads. She noted that we are the only country with R/V safety standards. Information on SWL criteria established by Lloyd's was available.

Operators were advised that the shipyard reserve line item had still not been approved by NSF's Office of Contracts and Grants.

NSF will begin to move to Virginia on 1 November. The OCE move is scheduled for 12 November.

Office of Naval Research

June Keller reported on Navy construction. Steel is on order for AGOR 24. She noted that AGOR 25 remains a "?", but plans are proceeding for the conversion of the KNORR to handle ALVIN.

INSURV's are to be continued as the inspection for NAVY owned research vessels. The inspections are improving, having been adapted for the inspection of research vessels.

Finally, the Navy Audit services are involved in an audit about the research facility program (AGOR's). Operators should not be involved in this audit and should advise ONR if contacted.

Oceanographer of the Navy

Patrick Dennis reported on changes in the Navy oceanographic fleet noting that four oceanographic ships were off the line, of which 3 were Navy ships. When discussing the reduction of the fleet he noted that these Navy AGOR's have supported the naval research labs. This amounted to about \$1-2 million in shiptime which would have to be supported by other vessels.

At present the Navy has 1 AGOR and 3 TAGOS under construction.

Finally, with regards to ship construction he noted that four committees two in the House and two in the Senate review ship construction. Of the four committees reviewing the request for funding for the construction of AGOR 25 only the Senate Appropriations Committee disapproved it.

NOAA

Captain Martin Mulhern of the Office of NOAA Corps Operations reported on NOAA's new strategic plan and fleet modernization plan. The strategic plan is an agency wide study that takes a fresh look at NOAA program requirements for the next decade. New funding for support of ship operations will be directly related to program areas identified in the plan.

NOAA's fleet consists of 26 ships, including 5 older, inactive ships and 3 T-AGOS ships, newly acquired from the Navy, which will be converted for NOAA missions. Of the active ships, the MALCOLM BALDRIDGE and DISCOVERER are fully dedicated to research, while the SURVEYOR, FERREL, and MACARTHUR support research and other mission areas. During 1990-91, academic and foreign scientist participation on the MALCOLM BALDRIDGE averaged 6 per cruise and on the DISCOVERER the average was 17.

NOAA's Fleet Modernization Program is a 15 year plan with the goal being a 20 ship capability. There is also a small boat (40-65 ft.) replacement element of this plan. Future mix, number and capability of the ships is expected to be revisited on a periodic basis. To serve research programs, NOAA was funded in FY 94 for construction of AGOR 26, which will replace an existing NOAA ship. In addition, detailed specifications are being developed for the previously funded conversion of one T-AGOS to support the TAO (Tropical Atmosphere Ocean) array of equatorial moorings in the central and eastern Pacific.

Finally, the T-AGOS vessel WORTHY has been transferred by the Navy to USGS. The vessel will be based in Redwood City, CA and operated for USGS by NOAA to support missions and research for both agencies, including marine geophysics.

U. S. State Department

Tom Cocke reported on trends by foreign governments towards greater scrutiny of foreign clearance requests. He emphasized our obligations to share data with the foreign government granting the clearance. Real problems occur when scientists fail to complete Post Cruise reports. He pointed out that scientists must be clear on what information they are collecting and what science will take place when they submit their requests and their preliminary cruise reports.

U. S. Coast Guard

Lcdr Stephen Wheeler, new to the Coast Guard Office of Ice Operations, talked about science upgrades on the Polar Class Ice Breakers and construction of the new CG Ice Breaker HEALEY.

The award for construction of new breaker has gone to Avondale Shipyard with construction starting in 1995 and delivery scheduled for 1997. The vessel will be 420 ft long, have a beam of 82 ft, and will draw 28 ft. It is designed to break through 4.5 ft of ice at 3 knots. The vessel will have a crew of 60 and be capable of carrying 50+ scientists. The primary mission of this ship is going to be scientific research. The Coast Guard wants to set up a science oversight committee for the icebreakers.

There was some discussion as to where the science and ship operations funding would come from to support the planned 180 days per year of science for the icebreaker in addition to the potential new NSF ARV and other large vessels.

Noon- Lunch

Special Reports

Texas A&M

Dean Letzring made administrative announcements.

Mexican Representative

Not in attendance.

National Environment Research Council (NERC)

Ken Robertson discussed budget, money problems and laying up of smaller vessels. He presently operates 3 vessels; Discovery, Darwin, and Challenger. Darwin and Discovery operate on a worldwide basis. In addition the Icebreaker James Clarke Ross, normally assigned Antarctic operations, is used approximately 2 months per year.

In the near future NERC will be required to bid against private firms for operation of research vessels on a three year contract.

NERC is now scheduled to move to Southampton where it will co-locate with the university.

Bedford Institute of Ocean Sciences

James Wheelhouse discussed strategic planning for future R/V needs and the retirement and replacement of vessels.

He also expressed concern over what he termed "succession planning". Bedford Institute has approximately 300 persons working on board its ships. A large number of these personnel are projected to retire over the next 2-5 years. A major shortage of their higher certifications is anticipated by the year 2000. They are working with the Canadian Coast Guard College to tie into their program for the education of sea going officers and bring some of these individuals into the BIO fleet.

They currently have in place 2 different collective bargaining agreements for operation of their vessels with 4 different manning systems. They are working to put together a more uniform collective bargaining agreement.

The last issue was an alleged rape that took place on one of their vessels and was not reported to the Captain or anyone in authority. James only heard about it indirectly and this has caused him to look at sexual harassment procedures, as well as other fleet policies.

Oceanus Class Mid-Life Refit

Reports were received on the progress or lack thereof from each of the respective operators.

Bill Hahn in discussing the Endeavor refit stated that they had succeeded in completing all planned modifications with the exception of the galley rehabilitation. They hope to have work at Peterson Shipyard completed and be out of the St. Lawrence prior to it icing over.

Joe Coburn reported that the Oceanus will be going to Atlantic Dry Dock in Jacksonville, FL with a 67 page contract. The ship is due to depart on 1 November for Atlantic Dry Dock.

Ken Palfrey reports that they will open bids on a reduced scope package for the Wecoma. The original bids received from pre qualified yards had been opened on 23 September. These bids were twice the money available so the scope of work was reduced and a new set of specifications sent out.

Sea Water Piping, Gallionella, the bug that eats steel...

Robert Hinton of the University of Washington reported on an organism that eats through steel pipe. This fresh water organism can be ingested into ship's piping systems when the vessel is in fresh water. When the ship returns to salt water with the organism in its piping, the organism builds a hard casing over itself which tends to clog the pipe and reduce the flow. With the hard casing built over it the organism then begins to eat through the pipe. Robert had several samples of pipe that had been eaten through on hand.

An extensive review of potential solutions has been made. At this point in time there seems to be no safe or environmentally acceptable way to rid a system of this organism unless you replace the entire system.

WHOI SWATH

Joe Coburn reported on WHOI's plans for a SWATH. In their process they first identified mission requirements and design priorities. Among these priorities was a vessel which could operate with a daily rate of less than \$3000. It is planned that this vessel would be used only in the New England area. Sponsorship of this vessel is being pursued through the State of Massachusetts. WHOI would be the lead agency, operating the vessel, while using the SWATH to support other organizations in southeast Massachusetts.

MBARI SWATH

Mike Prince reported on a SWATH being built by MBARI. The vessel will be used as a support vessel for ROV's for year around operation. The vessel's keel has been laid and it is scheduled to be launched in April 1995.

RSMAS Catamaran

Blair Bookout gave a brief report on RSMAS plans for a catamaran. Plans call for a 93 foot vessel limited to 5 feet of draft. The estimated cost is \$1.5 million. Planning has been hampered by the recent death of the designer.

AAUS-Diving Statistics

Michael Lang was unable to attend. Statistics will be sent out under separate cover.

Coastal Marine Science Workshop

Mike Prince and Jack Bash gave a brief report on the two day workshop and referred operators to the pending final report.

Bermuda Biological Station- R/V Weatherbird II

Lee Black reported on the Weatherbird II conversion and changes to the organization with the departure of Harry Barnes.

As a result of the Phase II conversion of the Weatherbird II, bunks have increased from 16 to 22, enclosed lab space has tripled, a 360 degree Schottel jet pump bowthruster was installed, a Markey Desh 5 winch was installed, and an aluminum wheelhouse was added.

University of New Hampshire- R/V Gulf Challenger

Gene Almendinger reported on the University of New Hampshire's new 50 ft. vessel. The vessel has a range of 100 miles offshore with a maximum speed of 24 knots.

Regulatory Report

George Ireland was unable to attend. A written report was available at the meeting.

Insurance and Liability

Dennis Nixon reported on these issues. Having recently had an opportunity to ride on the R/V Ewing he expressed his interest in having the opportunity to ride on other R/V's.

He noted there was no uniform policy on hard hats, safety shoes, and life vests and noted that for other fleet operations there is a uniform policy.

He has continued to pursue options which would potentially provide greater economies in scale for insurance coverage. He has met with the WHOI and the WHOI broker about potentially bundling the coverage as a group.

The responsibilities of the Chief Scientist were not addressed. This is the subject of ongoing litigation.

He repeated a previously expressed opinion with regards to the ship technicians. In the past technicians have been viewed as scientists. Scientists are excluded under the ORV Act from using the Jones Act, but they do not lose their rights under general maritime law. It is his opinion that with the loaning of technicians their status may change and they may be viewed as seamen. The decision, McDermott vs. Wylander, has broadened the definition of who maybe defined as seamen for Jones Act purposes.

Finally, he presented a summary of some recent court decisions.

Texas A&M
on board M/V Texas Clipper
Wednesday 27 October 1993

Transfer to Texas A&M on University bus at 0800

Administrative Business and Wrapup

Dean Letzring, Marine Superintendent, Texas A & M University introduced Dr. William Evans, President, Texas Institute of Oceanography, Texas A&M University, Galveston.

Dr. Evans welcomed the RVOC and provided a brief history of the Texas Clipper and reviewed plans for its replacement and replacement of vessels assigned for training to other maritime academies.

Workshops on R/V Management
(Three Concurrent Workshops)

Control of Pollution and Hazardous Materials

A workshop was held which reviewed the current status of requirements imposed on Research Vessels by OPA 90 and requirements for oil spill response plans, hazardous material control, and garbage disposal. They were to identify how we are already meeting our responsibilities and those areas where we needed to take action. Finally, they were to make recommendations for the type of action needed and whether it should be accomplished by a standing committee like the safety committee, an ad hoc group, an individual, or a contractor.

Steve Rabalais reported on the Control of Pollution and Hazardous Materials Workshop.

-Of note is the fact that under OPA 90 UNOLS vessels will not be required to have Oil Spill Contingency Plans, but effective 13 April 1995 contingency plans will be required by MARPOL for all vessels over 400 gross tons. In addition most states have legislation for dealing with spills and the requirements of this legislation supersedes the requirements of OPA 90. Because of these pending requirements the recommendation was made that a generic plan be developed for use of UNOLS vessels which would be in compliance with state and federal regulations. One element of most contingency plans is having contracted with a company for cleanup of a spill. It was suggested that the UNOLS office contract for such a service for the entire fleet.

-With regards to Hazardous Materials the current Research Vessel Safety Standards were reviewed. Concern was expressed that PI's were not aware of their responsibilities and in full compliance with shipping requirements, storage requirements, requirements for Material Safety Data Sheets, disposal, and cleanup of any spills. It was suggested that it would be appropriate for UNOLS to circulate a letter reminding all PI's of their obligations.

Crew Compensation

The group consisted primarily of large and intermediate ship operators. They were to look at the factors effecting crew compensations and attempt to identify what the norms are for UNOLS Research Vessels and what factors control an institutions ability to stay within the norm. This panel was to consider the effect that various methods of crew compensation, leave, and rotation have on the cost and effectiveness of other areas of R/V management such as maintenance and quality of science support. Finally, a cataloguing of different management approaches was to be examined.

Paul Ljunggren reported on the Crew Compensation Workshop. The key points from the workshop were:

-There is no institutional norm for crew compensation. Crew compensation packages have typically evolved in different fashions which today are typically controlled by either union contract, state policies and regulations, or the policies of private institutions.

- Institutions represented felt their crews were adequately compensated with there being isolated instances in which specific positions are under compensated.

-Efforts have been made at cost control with the major emphasis being on limiting or capping overtime.

-There are economies of scale as far as crewing which can be achieved by multi-ship operations. This is particularly true in terms of lay-up, when crewmembers from a vessel can be used as relief personnel on another vessel. It is felt that greater emphasis needs to be placed on use of personnel from laid up vessels as relief crew for other operational vessels.

-There is a potential for reduction in crew costs if operational periods could be consolidated and out of service/maintenance periods could be consolidated during the year. By consolidating out of service and maintenance periods crew complements could potentially be reduced or the requirements for reliefs could be minimized.

-The participants in the workshop all felt there was more to be gained by continuing this workshop in the future and expanding the scope to include all elements of the budget.

Future R/V Needs, Ship Lay-up Procedures and Planned Overhaul/Maintenance Periods

Members of this workshop considered the present mode of determining lay-ups through the scheduling process. A review of the lay-up procedure generated by RVOC several years ago was to be included along with consideration being given to some alternatives. In addition the optimum number of days for operation of the different classes of vessels was reviewed. If time and interest permitted the panel was also to consider the current make-up and distribution of the UNOLS fleet and how well they thought it would serve future needs.

Mike Prince reported on the workshop.

-The first area reviewed related to scheduling factors. Based on the input received prior to the workshop the group reviewed the optimum number of operating days by class as established in 1987 and sought to determine the validity of these numbers in light of the current capabilities of vessels in the fleet. While input from some classes of vessels validated the 1987 position the operators of Class II vessels indicated that the optimum number should be increased. It was felt that further study needs to be made of those factors which would be used to define optimal.

-Also under review was the definition of operating day. For a vessel operating away from their home port all days inport preparing and staging for the next cruise are considered operating days. For vessels in their home port, days spent staging for a forthcoming cruise are not considered operating days. This has an adverse impact on the daily rate and amount of utilization shown by these vessels. It was noted that the definition of operating day is approved by OMB thus any change to these definitions must be approved by OMB. This will require further review by the work group.

-Lay-ups and fleet distribution will be the subject of future discussions by this work group.

Lunch Break

Wrap Up Workshops/Introduce Afternoon Speakers

Winches:

Mike Markey of Markey Machinery described winches provided for the AGOR 24, Palmer, and Wecoma. He noted improvements made to the DESH/DUSH 5, improved in house capabilities, and plans to produce a traction winch. He noted that new technology may allow fiber optic cable to be run on a single drum winch.

Jim Stasny of Dynacon discussed current status of winch and wire technology. This included storage requirements for fiber optics (low load) and Kevlar (high tension), variable frequency drives, and motion compensating equipment.

Dan Miller of Interocean reviewed their recent installation of a suite of winches on the two Coast Guard icebreakers and the winch monitoring system installed with these winches.

ECDIS and Integrated Bridge Equipment

There was no discussion on this topic.

Paint

Joe Coburn reported that WHOI is using a topside water base paint produced by International Paint. No other institutions have had any experience with topside water base paints.

Blair Bookout reported that Miami has a test patch of anti-foulant on the hull of the Iselin. This is a copper clad coating which is supposed to last 10 years. The test section is 10 ft x 15 ft and cost \$3000 or \$20/ft².

Ship Maintenance and Spare Parts Management Systems

The Fleet Improvement Committee had requested that RVOC discuss vessel maintenance systems in use or currently planned.

Joe Coburn reported on the WHOI system. Acquisition and implementation of a system began approximately four years ago. They looked at and evaluated a number of systems with the final selection being made with their engineers. A significant element of the system was that it be user friendly. Some the benefits of this system are that the program, on a weekly basis, downloads to the port office all maintenance performed during the week. The system also has a capability allowing the Chief Engineer to initiate and submit requisitions to the Port Engineer. A key ingredient in implementation of any such system is training. Joe noted that they have had their problems, but also expressed his confidence that paybacks from the systems would be significant. Finally, he cautioned that no matter how a system is presented it is never quite as simple or as cheap as it is presented.

Bill Coste discussed a proposal he had received. If he provides a list of engines, auxiliaries, and electronics on his the ship, the firm will develop and provide an inventory list of spares, ordering procedure, and a preventive maintenance program all of which would be updated as the manufacturer made changes. The proposal, as presented, would allow for the participation of more than one institution.

Routine and Diagnostic Vibration Analysis

Tom Althouse of Scripps discussed vibration analysis and its application in preventive maintenance. It allows the operator to detect deteriorating conditions of equipment. He noted that the company providing this service offers two options one being to install the complete system on the vessel so that the capability exists to monitor performance on a regular basis. The alternative is to have a company representative come out to the vessel and take the readings for analysis.

Holiday Inn
Thursday 28 October 1993

Round Table Discussion

The Marine Superintendents or their equivalents from the member and guest organizations met to discuss issues of mutual concern. A summary of the topics discussed follows:

- OPA 90
- ADA
- Responsibility of the Chief Scientist
- Current requirements for safety related equipment
- Crew compensation
- Ship lay-up and maintenance policy
- Pollution and Hazardous Material matters
- MAS Contract
- Safety reporting statistics
- Safety training video
- Policies on hard hats, safety shoes, and life vests
- Need for full time electronics technicians under operations
- Sexual harassment policy
- Minority recruiting
- E-Mail to ships
- Privatization

Business Meeting

The location for next year's Annual RVOC meeting was confirmed as being Skidaway Institute Savannah, Georgia. It was voted that Harbor Branch Institute would serve as the backup location for the 1994 meeting. The location for the 1995 meeting was voted on and Scripps Institute was selected.

A discussion ensued on meeting times in terms of time of the year and time of the week the meeting should be held. The committee settled on late October to early November with a continuation of the Tuesday through Thursday period.

The members of the Safety Committee were confirmed with Tom Smith as Chairman. Other members of this committee are Ken Palfrey, Tim Askew, Bill Hahn, and Eugene Almendinger.

It was agreed to continue the workshop groups on Pollution Control and Ship Lay-up. The Crew Compensation Group would continue to the point of completing the report on their workshop.

The following action items pend:

- Respond to Don Heinrich's letter on crew compensation-Work group, RVOC
- Report RVOC position on Optimum # of Days to UNOLS Council-Work group, RVOC
- Input to Jack Bash on MAS RFP- Individual Operators
- Review of Safety standards, safety reporting statistics, safety video-Safety Committee
- Review of Ship Lay-up Policy- Work group, RVOC

- Generate Oil Spill Response Plan input to Safety Committee-
Work group
- Collect information on Hard Hat, Safety Shoe, and Life Vest
policies- P. Ljunggren
- Make recommendations concerning Captain's Report- RVOC, Mike
Prince

The RVOC Charter was adopted without change although several members expressed the preference that RVOC stand for Research Vessel Operators Council vice Committee.

Next Years Meeting

The topics and structure for next years meeting will include:

- Continued use of workshops
- Limit presentations to one issue. Safety equipment was recommended as the main topic for next year with the presentation being made by a consultant in that field.
- Changes to the overall structure of the meeting would include:
 - Tuesday: No agenda change, but morning welcome and coffee would include spouses and a Tuesday evening dinner/get together would be planned.
 - Wednesday: Allow vendors of certain types of equipment to set up displays late in the afternoon, say 4-6PM.
 - Thursday: This day would continue to be devoted to discussions by the Marine Superintendents or equivalents, but provisions would be made to extend it into the afternoon to allow adequate time for sharing information.
- A specific time will be set aside for visiting the host institutions facilities
- Subjects submitted by members for next years meeting:
 - Internet vs. Omnet
 - OSHA vs. Coast Guard regulations, especially relating to entry of confined spaces.
 - Crew Compensation
 - Privatization
 - Overall Budgets
 - Future R/V needs
 - Proposals and other forms/reports review
 - Sexual harassment policies(Responsibility, posting, berthing with male and female in the same space)
 - ABS rules
 - Tonnage Rules, July 1994 and beyond
 - Responsibility for removal of crew from vessel for death/illness in family
 - Interface between R/V's and ROV's, AUV's and manned submersibles.
 - Latest Jones Act/ Worker's Comp. related rulings.
 - Review RVTECH recommendations and highlights
 - GMDSS approved equipment

Adjournment

The RVOC noted the pending retirement of Wadsworth Owens of the University of Delaware and his many years of service as a member of this committee. We all wish him well.

The RVOC thanked Dean Letzring, Dr. William Evans, and the Texas A&M staff for volunteering and hosting this year's meeting on such short notice and expressed their thanks for a job well done.

Appendix I

AGENDA
1993 RVOC Meeting
Galveston, Texas
0830 Tuesday, 26 October 1993
Holiday Inn

0800 REGISTRATION AND COFFEE

0830 WELCOMING REMARKS

- Dean Letzring, Marine Superintendent, Texas A&M University
- Mike Prince, Chairman, RVOC

0900 OLD BUSINESS

- Minutes of the 1992 Meeting - Mike Prince
- RVOC Newsletter - Paul Ljunggren
- Inspection of chartered vessels, guidelines
- Legislative agenda, GPS P-Codes, and Radio Officers - Joe Coburn/Dolly Dieter/Paul Ljunggren
- Captain's Post Cruise Report

0930 COMMITTEE AND LIASON REPORTS

- UNOLS - Jack Bash/Dr. Garrett Brass
- Safety Committee - Tom Smith
- RVTECH - Steve Rabalais
- FIC - Joe Coburn

1015 NEW BUSINESS

- Medical Service contract and RFP
- Oil spill response plans

1100 AGENCY REPORTS (approximately 10 minutes each)

- National Science Foundation - Dolly Dieter
- Office of Naval Research - June Keller
- NOAA - Capt. Martin Mulhern
- Oceanographer of the Navy - Patrick Dennis
- U.S. State Department - Tom Cocke
- USCG - LCDR Stephen Wheeler
- Others

1200 SPECIAL REPORTS (approximately 10 minutes each)

- Texas A&M - Dean Letzring
- Mexican Representatives
- NERC - Ken Robertson
- Bedford Inst. of Ocean. - James Wheelhouse
- OCEANUS Class Mid-Life Refit- Bill Hahn/Joe Coburn/Ken Palfrey
- Sea Water Piping, Gallionella, the bug that eats steel - Robert Hinton

1300 BUFFET LUNCH AT HOTEL

1400 Tuesday, 26 October 1993
Afternoon Session
Holiday Inn

1400 CONTINUE SPECIAL REPORTS

- WHOI Swath - Joe Coburn
- MBARI Swath - Mike Prince
- U. of Miami Catamaran - Ron Hutchinson
- AAUS, R/V Diving Statistics - Michael Lang
- Coastal Marine Science Workshop - Mike Prince/Jack Bash
- BBS/WEATHERBIRD - Lee Black
- Any other operators with special reports

1500 REGULATORY UPDATE

- Report on recent and pending regulatory changes and their impact on Research Vessels (15 minutes presentation followed by questions, answers, and comments)

1530 INSURANCE AND LIABILITY

- Report by Dennis Nixon on liability and insurance issues. (15 minutes presentation followed by questions, answers, and comments)

1600 WORKSHOPS

- Form workshop groups for Wednesday morning and hold organizational meetings

0800 Wednesday, 27 October 1993
Meeting at Texas A&M Facilities
On Board the TEXAS CLIPPER

0800 TRANSFER TO TEXAS A&M ON UNIVERSITY BUS

0830 ADMINISTRATIVE BUSINESS AND WRAPUP OF TUESDAY'S AGENDA

- Introduction by Dean Letzring, Marine Superintendent, Texas A&M University.
- Welcoming Remarks by Dr. William Evans, President, Texas Institute Of Oceanography, Texas A&M University, Galveston.

0900 WORKSHOPS ON R/V MANAGEMENT (Three Concurrent Workshops)

Control of Pollution and Hazardous Materials

OPA 90, Oil spill response plans, Hazardous material control, Garbage disposal
Panel will review the current status of requirements imposed on Research Vessels
They will identify the level to which we are already fulfilling our responsibilities and identify those areas where we need to take action. This panel should make recommendations for the type of action needed and whether it should be accomplished by a standing committee like the safety committee, an ad hoc working group, an individual or a contractor.

Crew Compensation Costs

This workgroup will consist primarily of large and intermediate ship operators. They will be looking at the factors that effect the cost of crew compensations and attempting to identify what the norms are for UNOLS Research Vessels and what factors control an institutions ability to stay within the norm. This panel should also consider the effect that various methods of crew compensation leave and rotation have on the cost and effectiveness of other areas of R/V Management such as maintenance and quality of support for science. A cataloging of the various management approaches and their relative benefits would be useful and should include any new or unique practices such as the crew rotation scheme presented by Dale Gibb last year.

Future R/V Needs, Ship Lay-up Procedures and Planned Overhaul/Maintenance Periods

This workshop should consider the present method of determining lay-ups through the scheduling process. A review of the lay-up procedure generated by RVOC several years ago and consideration of other possible methods should be included. The optimum # of days utilization by class of ship should be reviewed. One proposed method for keeping the operating fleet smaller without permanently getting rid of ships is to have planned and programmed lay-ups of certain ships on a rotating basis so that an operator would know several years in advance when they would be out of service. The merits and problems with this idea, the current procedure and other plans should be discussed and reported. If time and interest permit this panel could also consider the current makeup and distribution of the UNOLS fleet and how well they think it will serve the future needs of marine science. Is there a need for more ships, a reduction in ships, or a redistribution of ships? Do we need new ships, and if so, of what type and where? Consider the new Arctic Icebreaker, the new AGORS, and plans for smaller ships such as those at WHOI and the University of Miami.

1200 REPORTS FROM WORKSHOPS Brief report with follow up during round table
(15 minutes each)

1300 LUNCH BREAK - BBQ AT TEXAS CLIPPER DOCK

1400 Wednesday, 27 October 1993
Afternoon Session
On Board the TEXAS CLIPPER

1400 WRAP UP WORKSHOPS/INTRODUCE AFTERNOON SPEAKERS

Winches:

Presentations - Mike Markey (Markey Machinery), Jim Stasny (Dynacon), & Dan Miller (Ocean Instruments)

These three companies have recently provided winches to UNOLS and Government Research Vessels. They will speak on the latest innovations in winch manufacture.

Comments and discussion, reports by operators with new winches.

ECDIS and Integrated Bridge Equipment

Reports of any equipment purchases recently made or planned by RVOC members.

Paints

Reports by any RVOC members that have tried new paint systems.

Ship Maintenance and Spare Parts Management Software

Reports by any RVOC members using this type of software.

Routine and Diagnostic Vibration Analysis

Reports by any RVOC members using a service or program for doing routine or diagnostic vibration analysis.

Reports from operators on any other interesting new equipment purchases as time permits, can carry over into Round Table discussion.

1700 TRANSPORT BACK TO HOTEL

0800 Thursday, 28 October 1993
Holiday Inn

0800 ROUND TABLE DISCUSSION

- Marine Superintendents will select and discuss topics of mutual interest.

Some items already suggested:

- OPA 90
- ADA
- Responsibility of Chief Scientist
- Crew Compensation
- Ship Layup and maintenance policy
- Pollution and Hazardous Materials matters
- MAS contract
- Automation/Alarm systems
- GMDSS equipment

1100 BUSINESS MEETING

- Assignments to committees, panels and workgroups
- Review of action items pending
- Readopt RVOC Charter
- Suggestions for the 1994 Agenda and meeting format, everybody should come to meeting with one idea, preferably in writing. (PLEASE REFER TO WORKSHEET ATTACHED)

NEXT YEAR'S RVOC MEETING

Please use this form before and during the meeting to record any suggestions you may have for next years meeting.

Suggestions for agenda items, workshops or guest speakers

Suggestions for changes or improvements to the meeting format or schedule

Appendix II

1993 RVOC MEETING ATTENDEES

Allmendinger, Eugene
U. of New Hampshire
46 Oyster River Rd.
Durham, NH 03824
(603) 868-2684

Althouse, Thomas
SCRIPPS
297 Rosecrans Street
San Diego, CA 92106
(619) 534-1643

Askew, Tim
Harbor Branch Oceanographic Inst.
5600 Old Dixie Hwy.
Ft. Pierce, FL 34946
(407) 465-2400 x262

Bash, Jack
UNOLS Office
P. O. Box 392
Saunderstown, RI 02874
(401) 792-6825

Black, Lee
Bermuda Biological Station
1700 Biological Lane
St. George's, GE01 Bermuda
(809) 297-1880

Bookout, Blair E.
University of Miami
3979 Rickenbacker Cswy.
Miami, FL 33149-1098
(305) 361-4880

Burch, Lawrence A.
Univ. of Connecticut/MSI
Avery Point
Groton, CT 06340
(203) 445-3435

Chisholm, Van E.
College of Geosciences
Texas A&M Univ.
College Station, TX 77843
(409) 845-3651

Clark, William B.
Univ. of Hawaii Marine Center
#1 Sand Island Road
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(808) 847-2661

Coburn, Joe
WHOI
Marine Operations
Woods Hole, MA 02543
(508) 457-2000 x2624

Cocke, Tom
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OES/OE, RM 5801
Washington, DC 20520
(202) 647-0240

Cornwall, Bruce
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P.O. Box 38
Solomons, MD 20688
(410) 326-7243

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Univ. of Hawaii Marine Ctr.
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(808) 847-2661

Dennis, Patrick
JOI, (Navy Support) Suite 800
1755 Massachusetts Ave, NW
Washington, DC 20036
(202) 653-1295

Dieter, E. R. (Dolly)
NSF - OCFS
1800 G. St. NW
Washington, DC 20550
(703) 306-1577 / (202) 357-7837

Evans, William
Texas Institute of Oceanography
Texas A&M Univ.
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Galveston, TX 77553
(409) 740-4704

1993 RVOC MEETING ATTENDEES

Gibson, Don
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P.O. Box 1267
Port Aransas, TX 78373
(512) 749-6711

Goad, Dr. Linda S.
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(313) 763-5393

Hahn, Bill
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Graduate School of Oceanography
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(401) 792-6554

Hinton, Robert
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Lamont-Doherty Earth Obs.
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(914) 359-2900 x245

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Science Center of Connecticut
P.O. Box 3054
Newport, RI 02840
(401) 847-9714
(203) 231-2824 x 35

Markey, Michael J.
Markey Machinery Co., Inc.
P.O. Box 24788
Seattle, WA 98124
(206) 622-4697

Moore, J. Willard
Bermuda Biological Station
(Meyer Agencies Ltd.)
1700 Biological Lane
St. Georges, GE01 Bermuda
(809) 297-1616

Mulhern, Capt. Martin
NOAA Corps Operations
11400 Rockville Pike, Rm. 610
Rockville, MD 20852
(301) 443-8641

Nixon, Dennis
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Olson, Eugene
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St. Petersburg, FL 33701
(813) 893-9100

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Englewood, CO 80112
(303) 643-0112

1993 RVOC MEETING ATTENDEES

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Hatsfield Marine Science Ctr.
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Prince, Mike
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Moss Landing, CA 95039
(408) 633-3534

Rabalais, Steve
LUMCON
Twy 56, Star Route Box 541
Chauvin, LA 70344
(504) 851-2808

Robertson, Ken
NERC
No. 1 Dock, Barry
South Glamorgan, CF6 6UZ U.K.
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West, David
Smithsonian Tropical Res.
Institute, Unit 0948
APO AA 34002-0948
(011) 507-28-4022

Wheeler, LCDR Stephen
U. S. Coast Guard(Ice Ops.)
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Washington, DC 20593

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College Station, TX 77843
(409) 845-7211



Appendix III

PROPOSED TRIAL CHANGES TO UNOLS SHIP SCHEDULING MEETINGS

BACKGROUND: The annual UNOLS Ship Scheduling process has become highly efficient due in a large part to the hard work and effective consultation of and among the institutional schedulers. The present day rapid communications capability available through fax and electronic mail has also served to further enhance the process. It appears possible to reduce the number of Ship Scheduling Committee meetings each year and reduce the number of participants in each, thus conserving travel funds without detriment to the scheduling process.

FIRST ANNUAL MEETING: It has been customary to hold separate Atlantic and Pacific (Indian) Ocean scheduling meetings each year to review preliminary schedules in the presence of science program managers at Washington, D.C. These meetings have usually taken place during late June over two consecutive days. This year we reduced the meeting to two half-day sessions on the same day. It appears the preliminary scheduling meeting with the expected attendance of all UNOLS schedulers may no longer serve the useful purpose it did in the past. It is proposed therefore to eliminate this first committee meeting on a trial basis. In lieu of this June meeting a UNOLS schedule review meeting would be held at Washington during late June. Participants would be the Scheduling Committee Chair and Vice Chair, UNOLS Executive Secretary (with staff support), representatives of NSF, Navy and NOAA (including concerned science program managers). A preliminary report of this meeting with guidance to schedulers would still be published by E-Mail with a formal UNOLS report to follow by mail.

ANNUAL FULL UNOLS SCHEDULING MEETING: It has also been customary to hold in conjunction with the fall, annual UNOLS meeting a full Ship Scheduling Committee meeting, in a single one day session, usually in September, as required by the Charter. The continued attendance by the schedulers for the smaller UNOLS vessels (less than 100') and for those vessels who exclusively operate regionally under straight forward schedules may no longer be necessary or economical. Thus it is proposed that attendance at the fall Scheduling Committee meeting be optional for these schedulers.

QUALIFIER: For these new procedures to work it will be essential, nay **MANDATORY**, that each scheduler post on the appropriate electronic bulletin board the best and most up-to-date schedule and cost figures for each UNOLS vessel. Preliminary annual schedules shall be posted not later than 1 June. Best final schedules shall be posted by 1 September. At this stage, schedules with multiple options serve little useful purpose and are strongly discouraged. Late or missing schedules compromise the process and place schedule endorsements by UNOLS in considerable jeopardy, nay at **EXTREME RISK**.

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of institutions for the coordination and support of university oceanographic facilities.

UNOLS SCHEDULING GUIDELINES

This paper is to provide guidance to academic investigators and federal agency ship users.

The University National Oceanographic Laboratory System (UNOLS) fleet is a unique assemblage of research vessels located at academic institutions and laboratories which obtain significant support from federal sources. A basic responsibility of UNOLS is to ensure the efficient scheduling of ships to meet the needs of the 56 institutions which make up UNOLS (Attachment A). These vessels are also available for the support of non-academic research sponsored by federal and state agencies and, where appropriate, research that is privately sponsored.

The UNOLS fleet consists of 26 research vessels ranging in size from 65' to 279' and located at 19 operating institutions. The ships are loosely divided into four general classes: Class I/II over 200'; Class III 150'-200'; Class IV 100'-150' and Class V less than 100'. A list of these ships by class is included as Attachment B.

The UNOLS Council has a Scheduling Committee which is tasked with scheduling the UNOLS fleet. This Committee consists of a chair, vice chair and the schedulers from each of the operating institutions. A current list of these schedulers is included as Attachment C. The Committee is divided into two subcommittees or groups representing the East/Gulf Coast and West Coast respectively.

Each federal agency operates differently with respect to investigators that require ship time. For the most part project planning begins with proposals or letters of intent to the respective funding agency outlining the science to be performed. This communication should also reflect the ship time needed. In the case of NSF a UNOLS-NSF Ship Time Request Form 831 is required with all proposals requiring ship time. A copy of this form is included as Attachment D.

The UNOLS scheduling cycle begins one year prior to the operating year with each institution soliciting "ship time requests" from those investigators that might use their ship. The Form 831 is the preferred vehicle for any user to request time on a UNOLS vessel. The ship request form should be submitted as early as possible, preferably at the time project planning has reached the point a proposal is being prepared. It is not necessary to wait until the proposal is actually submitted to advise schedulers of the ship time requirements. Also, it is not necessary and usually unproductive to wait until funding is secured before submitting a request. If at any time a researcher finds requested ship time will no longer be needed the scheduler or the UNOLS Office should be notified promptly so the time can be released to others waiting to get on a ship schedule. The request for ship time should be sent to the institution whose ship they believe is best suited to do their science and a second copy sent to the UNOLS office. If the investigator does not know which ship to request, the copy to the UNOLS office will get it into the system. A note accompanying the ship request or a follow up phone call to the UNOLS Office will alert that office that no specific ship has been selected. The UNOLS Office will distribute the request to those ship operating institutions that are capable of doing the science. At this point the institution scheduler or UNOLS Office becomes an "agent" for the investigator and will shepherd the request until it has found a home on a ship's schedule.



The UNOLS Office collects all the 831s submitted and develops a master list that is passed throughout the scheduling community. The purpose is to cross check to see that all requests are accounted for and to encourage efficiency and economy of operation. It also alerts schedulers of possible ship time in an area they anticipate their ship to be operating. The inventory is updated frequently to ensure the entire community is appropriately informed. At this point most investigators will not know whether or not their science will be funded.

Ship schedulers now develop tentative schedules using those requests that their ship is capable of handling and permit an efficient schedule (one that holds transit time to the minimum in relation to the number of projects served). Many ship schedulers work together with other institution schedulers where it might make sense to exchange science projects in the name of efficiency. Schedule planning is driven by a matrix of concerns such as size of the project and criticality of project timing or project location all tempered by the potential for funding. The schedules are then sent to the UNOLS Office over electronic mail (OMNET). The UNOLS Office posts the tentative schedules on the OMNET bulletin board SHIP.SCHED9X. Schedulers usually make contact with the various investigators that are likely to use their ships. This contact is to exchange details of the project and to develop a working relationship with the Principal Investigator involved.

In June (operating year minus 7 months) the scheduling committee meets to review the individual ship schedules. The purpose of the meeting is to resolve double bookings and to exchange projects that provide for more overall efficient and cost effective scheduling. This meeting also gives the community a chance to analyze the cost of the various schedules and see how these costs match the anticipated federal funds allotted for ship time. Many times this financial reality will necessitate the consolidation of some schedules to maximize efficiency. After this meeting a special review group evaluates the schedules as modified. This group includes the Scheduling Chair, Vice Chair, representatives from NSF, ONR and NOAA as well as the UNOLS Executive Secretary. If deemed appropriate, recommendations are made to adjust schedules further as well as suggesting possible lay up of ships.

As the summer progresses and the funding decisions for the proposed science become known the individual schedules are refined and updated. The UNOLS Office remains the central coordinating point for these updates. In September (operating year minus 4 months) a second and final scheduling meeting is held. By this time most of the funding for the science projects is known and a fair assessment of the total ship operating funds for the operating year is available. The schedulers again review and individually defend the schedule they have proposed. Obvious adjustments are made on the spot. Immediately after this meeting the review group (same as for the June meeting) evaluates the schedules to insure the maximum efficiency of the academic fleet. If available federal funding does not meet the total operating schedule costs this group addresses the hard recommendations as to where savings might be made. Further schedule consolidation as well as proposed lay ups are recommended. These recommendations are forwarded to the UNOLS Council and then to the funding agencies for possible action.

When the outcome of these two meetings is made public the schedulers again update their schedules and argue their positions with the funding agencies. In October ship funding proposals are submitted to the funding agencies and the schedules solidify. By the end of the year the funding picture is hopefully firm and the schedules can be published with certainty. All science projects should have found a home on a ship that is capable of conducting the science and the schedules are the most efficient possible. The schedulers confirm with the investigators the ship scheduled as well as the cruise time frame.

The above process was developed for academic scientists obtaining funding from NSF, ONR and/or NOAA. It is however quite flexible with the ability to accommodate those programs that do not follow the traditional path. Schedules can be adjusted during the operating year but not without some consternation. Communication and coordination are the key to successful scheduling. The ship scheduler, Scheduling Committee Chair and UNOLS Office should be kept abreast of new and changed requests.

Appendix IV

1992 CRUISE ASSESSMENT SUMMARY

Date Compiled: September 29, 1993

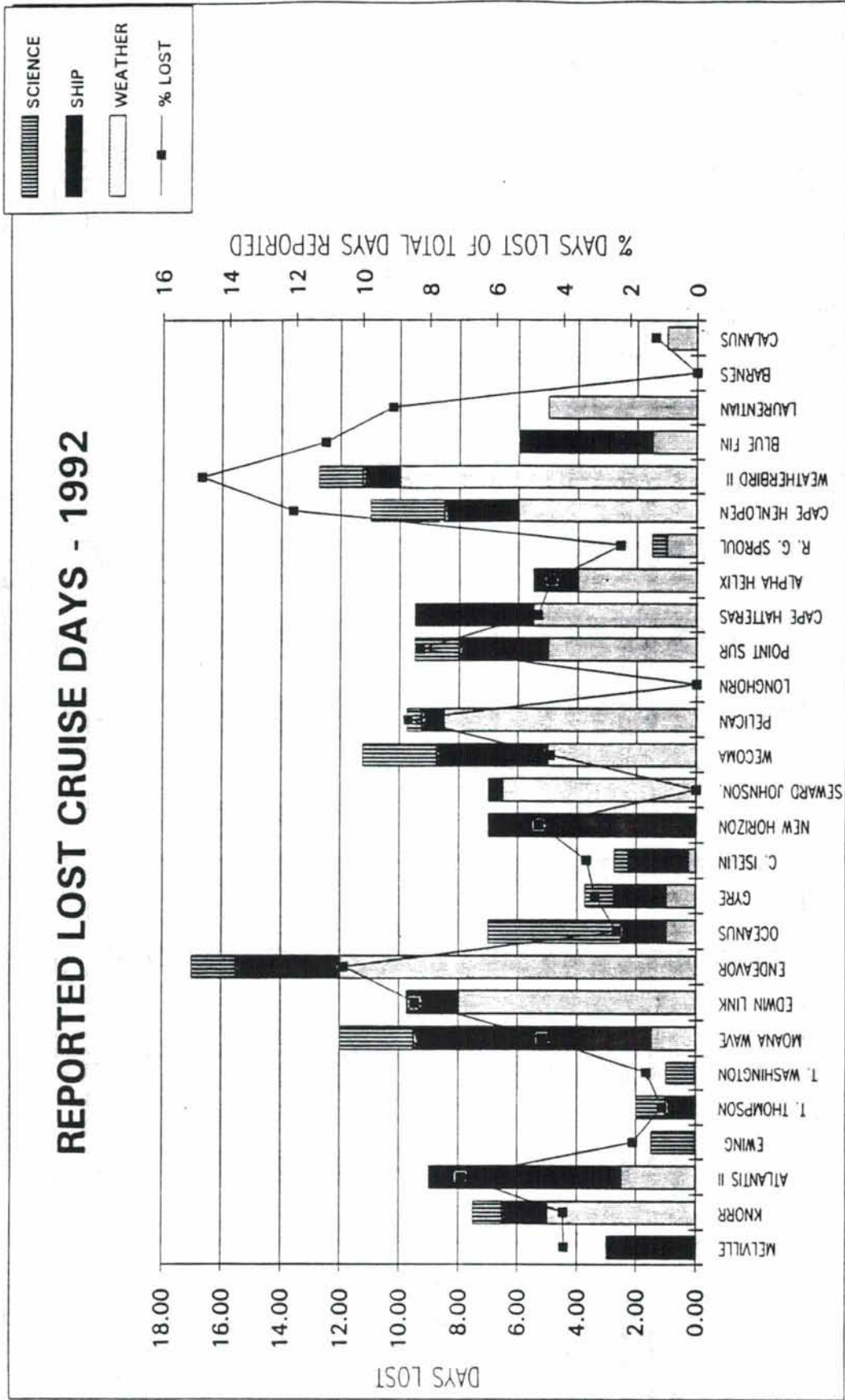
| SHIP | OPER DAYS | DAYS REPORTED | TTL (1) CRUISES | RPTS RECVD | % RPTS RECVD | REPORTED LOST TIME (2) | | | SUCCESS | | | COMMENTS | | | | | | | | |
|-----------------|--------------|------------------|--------------------|---------------|-----------------|------------------------|-------|-------|---------|------|----|----------|---|---|-----|-------|-----|------|----|----|
| | | | | | | WEA. | SHIP | SCI. | TOTAL | % | F | P | M | U | % | KUDOS | % | CORR | % | |
| MELVILLE | 170 | 76 | 8 | 5 | 63 | 0.00 | 3.00 | 0.00 | 3.00 | 3.9 | 2 | 3 | 0 | 0 | 0 | 40 | 3 | 60 | 2 | 40 |
| KNORR | 271 | 189 | 8 | 6 | 75 | 5.00 | 1.50 | 1.00 | 7.50 | 4.0 | 6 | 0 | 0 | 0 | 100 | 3 | 50 | 2 | 33 | |
| ATLANTIS II | 179 | 128 | 10 | 8 | 80 | 2.50 | 6.50 | 0.00 | 9.00 | 7.0 | 5 | 3 | 0 | 0 | 63 | 5 | 63 | 6 | 75 | |
| EWING | 301 | 80 | 7 | 2 | 29 | 0.00 | 0.00 | 1.50 | 1.50 | 1.9 | 2 | 0 | 0 | 0 | 100 | 1 | 50 | 0 | 0 | |
| T. THOMPSON | 265 | 200 | 10 | 7 | 70 | 0.00 | 1.00 | 1.00 | 2.00 | 1.0 | 7 | 0 | 0 | 0 | 100 | 5 | 71 | 5 | 71 | |
| T. WASHINGTON | 105 | 68 | 4 | 4 | 100 | 0.00 | 0.00 | 1.00 | 1.00 | 1.5 | 3 | 0 | 1 | 0 | 75 | 4 | 100 | 0 | 0 | |
| MOANA WAVE | 279 | 261 | 18 | 17 | 94 | 1.50 | 8.00 | 2.50 | 12.00 | 4.6 | 13 | 3 | 1 | 0 | 76 | 14 | 82 | 5 | 29 | |
| EDWIN LINK | 145 | 116 | 18 | 16 | 89 | 8.00 | 1.75 | 0.00 | 9.75 | 8.4 | 14 | 2 | 0 | 0 | 88 | 15 | 94 | 3 | 19 | |
| ENDEAVOR | 199 | 161 | 12 | 10 | 83 | 12.00 | 3.50 | 1.50 | 17.00 | 10.6 | 5 | 5 | 0 | 0 | 50 | 8 | 80 | 2 | 20 | |
| OCEANUS | 313 | 295 | 12 | 11 | 92 | 1.00 | 1.50 | 4.50 | 7.00 | 2.4 | 9 | 1 | 1 | 0 | 82 | 11 | 100 | 4 | 36 | |
| GYRE | 130 | 124 | 14 | 13 | 93 | 1.00 | 1.75 | 1.00 | 3.75 | 3.0 | 12 | 1 | 0 | 0 | 92 | 10 | 77 | 6 | 46 | |
| C. ISELIN | 201 | 84 | 10 | 5 | 50 | 0.25 | 2.00 | 0.50 | 2.75 | 3.3 | 4 | 1 | 0 | 0 | 80 | 4 | 80 | 0 | 0 | |
| NEW HORIZON | 175 | 149 | 20 | 16 | 80 | 0.00 | 7.00 | 0.00 | 7.00 | 4.7 | 13 | 2 | 1 | 0 | 81 | 11 | 69 | 2 | 13 | |
| SEWARD JOHNSON. | 214 | 169 | 15 | 15 | 100 | 6.50 | 0.50 | 0.00 | 0.00 | 0.0 | 14 | 1 | 0 | 0 | 93 | 12 | 80 | 1 | 7 | |
| WECOMA | 270 | 257 | 17 | 17 | 100 | 5.00 | 3.75 | 2.50 | 11.25 | 4.4 | 12 | 4 | 1 | 0 | 71 | 11 | 65 | 10 | 59 | |
| PELICAN | 169 | 113 | 26 | 17 | 65 | 8.50 | 0.75 | 0.50 | 9.75 | 8.6 | 10 | 7 | 0 | 0 | 59 | 7 | 41 | 7 | 41 | |
| LONGHORN | 76 | 0 | 15 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| POINT SUR | 177 | 115 | 42 | 29 | 69 | 5.00 | 3.00 | 1.50 | 9.50 | 8.3 | 24 | 5 | 0 | 0 | 83 | 25 | 86 | 4 | 14 | |
| CAPE HATTERAS | 200 | 200 | 18 | 18 | 100 | 5.50 | 4.00 | 0.00 | 9.50 | 4.8 | 16 | 1 | 1 | 0 | 89 | 15 | 83 | 1 | 6 | |
| ALPHA HELIX | 146 | 127 | 7 | 6 | 86 | 4.00 | 1.50 | 0.00 | 5.50 | 4.3 | 5 | 1 | 0 | 0 | 83 | 5 | 83 | 5 | 83 | |
| R. G. SPROUL | 140 | 66 | 23 | 15 | 65 | 1.00 | 0.00 | 0.50 | 1.50 | 2.3 | 13 | 2 | 0 | 0 | 87 | 14 | 93 | 1 | 7 | |
| CAPE HENLOPEN | 170 | 91 | 31 | 16 | 52 | 6.00 | 2.50 | 2.50 | 11.00 | 12.1 | 13 | 2 | 1 | 0 | 81 | 15 | 94 | 0 | 0 | |
| WEATHERBIRD II | 244 | 86 | 61 | 17 | 28 | 10.00 | 1.25 | 1.50 | 12.75 | 14.8 | 12 | 5 | 0 | 0 | 71 | 13 | 76 | 7 | 41 | |
| BLUE FIN | 108 | 54 | 62 | 32 | 52 | 1.50 | 4.50 | 0.00 | 6.00 | 11.1 | 26 | 4 | 2 | 0 | 81 | 2 | 6 | 3 | 9 | |
| LAURENTIAN | 55 | 55 | 14 | 14 | 100 | 5.00 | 0.00 | 0.00 | 5.00 | 9.1 | 12 | 2 | 0 | 0 | 86 | 7 | 50 | 3 | 21 | |
| BARNES | 100 | 1 | 52 | 1 | 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0 | 1 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | |
| CALANUS | 110 | 81 | 13 | 6 | 46 | 1.00 | 0.00 | 0.00 | 1.00 | 1.2 | 5 | 1 | 0 | 0 | 83 | 6 | 100 | 0 | 0 | |
| TOTALS | 4912 | 3346 | 547 | 323 | 74 | 90.25 | 59.25 | 23.50 | 166.00 | 5.0 | | | | | 0 | 0 | 0 | | 0 | |

TOTALS FOR 1991

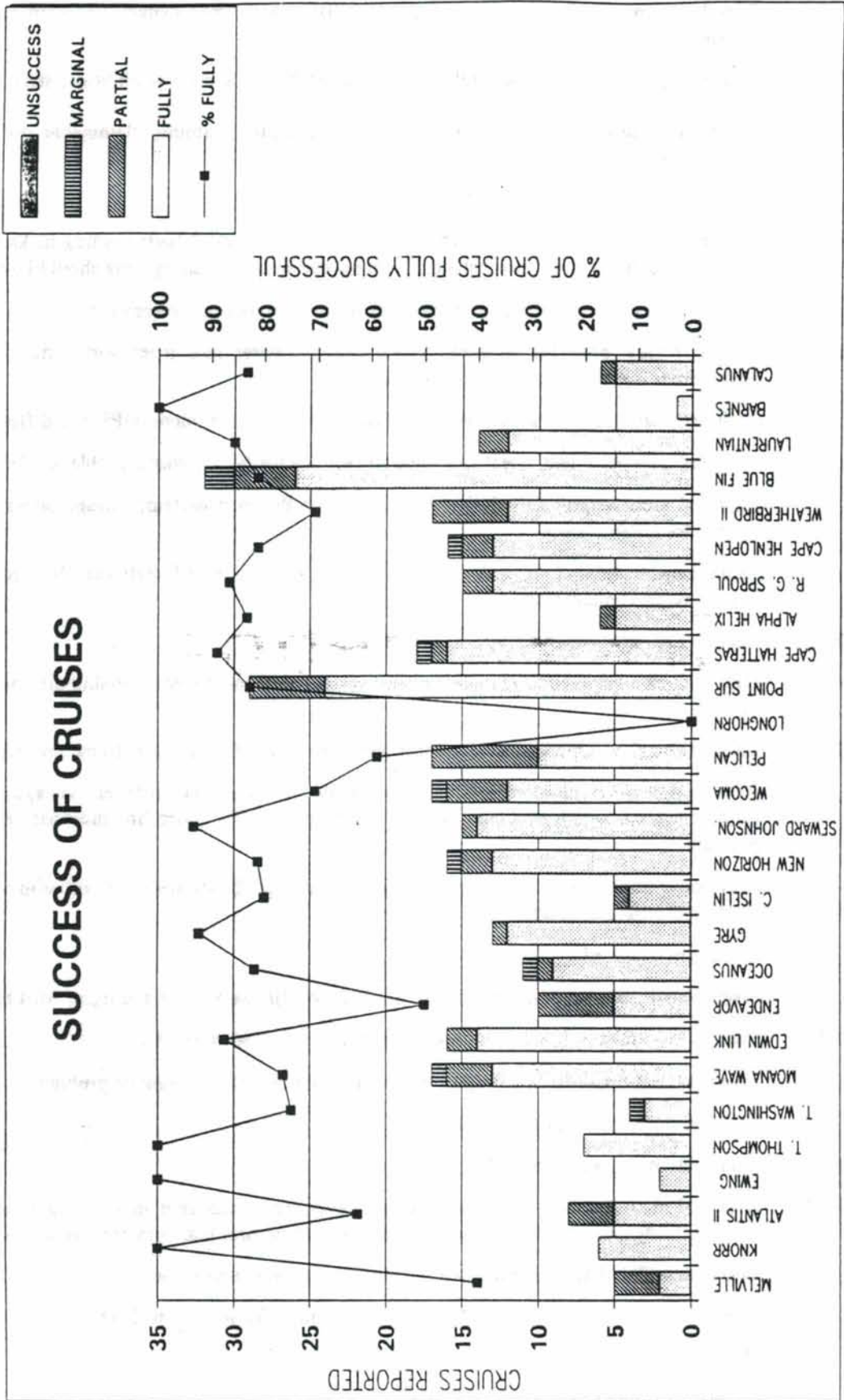
512 333 62 61.00 24.50 29.00 114.50 263 62 2 4 79

Notes: (1) Total cruises represent total science cruises.
 (2) Statistics are based on days reported.

REPORTED LOST CRUISE DAYS - 1992



SUCCESS OF CRUISES



SHIP**BRIEF SUMMARY OF ASSESSMENT COMENTS** (Positive//Negative Comments)

MELVILLE: Excellent support, Captain, crew and techs (3)// Cable trays dangerous; stern slamming; winch speed problems.

KNORR: Fine crew, helpful (3)// Need light over stern, ready stowage for work vests; stern slamming.

ATLANTIS II: Outstanding support, cooperative spirit (6)// Need pilot training; flammable storage; generator repair, slow winch.

EWING: Officers, crew and tech staff superb.

THOMPSON: Excellent support Capt and crew (5)// Tanker fueling caused delays; holding tanks inadequate; internal & external communications inadequate; alarm needed in lab; sleeping vans should be temporary.

WASHINGTON: Very good condition for age, important contribution to ocean research (4).

MOANA WAVE: Capt and crew provided excellent support (13)// Better info from port office; mooring winch needs brake; more lighting boat deck; sewage odor.

EDWIN LINK: Well organized top notch crew and staff (15)// Cold room problem; GPS w/o differential.

ENDEAVOR: Capt and crew excellent, great tech support (8)// Evaps failed; winch problems (2); radar problem.

OCEANUS: Capt and crew helpful and skillful (11)// Role of Bosun uncertain; sewage odors (2); more bunk space needed for science party.

GYRE: Great crew, helpful & friendly (10)// Safety comments (6) life raft case broken, toilet odor (2), lost power, weak communications.

COLUMBUS ISELIN: Captain and crew excellent (4).

NEW HORIZON: Capt and crew excellent (11)// Crane and capstan malfunctioned; portable air compressor installed w/o mounts.

SEWARD JOHNSON: Excellent facility, ship and sub crew professional (12)// Winch and A frame not sufficient for coring.

WECOMA: Officers and crew outstanding (11); great food// Failed air conditioner; sewage odor (2); CTD winch broke; deep sea winch problem; door in lab dangerous (3); more fire and boat drills needed; air tugger problem.

PELICAN: Crew exceptional (7)// Electronics not fully operational (2) sewage odor; anti-slip needed on ladder; need good Avon and dive ladder.

LONGHORN: No reports received.

POINT SUR: Professional crew, supportive (25); excellent food (7)// Safety line too tight; hard hats for deck ops.

CAPE HATTERAS: Outstanding support, great crew, excellent galley (15)// sewage odor.

ALPHA HELIX: Fine crew performance(4)// rough ride, small; ADCP problem; engine problem.

SPROUL: Ship and crew excellent (14)// leak in galley.

CAPE HENLOPEN: Excellent cruise, good crew (15).

WEATHERBIRD II: Capt and crew helpful (12)// Cable at eye level; need non skid in van; tight lab space; poor comms between bridge and winch ops; hydro wire across deck;problem with comms ship to shore.

BLUE FIN: Good crew (2)// Engine breakdown; winch failure maintenance concern.

LAURENTIAN: Great crew (7)// Need level wind; need dumb waiter; O2 sensor on CTD.

BARNES: No comment.

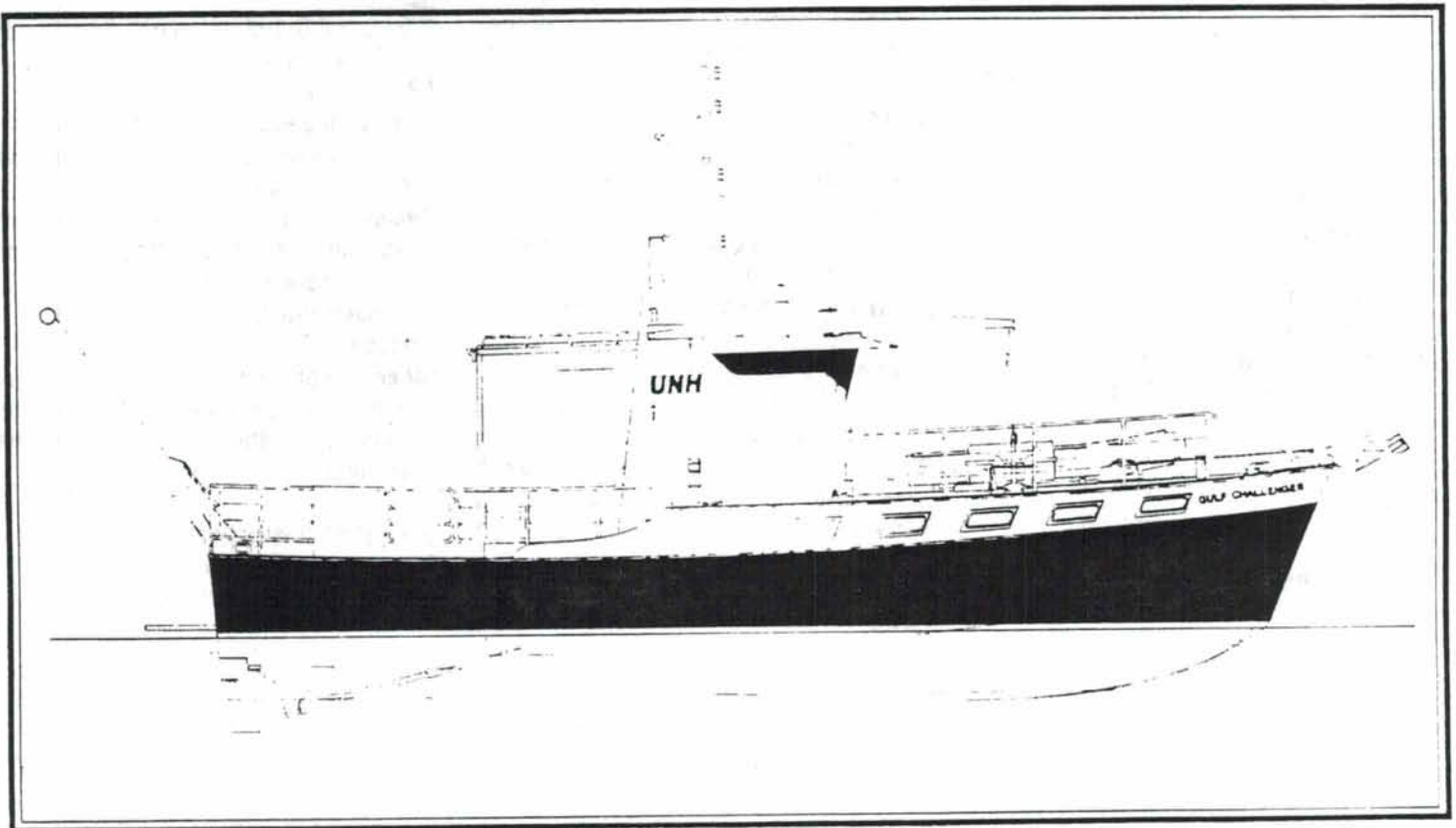
CALANUS: Successful beyond expectation, excellent cooperation (6).

Appendix V

R/V Gulf Challenger

The University of New Hampshire's ***R/V Gulf Challenger*** is a 50-foot, aluminum research vessel capable of over 20 knots. It is built to meet current and future research and education needs in the Gulf of Maine and beyond. The new vessel is designed to provide a safe and stable platform suitable for estuarine and coastal research out to 100 miles. It is one of the fastest research vessels operating in the Gulf. This allows researchers to spend more time at their research site and less time in transit. Funded in part by a grant from the National

Oceanic and Atmospheric Administration, the ***Gulf Challenger*** was designed with input from marine researchers, educators, and other research vessel operators. The deck area and the laboratory can easily accommodate a variety of endeavors and a full range of equipment. Diving operations are facilitated by a water level recess at the transom. To support its dual mission of research and education, the ***Gulf Challenger*** is equipped to deploy a range of scientific equipment. A very quiet vessel, it is also well suited to lectures and demonstrations.



R/V Gulf Challenger

Contact

Jackson Estuarine Laboratory
University of New Hampshire
85 Adams Point Road
Durham, N.H. 03824-3406
(603) 862-2175
(603) 862-1101 (fax)

General Information

Call sign: WBY6543

Document or registration number:
993371

Class/type construction: aluminum, USCG
Subchapter T

Home port: Portsmouth, N.H.

Primary use of vessel: research and
education

Operating fee: varies depending on type of
cruise, call for price schedule

Crew: licensed captain and one deckhand

Passengers: 43 (day trips), 7 (overnight)

Berths: 9

Fresh water: 325 gal.

Endurance: approx. 5 days

Designer: Roger Long Marine

Architecture, Inc., South Portland, Maine

Builder: Gladding-Hearn Shipbuilding,
Somerset, Mass.

Launch date: August 10, 1993

Characteristics

Length: 50 ft.

Beam: 16 ft.

Maximum height: 30 ft.

Minimum clearance required: 17 ft. with
mast and antennas lowered

Displacement: 25 tons

Draft: 5 ft.

Fuel: diesel

Fuel capacity: 1100 gal.

Cruising speed: 18 kt.

Maximum speed: 22 kt.

Minimum speed: 2 kt.

Fuel consumption (approx.):

Main engines off — 1 GPH

8 kt. — 5 GPH

10 kt. — 11 GPH

15 kt. — 33 GPH

18 kt. — 43 GPH

20 kt. — 52 GPH

Range (approx.):

8 kt. — 1760 nautical mi.

10 kt. — 980 nautical mi.

18 kt. — 460 nautical mi.

Equipment

Main propulsion: Twin Detroit Diesel 8V-
92TA-DDEC, 600 BHP each at 2100 rpm

Number of shafts: 2

Ground tackle: 85-lb. Fortress anchor,
200-lb. Baldt Navy anchor, folding kedge
anchor, Ideal anchor windlass with
wildcat and winch head

Electronics

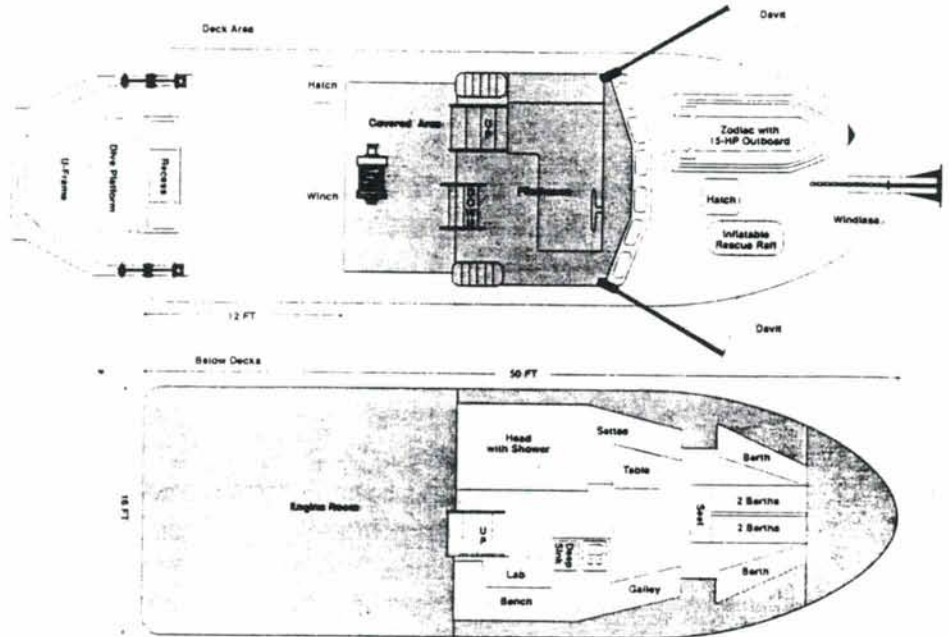
Loran: RAYNAV 580 Loran-C

GPS: RAYSTAR 390

Radar: Raytheon R41X with RAYCHART
600 Chartview System

Depth sounders: Raytheon V8010 video,
Furuno FE881 paper

Radios/communications: VHF-FM, SSB,
cellular phone, portable VHF-FM



Working deck space: fantail, 240 sq. ft.,
with bolt pattern for temporary add-ons
and outlets for hydraulics as well as 120
and 220 VAC

Laboratory: approx. 6' x 8' below deck,
with deep sink, running sea water, bench,
window to work deck, cable runs,
unistrut

Meteorological equipment: barometer,
anemometer, thermometer

Utility vessels/tenders: 14' inflatable with
15-HP outboard

U-frame, davits: transom mounted 6000-
lb. capacity hydraulic U-frame; two 750-
lb. capacity davits, forward

Winches: hydraulic deck winch with winch
head (3000-lb. pulling capacity)

Wire rope: 1000 ft. of 1/4" dia. stainless,
2000-lb. safe working load

Electric power: 12 and 24 VDC, 110/220
VAC

Auxiliary generators: one Northern Lights
8.5 KVA, one 2500-watt inverter

Safety

U.S. Coast Guard inspected: Subchapter
T, Ocean route (out to 100 mi.)

EPIRB: Category I

Fire fighting equipment: deck hose,
portable extinguishers, fixed CO₂ system
in engine room

Design: stability in excess of Coast Guard
requirements, ice-strengthened bow for
winter operations, double bottom
between stringers, 1 compartment
floodable

Other: life ring with light and line attached,
45 adult and 5 childrens life jackets with
lights and whistles, 50-person inflatable
rescue platform, flares

Navigation Restrictions

Season: no restrictions

Geographic region: Northeast U.S.

Appendix VI

Control of Pollution and Hazardous Materials Workshop

Minutes of the Workshop on Control of Pollution and Hazardous Materials meeting at the RVOC meeting in Galveston, Texas, October, 1993. Chairing the meeting were Steve Rabalais (LUMCON) and Tim Askew, Harbor Branch.

A proposal was submitted to UNOLS by George Ireland to prepare a generic spill response plan for OPA 90. It was determined through conversations with the U.S. Coast Guard that OPA 90 regulations apply only to bulk carriers and shore facilities transferring fuel to vessels with a capacity of 10,000 gals. or more. Therefore, no UNOLS vessel contingency plans are needed for compliance with OPA 90 regulations. Tank trucks are required to have record of contingency plans when delivering fuel and UNOLS operators should confirm truckers compliance with regulations before accepting their service. Also, operators with shore based facilities servicing vessels with a capacity greater than 10,000 gals. are required to have contingency plans accepted by the Coast Guard.

Some states such as Florida, Maine, and Washington have regulations that do apply to UNOLS vessels. Operators should be aware that state regulations do supersede OPA 90 regulations.

MARPOL regulations require that all vessels over 400 gross tons must have a shipboard oil emergency plan before April 1995. Guidelines for these plans have not been distributed by MARPOL, but it is expected that they will be very similar to the OPA 90 regulations.

It was recommended that a subcommittee of the Safety Committee be formed to prepare a generic spill response plan for our vessels that comply with upcoming MARPOL regulations. Skip Owens indicated that he could provide a copy of the vessel specific plan for the Nathaniel B. Palmer, for the subcommittee to use as a template. Several of the operators from Florida have plans that fulfill state regulations, these also could be used by the subcommittee. It was also recommended that UNOLS ask George Ireland to survey all coastal states including the Great Lakes for state regulations. Some operators also felt that UNOLS/RVOC should approach spill response corporations to determine contract requirements and costs. Most operators felt that prevention should be the major thrust of our plan.

Oil Spill Prevention Summary:

1. RVOC should form a subcommittee of the Safety Committee to formulate a generic plan to meet MARPOL regulations. In addition ancillary information should be provide to aid operators in the preparation of their vessel specific plans. UNOLS might consider reviewing operators plans for compliance.

2. Apart from specific state regulations, UNOLS appears to be exempt from OPA 90 regulations. But, we should make a good faith effort to train our personnel and provide the equipment necessary to combat the release of oil and petroleum products into the environment. This can be accomplished by :

- a. Making oil spill prevention a Safety Committee issue.
- b. By preparing an oil spill contingency plan that can be used by Operators attempting to comply with MARPOL regulations.
- c. Providing a fleet wide contract for oils spill activities.

Handling of hazardous materials was also discussed. Workshop members felt that a letter should come directly from the UNOLS chair to the scientists, outlining the chief scientist's responsibilities for a generic chemical hygiene plan and stressing the new safety standards which require spill response materials to be brought aboard by the scientists. This does not alleviate the responsibility of the operators for providing basic spill response materials, but it ensures that appropriate spill response materials are brought aboard the ship for more exotic chemicals. It was suggested that compliance with the Safety Standards regarding hazardous materials be recorded in the Captain's Post Cruise Assessment. Some of the operators suggested that the Research Vessel Safety Standards be modified to include a chemical spill response locker for ships. Some operators also felt very strongly that the scientists who were representatives of UNOLS should formulate a list of "banned" chemicals such as Osmium tetroxide, which are extremely hazardous and should never be brought aboard ship. This would provide both knowledge and leverage to the operators, who for the most part, are not knowledgeable about the chemicals that are in use aboard their ships.

Appendix VII



*Lamont-Doherty
Earth Observatory
of Columbia University*

P.O. BOX 1000 / RT 9W / PALISADES, NY 10964-8000 USA / 914-359-2900

4 January 1994

Mr. J. Michael Prince
Chairman, RVOC
Moss Landing Marine Laboratories
P.O. Box 450
Moss Landing, CA 95039-450

Dear Mike:

On 27 October 1993 a Crew Compensation Workshop was held at the Annual RVOC Meeting. Our purpose was to address in a more formal and organized manner the "community norms" for crew compensation as requested by Dr. Don Heinrich's in his letter to you dated 11 March 1993.

The participants in this workshop are listed in enclosure 1.

As a basis for discussion a questionnaire was sent out before the conference. This questionnaire is attached as enclosure 2. By the time of the workshop we had received 100% response from operators of Class II and III vessels and approximately 70-75% from operators of Class IV and V vessels.

The discussion included adequacy of crew compensation, crew rotation policies, cost control measures, overtime practices, institutional differences, and practices we could initiate to improve personnel management within the UNOLS fleet.

The key points made in these discussions were as follows:

1. All the institutions have evolved in a different manner. Personnel policies for the marine departments, as they relate to the total package of crew compensation costs, are generally dictated by factors outside the institution's marine department. We addressed "community norms" and found:
 - a. With regards to salaries, the levels of compensation are typically controlled by either state regulations or policies, private institutional policies, or union agreements. In some instances it was a combination of two of the above factors.
 - b. While the controlling policies and practices vary, there are also varying types of salary increases. The three common types of pay increases come in the form of annual increase, longevity increases, and sea pay bonuses. There was no common denominator as far as the size of the annual increase and in fact at some institutions pay increases have been frozen as of late. Not all institutions offer longevity increases and there are significant differences among those institutions offering longevity increases as far as when they are given and what the percent increase is. Sea pay bonuses have similar variations as far as what crew positions receive it, how much it is, and how many days you have to be at sea to receive it.

c. Overtime is typically paid for work in excess of 8 hours, weekend underway periods, and holidays underway. Typically, work in excess of 8 hours is used in support of science or for shipboard maintenance. Not all institutions pay overtime for weekends underway. Finally, the number of institutionally authorized holidays vary, from 10-14.

d. In lieu of overtime several institutions offer "comp " time which is compensatory (paid) time off. For those institutions offering "comp " time, it is typically accrued for work excess of 8 hours or when underway on a weekend.

e. Vacation varies from accrual policies set by states or institutions to those contained in collective bargaining agreements. The number of days accrued can vary from a standard monthly accrual to the accrual of additional days for cruises of extended duration.

f. Policies on rotation of crew vary. All Class II vessels have a rotation policy. The shortest period of rotation is after 2 1/2-3 months for more senior positions; the longest duration being after 6 months for more junior positions.

g. Fringe rates and the associated benefits varied significantly. Once again the level of benefits is governed by state policies and regulations, institutional policies, and union contracts. The most frequently mentioned benefits included- medical insurance, dental coverage, vision, retirement, disability, unemployment, life insurance, Medicare, and tuition remission. There was no attempt to examine these costs in terms of size of the different institutions nor state regulated areas of coverage e.g. unemployment.

In the end we found there is no institutional model.

2. The institutions represented in this workshop felt their crews were generally adequately compensated with isolated instances in which specific positions are under compensated.

3. Efforts have been made at cost control, with the major emphasis on limiting or capping overtime. Other efforts have included a change of longevity policy for salary increases. It was noted that while capping overtime controls costs, it presents morale problems particularly on ships making extended voyages. During these extended voyages it is important to keep personnel occupied and productive. This has been accomplished in the past by personnel performing ship's maintenance and thereby accruing overtime.

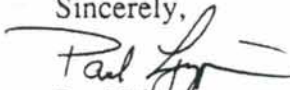
4. Some economies in crew costs can be realized by institutions cooperating in the employment of one another's crew as relief personnel in much the same manner as institutions operating two or more vessels. While liaison between the various marine offices exists for exchange of relief crews, a greater effort needs to be made to seek qualified relief crew from other institutions. An ideal opportunity exists when an institution's ship is laid up.

5. Most operator's annual schedules have out of service/maintenance periods of varying duration spaced among operational cruises throughout the year. If these out of service/maintenance periods could be consolidated and the operational periods could be consolidated, the potential exists for reduction in crew costs. The consolidation of inport periods would afford the opportunity to grant vacation or shore leave and reduce the onboard crew complement without the expense of hiring and transporting relief personnel (It was also noted that by having extended inport periods many vessels could

reduce their P&I premium by claiming Port Risk.). The potential savings from consolidated inport periods may vary depending on the location in which the layup occurs. This type of schedule maybe beyond the ability of the operators to implement, since cruises are sometimes of a seasonal or time sensitive nature or there maybe some other reason resulting in a lack of flexibility on the part of the Chief Scientist e.g. equipment availability.

As you may well imagine, when we discussed the various crew compensation issues questions arose which resulted in our digressing into other areas of mutual interest and concern such as insurance and travel. The final conclusion for all the participants was that the workshop was beneficial and that there is much more to be gained by continuing this workshop in the future. The scope of a future workshop should be expanded to include the other elements which comprise the Ship Operation's Budget.

Sincerely,



Paul Ljunggren

enclosures

cc: Thomas Althouse, SIO
Joe Coburn, WHOI
William Coste, Univ. of Hawaii
William Hahn, Univ. of Rhode Island
Robert Hinton, Univ. of Washington

**Crew Compensation Workshop
Participants**

| | |
|-------------------|--------------------------------------|
| Thomas Althouse * | Scripps |
| Lawrence Burch | University of Connecticut |
| Joe Coburn* | Woods Hole Oceanographic Institution |
| William Coste* | University of Hawaii |
| E.R. Dieter | NSF-OCFS |
| William Hahn* | University of Rhode Island |
| Robert Hinton* | University of Washington |
| William Keefe | University of Maryland |
| Paul Ljunggren* | Columbia University |
| Kathy Macpherson | Science Center of Connecticut |
| Martin Mulhern | NOAA Corps Operations |
| Dennis Nixon | University of Rhode Island/UNOLS |

*RVOC Member

Crew Compensation Questionnaire

1. Based on the figures contained in your 1994 Ship Ops Proposal show the following Crew costs for 1992, 1993, 1994:

| Crew Costs | 1992 | 1993 | 1994 |
|--------------------|-------|-------|-------|
| Salaries | _____ | _____ | _____ |
| OT/Leave(total) | _____ | _____ | _____ |
| Fringe | _____ | _____ | _____ |
| Total cost | _____ | _____ | _____ |
| Operating Days | _____ | _____ | _____ |
| Cost/Operating Day | _____ | _____ | _____ |

For each of the above years what percentage of the salary is OT/Leave?

For each of the above years what percentage of the salary line in fringe?

2. Please provide the following information:

- List your crew structure in the first column.
- Required license is the minimum licensing or merchant marine document requirements for the position for example Third Mate Unlimited Gross Tons.
- Number is how many of that type of shipboard position(for example you may have 4 AB's).
- Salaries: refers to the annual salaries you are paying by billet assignment. In the case of more than one person performing the same job list the average pay.
- Overtime is the average overtime earned by that position for a seven day period.
- Sea Pay Bonus just indicate those positions receiving a Sea Pay Bonus.

R/V _____

| Position | Required License or Document (e.g. tonnage, hp) | Number | Salary | O/T | Sea Pay Bonus |
|----------|---|--------|--------|-------|---------------------|
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ |

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3. What types of pay increases do your personnel get:

- Annual? Yes No
- How is the level of annual increase normally established?
- Do personnel receive longevity increases? Yes No What is the policy?
- Automatic raise in pay as a sea pay bonus? Yes No How is it determined?

4. Are there other elements which affect the salary line of your budget? Yes No If yes, what are they ?

5. Overtime:

- Is overtime paid for holidays worked? Yes No How many holidays?
- How do you plan/project your overtime?
- For each of your positions what is the average overtime earned for a seven day period?
- Do personnel receive other forms of compensation in lieu of overtime? Yes No If yes, what are the other forms of compensation and who gets it?

6. How is vacation accrued by the various positions on board your vessel? Can vacation be cashed out? _____ Yes _____ No If so at what ratio?

7. What are the fringe benefits earned by shipboard personnel that must be budgeted for in your Ship Ops Proposal?

If you have a fringe rate set by your institution what is it? _____%

8. Are there any other forms of compensation which your crewmembers receive and are not addressed by the above questions? Where is this included in your budget?

9. Do you have a crew rotation policy? If so what is it?

10. What is/are the primary factors which determine your pay and benefits policies (unions, institutional/state requirements, market analysis, Marine Superintendent/Operations Manager)

11. Do you think your pay scale is too high, too low, or just right?

12. If you had no constraints, what would you do to improve your particular crew compensation concerns?

13. What do you think could be done to reduce your overall crew costs, if anything?

14. Can suggest any crew cost saving measures or practices that could be adopted by the UNOLS fleet?

1994 Crew Costs-Class II

| | Melville | Knorr | Atlantis II | Ewing | Thompson | Moana Wave | |
|--|-------------|-------------|-------------|-------------|-------------|------------|--|
| | | | | | | | |
| Salaries | \$1,008,431 | \$811,097 | \$807,137 | \$856,069 | \$836,575 | \$541,584 | |
| OT/LV | \$445,529 | \$862,957 | \$881,264 | \$762,419 | \$483,031 | \$278,180 | |
| Fringe | \$277,108 | \$444,655 | \$442,414 | \$369,193 | \$356,293 | \$136,884 | |
| Total Cost | \$1,831,068 | \$2,118,709 | \$2,130,815 | \$1,987,681 | \$1,675,898 | \$956,648 | |
| Operating Days | 304 | 259 | 309 | 300 | 280 | 250 | |
| Crew cost per Opting Day | \$6,023 | \$8,180 | \$6,896 | \$6,626 | \$5,985 | \$3,827 | |
| OT/LV as % of Salary | 44.18% | 106.39% | 109.18% | 89.06% | 57.74% | 51.36% | |
| Fringe as % of Salary | 27.48% | 54.82% | 54.81% | 43.13% | 42.59% | 25.27% | |
| Total crew | 21 | 23 | 24 | 22 | 21 | 13 | |
| Ave. \$ per crewmember per operat'g day | \$287 | \$356 | \$287 | \$301 | \$285 | \$294 | |
| Note if subcontracted RO is included on Ewing and Thompson at respective rates - Ewing \$303 Thompson \$286 | | | | | | | |

1994 Crew Costs- Class V RV's

| | Blue Fin | Laurentian | Barnes | Calanus |
|--|-----------|------------|----------|----------|
| Salaries | \$75,000 | \$0 | \$36,514 | \$12,303 |
| OT/LV | \$5,000 | \$0 | \$3,641 | \$5,522 |
| Fringe | \$21,000 | \$0 | \$10,443 | \$5,630 |
| Total Cost | \$101,000 | \$0 | \$50,609 | \$23,455 |
| Operating Days | 120 | 0 | 75 | 42 |
| Crew cost per Op'ting Day | \$842 | \$0 | \$675 | \$558 |
| OT/LV as % of Salary | 6.67% | 0.00% | 9.97% | 44.88% |
| Fringe as % of Salary | 28.00% | 0.00% | 28.60% | 45.76% |
| Total crew | 2 | 0 | 1 | 2 |
| Ave. \$ per crewmember per operat'g day | \$421 | \$0 | \$675 | \$279 |

Appendix VIII

MINUTES OF THE 1993 RVOC WORKSHOP ON
SHIP LAY-UPS, UTILIZATION AND FUTURE NEEDS

The following people participated in this workshop:

Mike Prince, Moss Landing Marine Labs
Ken Palfrey, Oregon State Univ.
Quentin Lewis, Duke Marine Lab
Lee Black, Bermuda Bio. Sta.
Jack Bash, UNOLS office
Bill Clark, U. of Hawaii
Waddy Owen, U. of Del.
June Keller, ONR
Steve Wheeler, USCG
Tom Cocke, State Dept.

Written input was received from Bill Coste, Ken Palfrey, Joe Coburn, Waddy Owen, Quentin Lewis, Robert Hinton, Paul Ljunggren, Tim Askew, Tom Smith & Bill Hahn.

The group formulated the following working agenda at the meeting:

Discussion of scheduling parameters

- Optimum # of days per class of vessel
- Definition of Operating days
- Scheduling Cycle

Ship lay-up policy and procedures

- Rotational lay ups
- Multi year scheduling cycle
- Refits vs lay-ups
- scheduling process
- 1987 RVOC position letter, need for revision?

Fleet Mix and Distribution

- # of ships in each class
- rotation of vessels
- over capitalization of the fleet
- new vessels
- Intermediate ship "problem"

The workshop group began by reviewing the pertinent issues and agreeing on the above agenda. The rationale behind the agenda is that the issues of optimum days and what are counted as operating days have a direct bearing on whether or not a particular research vessel is being efficiently utilized and therefor whether or not it is a candidate for Lay-up. The other driving force behind lay-ups is of course the amount of money available to support the fleet.

We reviewed the written comments from operators and there was some general discussion about fleet mix, distribution and whether or not there was a problem that needed fixing.

OPTIMUM # OF DAYS

Specific discussion took place, based on data provided by the operators, concerning what the optimum schedule was for each class of vessel. Input was fairly complete for the large and the larger class IV vessels (regional/coastal). The input on Intermediates was less complete and non-existent for the small vessels. Graphs were used to look at the range between minimum, optimum and maximum schedules for each class of vessel. The first cut conclusion was that large ship operators view 300 day schedules closer to optimum than the existing number of 270. The Moana Wave was the only vessel that stuck with the 270 number. The intermediate ship operators appear to be satisfied with the 250 number, although we did not have input from all operators. The Class IV vessels had a larger spread, but were mostly in the 200 or fewer days range. This depends to a large degree on the operating profile. When the vessel makes 30 - 50 trips in a year then the number becomes 200 or less. When the vessel operates more like an intermediate with fewer trips of longer duration as has been the case for the CAPE HATTERAS in the past then the old number of 220 days may still be valid.

We concluded that changing these numbers in any published letter is of sufficient importance that operators should be given a chance to reconsider their analysis and the numbers they have provided and that we should base the final number on input from all operators. Therefore, we will send out the initial results with these minutes to all the operators and ask them to re-evaluate their input and submit them again with any comment on final determination. Of particular concern is the possible ramification of stating that the large ships must operate with 300 day schedule in order to be considered operating at optimum efficiency. With more larger ships, all operating at 300 day schedules there is a real potential for all the ship support money to be eaten up by these ships. Another point that should be clarified is the working definition of "optimum schedule".

RECOMMENDATION: Solicit review and revised input from operators, formulate definition of optimum days for each class and submit to UNOLS Council after approved by entire RVOC.

DEFINITION OF OPERATING DAYS:

We had a lengthy discussion concerning the definition of operating days or chargeable days and the impact that definition has on vessels that operate primarily out of their home port. As a start, several opinions were expressed that certain types of activities that are in direct support of science are not accounted for either in terms of the scheduling process or in terms of what can be used to determine the daily rate and/or chargeable activities. Some examples of activities that are not accounted for are:

Loading and unloading days; no longer are these limited to the day of departure or even one day before and one day after a cruise. Some projects require several days of loading and some require the science party to stay on board for a period and use the ship as a lab at the end of their cruise.

Weather days; this includes days that the scientist includes in their planning and end up not using because of good weather and it includes days where the ship is loaded and ready to go and then waits in port for the weather window.

Scientific equipment failures that require the vessel to return to home port and wait for their equipment to be repaired. If this lasts through a full calendar day then the ship cannot charge under current definitions.

Unused days that have been scheduled. These include just plain coming in early because they did not need all the time scheduled, shortening the cruise because they cannot afford the longer cruise originally planned or other reasons unrelated to the availability of the R/V, and worst of all, short notice complete cancellations for any number of reasons.

The impacts of these various items on the schedule and the budget of Research Vessels is varied. A list of these impacts are:

Schedules show "low" number of days when in reality the vessel is dedicated to science for a much greater period of time. Because the vessel is operating from its home port the only days that are reflected as supporting science are those days actually underway. This affects whether a vessel is perceived as fully utilized and efficient or as under utilized.

Daily Rates which affect what other users are charged are artificially high compared to vessels that can charge for inport days in ports other than home port.

Daily rates are driven up by cancellations, unscheduled time in home ports and shortening cruises which causes the cost to go up for other users.

Planning for maintenance, crew time off, scheduling other users that need time, etc. is affected.

There was some discussion about conducting scheduling on a longer cycle than one calendar year so that peaks and valleys in the schedule would not affect the daily rate in such a dramatic way from one year to the next. This concept was also suggested with regard to scheduling lay-ups or shipyard availability periods on a rotating basis.

RECOMMENDATIONS:

Define some other types of operating days and begin by showing them on schedules and accounting for them in the scheduling and reporting process.

After some trial with accounting for these days, attempt to have them officially recognized by the funding agencies and OMB and used them in some method of billing and budgeting purposes.

Consider charging partial day rates (1/2 day) for loading, unloading, weather, and canceled days in home ports.

SHIP LAY-UP POLICY:

We did not have a lot of time to discuss this issue. Some of the written input indicated that the policy as stated in 1987 was basically sound but several people questioned whether it had any real affect. For this reason these same people questioned the

need to rewrite the RVOC letter. However, there were several comments, written and during our discussions, that indicate a feeling that the status quo method for laying up ships to deal with shortfalls in funding for science and ship operations is not the best answer, especially if the need to lay-up intermediate or large vessels continues at the same level or greater. As one person commented, we are placing the burden of having more ship capacity than demand on the backs of the crew members. Another issue that was debated, both in written comments and in workshop discussions, is the amount of money that can be saved by laying up ships for one year or shorter periods and still maintain those vessels in a ready to go status. The consensus is that you only gain a marginal savings unless you put a ship in a cold lay-up or you put it into a scheduled maintenance status for which you already have funding. There were several suggestions that planning the cycles of larger and intermediate ships would be better served by a multi-year cycle that included a planned downtime of several months that would be used for crew vacation time and scheduled maintenance. These scheduled downtimes would be co-ordinated among vessels of the same class through the scheduling process so that peak periods of science were adequately covered and cost savings could be achieved to accommodate budget needs.

Because we did not have time to completely discuss this subject and because there seems to be several viable suggestions for improving the scheduling of lay-ups we decided that the workshop group should continue to examine this issue and possibly formulate a new set of recommendations from RVOC.

RECOMMENDATION: The workshop group will continue to examine the issue of ship lay-ups and formulate via electronic mail a revised policy statement to be considered by the entire RVOC. We will seek input from RVOC and others during this process.

FLEET MIX AND DISTRIBUTION

Even less organized discussion was held on this subject. Again there were some written comments and comments during our discussion, however, there was no attempt to formulate any major recommendations. Some concern was expressed that the UNOLS fleet continues to grow in terms of the size of its vessels. All those vessels already under construction or planned for the future are 270 feet or greater in length. There will be a net increase of one or two large ships depending on the outcome of the Arctic Ice Breaker.

The Intermediate vessels are currently perceived as being overcapitalized for the demand, especially on the east coast. Part of this may be attributed to the fact that they are intermediate vessels. They lose work to larger vessels when the larger vessels become plentiful, as they have in recent years, because scientists that do not have to pay for ship time directly from their own budgets will seek the largest vessel they can get. Intermediates also lose work to smaller vessels that can handle the same type of work for less money. Consequently these vessels seem to act as the spring in the scheduling process. They seem to be the most affected by an overall shortage of funding.

There is a sense that there will continue to be a need for small coastal vessels, especially if the highly touted increase in coastal marine science becomes a funding reality. The problem with this size vessels is the perception that vessels costing \$3000/day are needed rather than the \$5-7K cost of UNOLS vessels. The use of private vessels always presents a competitive challenge for UNOLS vessels.

The question of whether or not vessels could be rotated to different locations in order to accommodate geographic shifts in demand was addressed. It was agreed that this has been done and could be done again as long as it was not permanent, the operator maintained control and the cost of shifting the vessel could be covered. As stated, this has been done in the past. With the large vessels it is done routinely, where vessels from one ocean transit and work in other oceans for extended periods of time. In the case of intermediates and small vessels the shifts have usually been of lesser duration and over shorter distances. As examples: vessels from the east coast have gone to Bermuda to cover for the WEATHERBIRD and vessels have been stationed in the Gulf of Maine for various periods. The WECOMA, NEW HORIZON and the ALPHA HELIX have gone to Hawaii to support local programs there. The COLUMBUS ISELIN and other intermediates have been willing to venture into the Pacific Ocean.

The issue of long term or permanent changes of home port and even operators for vessels is a much more complex issue and one that could never be tackled by the RVOC without risking the overriding goals of the organization. The only contribution we might make in that area would be to possibly provide information on alternative courses of action or highlight the pros and cons of a specific proposal. The actual permanent changes in the distribution and mix of the fleet have come about either by the actions of funding agencies or by the somewhat unilateral actions of individual institutions. The funding agency actions include the assignment of charters to certain institutions for new vessels and in some cases changing the charterer of existing vessels. The individual institutions affect the mix by either going forward with plans to bring a vessel into the fleet or by choosing to no longer operate a vessel. The actions of USC with the VICKERS are examples of both actions, that had a direct impact on the composition of the fleet. The wild card when we start talking about making direct actions to change the fleet will be the response of the affected institutions and their elected representatives. For all of these reasons the role of RVOC with regards to fleet mix and distribution should probably be limited to making recommendations on how to best utilize the existing fleet.

RECOMMENDATION:

All operators with potential weak schedules should consider the possibility of shifting to other areas of operation for extended periods to cover for geographic imbalance. They should also consider other methods to keep their vessels fully employed through charters to other organizations or they should consider methods to operate their vessels for shorter seasons with real cost savings during the off periods.

The only recommendation concerning new vessels is that funding agencies should ensure that there is sufficient funding for any net increases in the fleet that they may perpetuate through their actions.

Appendix IX

| RVOC SAFETY STATISTICS | | | | | | | | | | | | | Date: | 10/24/93 | | | | | | | |
|------------------------|-----------|-------|-------|-----------|-------|-------|----------|-------|-------|----------|-------|-------|--------------|----------|-------|-----------------|-------|-------|---------|--|--|
| PAST DATA | | | | | | | | | | | | | CURRENT DATA | | | CUMULATIVE DATA | | | | | |
| | At Sea | | | In Port | | | At Sea | | | In Port | | | At Sea | | | In Port | | | | | |
| | Crew-days | LTA's | LTA's | Crew-days | LTA's | LTA's | Crew-day | LTA's | LTA's | Crew-day | LTA's | LTA's | Crew-day | LTA's | LTA's | Crew-day | LTA's | LTA's | | | |
| Bermuda B. S. | 632 | 0 | 0 | 282 | 0 | 0 | | | | | | | 632 | 0 | 0 | 282 | 0 | 0 | | | |
| Duke | 900 | 0 | 0 | 336 | 0 | 0 | | | | | | | 900 | 0 | 0 | 336 | 0 | 0 | | | |
| Lamont | 2274 | 2 | 0 | 1064 | 0 | 0 | 1672 | 0 | 0 | 352 | 0 | 0 | 3946 | 2 | 0 | 1416 | 0 | 0 | | | |
| Moss Landing | 846 | 0 | 0 | 486 | 0 | 0 | 1242 | 1 | 1 | 459 | 1 | 1 | 2088 | 1 | 1 | 945 | 1 | 1 | | | |
| Oregon State U. | 1755 | 1 | 0 | 637 | 0 | 0 | 2574 | 0 | 0 | 1034 | 0 | 0 | 4329 | 1 | 1 | 1671 | 0 | 0 | | | |
| Scripps | 4739 | 3 | 1 | 2621 | 1 | 1 | 8031 | 2 | 2 | 2889 | 0 | 0 | 12770 | 5 | 5 | 5510 | 1 | 1 | | | |
| Skidaway | 132 | 0 | 0 | 140 | 0 | 0 | 237 | 0 | 0 | 178 | 0 | 0 | 369 | 0 | 0 | 318 | 0 | 0 | | | |
| Texas A&M | 482 | 0 | 0 | 99 | 0 | 0 | 882 | 0 | 0 | 144 | 0 | 0 | 1364 | 0 | 0 | 243 | 0 | 0 | | | |
| U of Alaska | 932 | 0 | 0 | 317 | 0 | 0 | 1064 | 0 | 0 | 674 | 1 | 1 | 1996 | 0 | 0 | 991 | 1 | 1 | | | |
| U of Hawaii | 1703 | 0 | 0 | 689 | 0 | 0 | 2613 | 0 | 0 | 936 | 0 | 0 | 4316 | 0 | 0 | 1625 | 0 | 0 | | | |
| U of Miami | | | | | | | 1808 | 0 | 0 | 1104 | 0 | 0 | 1808 | 0 | 0 | 1104 | 0 | 0 | | | |
| U of Michigan | 149 | 0 | 0 | 328 | 0 | 0 | | | | | | | 149 | 0 | 0 | 328 | 0 | 0 | | | |
| U of Wash | 3790 | 0 | 0 | 634 | 0 | 0 | 4912 | 9 | 9 | 490 | 0 | 0 | 8702 | 9 | 9 | 1124 | 0 | 0 | | | |
| URI | 972 | 2 | 0 | 1236 | 0 | 0 | | | | | | | 972 | 2 | 2 | 1236 | 0 | 0 | | | |
| LSC | 1918 | 1 | 0 | 784 | 0 | 0 | | | | | | | 1918 | 1 | 1 | 784 | 0 | 0 | | | |
| WHOI | 5961 | 0 | 0 | 3867 | 0 | 0 | 9050 | 1 | 1 | 7010 | 0 | 0 | 15011 | 1 | 1 | 10877 | 0 | 0 | | | |
| TOTALS | 27185 | 9 | 1 | 13520 | 1 | 1 | 34085 | 13 | 13 | 15270 | 2 | 2 | 61270 | 22 | 22 | 28790 | 3 | 3 | | | |
| Accident rates: | | | | | | | | | | | | | At Sea | | | In Port | | | Overall | | |
| | | | | | | | | | | | | | 5.52 | | | 1.85 | | | 4.60 | | |
| Institutions Reporting | | | | | | | | | | | | | 11 | | | | | | | | |
| Accident rates: | | | | | | | | | | | | | At Sea | | | In Port | | | Overall | | |
| | | | | | | | | | | | | | 5.98 | | | 2.61 | | | 5.18 | | |

Appendix X

RVOC Directory
November 1, 1993

| Name | Institution | Tel. No. / Fax No. | Telemail | Internet |
|-------------------|-----------------|------------------------------|-----------------|---------------------------------|
| Gene Allmendinger | UNH | 603-868-2684 | - | - |
| Tom Althouse | SIO, UCSD | 619-543-1643 619-534-1635 | SCRIPPS.MARFAC | talthouse@ucsd.edu |
| Tim Askew | Harbor Branch | 407-465-2400 407-465-2446 | HBOI.SHIPS | |
| Lee Black | Bermuda,BBS | 809-297-1880 809-297-8143 | BDA.BIOSTATION | |
| Joe Coburn | WHOI | 508-548-1400 508-540-8675 | WHOI.SHIPS | jcoburn@whoi.edu |
| Bruce Cornwall | U of Maryland | 410-326-7243 410-326-6342 | CHEASAPEAKE.BAY | |
| Bill Coste | U of Hawaii | 808-848-2661 808-848-5451 | UH.SNUG.HARBOR | snug@soest.hawaii.edu |
| Don Gibson | U of Texas | 512-749-6735 512-749-6777 | T.WHITLEDGE | |
| Linda Goad | U of Michigan | 313-763-5393 313-747-2748 | T.MOORE | linda.goad@umich.edu |
| Bill Hahn | URI | 401-792-6203 401-792-6574 | RHODE.ISLAND | |
| Robert Hinton | U of Washington | 206-543-5062 206-543-6073 | R.HINTON | Hinton@ocean. washington.edu |
| Ron Hutchinson | U of Miami | 305-361-4880 305-361-0546 | R.HUTCHINSON | |
| Lee Knight | Skidaway | 912-598-2486 912-598-2751 | D.MENZEL | |
| Dean Letzring | Texas A & M | 409-740-4469 409-740-4456 | RV.GYRE | |
| Quentin Lewis | Duke | 919-728-2111 919-728-2158 | DUKE.UNC | |
| Paul Ljunggren | LDEO | 914-365-8845 914-359-6817 | LAMONT.SHIP | marsupt@ldeo .columbia.edu |
| Eugene Olson | FIO | 813-893-9100 813-893-9109 | J.OGDEN | |
| Waddy Owens | U of Delaware | 302-645-4320 310-645-4006 | W.OWEN | |

| | | | | |
|----------------|--------------|------------------------------|----------------|------------------------------|
| Ken Palfrey | OSU | 503-867-0224 503-867-0294 | OSU.SHIPS | |
| Mike Prince | Moss Landing | 408-633-3534 408-633-4580 | MLML.SHIPS | Prince@MLML .CALSTATE.EDU |
| Steve Rabalais | LUMCON | 504-851-2808 504-851-2874 | LUMCON | |
| Tom Smith | U of Alaska | 907-224-5261 907-224-3392 | T.SMITH.UAF | |
| Entire RVOC | | | RVOC.OPERATORS | |