Advisory Council Meeting
August 24, 25, 1987
Bigelow Laboratory for Ocean Sciences
West Boothbay Harbor, Maine

Advisory Council Members together with representatives from the National Science Foundation and the Office of Naval Research met at Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, Maine. The meeting was called to order at 9:00 a.m. by Council Chairman John Martin. The meeting generally followed the Agenda (Appendix I).

Attendees:

Advisory Council
John Martin, Chairman
Tom Malone, Vice Chairman
Robertson Dinsmore
Jeff Fox
Robert Knox
Charles Yentsch
George Keller, UNOLS Chair

Observers
Keith Kaulum, ONR
Ron La Count, NSF/DPP
Whit Slater, NSF/DPP
Don Heinrichs, NSF/OCFS
John McMillan, NSF/OCFS
John Christensen, Bigelow
Hillary Glover, Bigelow
Robert Kidd, Bigelow

UNOLS Office
William Barbee

Minutes for the Advisory Council meeting of January 29, 30, 1987 were accepted.

Ship Scheduling. George Keller, UNOLS Chairman had attended the Ship Scheduling meetings held July 14, 1987 in Washington, D.C. His assessment of the meeting (and the scheduling process followed by UNOLS in 1987):

Although the process implemented in 1987 (e.g., no spring meetings, exchange of ship time requests and preliminary schedules by electronic mail) had worked reasonably well, the process needs to be sharpened up. Without the exchange of well-formatted paper work (summaries of ship time requests, preliminary schedules, funding status of science projects) the meeting and scheduling process were extremely difficult to follow.

The meeting itself could have been better conducted. It was difficult to assess schedules on the basis of individual presentations. Soft funding, double bookings, inefficient schedules were not easy to identify.

At the July meeting relatively solid schedules were submitted for most ships. Estimated costs were only modestly higher than anticipated funding. (This situation was, however, dependant on achieving Navy sponsored science projects that would use the $8.5 million ship operations funding available from ONR, and reducing the NSF share by several million. Keith Kaulum noted that by the end of August projects requiring about $5 million had been identified.)

There is mounting pressure for an automated register of ship time requests (and perhaps for schedules). Some of the pressure comes from UNOLS operators, but more comes from program offices, potential investigators and the Fleet Improvement Committee. In discussing this issue the Advisory Council agreed that an automated register of ship time requests should be established through the Advisory Council and the UNOLS Office. **The Advisory Council directed the Executive Secretary, UNOLS, prepare an outline proposal for a register of ship time requests that would include all requests for Class IV ships and above, be accessible through electronic mail and could be addressed as a data base.**

The Council also agreed that double booking problems should be addressed explicitly. Those operators/ships whose schedules include double bookings should be compelled to resolve the duplications.

Don Heinrichs and John McMillan noted that from the NSF/OCFS perspective the UNOLS scheduling process has improved steadily in recent years and is good. Only a small percentage of cruises or days scheduled are problems. The

NSF representatives did agree that the scheduling meeting should be more firmly directed.

George Keller noted, and the Council agreed, that there is still no means for timely identification of candidate lay-up ships; a mean is critically needed.

ALVIN Review Committee. George Keller had also attended the ALVIN Review Committee meeting of May 6, 7, 8, 1987 in Woods Hole. His assessment was that the UNOLS process for reviewing and recommending ALVIN dive requests for scheduling, for oversight of ALVIN operators and for fostering ALVIN-enabled research is well-orchestrated and effective.

Bill Barbee reported that ALVIN/ATLANTIS II operations in 1987 had been very successful. The ARC had reached recommendations for 1988 schedule, entirely in the eastern Pacific. Operations will begin off California, then Guaymas Basin, on the EPR, near Galapagos, then a series of investigations on Escanaba, the Washington-Oregon subduction zone and Gorda-Juan de Fuca. **At the end of 1988 there will be no backlog of recommended projects for ALVIN/ATLANTIS II.** The ALVIN/ATLANTIS II will return to Woods Hole late in 1988, and ALVIN will undergo improvement, overhaul and maintenance during the first four to six months of 1989.

The ARC anticipates from six to eight months' operations in 1989, and see relatively few constraints to those operations. The ARC will solicit ALVIN dive requests for:

the north Atlantic, including reasonably high latitudes,
the Gulf of Mexico and Caribbean,
the south Atlantic, and
the eastern Pacific but probably excluding high latitudes.

It will not be possible to schedule projects in all of these areas, but the ARC will recommend projects in one or several that will represent the strongest science program and can be effectively scheduled.

The study on **Research Submersible Requirements for the 1990's and Beyond,** headed by Bruce Robison, UCSB, has been initiated. Other study-committee members are: Robert C. Aller, SUNY, Stony Brook, Richard A. Cooper, University of Connecticut, Joseph A Curray, Scripps, Daniel J. Fornari, L-DGO, Robert E. Wall, University of Maine, Karen Wishner, University of Rhode Island and Dana R. Yoerger, W.H.O.I.

Use and Disposal of Radioactive Substances. Discussion of this agenda item was advanced in order to hear from **Dr. Hillary Glover. Dr. Glover is Radiation Safety Officer for Bigelow Labs** and had recently been co-Principal Investigator and co-Chief Scientist on a research cruise on which a

substantial quantity of radioactive material had been used. There had been difficulty in arranging the use of the planned-for quantity of material (and thus in arranging the cruise) under the operating institutions policy, regulations and procedures for the use and disposal of radioactive materials from ships.

This agenda item had been included in the Council's announced agenda at the behest of James J. Griffin, UNOLS representative, University of Rhode Island: Dr. Griffin's concern had arisen from the same instance cited by Dr. Glover, a recent ENDEAVOR cruise (see letters dated 28 January and 5 February 1987, Appendix II).

In her remarks Dr. Glover was most concerned with the lack of consistency and clarity in the various policies in place among UNOLS institutions. (She noted that University of Rhode Island procedures, those employed in the instance at hand, are among the more comprehensive and better documented in force at any UNOLS institution. She noted also that URI's marine operations staff were helpful and effective.) Nevertheless, even though use of the radioactive materials had been confirmed over a year before the cruise, most of the process (including documentation) took place during the last three months, extraordinary hearings were necessary, the cruise was almost canceled and was finally permitted and completed only on special conditions for disposal of the radioactive wastes. The means specified for disposal did not appear to be the best technical solution to the investigators, to the operators or, perhaps, to anyone.

Dr. Glover's assertion was that the problem lies with:

1. The lack of a clear overall (i.e., UNOLS) policy;

2. Variations in regulations under which individual UNOLS institutions operate;

3. Inadequate communication of policy and procedural requirements to potential investigators.

She suggested that as oceanographic research methods advance over the next several years problems with the use and disposal of radioactive substance will become more critical. Lack of consistent, comprehensive policy could well become a limit to research. **She urged that the Advisory Council address the problem and seek a solution that would include:**

- **an overall UNOLS policy for use and disposal of radioactive substances on UNOLS ships,**

- **a "most rigorous" technical procedures policy, and**

- **development of an effective means for communicating policy and procedural requirements to both the potential user (investigator) community and UNOLS operators.**

The Advisory Committee discussed the issue at length, noting that investigator interests as characterized by Dr. Glover and operator-institution interests as cited by the University of Rhode Island were parallel. They noted additional aspects of the problem (i.e., the need to maintain platforms clean enough for investigators looking at natural radionuclides, the potential for use of higher level materials in some ocean research).

The Council agreed that the issue of use and disposal of radioactive materials on UNOLS ships should be addressed. Tom Malone agreed to collect material and begin a preliminary study.

Vessel Inspection Programs. Robertson Dinsmore, who is participating in both the NSF inspection program for UNOLS ships and the Navy INSURV for the Navy owned research vessels in the fleet reported on the status of both programs. The inspection schedules for late 1986-1987:

NSF program,

Completed		Scheduled	
ATLANTIS II		ISELIN	Sept 87
POLAR DUKE		CALANUS	Sept 87
POINT SUR		WECOMA	Oct 87
		WARFIELD	Oct 87
		CAPE HATTERAS	Dec 87
		ENDEAVOR	Dec 87
		OCEANUS	Dec 87

INSURV

Completed		Scheduled	
MOANA WAVE	Dec. 86	CONRAD	Sept 87
THOMPSON		KNORR	Oct 87
MELVILLE			
GYRE			

The inspection programs are going along well; they are a positive factor in improving the condition and effectiveness of ships in the UNOLS fleet. (The Advisory Council was aware of differences between INSURV and NSF inspection programs. Captain Dinsmore did not speak to these differences.) Notes on the inspection programs:

Operators are learning that inspections are for everyone's (including their) benefit. Further, as preliminary inspection materials are improved and inspections move to

later rounds, ships are becoming better prepared and more ready. Fewer discrepancies are being noted, and these are mostly minor ones.

Violation of water-tight integrity are being noted with too-high frequency. Problems vary from deliberate disabling of automatic closure devices to improper bulkhead penetration to leaving critical water-tight doors open at sea. Inspection programs will place more emphasis on water-tight integrity.

Inspectors will emphasize safety drills (frequency, effectiveness) and related safety preparedness matters.

One item of ships equipment, winch monitors, needs improvement. Most ships need monitors capable for more factors, and that perform more dependably. Many operators seek guidance on shared-use equipment; they need a "standard" outfitting list of shared use equipment.

Pollution control is not adequate on many UNOLS ships. No UNOLS ship has been found in violation of law or regulation. However, many UNOLS ships (e.g., those under 500T) can operate under only minimal regulation. Disposal of solid wastes, especially plastics, is becoming a problem, as noted in these inspection programs, in national and international studies and by an increasing number of investigators. Captain Dinsmore suggested and the Advisory Council concurred:

> **In that ships in the UNOLS fleet are operated by and for a community whose knowledge of and sensitivity toward the marine environment is unsurpassed, those ships should operate under a model program of pollution control and waste disposal.**

In the Councils' discussion of the inspection programs, a question was raised on means of forcing compliance to cited operational violations. UNOLS is limited to various forms of association/peer pressure or to recommendations to funding agencies. Funding agencies have funding prerogatives and, in the case of agency-owned ships, charter-party agreements. Regulatory agencies often have laws to force compliance.

Ron La Count and Whit Slater, NSF/DPP discussed the status of DPP efforts to acquire a research vessel with ice breaking capability for Antarctic service. Background for the DPP acquisition effort is summarized in minutes of the January 29, 30, 1987 Advisory Council meeting.

In developing specifications for the vessel, DPP used the science mission requirements for large, general purpose research vessels from UNOLS Fleet Replacement Committee.

They also called from the workshop on science requirements held at the University of Rhode Island and on the 1977 Conceptual Design for a Polar Research Vessel by Elsner et al. After DPP developed specifications they were passed to ITT Antarctic Services who issued a letter soliciting interest. Over seventy expressions of interest were returned, many highly credible. Based on the initial letter and responses expressing interest, an RFP was prepared for July 15 issuance.

Whit Slater then described a series of events in the NSF budget cycle and in Congressional Committee which led to uncertainty, hence, delay. It now appears that the RFP will be issued (by contractor) within a few days. In general terms $10 million per year will be available for leasing the ship and $3 million will be available for outfitting. Responses will dictate whether to contract for a modified existing ship or a newly constructed one. That decision is scheduled for about March, 1988.

The Council asked about DPP plans for an adequate research vessel for the Arctic. Mr. La Count noted that the recent designation of NSF as lead agency for Arctic research together with reports by the National Science Board and the Arctic Commission lend substance to polar (Arctic) research vessel needs. DPP plans, however, are not fully developed. Mr. La Count noted that there is the possibility of a Navy ship that could fill Arctic R/V needs in about 1995 and that the NSF Long Range Plan for OCE includes construction of "a smaller ice-strengthened ship in the period 1990-94."

The Council and Mr. La Count agreed that DPP and ITT/Antarctic Services should participate in the UNOLS scheduling process by submitting POLAR DUKE schedules for inclusion on ship schedule bulletin boards.

Fleet Improvement Committee. Robertson Dinsmore reported that the FIC had held four full committee meetings to date, three since the January, 1987 Advisory Committee meeting. The Committee has focused well on its effort for the next 18-24 months.

The FIC is working to provide a major update of the Fleet Replacement Committee's report **A Plan for Improved Capability of the University Oceanographic Research Fleet, June, 1986.** They hope to provide the update in late 1988-89. They will produce White Papers in the interim on selected aspects of the Plan (e.g., a projection of science program research vessel requirements to establish UNOLS fleet size requirements in the 1990's, a history of research vessels, including conversions, etc.). These White Papers are being developed by subcommittees and working groups.

The FIC is continuing the conceptual design process for smaller ships. Over the next four years they will develop four types:

A small ice-strengthened general purpose research vessel. This study is led by Tom Royer, University of Alaska. It will build on the FRC report and on the 1977 UNOLS/University of Alaska conceptual design. This ship may be a Class III (intermediate).

A small, general purpose research vessel (i.e. 100-150 ft, Class IV such as current CAPE class). Bruce Robison, UCSB leads this effort; development of science mission requirements is well along.

A small SWATH research vessel (about 150 ft., but with seakeeping and other capabilities comparable to a 2000 ft. monohull). (See Appendix III)

An innovative platform, conceived to provide very high stability for special studies. Fred Speiss has the lead.

Also, as noted at the last Advisory Council meeting, the FIC is proceeding toward preliminary designs for a selected two of the FRC's conceptual designs: one SWATH design and one of the more innovative monohulls (the Scripps/Glosten design).

The Fleet Improvement Committee proposal which would fund FIC activities directly, is about ready for submission.

Robertson Dinsmore and Keith Kaulum discussed the status of the AGOR-23 acquisition effort. The status is reported in Appendix IV.

The action for design and construction of the new research vessel is proceeding on schedule. It should be understood that the cost to prepare a responsive bid to the RFP will be significant. Thus, it is anticipated that all responses will be serious ones. A description of the bid process, a summary of specifications and an acquisition schedule are in Appendix IV.

The ONR Solicitation of Proposals to Operate AGOR-23 is also summarized in Appendix IV. Mr. Kaulum, ONR representative could not comment on responses to the solicitation (since it was still open). Indications from non-Navy sources were that four proposals would be submitted. Proposals will be evaluated by an eight member group chaired by the Director, Environmental Studies, ONR, with three additional ONR members, two from NSF, one from the Office of the Oceanographer, and one from UNOLS.

George Keller discussed potential candidates for the UNOLS member with the council. He noted that the UNOLS member should be affiliated with a UNOLS member institution, be knowledgeable concerning large ship use and operation, and be free of real or perceived conflict of interest. Several candidates were suggested.

Captain Dinsmore showed a series of slides illustrating design progress on the AGOR-X (Appendix V). This is the second ship that would be built by the Navy for use in the UNOLS fleet. NAVSEA's approach is to use a common hull for construction of three ships, a survey ship for the Navy Oceanographic Office, a research vessel, AGOR-24 for the UNOLS fleet and, perhaps, another TAGOS. (See SWATH Common Hull Baseline (Reduced) Profile, Appendix V.)

Captain Dinsmore, who had been retained as a consultant, foresaw problems with the current design: It would be a very large ship for the UNOLS fleet. Maneuverability would be limited. Most serious of all, the long aft extension of underwater hullforms, propellers and ruddelizers would make multiple tows difficult and insecure; hove to over-the-side operations would also be difficult.

After Advisory Council discussion, George Keller, UNOLS Chairman, agreed to write to ONR expressing UNOLS concern with the current design (Appendix VI).

UNOLS News. Tom Malone outlined contents anticipated for Vol. 4, No. 2. He expected that issue to be distributed early in October.

The Council was advised that the new Chief of Naval Research would be Rear Admiral Robert J. Wilson.

Cruise Assessments. Robertson Dinsmore discussed Cruise Assessment reports received in the UNOLS Office for the fourth quarter, 1986. He characterized the reports as routine, only reporting routine completion of cruises and generally avoiding adverse or critical comment. Also, several ships (or institutions) put little effort into assuring completion of the reports.

Captain Dinsmore had made an unsuccessful attempt to computerize the forms. He was convinced that a more objective analysis, probably automated, is needed. He also noted the revised assessment form suggested by TAMU through the Fleet Improvement Committee. **A better evaluation mechanism is needed.**

Council recommendations included:

A redesigned form, amenable to objective, automated evaluation.

Survey of UNOLS marine operations for suggested changes.

Require operating institutions to distribute forms, assure submissions and respond to reporting investigators.

Change the distribution pattern so that information would be more freely available.

Develop an annual report for individual ships, institutions and the fleet.

Captain Dinsmore will try to develop a responsive package.

John Christensen, Bigelow Laboratories and a frequent UNOLS ship user laid before the Council a problem concerning variable costs to investigators for the use of CTD's (and other shared-use equipment). Investigators working on ships from other institutions are often not aware of these costs, and if they are, don't have money in their grants to cover the costs. Solutions are often to not use CTD's, thus limiting the research or to bring their own CTD, which can cause operational problems, demands technical support and often is not efficient. Questions are why do costs vary so widely from ship to ship, and why, if ship CTD's are acquired through NSF must individual research projects bear the costs?

Although the Council could not offer complete answers or solutions, they noted that one factor in variable costs was that some institutions provide only simple systems while others employ highly sophisticated facilities complete with comprehensive data logging, data evaluation and manipulation, various options for presentation and specialized dedicated technical support. The costs of these latter systems is high, even though the systems are in excess of some investigators' needs.

Difficulties with inconsistencies in the equipment that can be expected on different ships in the UNOLS fleet, in costs to users, in levels of on-board technician support and in their cost to users are well recognized. Little progress toward solution has been made.

There is a UNOLS effort to develop a list of Standard Scientific Equipment that would be available on UNOLS ships. (The Advisory Council together with RVOC is working on this. The Ship Inspection team would check such a list as a part of individual inspections.) NSF is identifying ship's

equipment in Marine Technician/Scientific Instrumentation proposals. This information is available to develop and then keep current ships's standard equipment lists.

When reasonably definitive lists are available the Advisory Council should see that they are provided to ship operators and to Ship Inspection teams. The lists should also be broadly available to potential users.

Although the Council considered various fixes for the problem advanced by Dr. Christensen, e.g., recommending that all ships have as ship's equipment at least a low cost CTD system, they finally deferred action since they did not want to address the ship's equipment problem piecemeal.

ROSCOP Submissions. George Keller introduced as Other Business the submission of ROSCOP forms from cruises on UNOLS ships. The immediate impetus for this item came from correspondence with Gregory W. Withee, Director, National Oceanographic Data Center (Appendix VII).

Projects on UNOLS ships, funded by NSF, ONR and other Federal agencies, are required to submit ROSCOPS to NODC. These forms document the collection of oceanographic data, effectively registering the data. The rate of submission is, apparently, less than 20%. NODC, as well as funding agencies, are concerned. NODC has suggested a change in procedure for submission of the forms: that initial submission be to the UNOLS Office, for ease in monitoring rate of submission.

The Advisory Council directed that the UNOLS Office cooperate with NODC, as suggested, and take other steps to assure a satisfactory rate of submission for ROSCOPS.

UNOLS Charter Changes. A draft revision for the UNOLS Charter, Annex I had been prepared and provided to the Council (Appendix VIII). **The Advisory Council directed that the draft be submitted to UNOLS membership as their recommendation for a revised Annex I.**

The Advisory Council discussed the UNOLS meeting and agenda for October 1987. The council urged that the agenda include a follow-on to the Robert Corell - Marvin Moss presentation on joint NSF-ONR research fleet management (see report of UNOLS Ship Scheduling Meeting, July 14, 1987). It was noted that Dr. Fred Saalfeld is now Director, ONR.

UNOLS Ship Use Statistics. A Summary of UNOLS ship use (by class) for years 1982-1986 had been distributed. This summary was similar to that for 1981-1985 presented to the Council in January, 1987. The summary for 1982-1986 will appear in UNOLS News, Vol. 4, No. 2.

Funding Agencies. Don Heinrichs, NSF/OCFS reported that the CAYUSE is being transferred to Maine to operate for a consortium called ARGO Maine (Maine Maritime Academy, University of Maine, Bigelow Laboratory for Ocean Sciences, Maine Department of Resources and Maine Geological Survey). The transfer was cleared after federal agencies had withdrawn their earlier expressions of interest. The physical transfer will begin early in October, and the ship should be available for operation sometime during 1988. The CAYUSE is not presently in the UNOLS Fleet.

The OCE budget estimated for 1988 was $149.5 million as compared to $133.7 million in FY 1987. This represents an increase of $15.8 million or 11.8%. (Congressional reception of the entire NSF budget package has, so far, been favorable. There remain, however, possibilities for reduction.) Breakdown for OCE's FY-1988 budget estimates:

	Funds	Increase
OSRS (science)	$74.3M	(11.8%)
OFS (facilities)	$43.9M*	(18.0%)
ODP (ocean drilling)	$31.3M	(4.2%)
OCE	$149.5M	11.8%

* Includes new facility, Accelerator Mass Spectrometer Center (responses to RFP due October 15, 1987).

Due dates for most facilities proposals have been changed for this and subsequent years:

Ship Operations	Oct 1
Marine Operations	Oct 1
Ocean Instrumentation	Sept 1
Shipboard Equipment	Sept 1

The general level of activity in NSF's ocean engineering center is increasing. Programs should be established at a level of about $2 million in FY-1988. A level of $10 million/year is anticipated later.

A new brochure is available on the ocean drilling program.

OCE will again this year emphasize support for undergraduates to gain experience on ships and in field investigations. There will again be two categories, site awards and supplementals (to existing science or facility proposals). **A new announcement will be circulated shortly.**

OCFS is sponsoring four studies of interest to UNOLS:

1. Submersible Science Study, 1990 and beyond.

2. Study of 2-1/2 years' medical incidents and advice.

3. Study on Open Ocean Diving.

4. Insurance for the Research Fleet - An Insurance Club Concept.

All of these studies will be initiated in 1987.

Keith Kaulum, ONR, reported that renovation of AGOR-14 and 15 is progressing well. This project will result in two essentially new ships (Appendix IX).

Scripps and W.H.O.I. have written ONR requesting that KNORR be scheduled for first renovation (late in 1988).

The Council discussed with NSF representatives their agency shipbuilding plans. Don Heinrichs noted that NSF plans for ship construction are as outlined in **A Unified Plan for Ocean Science, Long Range Plan for the Division of Ocean Sciences.** That plan would result in construction of three ships by 1994: two large, general purpose and one small (or intermediate) ice-strengthened research vessel. Planning and design funds are in the 1988 budget; construction funds are projected for 1989 through 1994. **Considerable NSF-UNOLS interaction is anticipated in specifying mission requirements, design and documentation of ship construction justification.**

The meeting was adjourned at noon on August 25.

AGENDA
Advisory Council Meeting
8:30 a.m.
August 24, 25, 1987
Bigelow Laboratory for Ocean Sciences
West Boothbay Harbor Maine

Call the Meeting - John Martin, Chairman.

Accept minutes of the January 29, 30, 1987 Advisory Council Meeting - Minutes were distributed to Council Members (and the UNOLS community) in late March.

Advisory Council Standing Roles

UNOLS Ship Scheduling - A report on the July 14, 1987 Ship Scheduling Meeting will be given by Bill Barbee. George Keller will offer comments on the meeting and on UNOLS' process for scheduling. A/C discussion.

Bill Barbee will discuss recent demand (e.g., FIC and others) for interactive (automated?) scheduling and ship time requests. Action plan for achieving needed improvements. A/C discussion.

Alvin Review Committee Report - George Keller and Bill Barbee will report on the May, 1987 ARC meeting. Barbee will provide tentative ALVIN/AII 1988 schedule, prospectus for 1989 and ARC steps toward advanced planning. (Material provided in package).

Fleet Improvement Committee - Report on FIC actions and plans since last A/C meeting (i.e., FIC meetings of Feb 3, 4, May 11, 12 and Aug. 13, 14; proposal for FIC support; proposed FIC activities). Robertson P. Dinsmore, George Keller.

Cruise Assessment - Cruise Assessment Summaries for 4th quarter 1986 and 1st quarter, 1987 will be available. Robertson Dinsmore will assess the cruise assessment process. TAMU-generated cruise assessment form.

Vessel Inspection - Robertson Dinsmore will report on the program.

Shipboard Scientific Instrumentation, Technician Program - John Martin will report on status.

UNOLS NEWS - Vol. 4, No. 1, March 1987 is the sole issue so far this year. No 2 should reflect results of the July Ship Scheduling, August Advisory Council and various FIC meetings. Also, update on KNORR/MELVILLE modernization, Navy research vessel acquisition, etc. Publication late Sept?

International Restrictions to Ocean Sciences - UNOLS does not have (since the January, 1987, A/C action) a committee or subcommittee to address clearance and other problems. A/C action, if warranted.

Scientific and Government Trends; Agency and Community Contact - Reports from UNOLS, A/C chairman and others as pertinent. Possible issues include NSF-ONR interaction on research fleet management, agency interaction on global geosciences initiatives. NSF and ONR representatives may choose to address fleet management or other issues.

UNOLS Statistics - Ship use statistics for 1986 and a new five year (1982-1986) summary will be available.

Funding Agencies - Agency representatives will provide information and request UNOLS action as appropriate (NSF, ONR, USGS, MMS, NOAA, other). Status of CAYUSE.

UNOLS Fleet Policies and Strategies for the 1990's - The A/C, in June, 1986 resolved to make a special study of UNOLS fleet posture for the 1990's. The concept was endorsed in August, 1986 and a working group formed. The working group made a preliminary report in October, 1986, and the Council endorsed some of the the group's recommendations. The Council agreed that "the report" needed further refinement together with integration with efforts of the FIC. This item was on the agenda for the January, 1987 meeting but was not explicitly addressed. The A/C should decide whether or not to proceed with a study and, if they decide yes, adopt workable terms, an action plan and proceed. The Council may also wish to consider what response, if any, UNOLS should make to NSF's Long Range Plan for Ocean Sciences (distributed by NSF). Discussion.

UNOLS Structure and Mission - Discussion of UNOLS structure and mission. Should changes be made? What changes and how?

UNOLS Fleet Risk Management and Fleetwide Insurance - Results of canvassing operators on forms/releases required of cruise participants. Bill Barbee. NSF Sponsored study of UNOLS Fleet Insurance. John McMillan.

Disposal of Radioactive Products - A member institution has recently raised questions concerning disposal of (and regulations therefore) radioactive products from research vessels. Questions arise concerning jurisdictions under state, national and international authority. Information for Council consideration.

UNOLS Response to Proposed MMS Regulations for Work in EEZ - The proposed regulations. UNOLS response.

UNOLS Business

UNOLS Charter - Develop Council recommendations for changes or readoption in October, 1987.

UNOLS Office - George Keller will discuss the status of continued hosting of UNOLS Office. He will also note an issue raised by a Member institution.

UNOLS Nominations - George Keller has selected a nominating committee (for unexpired term, UNOLS vice chair and three Advisory Council positions: two representing Member institutions, Fox, Maxwell, incumbents and one representing Associates, Malone, incumbent.) Discussion.

Other Business - As appropriate.

The University of Rhode Island Graduate School of Oceanography
Narragansett Bay Campus, Narragansett, RI 02882-1197

28 January 1987

Dr. George H. Keller
Oregon State University
Research Office
Corvallis, OR 97331-2135

Subject: Disposition of cruise-related radioactive wastes

Dear George:

A recent ENDEAVOR cruise, EN-146, involving the use of reasonably substantial amounts of radioactive products on board (750 millicuries of 14-C labelled sodium bicarbonate), revealed a problem which I believe may be of potential fleetwide significance. The cruise itself was highly successful (see enclosed Cruise Assessment, Attachment I).

The use of such a substantial quantity of radioactive material by the two principal investigators (Dr. Hilary Glover of Bigelow Laboratory and Dr. Barbara Prezelin of the University of California at Santa Barbara), required that URI temporarily increase its institutional limit for holding and disposing of radioactive waste products, and even though a seemingly reasonable procedure for at-sea disposal of the diluted rinse water was defined (Attachment II), the URI Radiation Safety Committee was unable to find documented precedent for at-sea disposition. The approval path, even if a precedent existed, was unclear and appeared to involve several U.S. and perhaps international bodies.

As a result, the dilute rinse water product had to be secured on deck for the entire cruise. The waste consisted of scintillation fluor and sea water waste. Approximately 96 liters of scintillation fluor were produced (10,000 vials). This remained in individual vials and was packed into three 55-gallon drums sealed and stored on the ship. The liquid wastes were ultimately returned to URI and disposed of in Narragansett Bay with the participation of cruise and local personnel.

Carrying large amounts of radioactive materials on deck or, as we considered, in a specially designed below-deck container, adds to the potential for contamination, and indeed some minor post-cruise deck contamination was revealed by an NSF-sponsored radiation safety check.

Additionally, by disposing of the liquid radioactive waste to a nearshore environment, instead of disposing of it in its already diluted state from the stern of a rapidly moving vessel in the open ocean, struck us as the height of technological idiocy, even though it seemed to be the only acceptable political alternative.

Perhaps a useful approach to the specific questions raised would be to consider ship use in a special category separate from the operating institution's license limit and that some appropriate legal definition of "undetectable" could be established, or interpreted, such as to allow release of very dilute rinse water in the open sea.

This problem has been discussed at length with URI's Ship Committee and our Radiation Safety Committee and with Jeff Fox, now a member of the UNOLS Advisory Council. It seems probable to us that with all of the interest in funding major global studies currently planned or underway (WOCE, TOGA, GOFS, BIOWATT, etc.), with their need for these techniques, this problem, if left unresolved, could well become a limiting factor.

Recognizing potential geo-political complications of the U.S. being perceived as a radioactivity polluter, we believe that the most appropriate initial forum to discuss the significance of this problem might be the UNOLS Advisory Council. Jeff Fox has agreed to communicate our concern as soon as it is possible for him to do so--he will be at sea for your next meeting, but if schedules permit, would like to have this topic on the agenda at an upcoming meeting.

Sincerely,

James J. Griffin
Director of Facilities

JJG:vb
Attachments
cc: D. Heinrichs (NSF)
J. Knauss
J. Fox
K. Wishner
F. DiMeglio
H. Knickle

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

Oregon State University
Research Office
Corvallis, OR 97331-2135
(503) 754-3437

February 5, 1987

Mr. James J. Griffin
The University of Rhode Island
Graduate School of Oceanography
Narragansett, RI 02882-1197

Dear Jim:

Thank you for your letter of January 28 regarding the use of radioactive material aboard the ENDEAVOR and the waste disposal problem that was encountered. Charlie Yentsch from Bigelow Lab was at the UNOLS Advisory Council meeting last week, and some of us learned of his frustrations regarding some aspects of this issue. Disposing the waste in Narragansett Bay and not in the open sea has to be the wrong approach to this disposal problem.

I will share your letter with other members of the Advisory Council, and via copy of this letter, ask them to come prepared to discuss and recommend an approach to dealing with this issue at our next meeting.

I can see that this subject has occupied a tremendous amount of time and effort by you and others at URI. I appreciate your sharing this frustrating experience and the associated documentation with me. Through Jeff Fox we shall keep you informed.

Sincerely,

George

George H. Keller
Chairman

GHK:ms

cc: W. Barbee
D. Heinrichs
J. Knauss
UNOLS Advisory Council

PROPOSAL

FOR

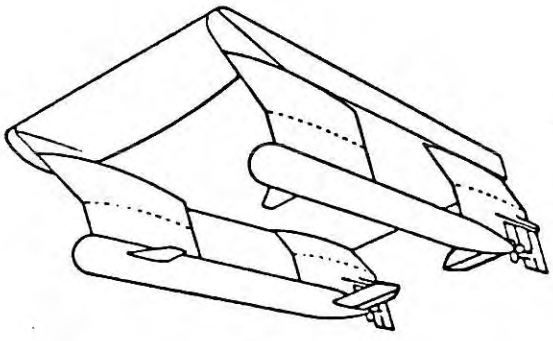
CONCEPT DESIGN

SMALL SIZE, GENERAL PURPOSE, SWATH-TYPE OCEANOGRAPHIC RESEARCH SHIP

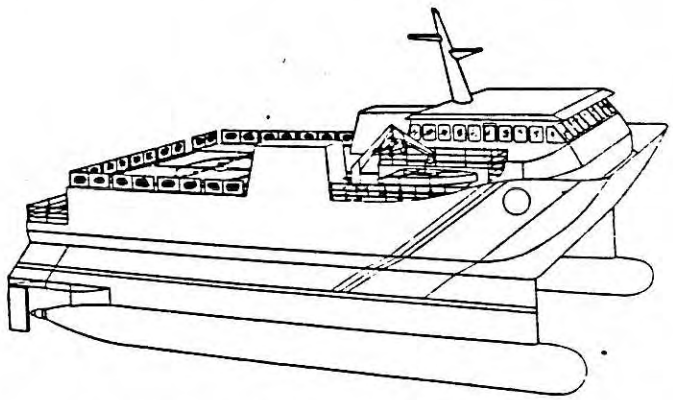
It is proposed to carry out a concept design for a SWATH oceanographic research vessel in the small to intermediate size range (150 ft. LOA).

The small waterplane twin hull (SWATH), or semisubmerged ship, is a relatively recent development in ship design. Although patents employing this concept show up in 1905, 1932 and 1946, it was not until 1972 that an 89 foot, 217 ton prototype model was built by the Naval Ocean Systems Center (SSP KAIMALINO). The principle of the SWATH ship is that submerged hulls do not follow surface wave motion, and struts supporting an above water platform have a small cross section (waterplane) which result in longer natural periods and reduced buoyancy force changes. Hull fins further dampen motions and provide dynamic stabilization when underway. The result of all this is that SWATH ships, both in theory and performance of the several already built, demonstrate a remarkably stable environment and platform configuration which is highly attractive for science and engineering operations at sea. It is time that the oceanographic community take a hard look at what a SWATH can offer.

Ten SWATH ships are in service today, seven in the United States and three in Japan including the 3,500 ton KAIYO. All operators are enthusiastic in their reports of ship performance. Exhaustive tests have been conducted on the U.S. Navy's KAIMALINO at its Hawaii Laboratory. One large SWATH (TAGOS-19) is under construction by the Navy and three additional SWATHs are being planned.



Underview of a typical SWATH
(dual-strut type)



134-ft. Coast Guard SWATH design
(continuous strut type)

- o Operating characteristics, including costs
- o Estimated construction cost
- o Artist's concept drawing

The Concept Design Review provides the opportunity for feedback into the requirements and the testing of the many comments and suggestions which outght to be available at this stage. It is by no means certain whether the next stage of the design process, the Preliminary Design, will closely resemble the Conceptual Design. But the Conceptual Design will have served its purpose if it permits the next stage to start with any reasonable degree of confidence.

It is proposed to carry out the study utilizing a recognized naval architect firm, preferably one having a demonstrated performance in SWATH ship design. An RFP will be issued and a contractor will be chosen from among the replies using selection criteria including:

- o responsiveness
- o demonstrated performance
- o qualified personnel
- o cost

It is estimated that this would be a 4-6 month effort involving approximately 450 man-hours of contractor effort, three man-weeks of project director's time, reviews by several paid and volunteer consultants and at least one meeting with the UNOLS Fleet Improvement Committee.

It is proposed that the project director be Captain Robertson Dinsmore of Woods Hole Oceanographic Institution with guidance and oversight exercised by the UNOLS Fleet Improvement Committee.

A report will be submitted six months following start of the project including the task elements cited above. At least 100 copies of the report will be provided for distribution to UNOLS members and other interested parties.

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

SCIENTIFIC MISSION REQUIREMENTS FOR INTERMEDIATE SIZE GENERAL PURPOSE OCEANOGRAPHIC RESEARCH SHIP "SMALL WATERPLANE AREA TWIN HULL (SWATH) TYPE"

August 1987

General

The ship is to serve as an intermediate size general research ship. The overriding required characteristic is that the ship provide the most stable environment possible in order to allow both overside and laboratory work to proceed in greater capacity and in higher sea states than is now possible. Other general requirements are for large scientific parties and greater flexibility in use of laboratory/deck spaces than is now available aboard intermediate size ships.

Size

It is intended that this SWATH ship have a general capability equivalent to an existing monohull research vessel of between 180-200 ft. LOA. Available information indicates that such a SWATH vessel would be approximately 150 ft. LOA and about 600-800 tons displacement.

The ship should have, or be capable of deballasting to, a harbor draft of not more than 16 ft.

Endurance

Thirty days; providing the ability to transit 15 days at cruising speed and 15 days station work (see stationkeeping and towing); 6,000 mile total range.

Accommodations

Twenty scientific personnel in two-person staterooms. Expandable to 24 through the use of van(s). Science Library-Lounge with conference room capability. 10-12 crew persons

Speed

12 knots cruising sustainable through sea state 4. Maximum speed 14 knots. Speed control ± 0.1 knot in 0-6 knot range; and ± 0.2 knot in range 6-14 knots.

Cranes

A suite of modern cranes to handle heavier and larger equipment than at present; (1) to reach all working deck areas and offload vans and heavy equipment to 20,000 lbs.; (2) articulated to work close to deck and water surface; (3) to handle overside loads up to 5,000 lbs., 30 ft. from side and up to 10,000 lbs. closer to side; (4) overside cranes to have servo and motion compensation; (5) usable as overside cable fairleads for towing at sea.

Ship capable of carrying portable cranes for specialized purposes.

Winches

Oceanographic winch systems providing fine control (0.5 m/min); constant tensioning. Wire monitoring systems with inputs to laboratory panels and shipboard recording systems. Local and remote controls.

Permanently installed general purpose winches include:

Two hydrographic-type winches capable of handling 30,000 ft. of wire rope or electromechanical cable having diameters from 3/8" to 1/4".

A heavy winch complex capable of handling 40,000 ft. of 9/16" wire/synthetic fiber rope; or 30,000 ft. of 0.68" electromechanical cable (up to 10 KVA power transmission) of fiberoptics cable. This is envisioned as one winch with multiple storage drums which could be interchanged.

Additional special purpose winches may be installed temporarily at various locations along working decks. Winch sizes may range up to 20 tons (120 sq. ft.) and have power demands to 150 hp.

Winch control station(s) located for optimum operator visibility with reliable communications to laboratories and ship control stations.

Overside Handling

Various frames and other handling gear to accommodate wire, cable and free-launched arrays. Maximum hoisty capacity 30,000 lbs. Matched to work with winch and crane locations but able to be relocated as necessary.

Stern A-frame to have 15 ft. minimum horizontal, 25 ft. vertical clearance, 12 ft. inboard and outboard reaches.

Capability to carry additional overside handling rigs along working decks from bow to stern.

Control station(s) to give operator protection and operations monitoring and be located to provide maximum visibility of overside work.

Capability to carry and deploy scientific workboat 25-30 ft. LOA, specially fitted out for supplemental operations at sea including data/sample collecting, instrumentation, and wide angle seismic measurements. To be accommodated as one of the two-van option above.

Science Storage

Total of 5,000 cu. ft. minimum of scientific storage accessible to labs by interior and weatherdeck hatch(es). Half to include suitable shelving, racks, and tie downs; remainder open hold. Chemical reagent storage in suitable location.

Acoustical Systems

Ship to be acoustically quiet as practical in the choice of all shipboard systems and their location and installation. Design target is underway, conventional and SEABEAM SWATH echo sounding in sea state 4 and acoustical dynamic positioning through sea state 5.

Ship to have conventional 12 kHz, 3.5 kHz echo sounding systems and provision for additional systems, including:

- o Phased array, multibeam SWATH sonar system (SEABEAM) for guiding seafloor sampling/photography and deep tow geophysical profiling studies and for limited bathymetric charting;
- o Forward-looking submarine search-type sonar for mid-water trawl net guidance;
- o Hull-mounted transducers appropriate for dynamic positioning using seafloor transponders;
- o Transducer wells one located forward and one aft. Pressurized sea chests to be located at optimum acoustic locations for at-sea installation and servicing of transducers and transponders.

Navigation/Communications

Global Positioning System (GPS) with appropriate interfaces to data systems and ship control processors for automatic computer steering and speed control.

Dynamic Positioning Systems with both absolute and relative positioning parameters using both GPS and seafloor acoustic navigation transponders.

Internal Communications

Internal communication system providing high quality voice communications throughout all science spaces and working areas.

Appendix IV

To: Distribution

1 August 1987

From: R. P. Dinsmore

SUBJECT: NEW NAVY SHIP CONSTRUCTION - AGOR 23, STATUS OF

CONSTRUCTION

The RFP for the construction of the new ONR research ship AGOR-23 has been issued. It is a "design & build" type RFP. This means that the bidder must submit a complete contract design package which conforms to the general requirements set by the Navy. In other words, the bidder actually designs the ship and submits the design, along with bid price for construction and outfitting. The cost for preparing a bid of this sort is about $750,000.

A summary copy of the requirements is appended (Appendix A). Previous "designs" of the AGOR-23 are in-house examples and do not necessarily resemble the final design. SWATH ships and conversions are permitted to enter but the program is aimed chiefly at a monohull type ship of about 250 feet in length.

The bid selection process is novel. Starting with a bid price having a $27.7M cap, there will be "deductions" from the actual bid price for meeting certain enhanced operating criteria. For example, the minimum acceptable cruising speed is 12 knots; but if the design makes 15 knots the bidder gets an $8.9M "credit", and so on. The lowest final adjusted price wins.

Deadline for proposal submission is 20 November 1987. Estimated delivery of the new ship is 1990. The acquisition schedule is attached as Appendix B.

OPERATION

ONR has issued the RFP for the operator of the new ship. It is intended that the operator be a UNOLS lab but a crucial issue is that a proposer must be in a position to trade in an AGOR-3 Class ship for layup. The present AGOR-3s in UNOLS are the T. WASHINGTON (Scripps), T. THOMPSON (University of Washington), and the CONRAD (Lamont). Thus, it would appear that only those labs are in a reasonable position to propose.

Deadline for the proposal is 31 August 1987 and selection will be about 30 October. It is anticipated that the operator selected may have some role in the selection of the construction design and may be able to effect some design changes (probably minor). Extract of the operations RFP is attached as Appendix C.

APPENDIX A

SUMMARY OF SPECIFICATIONS

Maximum length and draft are 275 and 17 feet, respectively. The ship may be a new construction monohull or small waterplane area twin hull (SWATH), or conversion of a newly constructed existing hull.

The following specifications are those stated in the NAVSEA Request for Proposals:

	Minimum Requirement	Enhanced Requirement
1. Sea Keeping (on Station)	o 0 kts/SWH 12'/B.H.	o 0 kts/SWH 20'/B.H.
2. Sea Keeping (Slow Speed)	o 6 kts/SWH 12'/B.H.	o 6-10 kts/SS6(SWH 20')/B.H.
3. Acoustic Characteristics and Systems	o No interference with operation of hull mounted systems at 3.5, 12 and 36, and 50-300 KHz up to 12 kts at SS4(SWH 8').	o Same
4. Station Keeping	o 300 ft Radius/B.H./wind 27 kts/current 2 kts/SS5(SWH 12').	o Same
	o No trackline capability.	o Trackline within 300' at 2.5 kts/A.H./wind 27 kts/current 2 kts/SS5(SWH 12')/heading within 45°.
5. Sea Keeping (Transit)	o 12 kts SWH/8'/A.H.	o 15 kts/SS4(SWH 8')/A.H.
6. Sustained Speed (Calm Water)	o 12 kts	o 15 kts
7. Laboratory Area	o 3,200 FT^2 total. o 2,000 FT^2 (3 labs) contiguous to work deck.	o 4,000 FT^2 total. o 3 Lab areas (2700 FT^2 total) contiguous to working decks.
8. Accommodations	o 30 scientific o 20 crew (min) o 10 single and remainder o double staterooms o 10 additional in 2 deck vans o Library/Conference Room o Science Office o Mess/Lounge Area	o Same

	Minimum Requirement	Enhanced Requirement
9. Ship Control	o Good visibility of working deck areas from bridge control station.	o Same
	o Continuously variable 0- 6 knots (electric) 5-12 knots (diesel)	o Continuously variable speed 0-15 knots. (No system switch
10. Integrated Electric Drive	o Permitted	o Required
11. Scientific Storage	o 13,000 FT^3 total in 3 locations. 35 tons total.	o 15,000 FT^3 total in 2-4 locations. 135 tons total.
12. Endurance	o 8,000 nm at 12 kts plus 29 days at 3 kts on station with 10% Reserve.	o 12,000 nm at at cruise speed plus 29 days at 3 kts with 10% reserve.
13. Working Area Deck	o Total fantail working area of 3400 ft^2 including a minimum 12' x 100' contiguous area on one side.	o 3500 FT^2 total fantail working deck area including a minimum 12' x 100' contiguous area on one side.
	o 2 vans (see item 8 above)	o Deck area for 4 vans (8' x 20') on main upper deck with direct access to ship interior.
	o 100 tons disposable load.	o 100 tons disposable load.
	o No centerwell (SWATH)	o Centerwell 15' x 30' (SWATH only).
14. Towing Capability	o 10,000 lbs at 5 kts o 20,000 lbs at 2.5 kts	o Same
15. Marine Geology & Geophysical Mission	o None	o Electric power for 600 HP of compressors.
16. Electronic I.C. System	o None	o Serving all operating spaces labs, public spaces, working deck stations and van stations.

APPENDIX B

ACQUISITION SCHEDULE

Program Brifing to Industry	29 May 1986
NAVSEA Feasibility Designs Completed	30 May 1986
NAVSEA Acquisition Plan (AP) Approved	30 July 1986
Assistant Secretary for Shipbuilding & Logistics Endorsed AP	27 August 1986
Chief of Naval Operations Top Level Requirements (TLR) Signed and Forwarded to NAVSEA	29 September 1986
NAVSEA Circular of Requirements (COR) Approved	24 October 1986
Solicitation for AGOR 23 Released to Industry	27 May 1987
Solicitation for Operation of AGOR 23 Released to Academic Institutions by the Chief of Naval Research (OCNR)	1 June 1987
Institution Proposals Due to OCNR	31 August 1987
Industry Proposals Due to NAVSEA	20 November 1987
Operating Institution Selection	30 October 1987 (est)
Award for Ship Construction	15 April 1988 (est)
Start Construction or Conversion	October 1988 (est)
Delivery	30 September 1990 (est)

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL RESEARCH
ARLINGTON, VIRGINIA 22217-5000

IN REPLY REFER TO

5000
Ser 1121SP/34
5 June 1987

From: Environmental Sciences Directorate
To: Distribution

Subj: AGOR-23 PROGRAM - SOLICITATION OF PROPOSALS FOR CHARTER OPERATION OF A DEEP OCEAN RESEARCH SHIP

1. Enclosed is a copy of the subject solicitation for charter operation of the AGOR-23. Your institution is invited to submit a proposal. The Office of Naval Research will negotiate a Charter Party Agreement with the selected institution for operation of the ship within the U.S. academic research ship fleet. The AGOR-23 is being procured for ONR by the Naval Sea Systems Command to replace an existing AGOR-3 class ship and is expected to be delivered by September 1990.

2. Please observe all of the conditions indicated by the solicitation. If questions arise, the ONR point of contact is Mr. Keith Kaulum, Code 1121SP. The closing date for this solicitation is 31 August 1987.

Eric O. Hartwig

ERIC O. HARTWIG
Director
Environmental Sciences

Distribution:
University of Alaska
University of Washington
Oregon State University
Moss Landing Marine Laboratories
University of Southern California
University of California, San Diego
University of Michigan
Texas A&M University
The University of Texas
University of Miami, RSMAS
Skidaway Institute of Oceanography
Duke/UNC Oceanographic Consortium
The Johns Hopkins University
University of Delaware
Lamont-Doherty Geological Observatory
University of Rhode Island
Woods Hole Oceanographic Institution
University of Hawaii, Institute of Geophysics

APPENDIX C

INTRODUCTION

The Office of the Chief of Naval Research invites proposals for the operation of one deep-ocean research ship, AGOR 23. The ship will be constructed or converted as a general purpose oceanographic research ship. AGOR 23 will meet the specifications cited in Appendix A. The maximum length overall and draft are 275 and 17 feet, respectively. The ship acquisition will follow the schedule contained in Appendix B.

Title to the ship will be retained by the United States Navy. The ship will be assigned to an operator institution(s) under a renewable five (5) year charter party agreement with the Navy. This solicitation covers only the selection of the operating institution(s) for AGOR 23. It does not include consideration for funding of operations, equipment, or scientific project support.

Proposals will be evaluated by the Office of the Chief of Naval Research (OCNR) with the assistance of the National Science Foundation (NSF), the Office of the Oceanographer of the Navy (OON) and representatives from the University National Oceanographic Laboratory System (UNOLS). Major considerations for selection of the operating institution(s) will include excellence in the performance of Navy oriented oceanographic research; ability to complete final fitting out of the vessel; ability to maintain and operate such ships under sound maritime practices; and willingness to undertake a cooperative role in scheduling and operating the ship in support of the Navy research programs and the larger U. S. oceanographic research community.

Proposals must be received by 5 P.M. EST, 31 August 1987 to be considered under this solicitation.

BACKGROUND

Approximately 25 ships operated by some 17 U. S. academic research institutions constitute the UNOLS "academic research fleet". These ships are used primarily by scientists at these and other academic institutions to carry out research projects funded by the Navy, NSF and other federal, state and local agencies. Navy has currently provides six of the seven largest research ships in the academic research fleet. The continuing need for large, multiple discipline research ships stems from Navy's need to conduct research on an all-season, worldwide basis.

Access to the academic fleet is facilitated through UNOLS, which is an independent organization of ship operating research institutions. Under UNOLS guidelines qualified, funded scientists from all U.S. institutions are assured access to shiptime on UNOLS vessels which are appropriate to their research needs.

In July 1984, the Secretary of the Navy announced fifteen initiatives to meet Navy and national requirements in Oceanography. Two initiatives specifically address the need to replace existing Navy vessels in the UNOLS fleet. The first of these initiatives is met by the AGOR 23 program which

will deliver a UNOLS Class II deep ocean research ship by 1991. The ship is being procured by the Naval Sea Systems Command (PMS-383) under a fixed-price design and construction solicitation. The Circular of Requirements and Request for Proposal for the ship will be available to respondents to this RFP.

PROGRAM GOALS

The primary goal of the AGOR 23 program is to acquire a deep ocean, multiple discipline oceanographic research ship for use by U.S. academic institutions to meet Navy and national worldwide research and data collection requirements. This ship will replace at least one existing AGOR 3 class ship in the Navy portion of the UNOLS academic fleet.

This ship will have improved sea keeping and sea kindliness, greater endurance, and larger science facilities with more accommodations than the AGOR 3 class it is replacing. It will also be ice strengthened (Class C) to help support research in high latitudes.

SCOPE OF PROPOSALS

The objective of this competitive award is to select the most appropriate institution(s) to operate AGOR 23 on behalf of the U. S. oceanographic community. Since AGOR 23 will replace at least one existing AGOR 3 Class ship in the academic fleet, a practical plan for return to the Navy of at least one AGOR 3 Class ship now chartered from ONR must be included in the proposal. ONR plans call for one ship to go out of service during FY 1988 or at a date to be negotiated between ONR and the operator.

Ships are a costly component of oceanographic research, therefore, considerations of efficiency and economy; as well as being fully utilized, and properly maintained and operated will be very important considerations. Selection of the institution(s) to operate this ship will not imply that its staff has the exclusive or biased access to its use. The selection process for the operator will result in the award of an initial 5-year charter agreement with provisions for renewal.

The operating institution will also be invited to provide technical assistance during NAVSEA builder selection, participate in oversight during design, construction, trials and outfitting of the ship. In addition, after delivery of the ship by the builder, the operating institution will have management responsibility for conduct of the post-delivery activities as detailed in Appendix B-2. ONR and/or NAVSEA will provide required funding for these specific activities. Funding for periods of restricted operations during this period would normally be the responsibility of the operator via user charges.

A Navy's decision to assign operating responsibility for the ship does not carry with it an assurance of financial support, except as discussed above. Ship operating support is provided competitively through the normal science proposal and review process within Navy and the NSF, and through contracts,

grants and other arrangements between the operating institutions and other federal, state and private entities. Navy support is closely tied to the shiptime requirements of Navy-supported research programs. Accordingly, neither operational funds nor scientific research project funds are provided under this solicitation. Offerors must demonstrate the existence of, or potential for a strong scientific research program which supports the AGOR 23 program goals, fully utilizes the ship and sustains its operating costs.

The operation and maintenance of U. S. Navy-owned ships is carried out under a standardized charter party agreements which specify the terms of operations and use. (A copy of OCNR's standard charter party agreement will be provided on request.) Listed below are a few of the major conditions included in such agreements

1. Title to the ship and equipment purchased by Navy will be retained by the government.

2. The Charterer must maintain the ship in a good state of repair, readiness, efficient operating conditions, conform to all applicable regulatory requirements (including USCG and ABS certification, and Navy INSURV inspections); and assume full responsibility for the safety of the ship, its crew and scientific party personnel.

3. The initial agreement will be for five (5) years and can be extended beyond this period by the mutual consent of the institution(s) and the Navy.

4. Use of the ship is restricted to federally supported research programs, and non-federal programs of interest to the Navy under specific conditions with approval by ONR.

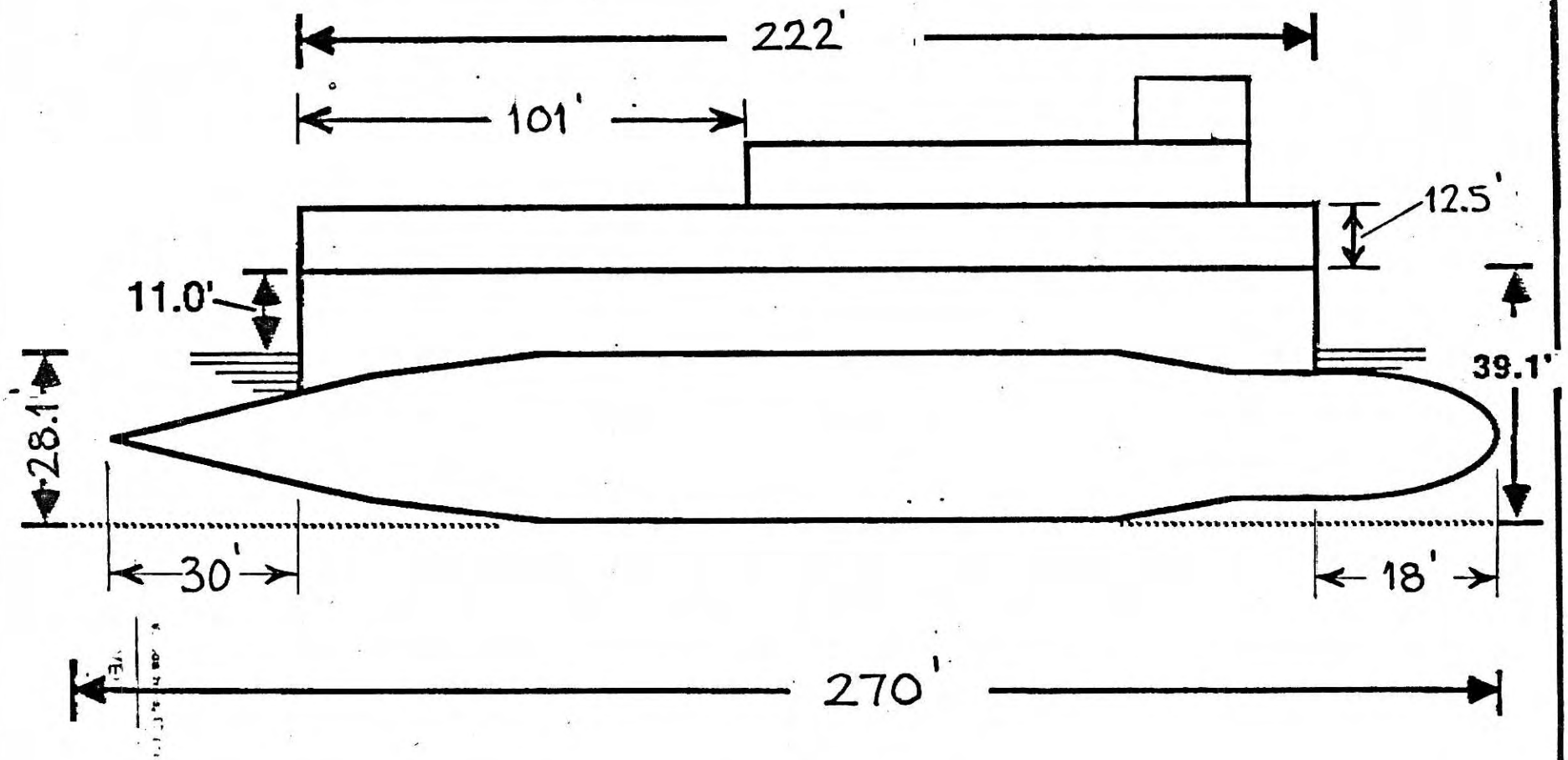
Offerors must be willing and able to enter into a contractual agreement of this type with the Navy, and to discharge the responsibilities and commitments prescribed.

Equipment which becomes integral to the structure or machinery of the ship, regardless of the source of funds for acquisition and installation, is considered to be part of the ship and therefore is government property. Title to privately-owned or financed portable or modular equipment or gear can be retained by the operating institution(s).

ELIGIBLE OFFERORS

Proposals will be accepted from any U. S. academic institution or consortium of U. S. institutions currently conducting graduate level research programs in oceanography and related marine geophysical sciences. Offerors must have experience in operating large world-ranging oceanographic research ships. The Institutions(s) must either be a member of UNOLS or meet the requirements for, and apply for full membership. Such offerors must be able to provide suitable docking, staging and storage facilities in addition to demonstrating their ability schedule and operate this ship.

SWATH COMMON HULL BASELINE (REDUCED) PROFILE



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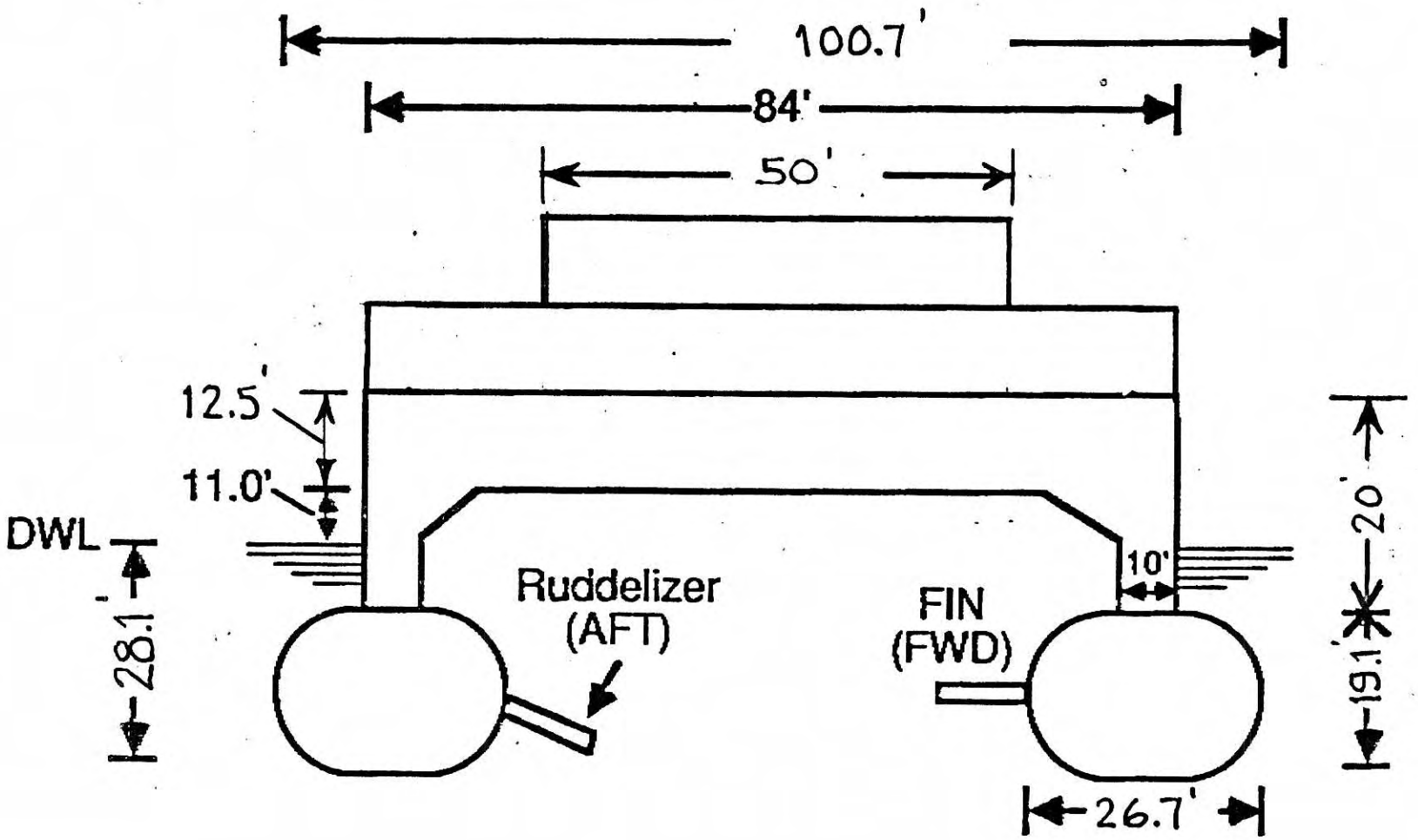
8/87

SWATH COMMON HULL BASELINE (REDUCED) MIDSHIP SECTION



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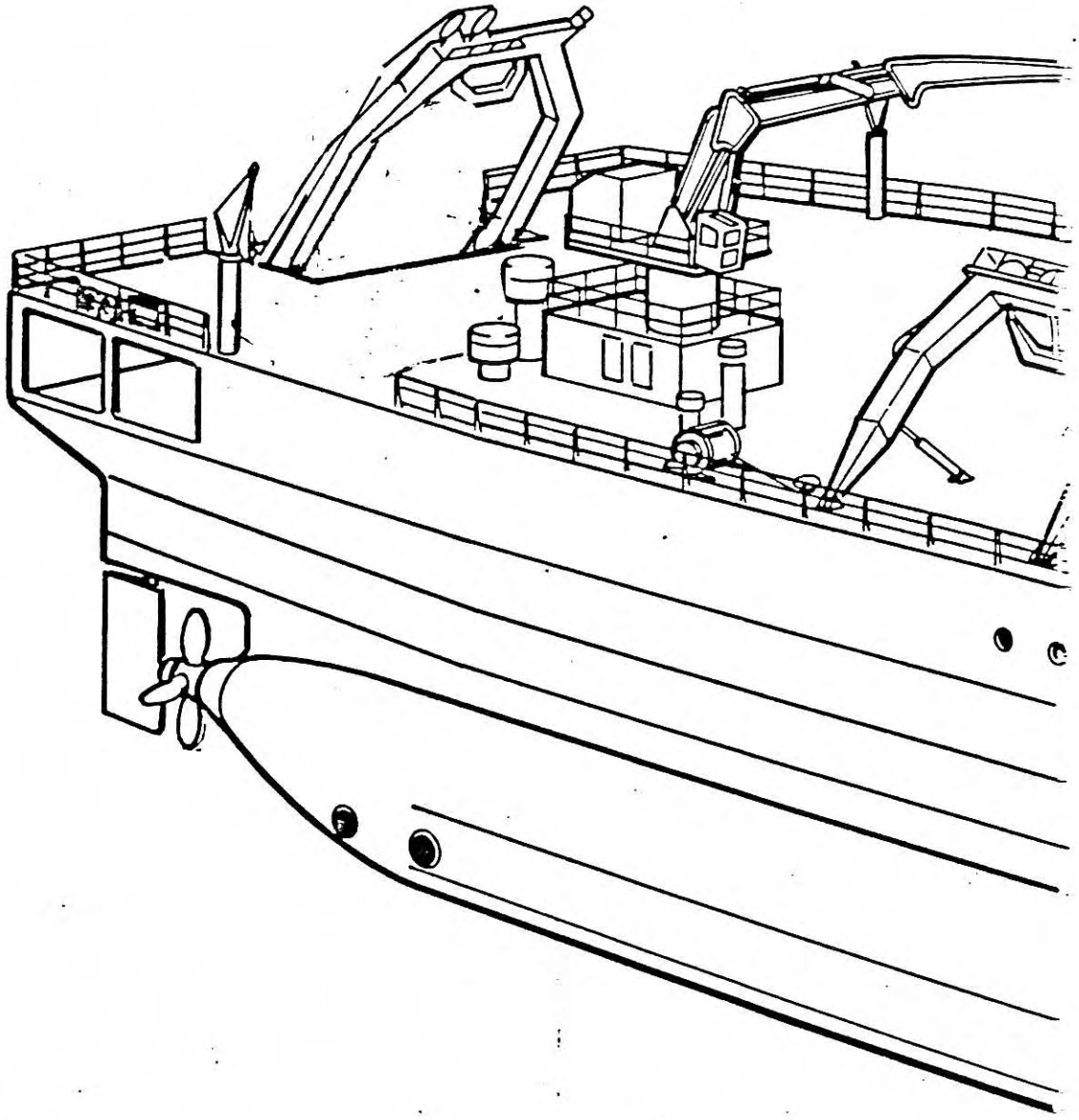
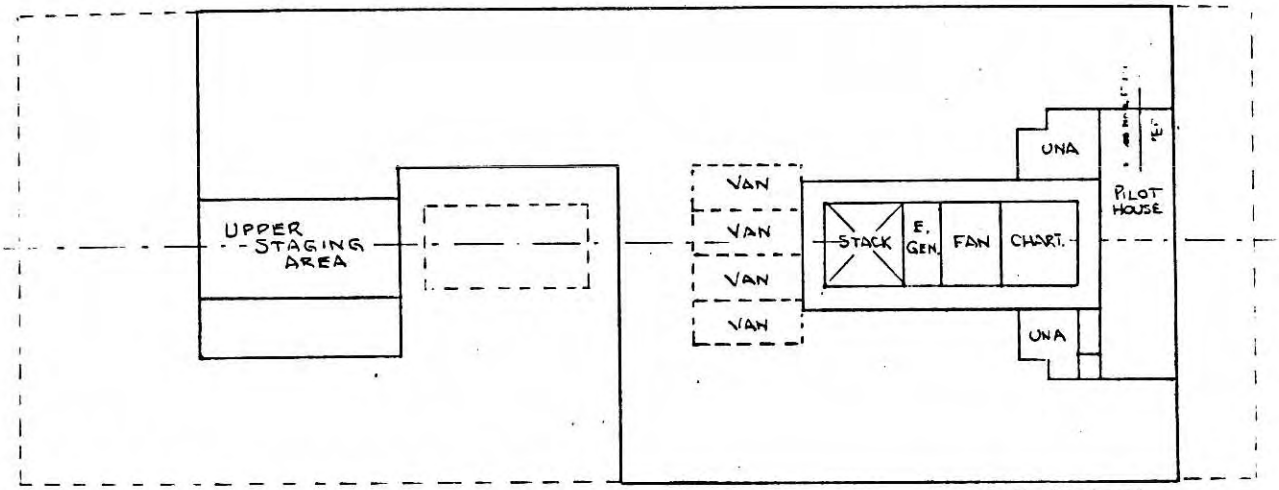
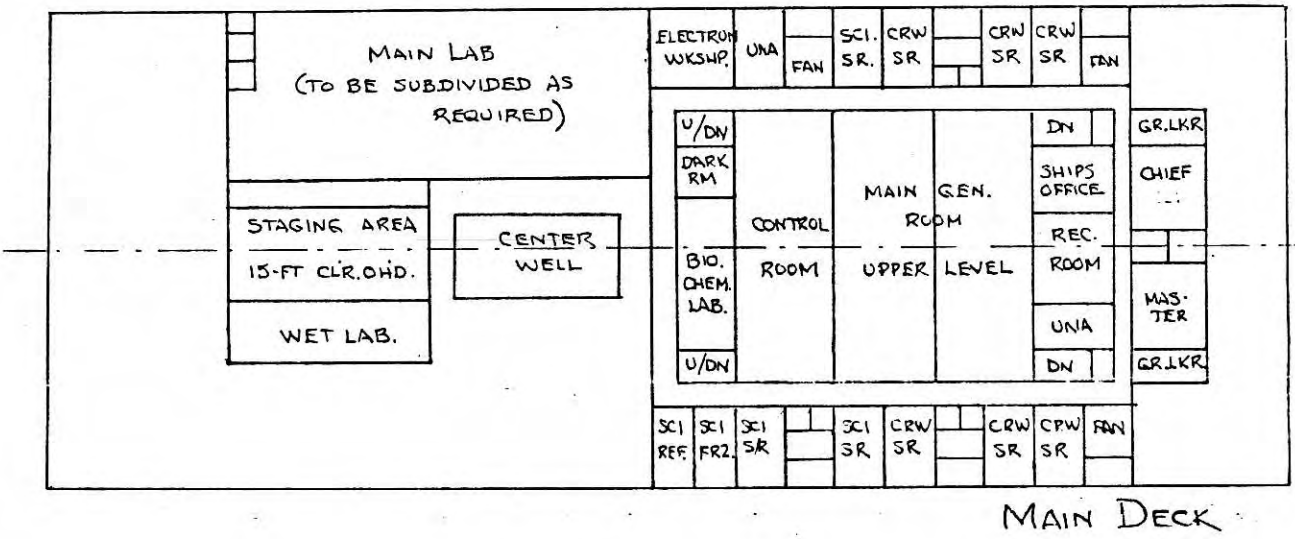


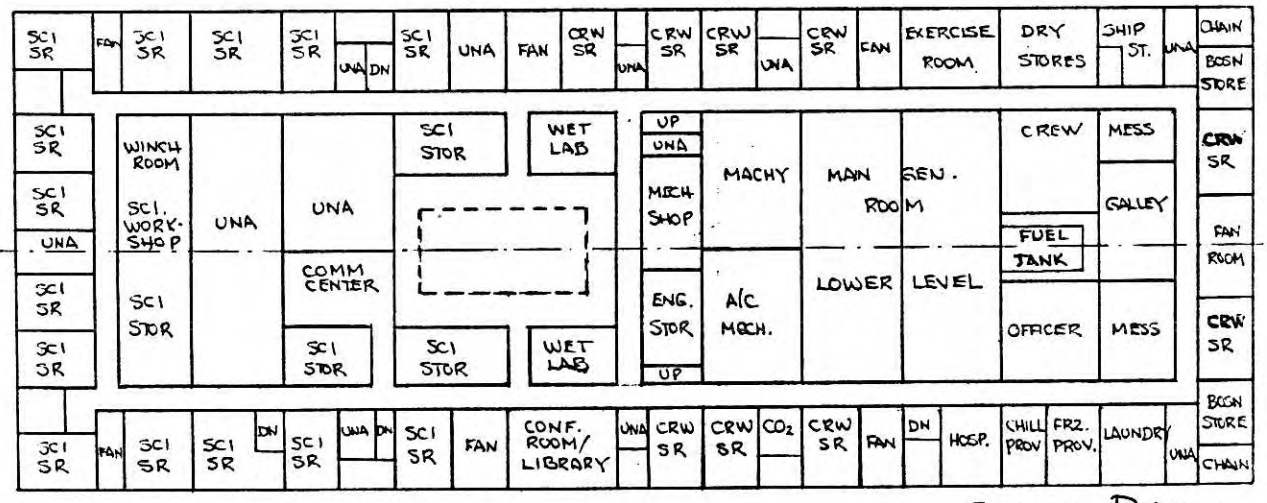
"TYPICAL OVERHANGING STRUT"
SWATH STERN



01 DECK



MAIN DECK



SECOND DECK

	Standard Baseline	OH Strut	Reduced Draft
LOA: (Lower Hulls)	270 ft.	239 ft.	270 ft.
(Upper Hull)	222 ft.	228 ft.	222 ft
Beam: (Lower Hulls)	101 ft.	101 ft.	97 ft
(Upper Hull)	84 ft.	84 ft.	84 ft.
Draft:	29 ft.	29 ft.	25 ft.
Speed:	12 knots	11.5 knots	12 knots
Displacement:	5332 tons	5445 tons	5332 tons
Crew:	22	22	22
Science Compl:	30	30	30
Propulsion:	Integrated Electric: 4x1500 kw gens; 2x1750 hp motors		

T-AGS (OCEAN)
SWATH - COMMON HULL
PROPOSED ARRANGEMENT
18 AUG 1987

File: UNOLS Chair correspondence 1987

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

Oregon State University
Research Office
Corvallis, OR 97331-2136
(503) 754-3437

September 8, 1987

Dr. E. A. Silva
Director, Ocean Engineering Division
Code 1121
Office of Naval Research
800 N. Quincy Street
Alexandria, VA 22217-5000

Dear Gene:

This letter is on behalf of UNOLS for the purpose of bringing to your attention a matter of serious consequence to the seagoing research community.

We have had an occasion to review the conceptual plans for the new SWATH ship, T-AGS (OCEAN). The opportunity for UNOLS to participate in the design phase is very much appreciated, and we especially commend Keith Kaulum of your staff for the excellent job he is doing in representing ONR's interest amongst the many and diverse planning inputs.

Our concern lies with the underwater hulls of the "baseline" design which extend some 30 feet astern of the working deck. These will severely constrain the capability to launch and recover moorings, nets, ROVs, and other large arrays from over the stern. This also will preclude towing modern multichannel seismic arrays which tow hydrophone streamers, air-gun arrays, and magnetometers in a concurrent arrangement.

Such a stern design might be feasible for a T-AGOS vessel which has a single purpose towing mission; however, flexibility required for a general purpose, academic oceanographic research vessel will be negated by the "baseline" design. We understand also that NAVOCEANO representatives have protested against this design. As a result of a request by Dr. Kaulum and others, a more suitable "overhanging strut" design was investigated. Preliminary results showed comparable characteristics, and the latter demonstrated better maneuverability and on-station performance. We are, however, dismayed to learn the NAVSEA and OP-006 have recommended to continue the "baseline" design probably due to additional

development time and cost. It is difficult for us to accept that as a valid reason when the suitability of the design is in question.

A further design concern is that the sides of the upper hull are about eight feet inboard of the lower hulls, thus restricting the ability to work over the side. Again, there is need for the capability to work over one side for at least 100 feet of the working deck. This appears to be a lesser design problem than that of the stern.

We of the academic community are greatly excited over the prospects of a SWATH ship joining our fleet. A fundamental advantage of a SWATH, in addition to its seakeeping, is the ability to utilize large areas of the expansive working deck. We trust that the T-AGS (OCEAN) will be able to serve that role. Our UNOLS Fleet Improvement Committee, under the direction of Dr. Worth Nowlin of Texas A&M University, will be pleased to convene a Working Group to discuss this matter further.

Sincerely,

George H. Keller
Chairman

ms

xc: W. Barbee
R. Dinsmore
J. Martin
W. Nowlin

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Washington, D.C. 20233

National Oceanographic Data Center
August 10, 1987 E/OC13:AP

Dr. George Keller
Chairman, UNOLS
Research Office
Oregon State University
Corvallis, Oregon 97331-2135

Dear Dr. Keller:

As you well know the National Oceanographic Data Center (NODC) is the nation's archive for physical, chemical and biological unclassified oceanographic data. While we are aware that not all appropriate data makes its way to NODC, we do not have a reliable mechanism for determining which data we have and which we do not.

A useful tool for documenting and tracking oceanographic data collected by United States vessels has been the ROSCOP forms. Unfortunately, it appears that the requirement of funding agencies and UNOLS for ROSCOP submission to NODC is being complied with at a rate of less than 20%, thus severely hampering our ability to track data. We are further hampered in providing information to the national and international marine science community regarding data collected during participation of the U.S. in international programs.

Present and future large scale programs (e.g. TOGA, WOCE, GOFS) will likely need to anticipate data collection requirements on a relatively short term basis. Without a reliable central source of information on recently collected data, decision making processes may be impaired.

It is my understanding that the UNOLS "standing orders" require submission of a ROSCOP form to NODC after each cruise as well as submission of a UNOLS Cruise Report form and a Research Vessel Assessment form to the UNOLS Office.

I would like to request a change in the procedures which would require that the ROSCOP form be initially submitted to the UNOLS Office. The NODC Liaison Officer headquartered at PMEL, Sidney Stillwaugh, could visit the UNOLS Office periodically to pick up copies of accumulated ROSCOPs and, with your concurrence, a copy of the each Cruise Report. NODC could utilize the Cruise Report to more closely track data by Project and Grant/Contract number, a method we are presently using for NSF projects.

Maintaining a copy of the ROSCOP at the UNOLS Office as part of each research cruise record may be useful to the UNOLS staff.

I believe this approach would bring much better compliance with ROSCOP submission requirements and allow NODC to more effectively pursue its mission, as well as build a closer relationship between UNOLS and NODC.

Sincerely Yours,

Gregory W. Withee
Director

cc: Mr. William Barbee
UNOLS Office, WB-15
University of Washington
Seattle, WA 98195

ANNEX I
TO THE CHARTER

A Procedure for Coordinating Ship Schedules

1. An important facet of the UNOLS' activities is the provision of a mechanism to coordinate the use of available facilities. The coordination of ship schedules is the most obvious area where immediate benefit might be gained. An underlying principle of UNOLS is that control of facility operations and scheduling remain the responsibility of the operating institution, with the understanding that UNOLS and member operating institutions will make efforts to assure that ships and facilities are fully available to all federally-funded users. To assure that ships and facilities are broadly available and that their use is effectively scheduled and coordinated, it is critically important that records of ship-time requests, ships and facilities available, the funding status of proposed ship use and tentative schedules be broadly disseminated in a timely fashion. It will be a responsibility of the UNOLS Advisory Council to assess and report on the effectiveness of facility utilization.

2. East Coast and West Coast Ship Scheduling Groups shall be established in UNOLS. The purpose of the Groups is to serve as a mechanism for the development and coordination of ship schedules in order to assure the most effective, efficient and economic utilization of ships and associated facilities. The Ship Scheduling Groups shall have their own terms of reference. Membership of the East Coast Group shall comprise authorized representatives from each UNOLS institution on the East Coast, Gulf Coast and Great Lakes, and of the West Coast Group authorized representatives from each UNOLS institution on the West Coast, Alaska and Hawaii. Each Group will include a member appointed from the Advisory Council, drawn from the Associate Membership in the respective regions. Representatives of NSF, ONR and other sponsoring agencies shall be included regularly as observers. Eash Ship Scheduling Group shall elect its own Chairman, by and from the members.

3. The East and West Coast Ship Scheduling Groups, supported by the UNOLS Office shall pursue an annual process of schedule development. The process will be executed so as to assure effective ship and facility support to federally-funded investigators, efficient and economic operating schedules for individual ships and the UNOLS fleet and to provide timely information for fleet management to funding agencies, UNOLS ship operators and the research vessel user community. Procedures for schedule development will include:

   - collection of ship-time requests at operating institutions at the UNOLS Office or both,

   - exchange of ship-time requests and summaries among all UNOLS instiutions and the UNOLS Office,

- development of tentative ship schedules by operating institutions and dissemination among all institutions and the UNOLS Office,

- meetings to consolidate knowledge of science project funding status, to compile institution estimates of operating costs, to coordinate schedules and to make recommendations concerning fleet management.

4. Ship-time requests will ordinarily be solicited and collected by individual operating institutions. Institutions encourage submission of ship-time requests as early as practical, hopefully in January or February, although experience is that some requests will not be received until those science proposals meeting June deadlines are submitted. Ship-time requests may also be submitted to the UNOLS Office; these requests will be sent to qualified operating institutions without delay. UNOLS will maintain a central file of ship-time requests for each year, through the UNOLS Office. The file should be interactive, to allow operators, program managers and ship users ease and flexibility of use. Successful implementation of a central ship-time request file requires that all operating institutions submit all of their ship-time requests promptly, that electronic communications be used and that a computer database system be employed. The central file of ship-time requests will be the principal mechanism for the exchange of ship-time requests.

5. Tentative schedules will be generated by each UNOLS institution for ships to be operated. Tentative schedules should be generated as soon as operators have a basis in credible ship-time requests (routinely in March, April). Tentative schedules will be exchanged with support from the UNOLS Office among operating institutions, program managers and the user community. The exchange of tentative schedules is to provide information and to prompt negotiations to eliminate double bookings, assure accommodation of all funded science, enhance effectiveness of facility support and to improve the efficiency and economy of the overall fleet schedule. These negotiations are a critical part of the UNOLS scheduling process.

6. Joint and separate meetings of the Ship Scheduling Groups will be held as necessary at least annually. Joint meetings are equivalent to UNOLS ship scheduling meetings. The number and dates for meetings may be influenced by institutions' efficiency in developing and exchanging ship-time requests and tentative schedules. Practically, the timing for meetings is dictated by the flow of ship-time requests and of their science funding decisions and by the submission date for Ship Operations Proposals (now October 1). (A mid-summer meeting should be scheduled after most ship-time requests have been compiled, many funding decisions have been announced, tentative schedules have achieved reasonable credibility but still early enough to refine tentative schedules thereby forming a basis for Ship Operations Proposals and for other aspects of fleet management. A fall meeting is necessary to finalize ship operating schedules and to accommodate fleet operating costs to the total funding available and to the needs of sponsored science projects). Additional scheduling meetings as necessary are encouraged among regional groups and consortia of

operators. These regional meetings are to prompt exchange of information on ship-time requests and tentative schedules and to promote negotiation among operators and users.

7. East Coast and West Coast Ship Scheduling Groups, separately and jointly, may make recommendations based on criteria for ship scheduling, the ship needs of sponsored science programs and other aspects of ship management. Recommendations could include the need for additions to or deletions from the UNOLS fleet, temporary periods out of service for individual ships, or modification to schedules for individual ships or groups of ships. Recommendations should be reached through an open process, and transmitted to UNOLS and the Advisory Council. Those bodies should review scheduling recommendations promptly and, as endorsed, transmit them to the funding agencies.

REPORT ON AGOR 14/15
OVERHAUL AND REFIT

The MELVILLE/KNORR Refit planning is approaching the completion of the Preliminary Design Phase. A copy of Draft Preliminary drawings are attached. Review, comments and suggestions are invited.

All Design calculations presently meet or exceed the Operational Requirements and criteria which have been set.

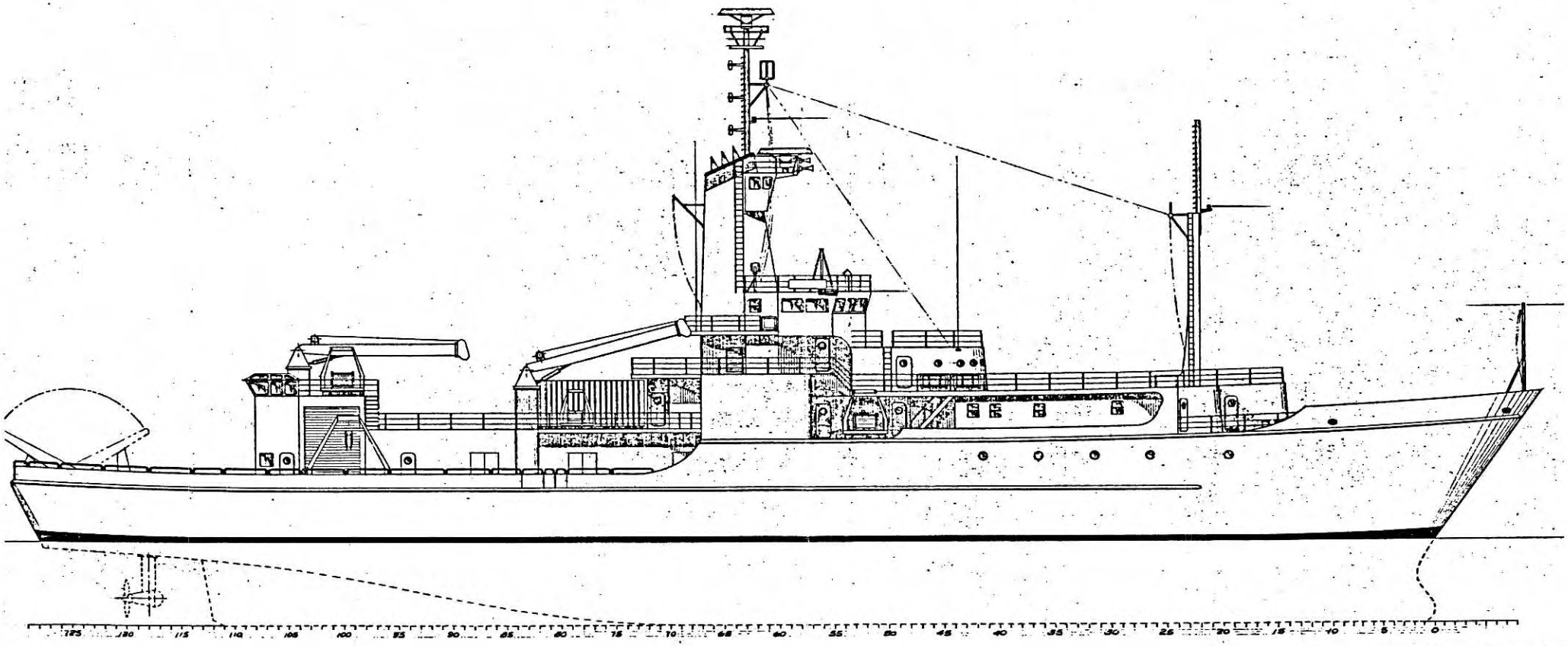
A comparison of existing to new characteristics is given by the following:

Length Overall	245 ft	279 ft.
Beam	46 ft	46 ft
Draft	16½ ft	15½ ft
Full Load Disp.	2415 tons	2670 tons
Gross Tonnage	1806	
Propulsion Horsepower	2800 HP	3000 HP
Cruising Speed	10 knots	12 knots
Max Speed	12 knots	14 knots
Cruising Range	10000 miles	12000 miles
Fuel Capacity	110000 gals	121000 gals
Crew	24	24
Scientists	25	34
Lab Space	2400 sq.ft.	3860 sq ft
Science Storage	842 sq ft.	1324 sq ft
Main Deck working	3424 sq.ft.	3764 sq ft
Area	3424 sq ft	3764 sq ft
Clear Length	96 ft	126 ft

Current schedule for the project is as follows:

September 1987	Complete Preliminary Design
October 1987	Contract Design Starts
February 1988	Complete Contract Design
March 1988	Issue RFP for First Ship
July 1988	Award Contract on First Ship
October 1988	First Ship to Yard
December 1988	Issue RFP on Second Ship
April 1989	Award Contract on Second Ship
June 1989	Complete First Ship
July 1989	Second Ship to Yard
September 1989	First Ship in Service
April 1990	Complete Second Ship
July 1990	Second Ship in Service

(Note: Commence Long Lead Procurement in Jan.1988)



Woods Hole Oceanographic Institution

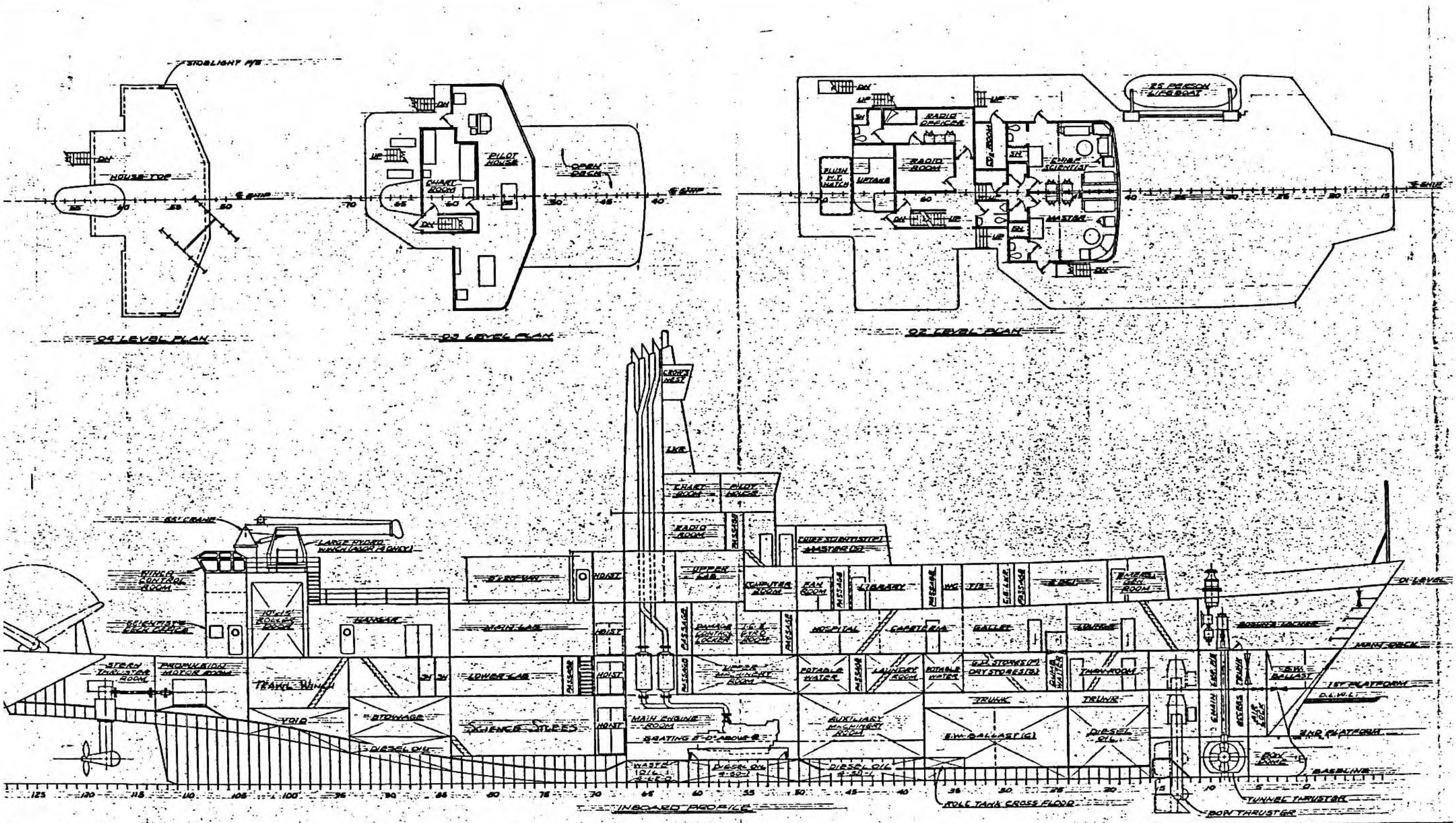
Woods Hole, Massachusetts

AGOR 14/15 - OVERHAUL AND MODIFICAT

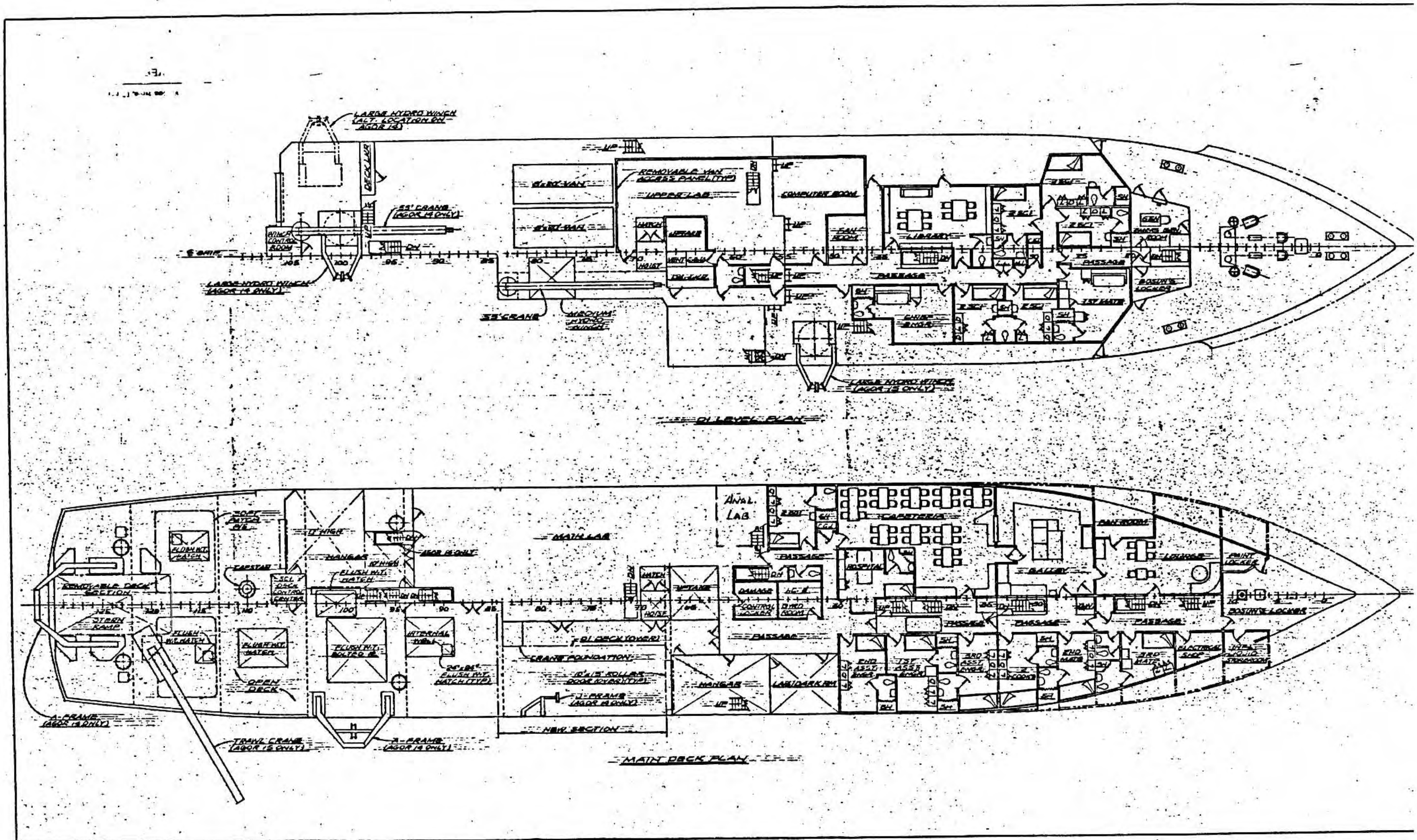
Preliminary Arrangements and Profile

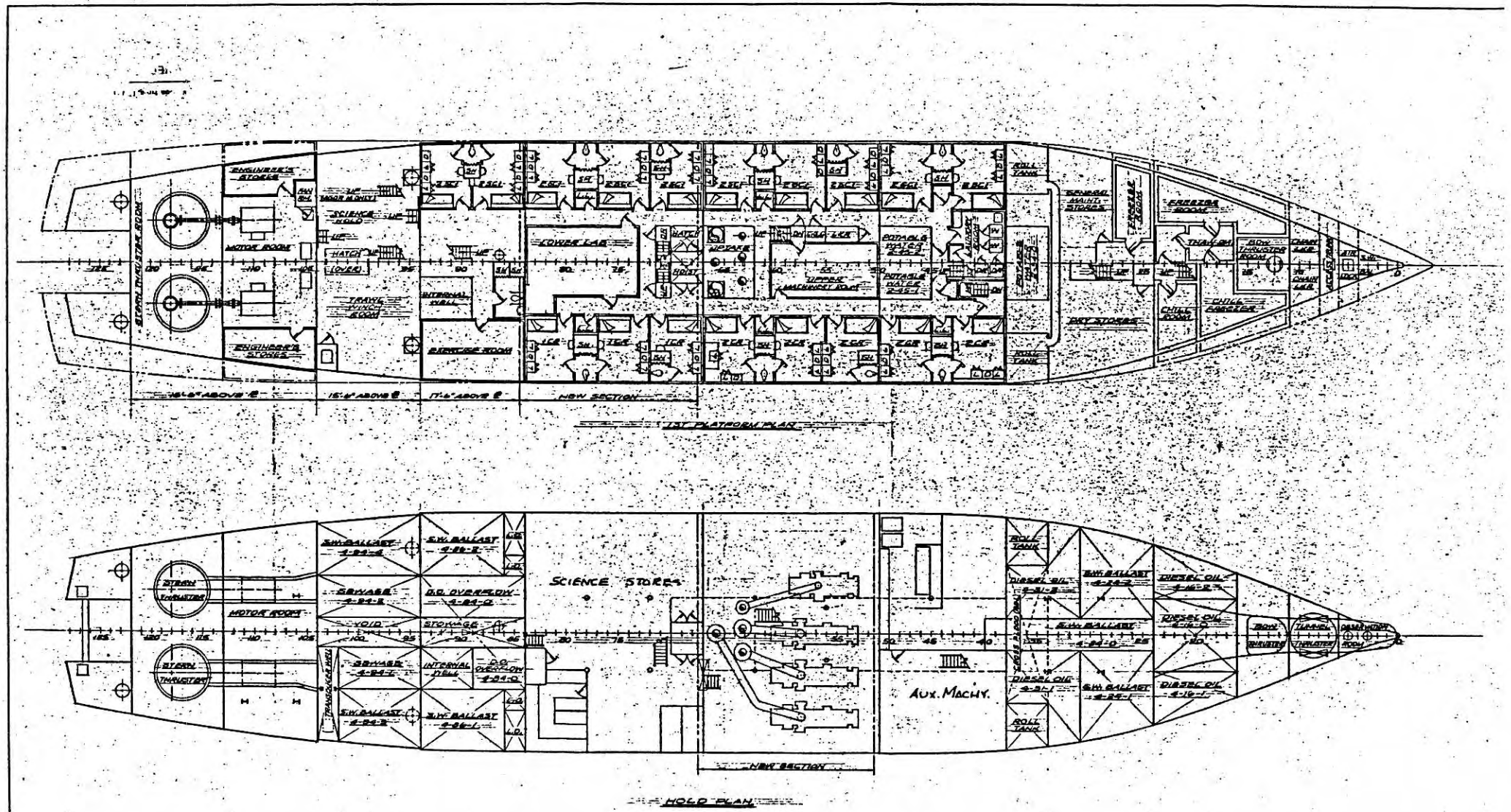
APPROVED

THE GLOSTEN ASSOCIATE



SIDELIGHT P/S
HOUSE TOP
04 LEVEL PLAN
PILOT HOUSE
CHART ROOM
OPEN DECK
03 LEVEL PLAN
25 PERSON LIFEBOAT
RADIO OFFICER
RADIO ROOM
CHIEF SCIENTIST
MASTER
UPTAKE
02 LEVEL PLAN
CROW'S NEST
CHART ROOM
PILOT HOUSE
RADIO ROOM
UPPER LAB
COMPUTER ROOM
FAN ROOM
LIBRARY
PASSAGE
HOSPITAL
CAFETERIA
GALLEY
LOUNGE
BOSUNS LOCKER
MAIN DECK
01 LEVEL
WINCH CONTROL ROOM
SCIENTISTS DECK OFFICE
MAIN LAB
HOIST
LOWER LAB
TRAWL WINCH
STERN THRUSTER ROOM
PROPULSION MOTOR ROOM
VOID
STOWAGE
SCIENCE STORES
DIESEL OIL
MAIN ENGINE ROOM
UPPER MACHINERY ROOM
POTABLE WATER
LAUNDRY ROOM
DRY STORES
TRUNK
AUXILIARY MACHINERY ROOM
S.W. BALLAST
1ST PLATFORM
2ND PLATFORM
BASELINE
CHAIN LOCKER
BOW DOME
ROLL TANK CROSS FLOOD
TUNNEL THRUSTER
BOW THRUSTER
INBOARD PROFILE


LARGE HYDRO WINCH (ALT. LOCATION ON AGOR 14)
DECK LOCKER
WINCH CONTROL ROOM
35' CRANE (AGOR 14 ONLY)
LARGE HYDRO WINCH (AGOR 14 ONLY)
REMOVABLE VAN ACCESS PANEL (TYP)
UPPER LAB
COMPUTER ROOM
FAN ROOM
LIBRARY
UPTAKE
HOIST
DRY LAB
PASSAGE
CHIEF ENGR
1ST MATE
BOSUN'S LOCKER
35' CRANE
MEDIUM HYDRO WINCH
LARGE HYDRO WINCH (AGOR 15 ONLY)
01 LEVEL PLAN
ANAL. LAB
CAFETERIA
FAN ROOM
MAIN LAB
HANGAR
CAPSTAN
REMOVABLE DECK SECTION
STERN RAMP
FLUSH W.T. HATCH
OPEN DECK
INTERNAL WELL
26"x24" FLUSH W.T. HATCH (TYP)
HOSPITAL
GALLEY
LOUNGE
PAINT LOCKER
DAMAGE CONTROL LOCKER
HYDRO ROOM
BOSUN'S LOCKER
01 DECK (OVER)
CRANE FOUNDATION
10'x15' ROLLER DOOR (OVER) (TYP)
HANGAR
LAB/DARK RM
2ND ASST. ENGR
1ST ASST. ENGR
3RD ASST. ENGR
2ND MATE
3RD MATE
ELECTRICAL SHOP
A-FRAME (AGOR 14 ONLY)
NEW SECTION
A-FRAME (AGOR 14 ONLY)
TRAWL CRANE (AGOR 15 ONLY)
A-FRAME (AGOR 14 ONLY)
MAIN DECK PLAN


ENGINEER'S STORES
MOTOR ROOM
SCIENCE HOLD
HATCH (OVER)
TRAWL WINCH ROOM
ENGINEER'S STORES
STEERING GEAR ROOM
LOWER LAB.
SERVICE ROOM
UPPER MACHINERY ROOM
POTABLE WATER 2-22-1
POTABLE WATER 2-22-2
BOSUN'S STORES
FREEZER ROOM
DRY STORES
CHILL ROOM
CHILLER ROOM
BOW THRUSTER ROOM
CHAIN LOCKER
ROLL TANK
FUEL TANK
15'-0" ABOVE B
17'-6" ABOVE B
NEW SECTION
1ST PLATFORM PLAN
S.W. BALLAST 4-24-6
S.W. BALLAST 4-24-5
STERN THRUSTER
MOTOR ROOM
SCIENCE STORES
D.O. OVERFLOW 4-24-0
STOWAGE
VOID
SEWAGE 4-24-3
INTERNAL TELL
D.O. OVERFLOW 4-21-0
S.W. BALLAST 4-24-3
S.W. BALLAST 4-24-1
TRANSVERSE BHD
AUX. MACHY.
DIESEL OIL 4-21-3
DIESEL OIL 4-16-2
S.W. BALLAST 4-24-2
S.W. BALLAST 4-24-0
DIESEL OIL 4-16-0
DIESEL OIL 4-21-1
S.W. BALLAST 4-24-1
DIESEL OIL 4-16-1
BOW THRUSTER
TUNNEL THRUSTER
ENGR WORK ROOM
NEW SECTION
HOLD PLAN

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State Immunity Upheld In Seamen Injury Suits

Court Rules 11th Amendment Is a Shield

By TIM NEALE
Journal of Commerce Staff

WASHINGTON — The Supreme Court upheld a lower court ruling that the 11th Amendment shields states from injury suits filed in federal court under the 1920 Jones Act.

The Jones Act reserves U.S. coastal trades for U.S. ships and gives seafarers injured while working aboard such ships the right to sue for damages in a federal court as though they were federal employes.

Where the employer of the injured party is a state agency, however, such a suit is improper, the Supreme Court said in its decision.

It agreed with the ruling of the lower court that the 11th Amendment prohibits a state employee from suing his state in federal court unless the state expressly waives its immunity and consents to the suit.

It said that while the Jones Act gives injured seafarers the right to pursue claims in a federal court, such a general authorization "is not the kind of unequivocal statutory language that is sufficient to abrogate the 11th Amendment, which marks a constitutional distinction between the states and other employers of seamen."

The case reviewed by the court involved an employee of the Texas Highways Department, Jean Welch, who was injured while working as a marine technician on a ferry landing dock in Galveston. While on the dock, she was asked to help raise a work barge onto the dock using a mobile crane that overturned, crushing her against a guardrail.

Her suit was dismissed by the Federal District Court for the Southern District of Texas and the dismissal was later upheld by the U.S. Court of Appeals for the Fifth Circuit.

The Supreme Court split on the issues raised by the case, with five justices upholding the court of appeals and four dissenting from that opinion.