

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS COUNCIL MEETING
July 12, 13, 1990
Grand Haven, Michigan

UNOLS Council members, representatives from NOAA, NSF, ONR, Office of the Oceanographer, Department of State and the University Michigan Center for Great Lakes and Aquatic Sciences met in Grand Haven, Michigan on July 12, 13, 1990. The meeting was called by George Keller, Chair, at 8:30 a.m., each day. Items on the Agenda (Appendix I) were addressed in the order presented herein.

ATTENDEES:

UNOLS COUNCIL

George Keller, UNOLS Chair
Tom Johnson, UNOLS Vice Chair
Larry Atkinson
Peter Betzer
Feenan Jennings
Tom Malone
Art Maxwell
Worth Nowlin
Mike Rawson
Jim Williams

OBSERVERS, PARTICIPANTS

Tom Cocke, DOS
Pat Dennis, OON (JOI)
Don Heinrichs, NSF
Keith Kaulum, ONR
Steve Ramberg, ONR
Bill Stubblefield, NOAA
Austin Yeager, NOAA

Ted Moore, Director, University of Michigan, Center for Great Lakes and Aquatic Sciences, welcomed the Council on behalf of the Center. He invited attendees to tour the LAURENTIAN and to meet Center faculty members and researchers.

The Center for Great Lakes and Aquatic Sciences is in the University of Michigan's School of Literature, Science and Arts, and is the focus for aquatic sciences at the University of Michigan. For the past year, the Center had led and participated in a consortium of eleven Michigan universities with aquatic programs. This has led to additional (outside) use of the LAURENTIAN.

Funding for the Center for Great Lakes and Aquatic Sciences is from state and regional sources as well as from their traditional Federal sources, EPA, NOAA and NSF. A regional Great Lakes Protection Fund has been established with research budgets (State of Michigan) of \$300,000 in 1990 and \$800,000 in 1991. The regional budget for 1990 is \$1.5 million. A formal Memorandum of Understanding is in place between the University of Michigan and NOAA (Great Lakes Environmental Research Laboratory) to fund and operate a cooperative institute.

Minutes for the February, 1990 UNOLS Council meeting were accepted as distributed.



UNOLS ISSUES

The status of the several large ships entering or re-entering the UNOLS fleet had become a compelling issue for UNOLS. Status reports were presented on all of the ships, to provide up-to-date information to the Council.

Earlier estimates had the KNORR out of shipyard in June, 1990 and the MELVILLE out in November, 1990. In July, 1990, WHOI and program managers were projecting KNORR availability in December, 1990 and MELVILLE in April, 1991. However, the shipyard (McDermott) had not yet released their completion estimates, and further delays were expected. The delays can be laid to initial factors wherein the shipyard underestimated the scope and complexity of the job and there were no funds for contingencies. Currently, both contractor and operators were asserting claims concerning performance and further dispute can be expected. Costs were expected to exceed existing contracts by up to \$5 million for the two ships. Additional surprises were not expected. Recent changes in project management and project-contractor conferences have led to an improved pace of work in the shipyard.

In the ensuing discussion, Council members asked how the \$4-5 million shortfall might be covered. There was then no accepted solution. The Council was concerned that if the operating institutions (WHOI and Scripps) were to "absorb" the added cost, it would surely be reflected in increased daily rates for KNORR and MELVILLE over the next several years.

Don Heinrichs noted that NSF had no additional funds to allocate to the renovation beyond the approximately \$1 million already committed to scientific instrumentation. NSF does have strong program needs for KNORR and/or MELVILLE, and is concerned over delays.

The UNOLS Council expressed concern over any solution that would be, in effect, borrowing from ship operations funds for future years.

Construction of the THOMAS G. THOMPSON (AGOR-23) was proceeding well under NAVSEA (SCN) funding. The ship was to be launched and christened on July 27. Professor Dora Henry, College of Ocean and Fishery Sciences, University of Washington, has been designated sponsor.

The THOMPSON was still scheduled for delivery in May, 1991, but a two-month extension seemed likely. The THOMPSON promises to be a very impressive, highly capable general-purpose research vessel.

The MAURICE EWING had sailed from New Orleans on June 13, and had begun the regular operational schedule for 1990. Sea trials, including trials of the Krupp multi-channel sounding system, had been fairly successful.

NSF provided \$2.3 million for EWING acquisition/conversion in 1990 (i.e., they had augmented their multi-year agreement by \$200,000).

USC's VICKERS was in the later stages of conversions, and was not yet operational. The VICKERS acquisition/conversion has been funded entirely by USC (donations and institution funds). NSF has provided some funds for shore support and equipment.

Ship Scheduling for 1991 and the general efficiency of the UNOLS scheduling process were compelling issues.

At the February, 1990 Council meeting, it had been decided that two scheduling meetings would be held to address 1991 issues -- in June and September, 1990. George Keller had notified all UNOLS operators of Schedule Review meetings to be held after each Ship Scheduling meeting (Appendix II).

Mike Rawson, Chair, Ship Scheduling Committee, briefly re-capped the 1990 schedule. Summaries of Ship Use and Costs for 1990 (see report of the June 25, 1990 Ship Scheduling Committee) showed that the latest projections for 1990 UNOLS fleet costs were drastically reduced from last Fall's estimates. Total costs had been reduced by \$6.45 million and NSF's share lowered by \$8.32 million. Fleet totals were for 4,286 days, at \$34 million. These totals are up about 500 days and \$2.3 million over 1989 totals, but well below average annual totals in the 1980's. The main reason for the relatively low number of operating days and of total costs was that the four largest ships in the fleet operated for a total of about 6 months (i.e., KNORR, MELVILLE and THOMPSON did not operate, and EWING was to operate for only part of the year). Even with this reduced fleet, there are very few problems in lack of ship support to funded science. For example, very few funded projects were deferred to 1991 because no suitable ship was available. It could be inferred, however, that fewer large-ship projects were funded than might have been had more large-ship time been available.

Preliminary analysis of 1991 cost and operating estimates (provided by UNOLS operators for the June 25, 1990 Ship Schedule meeting) were alarming. A summary of 1991 Ship Operations projections, together with agency estimates of funding, follows (dollars in millions):

	NSF		ONR		OTHER		TOTAL	
	Days	\$	Days	\$	Days	\$	Days	\$
June 1990 Projection	4,443	40.8	674	6.26	784	6.0	5,901	53.05
Funds anticipated		28.0		6.26		6.0		40.26

The summary indicated a shortfall of nearly \$13 million. Estimates of operating days were also beyond likely limits. Individual ship projections included a total of more than 2,000 days whose NSF science funding decisions were still pending. Realistically, fewer than half of those days can or will be funded.

A Schedule Review Committee, Mike Rawson, Chair, George Shor, Bill Barbee and, from the agencies, Don Heinrichs and Dolly Dieter, NSF, and Keith Kaulum and June Keller, ONR, reviewed schedules on June 26.

The review revealed four fleet-wide problems. (All four had been initially identified during the June 25 Ship Schedule meeting.)

1. Further delays to MELVILLE and KNORR would jeopardize ONR's ML-ML program and NSF's WOCE program.
2. Three ships propose work in the western Pacific during 1991. Schedules must be consolidated so that two or even one ship can do this work.
3. Schedules for four small ships in the mid-Atlantic are weak or potentially weak. Operators must work toward cost-reducing consolidation.
4. There could be a problem with east coast intermediate ship schedules if much of their not-yet-funded schedule is not realized.

The UNOLS Schedule Review Group developed draft letters to each operator, summarizing the situation concerning the fleet schedule and funding, enumerating the problems outlined above and making cost reduction/schedule efficiency recommendations to each operator relative to his/her ship(s). The Council endorsed the letters which were then signed by the UNOLS Chair and distributed on July 23.

FLEET MANAGEMENT

Discussion of issues concerning intermediate and small ships on the east coast was deferred until after discussion of the FIC reports. (See later in this report.)

The Council discussed fleet outlook (e.g., The addition in 1991 of three ships larger than heretofore operated in the fleet) as a factor in changing the match between available ship capability and science ship requirements/ship operations funding. Although the match between science requirements and fleet capability might be close, the expense of operating new, large ships on extended deployments exceeds available funding.

George Keller noted that some ships still do a lot of work at bargain rates (e.g., the MOANA WAVE).

Don Heinrichs, NSF, presented slides (Appendix III) illustrating a recent OCE/OCFS analysis of ship requirements/ship availability/operations funding. In that analysis, Projections of Academic Fleet Costs and Projected Fleet Costs vs Budget indicated that funds for ship operations would be nominally adequate to cover funded shiptime requirements in the years 1991-1997.

The Council raised a variety of questions about the analysis: Were not institution estimates of 1991 costs for most large ships higher than those used by NSF? (Yes, but current institution estimates included proposed work not likely to be funded.) Were global initiative ship operations being funded at the expense of core programs? (No; growth in global initiatives includes increases for facilities support.) Will all of the big ships being built, converted or now proposed be needed, used, affordable? (Yes, with qualifications.)

Members of the Council raised questions as to whether the UNOLS fleet had ships to meet all critical requirements in 1991. (In particular, delays in availability of the KNORR and MELVILLE could mean that there is no suitable ship for already-delayed WOCE sections or for ONR's ML-ML program.) Keith Kaulum reiterated ONR's critical priority for an ML-ML field program in April-June 1991. ML-ML is a five-year program. NSF and WOCE have critical commitments to a strong WOCE field program in 1991, and need a ship commitment soon. Since firm duties were not available for KNORR and MELVILLE, no sure plan could be devised. ONR and NSF strongly implied that should KNORR and/or MELVILLE not be available in time to support ML-ML and WOCE, alternative schedules would have to be devised to support the work, even at the expense of other already-scheduled and funded projects.

FLEET IMPROVEMENT COMMITTEE

Worth Nowlin, Co-Chair, presented the new UNOLS Fleet Improvement Plan, reported on recent FIC studies and activities, the status of efforts underway and the Committee's agenda for the rest of 1990.

The May, 1990 Fleet Improvement Plan had earlier been distributed for comment in draft form. Extensive comments had been received, especially from ONR and NSF, and were addressed in the final plan. Issues raised earlier concerning the size and composition of the UNOLS fleet criteria for admission to the fleet, alternative (to length) schemes for classifying ships in the fleet, and definitions for full ship utilization were addressed in an Epilogue. The Epilogue explores those issues in a preliminary fashion. It is anticipated that the Fleet Improvement Committee, working with and at the direction of the UNOLS Council, will explore these points more fully in the coming months.

Council members asked how AGOR-24, if built, would fit in the Fleet Improvement Plan (i.e., in Table 5, p. 33). AGOR-24 could be outfitted as a submersible support vessel (replacing ATLANTIS II) or could supplant the second recommended Large, Medium-Endurance, General-Purpose Ship (presumably concurrent with retirement of one of the two Large, General-Purpose Ships in service in 1991).

Donn Gorsline was to Chair the FIC for the remainder of 1990. Four new members would be needed in 1991, to replace Worth Nowlin, Donn Gorsline, Jim Murray and Bruce Robison. Suggestions for candidates were welcome. A new chair would also be needed.

The FIC had a variety of activities underway:

1. A contract has been let to Glosten Associates on a concept design for a research vessel for the western Arctic. Tom Royer, FIC and University of Alaska, leads the group monitoring this effort.
2. FIC liaison has been established with the effort to upgrade the three OCEANUS-class intermediates.
3. Bruce Hutchinson, Glosten Associates, along with Worth Nowlin, will provide (gratis) a scheme for quantifying mission requirements such as sea-keeping and sea-kindliness so that individual ships (designs) can be objectively rated.
4. The FIC will contribute to UNOLS Council assessments of small and intermediate ship requirements on the east coast. (Discussion of these issues deferred until later in the Council meeting.)
5. Science Mission Requirements are being developed for a research submarine. A decision on whether or not to proceed toward concept designs is being deferred.
6. Appendix II, UNOLS Fleet Improvement Plan, is a comparison between the UNOLS Scientific Mission Requirements for various ship classes and capabilities and existing (in 1990) ships in the UNOLS fleet. The assembled Scientific Mission Requirements represent an ideal UNOLS fleet. Information in this Appendix II will be expanded to provide a basis for measuring progress in fleet improvement.
7. The FIC has not adequately addressed the need or design criteria for small (<150 ft.) vessels. A compendium of vessels of less than 100 ft. (by Dinsmore) should be available late in 1990.
8. A modest study had been underway to determine the present total value of the UNOLS fleet, based on construction and renovation costs as well as on replacement costs. The ships listed in Table 6, Fleet Improvement Plan, would be the basis for the study.

Pat Dennis reported that Federal Oceanographic Fleet Requirements, August, 1990, by the Federal Oceanographic Fleet Coordination Council was in publication. Earlier comments from UNOLS Council and UNOLS members had been considered and included where appropriate.

The report examines Federal requirements for oceanographic research vessels, along with capabilities and condition of the current Federal fleet. The compelling finding of the report is that, on the whole, the fleet approaches obsolescence and requires modernization.

The report covers 67 vessels, over 100 feet in length, operated/supported by six agencies -- Coast Guard, Department of Interior, EPA, Navy (ONR and OON), NOAA and NSF. (Class IV and above UNOLS ships are included.)

Several findings and requirements address the entire fleet:

- The fleet is out of date and needs modernization.
- Fleet composition (number and sizes of existing ships) is about right.
- There is some unused ship time that might be filled by better coordination.
- Long-term fleet requirements should be defined and then updated about every five years.
- There are program-wide requirements for high latitude and polar ships. CG icebreakers as well as RVIB's are needed.
- More deep submergence capabilities are needed.

Overall, the report was not expected to be controversial, but should be useful in support of facilities programs.

Bill Stubblefield, Office of the Chief Scientist, NOAA, briefed the Council on the study of NOAA fleet requirements and operational capability that he is preparing for the NOAA Administrator.

By 2000, almost all ships in the NOAA fleet will be more than 30 years old, and will be functionally obsolete. The three-phase study will (I) identify NOAA ocean mission and fleet requirements; (II) determine hull characteristics, outfitting and capabilities for new construction to meet requirements, and (III) develop a long-term strategy for acquiring the necessary platforms.

Phase I was essentially complete, and was in consideration of NOAA operations extending throughout the world oceans.

EXPORT CONTROLS FOR HIGH RESOLUTION BATHYMETRY SYSTEMS

The issue of export control on high resolution bathymetry systems (supposedly including SEA BEAM, SeaMARC and others) on UNOLS ships had been before UNOLS for several months. George Keller reported that he had not received an answer to his letter to the Assistant Secretary of State for Politico-Military Affairs (see February, 1990 UNOLS Council Meeting Report, Appendix VIII), but that he had met with representatives from the Munitions Control Office. George Keller, together with Tom Cocke, DOS, reported that resolution appeared likely wherein licenses would be granted for a 5-year period, only hardware system software would be controlled and, possibly, UNOLS could be licensed for the whole fleet. On the negative, SEA BEAM is on the munitions

list and cannot, likely, be removed. George Keller termed this an acceptable resolution for UNOLS. NSF maintained reservations because the system(s) stayed on the munitions list.

DESIGNATION OF UNOLS VESSEL

The UNOLS Chair and Council had received a request from Lamont-Doherty Geological Observatory that the R/V MAURICE EWING be designated a UNOLS vessel (Appendix IV). The Council designated MAURICE EWING a UNOLS vessel, provisional on the EWING promptly scheduling and completing inspection under the NSF/ABSTECH program.

The Council had earlier designated Harbor Branch's R/V SEWARD JOHNSON and R/V EDWIN LINK contingent on their inspection through NSF/ABSTECH. The SEWARD JOHNSON had successfully completed the inspection (Appendix V) but designation for the EDWIN LINK had been deferred. The Council designated SEWARD JOHNSON a UNOLS vessel; EDWIN LINK remained provisional, pending successful inspection.

ALVIN REVIEW COMMITTEE

Feenan Jennings, Chair, reported on the ARC's review meeting June 27-29, and on ALVIN program status. All members of the ARC, Dave Cacchione, USGS, Jeff Fox, URI, Feenan Jennings, TAMU, Casey Moore, UCSC, Doug Nelson, UC Davis, Mary Scranton, SUNY Stony Brook, Gary Taghon, OSU, Geof Thompson, WHOI and George Grice, ex officio, WHOI, attended.

Twenty dive requests asking for 201 dives in 1991 were reviewed. Fifteen requests were recommended for scheduling, four were not recommended and one was tabled since it was in the Atlantic.

A tentative schedule was developed that included 151 ALVIN dives (of which 66 were already funded). In addition, the ATLANTIS II schedule included a 28-day non-ALVIN project. All operations would be in the Pacific, off southern California, Mexico and Central America until July, then Gorda-Juan de Fuca into October. This schedule is compact and efficient, but leaves ALVIN/ATLANTIS II unscheduled for more than two months.

The ARC has been concerned that interest in ALVIN-proposed science is dropping off. ALVIN was under-subscribed again for 1991, even though the quality of proposals received was unusually high. Reasons suggested for waning interest have been: competition from new Russian, Japanese and French high-capability, deep submergence vehicles; competition for funding within the U.S. science program (e.g., proposals and grants to global change programs rather than to ALVIN-supported programs); community misconception that ALVIN is still highly oversubscribed. The ARC will modify their planning meetings and publicize ALVIN availability to promote ALVIN use and try to reverse the trend toward lower ALVIN demand.

The ARC recommended re-appointments for Feenan Jennings, Doug Nelson, Casey Moore and Mary Scranton, to two- or three-year terms and recommended that Karen Van Damm, Oak Ridge National Laboratory, be appointed in place of the resigning Geoffrey Thompson. The Council and Chair agreed with those appointments.

RESEARCH VESSEL OPERATORS COMMITTEE

Jim Williams, Chair, discussed current ship and operational issues. Alcohol, drugs and smoking are critical issues.

The control or prohibition of smoking aboard ships has become a big issue at many institutions. One facet is the extension of institution-wide regulations on smoking in public facilities on board ships. A second element is pressure from within shipboard and scientific personnel for regulation of smoking. So far, individual institution policies seemed adequate for the situation.

Drug testing had been implemented, except for random testing. (Legal challenges had led the CG to defer implementation of rules for random testing.) The large institutions, Scripps and WHOI, were required to implement testing programs first. At Scripps, the testing program (even random testing) had been well accepted. There had been few positive findings in pre-employment or periodic testings. New proposed rulemaking to cover random testing was expected in August, 1990.

The UNOLS Chair letter on alcohol consumption (See UNOLS Council Meeting minutes, February, 1990, Appendix XI), had been helpful and effective. The RVOC thanks the Council and the Chair.

The RVOC sees the use of fibre optics in over-the-side systems as an important technical issue.

Waste disposal and plastics aboard ships are other critical issues.

The RVOC continued to emphasize safety and training. Their Safety Training Manual and supplements should be available within a few months.

RVOC represented UNOLS at an AAUS Diving meeting at which management and operational problems with shipboard diving were addressed. A joint UNOLS-AAUS protocol should be developed for shipboard diving. A change was being developed for Chapter 15 (Diving) UNOLS Research Vessel Safety Standards. Diving issues still not fully resolved included requirements for decompression chambers and doctors aboard ships and, generally, means for providing essential medical support to diving projects.

RVOC recognizes the continuing problem of assuring safety on charter boat projects.

INFORMATION FROM FEDERAL FUNDING AGENCIES

Austin Yeager reported that NOAA had received their House mark and expected their Senate mark for 1991 appropriations during the week of July 9. They expected about \$30 million for Global Climate Change and \$6 million for their Coastal Ocean Initiative. They expect to activate the DAVIDSON for 1991 and to get about \$2 million preliminary to fleet modernization.

Work was underway on budget submissions for 1992, John Knauss' first NOAA budget. That budget would include a strong Coastal Zone Management, large Global Climate Change program, additional increases for Coastal Ocean and funding for comprehensive data management. It would have an \$18 million increase for ships.

NOAA had been exploring use of the VICKERS to support Global Climate projects. Options discussed had ranged from several months' to a full year's charter and from bare boat to fully crewed/operated.

Sylvia Earle, nominated as NOAA's Chief Scientist, was on board as a consultant.

Don Heinrichs, noted that NSF's 1991 House mark reduced the agency's requested increase for research by \$40 million, unspecified. Global Change programs were untouched. Geosciences' Global Change increase was \$39.8 million, about half for OCE. The Senate mark was expected momentarily.

Senator Stevens, Alaska, had asked NSF about plans to acquire a research vessel with ice capability for the (western) Arctic.

Budget plans for 1992 are in very early stages: across-the-board emphasis is expected for disciplinary (core) programs. Further large increases are expected for Global Change.

All prospective proposers should note the new target dates and deadlines for proposals to the Ocean Sciences Division. Target dates for research proposals are, generally, November 1 (14 months before grant year) and May 1 (8 months before grant year). Some programs, especially in Global Change, have special target dates. The deadline for proposals requesting shiptime is May 1. **These new submission dates are the subject of a Dear Colleague letter.** The Ocean Sciences Division is negotiating to advance DPP target dates for proposals requesting facilities support.

NSF/OCE/OCFS expected a few staff changes: Lisa Rom transferring to Office of the Controller and Dolly Dieter beginning her second year as Ship Operations manager.

Don Heinrichs expected that 1991 ship schedule/funding questions would be resolved successfully, although selected NSF programs may be deferred. NSF management is concerned that they pay too large a share of ship operations.

UNOLS should consider NSF proposal targets in setting their 1991 calendar of meetings, especially for Council, Ship Scheduling and ALVIN review meetings.

Keith Kaulum noted that there were, as yet, no serious cuts to ONR's budget for 1991. The \$5 million to fund ship operations (and the formula dividing costs into Ocean Engineering Division's share and program managers' share) would be maintained. Allocation of the \$5 million to UNOLS institutions/ships is reduced by two situations: Some of the money is spent on non-UNOLS ships (e.g., for Arctic programs, use of a Coast Guard icebreaker, a Chouest ship with special sound source capabilities). Further, science program managers are sometimes reluctant to fund their share of UNOLS ship operations.

ONR was concerned about slippage in KNORR/MELVILLE dates. They will do what they can to pressure the renovation program manager and the shipyard toward reducing delays.

ONR was pleased with UNOLS' ship scheduling process for 1991. The Schedule Review meeting was necessary and effective. ONR would like to see solid, accepted schedules at the fall UNOLS meeting; they recognize, nevertheless, problems with matching to NSF's science proposal review schedule.

June Keller was aboard in the Ocean Engineering Division. An ocean engineer who had worked for the Coast Guard and at David Taylor Model Basin, she was to work with NAVSEA (on ship construction projects).

Eric Hartwig had been named coordinator for Department of Defense work in Global Change.

Both an AGOR-24 and AGOR-25 were currently in the Navy's ship construction budget (see schedule below). NAVSEA wants to contract them as clones of AGOR-23; ONR has essentially agreed. ONR will solicit proposals and select operators as early as possible. They expected to solicit proposals in Fall, 1990 and select operators in Spring, 1991. NAVSEA was developing a source selection package for construction of AGOR-24. ONR has a review function and will arrange UNOLS/FIC participation and input. Construction of AGOR-24 would begin in March, 1992.

Pat Dennis discussed Office of the Oceanographer meetings and negotiations with NSF and ONR to resolve funding problems on a MELVILLE multi-beam sounding system. Pat also noted development of a Navy program to block fund multi-beam system expenses, thus allowing data collection on transits, etc.

The Oceanographer favored AGOR-25 as an option buy on AGOR-24. The Navy's projected construction schedule for survey and research vessels:

1991 1 ship, an option buy on TAGS 60

1992 1 AGOR-24, an AGOR-23 clone
1 TAGS ice capable

1993 1 ship, an option buy on TAGS 60
1 ship, SWATH

1994 1 AGOR-25, option buy on AGOR-24
1 ship, option buy on TAGS 60.

Admiral Pittinger was to retire in September, 1990. Rear Admiral Geoffrey L. Chesbrough was to be named Oceanographer of the Navy.

Tom Cocke, Department of State, reported that he, at last, had funding for software to support a clearance/request management system. (Existing hardware was not adequate, however, so further delays were expected.)

Discussion had continued in the U.S.-Mexico Mixed Commission concerning research clearances. Mexico now has written requirements, so the process should be more straightforward. However, their regulations include a collection fee. Although Mexico promises to be flexible, quick resolution of problems is not assured.

The number of requests for clearance was down; there were 71 to date for 1990. A serious problem has been late submission of requests. For 1990, 52 of 71 request (73%) were submitted later than Department of State/UNOLS guidelines.

The Council returned to several items that had been introduced earlier during the meeting.

The UNOLS Chair letters to operators transmitting recommendations arising from the June 25 Schedule Review meeting were endorsed by the Council. They were to be mailed during the week of July 16.

A study group chaired by Tom Johnson, with Peter Betzer and Mike Rawson, was to examine issues raised in the Fleet Replacement Plan Epilogue:

- rationale for designation as UNOLS vessel (e.g., safety certification, participation in scheduling process);
- rationale for supporting lay-ups (for what ships, under what circumstances);
- definition of a full working year (use the RVOC formula as a starting point).

The study group was asked to make a preliminary report at the September, 1990 Council meeting.

The Epilogue also called for further examination of the UNOLS/FIC ship classification scheme. FIC was to re-examine that issue.

The Council discussed NSF's request for a comprehensive assessment of requirements for past and projected uses of and the suitability of the current number and mix of small ships in the mid-Atlantic. The Council agreed that CAPE HATTERAS, CAPE HENLOPEN, WARFIELD and WEATHERBIRD II should be addressed in the assessment. Tom Malone agreed to work with operators of those four ships (and with other mid-Atlantic institutions to examine ship use projections for 1991 and beyond. He would make a preliminary report to the Council in September.

George Keller asked the Council for names for a Nominating Committee to form a slate for UNOLS elections in September.

The meeting was adjourned at noon, July 13.

AGENDA

UNOLS Council Meeting

July 12, 13, 1990 - 8:30 am

Grand Haven, Michigan

This Council meeting is being hosted by the Center for Great Lakes and Aquatic Sciences, University of Michigan. Center Director, Ted Moore, has arranged the meeting in Grand Haven where their R/V LAURENTIAN is based. Meetings will be in a conference room in the Holiday Inn, where we are staying.

Call the Meeting. George Keller, Chair, will call the meeting to order.

Accept Minutes of February 8, 9, 1990 UNOLS Council Meeting. These minutes were distributed to the Council in May, 1990. Council action.

UNOLS ISSUES

Status of Large Ships Entering/Re-entering UNOLS Fleet. Status reports on THOMAS G. THOMPSON, KNORR, MELVILLE, EWING and VICKERS. (Stage of construction, when operational, problems and issues, together with recent schedule submissions.)

1991 Ship Scheduling. The summer Ship Scheduling and the first Schedule Review Meeting will have been held June 25 and 26 (see #1, Schedule Meeting Announcement). The Council will hear a report on the meetings and progress on 1991 schedules (Mike Rawson, Bill Barbee). Discussion among Council members and NSF, ONR representatives on scheduling process issues (follow on to Council discussion of February 8, 9.) The increasing numbers of NSF deadlines for proposals requiring ship support may be an issue. (See #2)

Fleet Management. In February, 1990 Class III (intermediate) and Class IV (coastal, estuarine) ships on the east coast were at issue. Much of the UNOLS response was to be included in the Fleet Improvement Committee's UNOLS Fleet Improvement Plan (see agenda item below). Further discussion if desired by NSF/ONR reps.

Fleet Improvement Committee Report. Worth Nowlin, Co-Chair, will present the revised (final?) draft UNOLS Fleet Improvement Plan and report on other FIC activities in 1990. Arrangements are being developed so that FIC will be supported out of the UNOLS Office after about July, 1990.

FOFCC Report on the Federal Fleet. Printed copies of the FOFCC report should be available at the Council Meeting. Pat Dennis will report on Summary Findings.

Guidance to Universities on Export Controls for High Resolution Bathymetry Systems. The issue of export control on high resolution bathymetry systems on UNOLS ships was raised at the February, 1990 UNOLS Council meeting led to a letter from UNOLS Chair to Richard A. Clarke, Assistant Secretary for Politico-Military Affairs, Department of State (see February, 1990 UNOLS Council Meeting Report, Appendix VIII). The UNOLS Chair, working with Bill Erb, Office of Ocean Affairs and Tom Coker, DOS, has since been pushing toward an accommodation to UNOLS concerns. A report (George Keller and Bill Erb or Tom Coker).

UNOLS Ship Designations. In July, 1989 the Council provisionally designated the R/V's SEWARD JOHNSON and EDWIN LINK as UNOLS vessels. HBOI has participated in UNOLS scheduling, has had the SEWARD JOHNSON inspected and has deferred inspection of the EDWIN LINK (see 3, attached). Council may wish to remove provisions concerning the SEWARD JOHNSON and re-state them for the EDWIN LINK.

Council may also wish to consider designation of the EWING (see 4, attached). EWING should be operational by July 12.

Committee Reports. Ship Scheduling and Fleet Improvement Committees will have been reported in discussions above.

ALVIN Review Committee. Feenan Jennings, Chair, will report on June 27-29 ALVIN Review Meeting, status of 1990 ALVIN/ATLANTIS II operations and schedule recommendations for 1991.

RVOC. Jim Williams, Chair, will report on operational issues, plans for October RVOC meeting.

Remarks from Federal Funding Agencies. Information from Federal funding agencies (NOAA, NSF, ONR with OON, DOS) on status of funding, issues, changes, etc. Austin Yeager, Don Heinrichs, Steve Ramberg/Kelth Kaulum, Pat Dennis, Bill Erb/Tom Cocke. Remarks on Changes to NSF guidelines.

UNOLS BUSINESS

Proposals to Host UNOLS Office/Executive Secretary. The Evaluation committee recommended proposal from University of Rhode Island with Jack Bash as Executive Secretary. The Council (with five members not participating because of affiliations with proposing institutions) concurred with the recommendations. The recommendation is now before the UNOLS membership. Although all members have not yet responded, more than a majority of both operators and other members have, with no opposing votes. Plans have been initiated for an orderly transfer of the Office.

UNOLS and UNOLS Council Elections, Appointments. The terms of George Keller, UNOLS Chair, Tom Johnson, Vice-Chair and elected Council Members Tom Malone and Art Maxwell expire. George Keller will have completed two two-year terms, Tom Johnson one two-year term and Tom Malone and Art Maxwell two three-year terms each.

A three-person Nominating Committee is to be appointed by George Keller. Nominations: UNOLS Chair, UNOLS Vice-Chair, Council Members, one from among designated reps of Operators, one from designated reps of Other Members.

There may be appointments to other committees pending before the Council and the Chair.

UNOLS NEWS

Vol. 7, No. 1, UNOLS NEWS was distributed in May, 1990. Target date for Vol 7, No. 2 is 31 August 1990. Mike Rawson is editor. Advice or input?

Cruise Assessments. A report from Bill Barbee. 1989 update and first quarter 1990 update.

**Our University of Michigan hosts have arranged a cocktail hour and no-host dinner for
Thursday evening, July 12**

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of Institutions
for the coordination and support
of university oceanographic facilities

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and International Programs
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Administrative Services A312
Corvallis, OR 97331-2140
(503) 737-3467

February 12, 1990

TO: UNOLS Ship Schedulers *George Keller*
FROM: George H. Keller, UNOLS Chairman
SUBJ: Attempt to improve upon ship scheduling process

A number of problems emerged from the UNOLS ship scheduling process last year that were due to a combination of things, from both the UNOLS side and the federal agencies side. One thing that is essential to a well informed procedure is for each operator institution to list its tentative schedule, especially prior to the scheduling meetings. Last fall, there were some schedules being handed out at the scheduling meeting. It is imperative that these schedules be available in a timely fashion. I am asking that you list your schedule on telemail starting this month, and update it once each month thereafter. This alerts each operator to what is out there in the way of ship-time requirements, and brings a much more informed group to the June and September scheduling meetings.

Starting this year, the chairmen of the east and west coast scheduling groups will, along with the UNOLS executive secretary, meet with representatives of the federal funding agencies right after the scheduling meeting. This is to insure a sound communication link with the funding agencies. Mike Rawson, who represents the Ship Scheduling Committee on the UNOLS Council, will then bring to the Council a status report and any recommendations that might be appropriate. The Council will then review the information and make whatever recommendations it may consider appropriate to the funding agencies and the operators. In other words, the Ship Scheduling Committee, along with inputs from the federal agencies, will present the findings of their analysis of the scheduling situation (through Mike Rawson in this case), and the UNOLS Council will make recommendations on the pertinent issues.

The process will be followed after the June and September ship scheduling sessions this year.

Please assist in the overall process by listing and updating your tentative schedule each month. Thank you for your assistance.

cc: Mike Rawson
William Barbee
Dolly Dieter
Keith Kaulum
Austin Yeager
George Shor
UNOLS Council Members

NSF GEOSCIENCES 1992 - 1996 BUDGET PLANS**Capital Equipment, Major Facilities**

● Complete acquisition of R/V EWING	6.5M
● Midlife refits and upgrades of NSF intermediate and small ships	10.0M
● Improved drilling and logging for ODP	5.0M
● Acquisition/construction of ice-capable ship for western Arctic	45.0M
	\$66.5M

Science Instrumentation, Equipment

● Increase proportional to overall budget growth	\$57.8M
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Technology Development

● Increase about 25 percent above overall budget growth	\$67.6M
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TOTAL	\$191.9M
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NOTE:

Capital equipment, instrumentation and technology development projected as 13.5% of total ocean sciences funds

NSF Ocean Sciences Budget

	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>Change 87-91</u>
OSRS	66.5	67.2	70.9	72.9	88.6	33.2%
OCFS	37.2	37.2	43.6	42.5	47.4	27.4%
ODP	30.0	30.6	31.4	32.0	35.0	16.7%
	133.7	135.0	145.9	147.4	171.0	27.9%

FY 1991 BUDGET INCREMENT

- Global Geosciences \$19.2 M
- Disciplinary Base \$1.4 M
- Ocean Drilling Program \$3.0 M
- \$23.6 M

FY 1991 BUDGET PROFILE

- Science
- Disciplinary Science \$104.6 M
 - Global Geosciences 75.4
 - Education & Human Res. 29.2
 - (4.1)
- Facilities
- Disciplinary Science \$66.4 M
 - Global Geosciences 54.6
 - Capital Equipment 11.8
 - (3.3)

OCEAN SCIENCES DIVISION DETAIL

	Actual FY 1989	Estimates FY 1990	Requested FY 1991
Ocean Sciences Division	\$ 145.9 M	\$ 147.4 M	\$ 171.0 M
Ocean Sciences Research	70.9 M	72.9 M	88.6 M
Ocean Drilling Program	31.4 M	32.0 M	35.0 M
Oceanographic Facilities	43.6 M	42.5 M	47.4 M

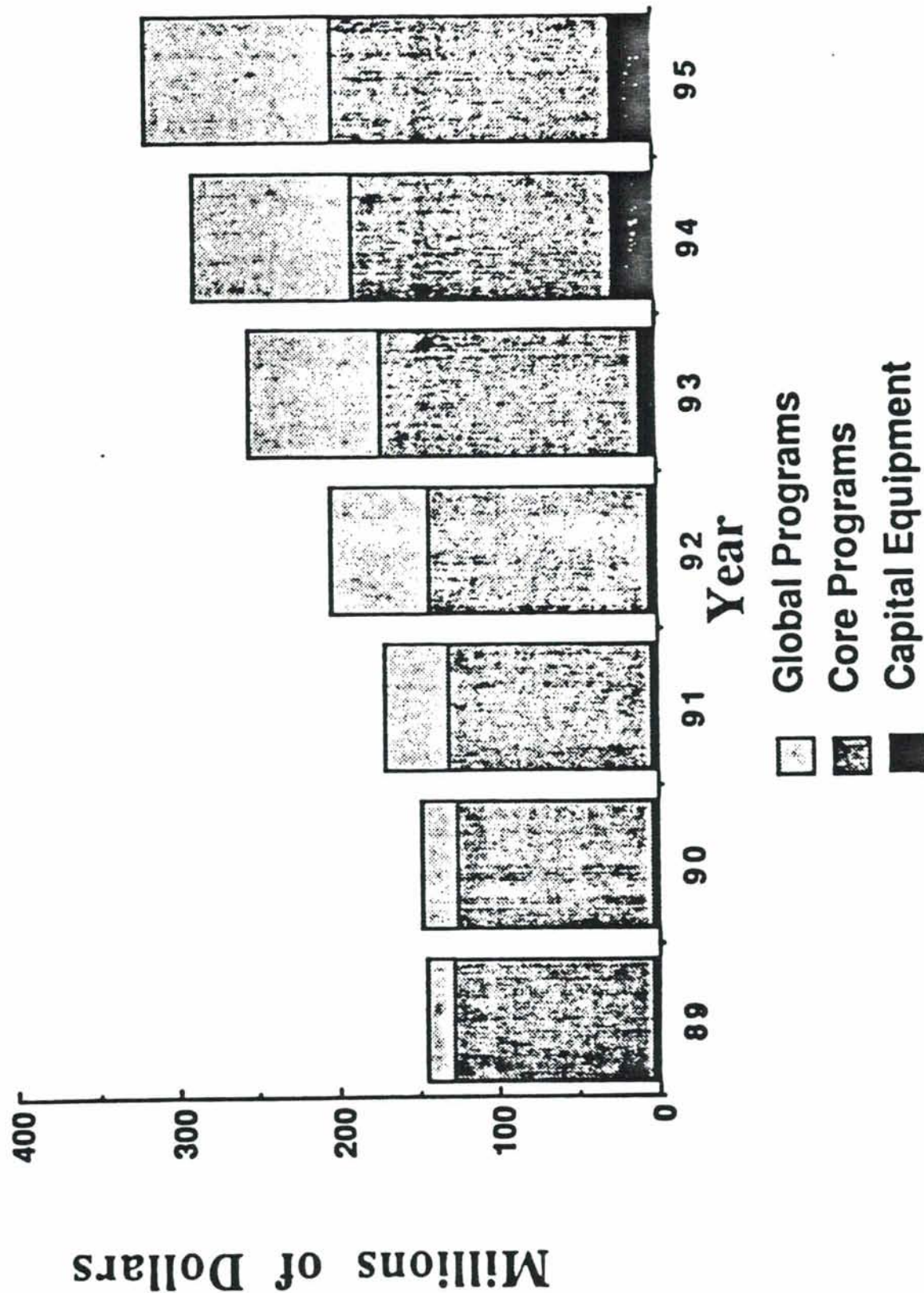
OCEANOGRAPHIC FACILITIES DETAIL

Operations			
Ship operations	24.6 M*	25.5 M*	28.5 M*
ALVIN, Aircraft, etc.	1.3 M		
Marine Techs	<u>3.4 M</u>	<u>3.6 M</u>	<u>4.2 M</u>
	29.3 M	29.1 M	32.7 M
Infrastructure			
Science instruments	1.6 M	3.8 M	4.0 M
Shipboard Equipment	0.9 M		
Ships, Upgrades	2.8 M	2.8 M	2.6 M
UNOLS, Misc.	<u>0.7 M</u>	<u>0.4 M</u>	<u>0.5 M</u>
	6.0 M	7.0 M	7.1 M
Technology, Centers, Reserves			
Technology Development	4.5 M	3.2 M	4.2 M
AMS Center	1.8 M	1.8 M	1.8 M
Cross Directorate/Reserves**	<u>2.0 M</u>	<u>1.4 M</u>	<u>1.6 M</u>
	8.3 M	6.4 M	7.6 M

* Plus \$1.5 M from ODP (1989), \$1.3M (1990), \$1.5 M (1991)

** Cross-directorate/Reserves previously distributed

OCE Long-Range Plans (1989-95)



ACADEMIC FLEET COST PROJECTIONS

LOW COSTS

- Operational days are the same as 1984-1989 averages (adjusted for lay-ups and refits)
- WASHINGTON retired in 1992
- AGOR-24 not constructed
- ALPHA HELIX retired in 1995
- Ice-capable ship starts operation in 1996

AVERAGE COSTS

- Operational days same as 1984-89 average
- AGOR-24 not constructed
- WASHINGTON continues to operate
- ALPHA HELIX retired in 1996
- Ice-capable ship starts in 1996

OPTIMAL COSTS

- Full utilization of all ships
- AGOR-24 starts operation in 1994
- WASHINGTON retired in 1994

HIGH COSTS

- Maximum utilization of all ships
- AGOR-23 and AGOR-24 at full use immediately

PREDICTIONS OF ACADEMIC FLEET COSTS

1991

CONSTANTS	SHIPS	DAILY RATE (\$)	LOW COST DAYS	LOW COST Cost (\$K)	AVG AVERAGE COST DAYS	AVG AVERAGE COST Cost (\$K)	OPTIMAL COST DAYS	OPTIMAL COST Cost (\$K)	HIGH COST DAYS	HIGH COST Cost (\$K)
Class I	MELVILLE KNORR	13600 13600	225 201	3060 2734	225 201	3060 2734	270 270	3672 3672	271 280	3686 3808
Class II	BERNIER MOANA WAVE ATLANTIS II T. WASHINGTON	13500 8439 12687 11631	250 296 298 264	3375 2498 3781 3071	250 296 298 264	3375 2498 3781 3071	270 270 270 270	3645 2279 3425 3140	300 333 310 293	4050 2810 3933 3408
Class III	OCEANUS WECOMA ENDEAVOR GYRE ISELIN NEW HORIZON	7442 7780 8217 7187 8241 7917	234 230 240 258 212 231	1741 1789 1972 1854 1747 1829	234 230 240 258 212 231	1741 1789 1972 1854 1747 1829	250 250 250 250 250 250	1861 1945 2054 1797 2060 1979	262 246 259 262 232 254	1950 1914 2128 1883 1912 2011
Class IV	POINT SUR CAPE HATTERAS ALPHA HELIX SPROUL CAPE HENLOPEN WEATHERBIRD II R. WARFIELD	6190 6964 8477 4415 5613 6000 4820	157 207 189 144 171 180 128	972 1442 1602 636 960 1080 617	157 207 189 144 171 180 128	972 1442 1602 636 960 1080 617	230 230 230 230 230 230 130	1424 1602 1950 1015 1291 1380 627	192 166 160 241 153 250 135	1188 1156 1356 1064 859 1500 651
Class V	LAURENTIAN BLUE FIN BARNES CALANUS	3807 1816 1747 2038	58 121 131 150	221 220 229 306	58 121 131 150	221 220 229 306	120 120 130 150	457 218 227 306	120 130 184 205	457 236 321 418
Variables	AGOR23	13700	0	0	60	822	100	1370	120	1644
TOTAL FLEET COSTS (\$)		\$37,734,100		\$38,556,100		\$43,395,130		\$44,342,837		

CORE BUDGET *

Projected NSF
Projected ONR
Projected Other

Total Core Funds

GLOBAL CHANGE FUNDS

NSF
NOAA

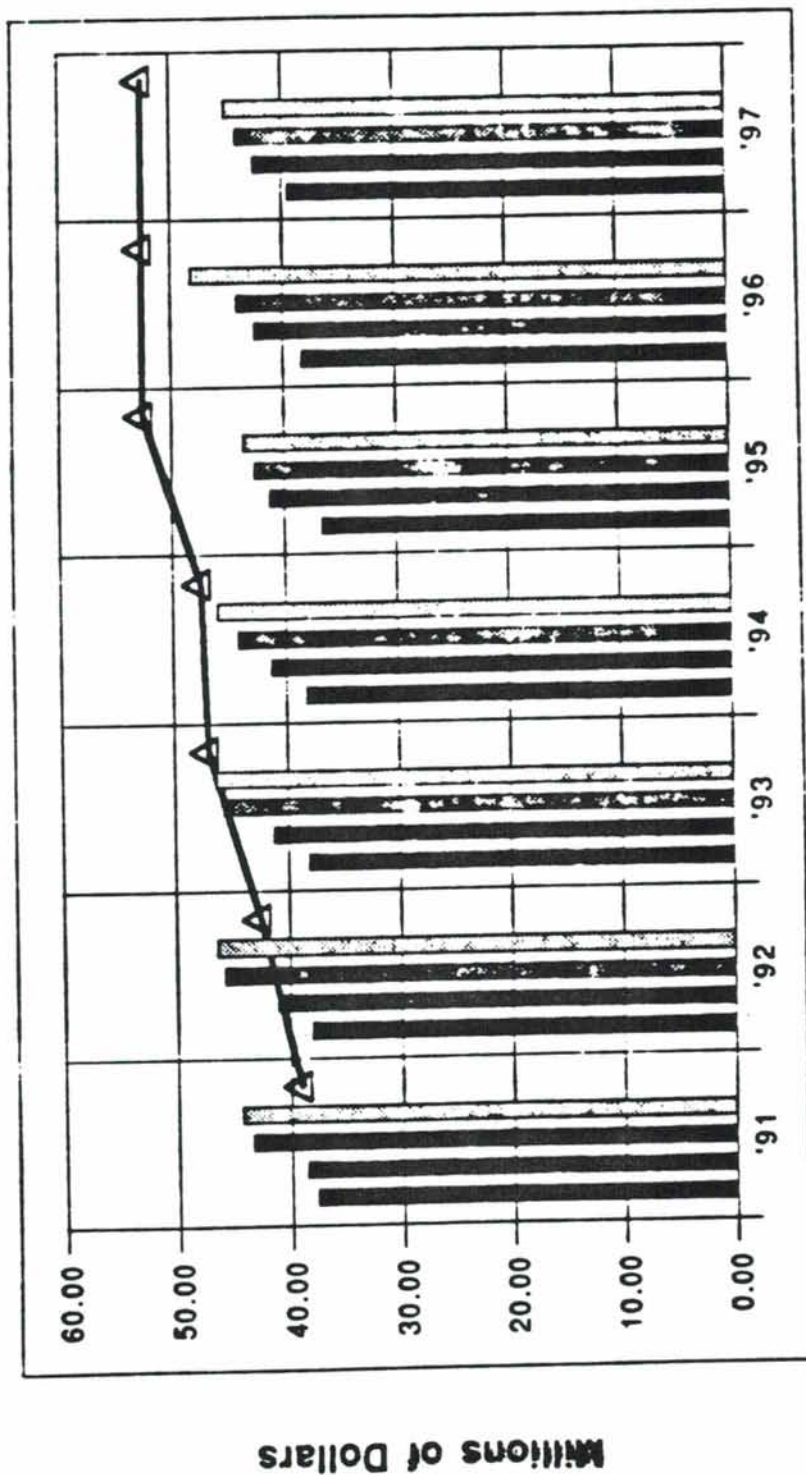
TOTAL SHIP OPERATIONS BUDGET \$39,000,000

*estimate based on level funding

BUDGET minus COSTS

LOW	\$1,265,900
AVERAGE	\$443,900
OPTIMAL	(\$4,395,130)
HIGH	(\$5,342,837)

PROJECTED FLEET COSTS VS BUDGET



■ LOW ■ AVERAGE ■ OPTIMAL ■ HIGH ▲ BUDGET

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

RECEIVED

MAY 8 1990

UNOLS OFFICE

Research, Graduate Studies,
and International Programs
Oregon State University
Administrative Services A312
Corvallis, OR 97331-2140
(503) 737-3467

May 4, 1990

Dr. Dennis E. Hayes
Associate Director
Lamont-Doherty Geological Observatory
of Columbia University
Palisades, New York 10964

Dear Denny:

Thank you for your letter of 30 April requesting that the R/V MAURICE EWING be designated an official member of the UNOLS fleet. Personally, I see no reason for such a declaration not being made by UNOLS. The vessel and your program certainly meet the requirements for UNOLS designation. The only other factor is the NSF safety inspection, which I suspect is scheduled.

Your request will be on the July agenda of the UNOLS council.

Sincerely,



George H. Keller
Chairman

GHK:mg

cc: W. Barbee
G. Brass
T. Johnson
W. Nowlin
R. West

Lamont-Doherty Geological Observatory
of Columbia University

Palisades, N.Y. 10964

Cable: LAMONTGEO

Palisades New York State

Telex—928090. LDGO Z

RECEIVED

MAY 03 1990

RESEARCH
OFFICE

Telephone: Code 914. 359-2900

30 April 1990

Dr. George Keller, Chairman
University-National Oceanographic Laboratory System
Oregon State University
Administrative Services A312
Corvallis, OR 97331-2140

Dear George:

I am writing to formally request that the R/V MAURICE EWING officially be designated a part of the UNOLS fleet. With the UNOLS participation in the proposal review and in the National BERNIER (EWING) Oversight Committee, I have tacitly assumed that the EWING was a part of the UNOLS fleet. I now realize that a formal request must be submitted, reviewed, and endorsed before the ship is officially designated a UNOLS vessel.

Other than this request and accommodating an early UNOLS Committee inspection of the vessel, is there any other action we need take before UNOLS can act?

The ship is in the last "terrible" days of the yard; we now expect to begin two weeks of science shakedown in early May. At present, the ship is fully scheduled into June 1991 with "UNOLS" research activities.

Sincerely,



Dennis E. Hayes
Associate Director

cc: D. Kent
L. Hannigan
M. Rawson

NATIONAL SCIENCE FOUNDATION
1800 G STREET, N.W.
WASHINGTON, D.C. 20550

DIVISION OF OCEAN SCIENCES
OCEANOGRAPHIC CENTERS AND FACILITIES SECTION

RECEIVED

July 9, 1990

JUL 12 1990

RESEARCH
OFFICE

Dr. George H. Keller
President, UNOLS
Research Office
Oregon State University
Corvallis, OR 97331

Dear Dr. Keller:

A copy of the report of the inspection of the R/V SEWARD JOHNSON conducted under the auspices of the NSF Ship Inspection Program is enclosed. Page 65 lists the inspection's findings and pages 53 through 64 contain a summary of the recommendations. This report is sent with the hope that it will assist UNOLS in its deliberations regarding the R/V SEWARD JOHNSON's designation as a UNOLS vessel.

Sincerely Yours,



Richard West
Program Manager
Oceanographic Facilities