

Research Vessel Operators Committee

Summary Report
of the
1989 Annual Meeting

Sessions held at the
University of Miami
Miami, Florida
3-5 October, 1989

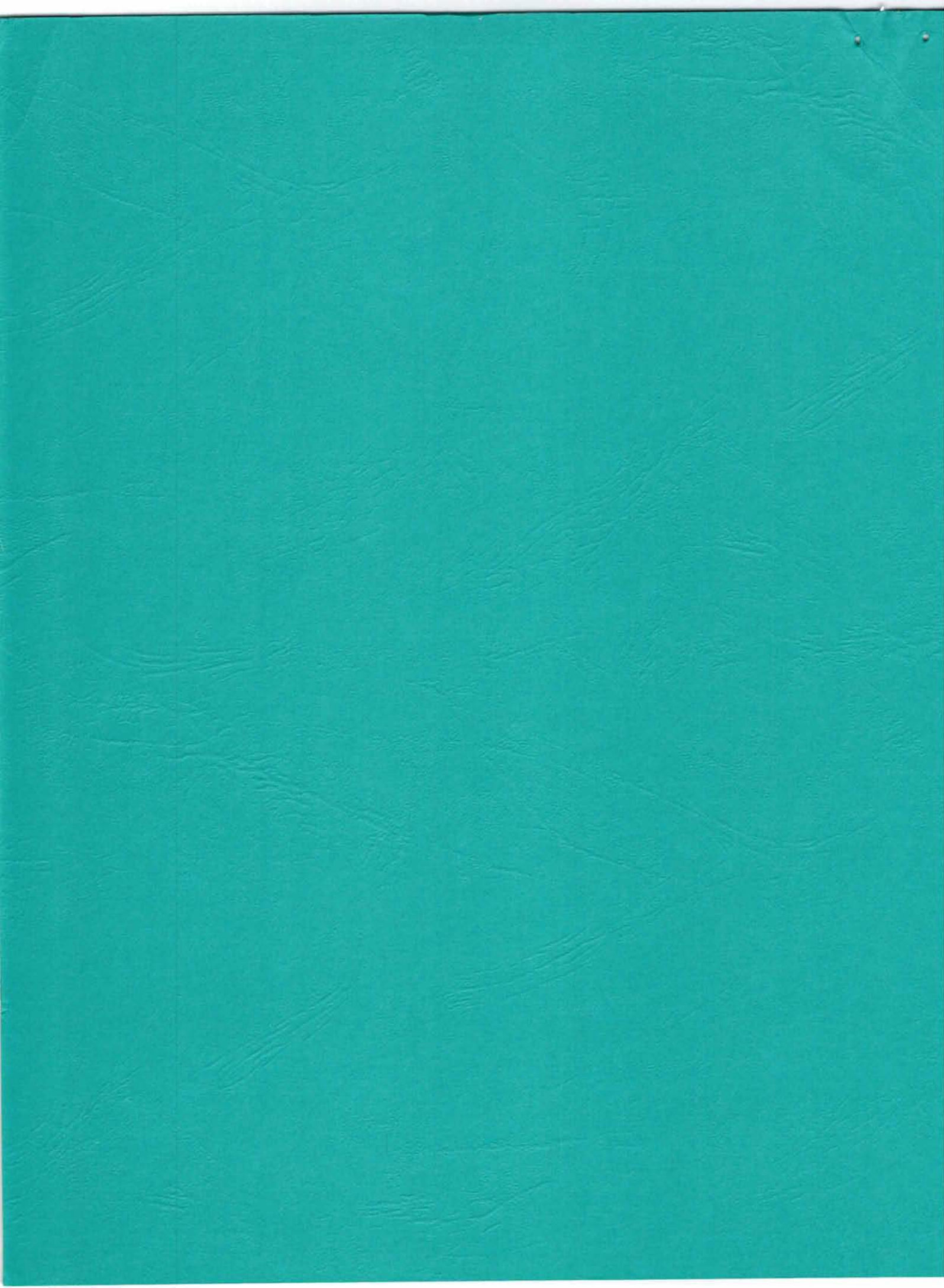
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**SUMMARY REPORT OF THE 1989 ANNUAL RVOC MEETING
UNIVERSITY OF MIAMI
MIAMI, FLORIDA
3-5 OCTOBER 1989**

WELCOMING REMARKS

Ron Hutchinson, Marine Operations Manager; and Dr. Garrett W. Brass, Professor and Chairman, Marine Geology and Geophysics, University of Miami, Rosenstiel School of Marine and Atmospheric Sciences welcomed the RVOC to Miami.

The meeting was called to order by Chairperson Jim Williams, Marine Superintendent, Scripps Institution of Oceanography. The meeting followed the agenda outlined in Appendix I. Registered attendees are listed in Appendix II.

OLD BUSINESS

A motion was made, recorded and passed to accept the minutes of the 1988 meeting.

RVOC NEWSLETTER

Bruce Cornwall thanked the members who submitted items for the Newsletter and solicited input for future editions. Solicitations for input will continue to be posted on T-Mail. It was agreed that the newsletter was a worthwhile vehicle for disseminating information among the membership.

COMMUNICATIONS GUIDE

Ken Palfrey reported on the status of the Communications Guide and noted that it has been updated once since it was distributed last year. He welcomes comments and updates.

PORT GUIDE

An effort by Ken Palfrey to develop a port guide was unsuccessful; no input, no interest, no guide! It was suggested that reports on unusual or "bad" port experiences be included in the Newsletter.

WIRE UPDATE

Joe Coburn reported on galvanizing problems with the current pool of .322 EM wire which is causing premature rusting, but with no apparent loss of strength or service life.

It was also reported that a galvanizing problem with .608 wire is causing this size wire to rust and become "fatter", leading to sheave grooving problems.

A wire log sheet should be available from Don Moller in the future for each Institution to record their experiences with the various sizes of wire available from the pool. In the interim each institution is encouraged to keep accurate wire logs and to submit them to Don when requesting wire from the pool.

Jim Williams reviewed the current UNOLS inventory of "Pooled" wire available on the East and West coasts in addition to the list of wire proposed by Don Moller to replenish the pool. (See Appendix III).

Ken Palfrey provided a synopsis of OSU's recent report to UNOLS, A Cable Maintenance System, which evaluated the Brooke Ocean Technology (BOT) Ltd. "Cable Maintenance System." Ken reported that the system worked fine on EM wire but that further testing would be necessary to determine whether the system would be of value in maintaining 3x19 wire.

Concern was expressed that the lubricants used in wire maintenance could affect science projects involving hydrocarbon measurements. It was noted that the BOT unit can be used very effectively as a wire cleaner only.

ZERO TOLERANCE

Jim Williams related his experience relative to the Thomas Washington seizure, which has been under constructive seizure since March, when 1/2 gram of marijuana was found taped in an old envelope under a drawer in a crew member's stateroom.

During the discussions which followed, the membership talked about the federal push for zero tolerance, a drug free workplace, individual rights with respect to searches, customs tactics during searches, carrier initiatives, dog searches, and searches for cause.

FEDERAL REGISTER MONITOR

The UNOLS Office has issued an RFP for a Federal Register clipping service which would disseminate items of interest by mail directly to RVOC operators. It is anticipated that this service should be in place by the end of October.

RVOC CHARTER/MEMBERSHIP

Dean Letzring provided the membership with a history of the RVOC from its inception in 1962 to the present. There have been several difficult years for the RVOC, but 1982 was probably the most difficult. A lack of interest that year brought an ultimatum from NSF: revitalize the RVOC; or disband, and no more funding.

It was noted that there are several items in the current RVOC bylaws which are not current with where the RVOC is today, especially in light of changes in the UNOLS Charter. Of particular interest are the issues of membership and voting.

After discussion the membership decided to (1) review the 1984 bylaws to see where the holes are, and (2) formalize the membership. A recommendation was made to further discussions during the Marine Superintendent's Round Table. (See Appendix IV).

INJURY REPORTS/STATISTICS

Joe Coburn reported that 9 institutions responded to the at sea/in port injury survey for the period 1/1 - 6/30-89. During this period, as a fleet, UNOLS operators did well, beating the industry standards. Future reports should be sent at the end of each quarter via Telemail to Joe Coburn at WHOI.SHIPS. All statistics will be kept in strict confidence.

STATUS OF UNOLS SAFETY INSTRUCTIONS

RVOC Safety Committee Chairman Bill Coste briefed the membership on the status of the recently revised UNOLS Safety Standards. He noted that Chapters 6 and 7, Electrical and Shipboard Equipment, were not reviewed and need to be discussed in the future. Chapter 11, Radioactive Materials was completed; the committee chose not to tackle Chapter 15, Diving Operations. It is hoped that the revised Safety Standards should be in the mail by the end of the year.

There is a growing concern about diving standards as they currently exist among operators. A report on diving by the Hyperbaric Society and funded by NSF has been sent to the diving officers at Miami, Scripps, URI, and TAMU with the intent of receiving recommendations to update the diving standards. A RVOC group consisting of Jim Williams (SIO), Ron Hutchinson (Miami), Tim Askew (Harbor Branch), and Wadsworth Owen (Delaware) will work with the diving officers to that end.

NEW BUSINESS

DRUG TESTING

At least two institutions have begun pre-employment drug testing as required by the USCG. Jim Williams reported that Scripps also started random testing in August.

Advice was given to review all scenarios prior to implementing a drug testing program. It was also emphasized that accountability is a must.

ADMEASUREMENT

George Ireland summarized the USCG Notice of Proposed Rulemaking (NPRM) dealing with Tonnage Measurement of Ships which was published in the Federal Register of April 26, 1989. (See Appendix V).

POLLUTION REGULATIONS

A presentation was made by Ken Palfrey concerning what can and cannot be done with respect to the discharge of oil, sewerage, garbage, and plastics relative to current MARPOL regulations. A single page "quick reference" that can be used by the bridge watch, Pollution Prevention, is included in Appendix VI.

It was suggested that purchasing agents give preference to vendors who use biodegradable or non-plastic packaging which would help reduce the amount of plastic for disposal.

ALCOHOL

Jim Williams reported that the UNOLS Office is to collect and disseminate a compendium of alcohol use policies from each institution so there should be no question among users as to the policy from ship to ship. Jim will ask the UNOLS Council at their next meeting for a UNOLS reporting protocol concerning flagrant violations, etc.

AGENCY REPORTS

NATIONAL SCIENCE FOUNDATION

Dolly Dieter discussed some of the personnel changes within NSF and provided an overview of the 1990 budget. She also talked about efforts to combine the NSF 831 Form and UNOLS Shiptime Request Form into a single, more usable form.

UNOLS

Bill Barbee reported that UNOLS appears to be working better under the new charter and that the 1990 scheduling process worked as good as it ever has. Bill also related that the UNOLS Council has attained a better understanding of RVOC problems now that the RVOC Chairman reports to the Council.

Current UNOLS Office activities discussed by Bill and of interest to the membership include a new format for reporting schedules which should make projects easier to track, and proposed changes to the UNOLS Cruise Report forms. (See Appendix VII)

Finally, Bill discussed the recent announcement concerning competition for the position as Executive Secretary of UNOLS and subsequent moving of the UNOLS Office.

U.S. STATE DEPARTMENT

Tom Cocke summarized activities at the State Department concerning foreign clearances for research vessels during the past year. Tom noted that more scientists appear to be using the Clearance Manual; clearances are going through smoother. Peru, Fiji, Mexico, and Haiti continue to be problems.

SPECIAL REPORTS

DISCOVERY

Frank Verdon, NERC Research Vessel Services, UK, reviewed upgrades and modernization, to include reengining of R/V Discovery. Work is scheduled to begin 1 October 1990 and take 1 year to complete at a cost of \$18 million. (See Appendix VIII)

BERNIER

Mike Rawson reported that Bernier is still at Fall River. Bids for the improvements and items necessary for reflagging were received from 7 yards. Work is expected to begin 1 November 1989 and be completed about 10 February 1990.

OSPREY

Don Newman briefed the membership on the status of the next stage of conversion to Osprey, which will involve installation of slow speed propulsion and ballast systems. Bid packages (15 total) have been delivered to 8 West Coast and 7 Gulf Coast yards. Don is hopeful that the ship should be in a yard before Thanksgiving and out by January 31, 1990.

AGOR 23

Bill Jeffers updated the membership on the proposed time table for launch and delivery of AGOR 23, R/V Thomas G. Thompson. He also reviewed some of the major engineering change proposals which have been issued, and to date total nearly \$5 million. (See Appendix IX)

KNORR/MELVILLE

Joe Coburn reported that Knorr has been cut in half and that the new midships module is in place. The new main engines and some auxiliary machinery is also in place. A major additional expenditure was \$500K for asbestos removal throughout the ship. Knorr is expected to be finished in March, 1990.

Jim Williams reported that Melville arrived in the yard 15 September and that work will officially begin 15 November.

WARFIELD

Bruce Cornwall provided a briefing on the status of the University of Maryland's proposal to NSF requesting transfer of R/V Ridgely Warfield to the University of Maryland Center for Environmental Estuarine Studies (UMCEES) upon the closure of Chesapeake Bay Institute by The Johns Hopkins University in 1991. The proposal has been completed and should be submitted to NSF by October 31, 1989. If approved, the ship would be operated by UMCEES from its facility located at Solomons, MD.

WEATHERBIRD

A presentation was made by Harry Barnes, Bermuda Biological Station for Research, on vessel operations at BBS since the early 1050's, and the case for a larger vessel to replace the existing Weatherbird. (See Appendix X)

SAFETY SEMINAR

NEW RULEMAKING-SAFETY EQUIPMENT

George Ireland reviewed the U.S. Coast Guard Notice of Proposed Rulemaking (NPRM) concerning Lifesaving Equipment and its impact and application to oceanographic research vessels. The technical requirements of this NPRM seek to reduce hypothermia during abandon ship scenarios by upgrading survival craft and associated launching devices, requiring immersion suits, and improving communications equipment. (See Appendix XI)

SAFETY MANUAL

Jack Bash briefed the membership on the status of the RVOC Safety Manual. The manual began with an outline, based in part on the North Pacific Fishing Vessel Owners Association (NPFVOA) Safety Manual, on which the committee built. Jamestown Marine/Ireland Consulting Services was selected as low bidder from four bidders.

The finished manual is intended to be about the same size as the NPFVOA manual and hopefully should be ready for final printing in 2-3 months.

Discussions were held regarding final format of the Safety Manual. The general consensus was for 3 distinct documents, each containing excerpts or "bullets" of the most pertinent information:

1. Information for the Scientist (Removable)
2. Information for the Crew (Removable)
3. Remainder of the manual as reference

The membership voted to accept the logo as it currently appears on the cover of the "Miami Draft" of the RVOC Safety Manual with the exception of spelling out RVOC on the outside top radius and abbreviating UNOLS on the bottom.

VIDEO TAPES

Ken Palfrey chaired a discussion to ascertain if the RVOC Safety Committee should continue to review and catalog video tapes. Ken noted that the tapes currently available seem to be more "equipment specific", and that the cost of the tapes is a factor. He asked for feedback from the membership.

The membership viewed a 22 minute video produced in Canada entitled "Shipboard Orientation" after which a discussion was held about the possibility of producing an

orientation video for use on UNOLS vessels. It was felt that the expertise exists within the RVOC to package a 15-20 minute orientation video and that its contents should parallel the information in the Safety Manual. The consensus was that the Safety Committee should seek to produce a basic "generic" type video that would be produced for use within the community but could be edited and tailored for use by individual institutions. The RVOC Safety Committee will develop and circulate a draft of a script for an orientation video for review by the member institutions.

TRAINING VISITS

Joe Coburn reviewed the Safety Committee's efforts to implement an "in-house" training program. Joe emphasized that the need for volunteers from each institution to give of their time to be trained and to visit a number of ships each year is a real problem. Other problems include scheduling and the confrontational nature of an in-house program.

A recommendation was made for the Safety Committee to develop a training curriculum based on the Safety Manual which would be circulated among the members for comment and refinement. A decision would also have to be made as to whether the training program would be done in-house or by an outside contractor.

SAFETY COMMITTEE

Tim Askew, Harbor Branch; Bruce Cornwall, Chesapeake Bay Institute; and Tom Smith, Alaska, volunteered to join Bill Coste, Hawaii; Jack Bash, URI; Mike Prince, Moss Landing; Joe Coburn, Woods Hole; Ken Palfrey, OSU; and Gene Almendinger, U. New Hampshire as members of the RVOC Safety Committee.

ROUND TABLE DISCUSSION

The following topics were addressed by Marine Superintendents during round table discussion:

RVOC CHARTER/MEMBERSHIP

Dean Letzring, Jim Williams and Steve Rabalais will work out the wording of "voting", "non-voting" member of RVOC as well as how to deal with ship operators' voting status during transitional (non-ship) periods.

ALCOHOL

The RVOC is in support of publishing alcohol use policies from each institution, as recommended by the UNOLS Council. The RVOC also supports the documentation of known alcohol use policy violators by the ship's master via his institution's director to the director of the violator's institution.

ASBESTOS

Detecting, testing for, and disposal of asbestos is a costly and often time consuming problem.

SEARCHES

A discussion was held regarding the methods, types, and problems associated with searching for contraband.

DOPPLER PROFILERS

The group discussed the degradation of doppler profiler signal by bow thruster tunnels (bubble chains), as well as a general discussion of doppler speed logs. (See Appendix XII)

INVITED SPEAKERS

ZERO TOLERANCE

Amy Herlihy, Carrier Initiative Program, U.S. Customs, Washington, D.C., gave a brief overview of the Customs interdiction program, stressing the need for more public involvement. She also described how the Carrier Initiative Program began as a "grass roots" program in Miami, the typical initiative being for commercial vessels only (those engaged in the transportation of manifested cargo, ie containers). Regardless of an initiative agreement, the decision on whether a vessel is placed under constructive or physical seizure is still made on an ad hoc basis.

Cdr. Paul Prokop, USCG District Legal Office, Miami, presented an overview of Zero Tolerance from the USCG point of view. He described a typical USCG boarding which begins with a safety inspection and usually ends with that, unless there is evidence of drug use, in which case the boarding party can search further. According to Cdr. Prokop the typical Zero Tolerance Drug seizure involves recreational boaters. He also stressed that the USCG boarding party enforces all applicable laws while searching a vessel.

Judy Turnbaugh, Zero Tolerance Ombudsman, U.S. Customs, Washington, D.C., began her presentation with a video of a USCG vessel boarding which described zero tolerance, it's importance, inspection procedures, and the consequences to the perpetrator and vessel owner should drugs be found on board. Judy completed her presentation by reviewing (1) the goals of Zero Tolerance (prosecution and user accountability); (2) the types of seizure (physical and constructive); (3) the petitioning process; (4) procedures for determination (administrative and judicial); and (5) establishment of drug use policy. (See appendix XIII).

Frank Willis, Senior Customs Inspection, Miami, reviewed the U.S. Customs forms required for proper entry and clearance of vessels in U.S. ports.

Jim Engleman, Supervisor, Contraband Enforcement Team, U.S. Customs, Miami discussed what carriers in the Miami area are doing to combat drugs. He emphasized that common carriers and we, as operators, should exercise the highest

degree of care and diligence in seeking to eliminate drugs shipboard. Gangway watches, search dogs, fences, lighting, controlled access, and education can all help during mitigation proceedings, should a vessel be seized.

DRUG TESTING

Capt. Gerard Barton, USCG, Washington, D.C., discussed the USCG Drug Testing Program. He reviewed the types of testing that have to be performed (pre-employment, periodic, random, post casualty, and reasonable cause), the applicability of testing to UNOLS vessels, reporting of test results (to USCG), post accident testing, the Medical Review Officer (MRO) and problems encountered to date with the program.

Dr. Tom Hall, Medical Advisory Systems, fielded questions concerning the role of the Medical Review Officer (MRO) in the Drug Testing Program. Dr. Hall also answered questions concerning testing procedures, documentation, and chain of custody.

Joe Coburn and Jim Williams reported on the drug testing programs which have been implemented at their institutions.

WRAP UP OF BUSINESS MEETING

1990 RVOC MEETING TOPICS

The following topics/workshops were recommended for the 1990 RVOC meeting agenda:

- Alcohol/Drinking, One Year Later
- Vessel Chartering
- Safety Training/Videos
- Small Boat Operators Manual
- RVOC Charter/Bylaws
- Hardware: Radars/Data Collection
- Amenities to Scientists in Port
- Sea Pay

1990 MEETING LOCATION

A motion was made, recorded and passed to eliminate the tradition of alternating East/West coast meeting locations.

The membership voted to hold the 1990 meeting in New Orleans, LA, to be hosted by LUMCON, dates to be announced.

The RVOC Meeting was adjourned at approximately 1500 on 5 October 1989.

22 September 1989

RESEARCH VESSEL OPERATOR'S COMMITTEE

1989 Annual Meeting
University of Miami
Rosenstiel School of Marine and Atmospheric Sciences
4900 Rickenbacker Causeway
Miami, Florida
3 - 5 October 1989

AGENDA

0830, Tuesday, 3 October 1989

Room
University of Miami, RSMAS

Registration and Coffee

WELCOMING REMARKS

- Introduction
 - Ron Hutchinson
 - Dr. Garrett W. Brass
Professor and Chairman
Marine Geology and Geophysics
 - Jim Williams

OLD BUSINESS

- Minutes of the 1988 Annual Meeting
- RVOC Newsletter - Bruce Cornwall
- Communications Guide - Ken Palfrey
- Port Guide - Ken Palfrey
- Wire update - Jim Williams
- Zero Tolerance - Jim Williams
- Federal Register Monitor - Bill Barbee
- RVOC Charter/Membership - Dean Letzring
- Injury Reports/Statistics - Joe Coburn
- Status of UNOLS Safety Instructions - Bill Coste

NEW BUSINESS

- Drug Testing - Jim Williams
- New Rulemaking/Admeasurement - George Ireland
- Pollution Regulations - Ken Palfrey

AGENCY REPORTS

- National Science Foundation - Dolly Dieter
- Office of Naval Research
- UNOLS - Bill Barbee
- U.S. State Department - Tom Cocke

SPECIAL REPORTS

- Bernier - Lou Hannegin
- Osprey - Don Newman
- Agor 23 - Bill Jeffers
- KNORR/MELVILLE - Joe Coburn
- Warfield - Bruce Cornwall
- Weatherbird - Harry Barnes

0830 Wednesday, 4 October 1989

SAFETY SEMINAR - Bill Coste

- New Rulemaking - Safety Equipment
- Safety Manual
- Training Programs
 - Video Tapes
 - Shore Based Training and Fire Fighting
 - Training Visits

ROUND TABLE DISCUSSION

- Asbestos
- Alcohol
- Searches
- Doppler Profilers

0830 Thursday, 5 October 1989

INVITED SPEAKERS

- Zero Tolerance
 - Ms. Amy Herlihy, Int. Affairs, U.S. Customs
 - Ms. Judy Turnbaugh, U.S. Customs
 - SAT Team Representative, U.S. Customs
- Drug Testing - Captain Gerard Barton, USCG

WRAP UP OF BUSINESS MEETING

- 1990 RVOC Meeting Topics
- 1990 Workshop Topics
- 1990 Meeting Location

MARINE SUPERINTENDENTS

- PLEASE DON'T PLAN TO DEPART EARLY AS THE MEETING WILL PROBABLY EXTEND INTO MID AFTERNOON.

1989 RVOC Meeting Attendees

Tim Askew
Harbor Branch Oceanographic Inst.
5600 Old Dixie Hwy.
Ft. Pierce, FL 34946

Bill Barbee
UNOLS, WB-15
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Howard (Harry) Barnes
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Gerard Barton, Capt. USCG
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Jim Williams
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Ms. Amy Herlihy
Carrier Initiative Program

Judy Turnbaugh
Zero Tolerance Ombudsman

Jim Eengleman
Supv. Customs Inspector, Miami


Frank Willis
Senior Customs Inspector, Miami

Lourdes F. La Paz
Office of the General Consul-UM

Cdr. Paul Prokop, USCG
District Legal Office, Miami

Office Memorandum

WOODS HOLE OCEANOGRAPHIC INSTITUTION
Operations Office (508) 548-1400 (x2277)

From: Don Moller  **Date:** 1 October 1989
To: UNOLS Dir. of Operations / Marine Superintendents
Subject: Oceanographic Cable Pools

The following is the current inventory of "Pooled" Oceanographic Cables. The cables are available to the UNOLS research vessel operators to be drawn upon in emergencies or in special cases where use of normal proposal and procurement procedures are not possible.

Cables are stockpiled in Woods Hole and at MarFac in San Diego. Distribution of these cables is authorized by Dr. Richard West of NSF.

For further information please contact Don Moller at Woods Hole.

Telephone: (508) 548-1400 X2277
Facsimile: (508) 548-1400 X6084
Telemail: D.MOLLER

OCEANOGRAPHIC CABLE POOLS
INVENTORY - 1 OCTOBER 1989

Type	ID	Size	length	Design	Manuf	Weight	Reel #	Location
EM	82-C1	.303"	27,665	3-H-305	Rochester	4,445*	E2793-C2-1	E.C.P.
EM	85-C14	.225"	25,200	A01077	Rochester	?	Q0527-C1-1	W.C.P.
EM	85-C17	.225"	25,200	A01077	Rochester	?	Q0527-C2-1	W.C.P.
EM	86-C27	.322"	33,363	A301592	Rochester	6,556*	Q0824-C3-1	E.C.P.
EM	86-C35	.322"	33,000	A301592	Rochester	6,372*	Q1009-C4-2	W.C.P.
Hydro	84-H3	3/16"	30,000	3X19,AA	U.S.Steel	1,820*	24493	E.C.P.
Hydro	86-H9	3/16"	30,000	3X19,AA	Macwhyte	2,200*	F0593	E.C.P.
Hydro	86-H10	3/16"	30,000	3X19,AA	Macwhyte	2,200*	F0592	W.C.P.
Hydro	85-H4	1/4"	30,000	3X19,AA	Macwhyte	3,375*	6268921	E.C.P.
Hydro	86-H6	1/4"	30,000	3X19,AA	Macwhyte	3,600*	E2203	W.C.P.
Hydro	86-H7	1/4"	30,000	3X19,AA	Macwhyte	3,600*	E2204	W.C.P.
Hydro	86-H8	1/4"	30,000	3X19,AA	Macwhyte	3,600*	E2028	E.C.P.
Hydro	86-H11	1/4"	30,000	3X19,AA	Macwhyte	3,600*	F0105	W.C.P.
Hydro	86-H12	1/4"	25,000	3X19,AA	Macwhyte	3,000*	97-13621	E.C.P.
Hydro	86-H13	1/4"	25,000	3X19,AA	Macwhyte	3,000*	97-13611	E.C.P.
Trawl	85-T3	1/2"	26,000	3X19,AA	Macwhyte	11,125*	D-8362	E.C.P.
Trawl	86-T5	1/2"	30,000	3X19,AA	Macwhyte	13,120*	E9793	W.C.P.
Trawl	86-T7	9/16"	45,000	3X19,AA	Macwhyte	23,200*	F0372	W.C.P.

1989 OCEANOGRAPHIC CABLE PROPOSAL

QUANTITIES OF WIRE ROPE, EM CABLES & COAX
UNOLS "STANDARD" CABLES

WIRE ROPE (3x19):

3/16" (30,000')	0 reels
1/4" (30,000')	2 reels
3/8" (30,000')	1 reel
1/2" (30,000')	4 reels
9/16" (30,000')	4 reels
9/16" (45,000')	2 reels

E-M CABLE (CTD):

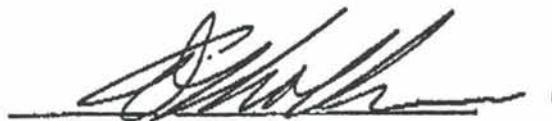
.225" (25,000')	0 reels
.303" (27,000')	0 reels
.322" (20,000')	4 reels
.322" (33,000')	10 reels

COAXIAL CABLE (DEEP-TOW):

.68" (30,000')	2 reels
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TOTAL COSTS = \$900K
(including shipping, reel chrgs, contingency, etc.)

ALL REELS WILL BE CONSIGNED TO THE CABLE POOLS



BY LAWS OF THE
RESEARCH VESSEL OPERATORS' COUNCIL

A. PURPOSE

The purpose of the Research Vessel Operators' Council shall be to promote cooperation among marine science research and educational institutions and to represent their interests in the areas of marine operation, governmental regulations, labor relations, and public relations as these areas affect their research fleets.

B. MEMBERSHIP

1. Membership in the Research Vessel Operators' Council shall be limited to those private, charitable, and state educational institutions which operate vessels engaged in research in the marine sciences and whose vessels are defined within the following statement:

"A vessel engaged solely in scientific research and/or instruction in oceanography and limnology, operated in the public interest by either a private non-profit institution, an educational institution, or a public authority."

2. Membership shall consist of the following charter members and such added members created under Paragraph B.3 below:

Chesapeake Bay Institute
Johns Hopkins University
Baltimore, Maryland

Duke University
Marine Laboratory
Beaufort, North Carolina

Florida State University
Oceanographic Institute
Tallahassee, Florida

Gulf Coast Research Lab.
Ocean Springs, Mississippi

University of Hawaii
Institute of Geophysics
Honolulu, Hawaii

Hopkins Marine Station
Stanford University
Pacific Grove, California

Lamont Geological Observatory
Columbia University
Palisades, New York

University of Miami
Marine Laboratory
Miami, Florida

University of Michigan
Great Lakes Research Division
Institute of Science & Technology
Ann Arbor, Michigan

Narragansett Marine Laboratory
University of Rhode Island
Kingston, Rhode Island

Oregon State University
Department of Oceanography
Corvallis, Oregon

Scripps Institution of Oceanography
University of California
La Jolla, California

Texas A & M Research Foundation
College Station, Texas

Woods Hole Oceanographic Institution
Woods Hole, Massachusetts

University of Washington
Department of Oceanography
Seattle, Washington

3. Membership may be gained by application to the Chairman and Executive Committee of the Council who may recommend to the Council the prospective member. A 2/3 vote of the Council taken at the Annual Meeting shall be necessary to admit a new member. The Director or Administration of the prospective member institution shall certify to the Council the status of the Institution with respect to the above definitions.
4. Upon recommendation of the Executive Committee and upon a three quarters vote of the Council a member institution may be dropped from membership in the Council.

C. REPRESENTATION

1. Each member institution shall be entitled to one vote at the Annual Meeting. Each member institution shall be entitled to send as many individuals as it desires to the Annual Meeting, as representatives of the institution.
2. Each member institution shall be notified of the Annual Meeting by the Secretary of the Council at least one month prior to the Annual Meeting.
3. A quorum shall be 50% of the membership.

D. OFFICERS

1. The Research Vessel Operators' Council shall have a Chairman elected at the Annual Meeting for a two year term and a Secretary elected at the Annual Meeting for a two year term. Date of office shall commence at the close of the Annual Meeting and the Chairman and Secretary shall be elected in alternate years.
2. The Council shall have an Executive Committee composed of five members elected for two year terms, three in one year, two the following year. Term of office shall date from the close of the Annual to which elected. By virtue of their positions, the Chairman and Secretary shall be voting members of the Executive Committee. No more than two members of the Executive Committee shall be from any one member institution at any given time.
3. The Executive Committee shall be responsible for advising the Chairman on Council programs, on budgetary matters, and through appointed Counsel on legal matters.

4. The Chairman shall represent the Council in all matters stipulated in the purpose of these by-laws and in all matters deemed necessary by the Executive Committee in the interest of the Council. The Chairman shall implement the programs enumerated by the Council and shall conduct the Annual Meeting and whatever special meetings are deemed necessary by the Executive Committee, the Chairman or the members.
5. The Secretary shall record the business of the Council and shall be responsible to the Executive Committee for receipt and disbursement of finances. The Secretary shall be responsible for dissemination of information through newsletters or other media as stipulated in these by-laws to all members of the Council.
6. If the Chairman or the Secretary are unable to fulfill their duties of office, the Executive Committee shall appoint a successor to act with full authority until the succeeding Annual Meeting.

E. COMMITTEES AND PANELS

1. Upon the recommendation of the Chairman and the Executive Committee and with the unanimous concurrence of the Council, at the Annual Meeting, various panels and committees, as necessary to the work of the Council, may be constituted. The duration of action of such panels and committees shall be stipulated at the time of inception. Size of such panels and committees, scope of action, and membership shall be stipulated at the time of inception.
2. Special committees may be established if required between the Annual Meetings but they must be confirmed by a vote at the Annual Meeting.

F. ANNUAL MEETING AND OTHER MEETINGS

1. A general meeting of the Council shall be held at least once yearly. The Chairman shall preside. The business of the meeting shall encompass reports of the Executive Committee, the several panels and committees, passage of the budget, and discussions of projects and actions of the Council.
2. Passage of projects and actions shall be by majority vote of the members present at the meeting.
3. The Executive Committee shall meet at least twice yearly, one meeting shall be held immediately prior to the Annual Meeting and one meeting at the call of the Chairman of the Council.
4. The various panels and committees shall each meet at least once yearly, at the general meeting.

G. FINANCES

1. The work of the Council shall be financed by assessments from the member institutions based on the size of the respective active vessels.
2. The Secretary of the Council shall be responsible to the Executive Committee for receipt and disbursement of finances.
3. The assessment shall be due each year prior to the Annual Meeting of the Council. Receipt of said assessment shall entitle the Member Institution to vote at the Annual Meeting.
4. At the specific approval of the Executive Committee and based on extenuating circumstances a member institution may defer payment of its assessment until the end of the fiscal year and still retain its vote at the Annual Meeting.
5. The Secretary shall prepare a financial report to be presented each year at the Annual Meeting.
6. The Chairman and the Executive Committee shall prepare a budget for the following year to be presented at the Annual Meeting. The adoption of the budget shall require a 2/3 vote of the member institutions.

THE RYOC By-Laws were approved at the Research Vessel Operators Council Annual Meeting on 9 January 1964.

Oct. 17, 1984

BY LAWS OF THE
RESEARCH VESSEL OPERATOR'S COUNCIL

A. PURPOSE

The purpose of the Research Vessel Operator's Council shall be to promote cooperation among marine science research and educational institutions and to represent their interests in the areas of marine operation, marine safety, governmental regulations, labor relations, and public relations as these areas affect their research fleets.

B. MEMBERSHIP

1. Membership in the Research Vessel Operators' Council shall be limited to members and associate members of the University National Oceanographic Laboratory System (UNOLS).

C. REPRESENTATION

1. Each member institution shall be entitled to one vote at the Annual Meeting. Each member institution shall be entitled to send as many individuals as it desires to the Annual Meeting, as representatives of the institution.
2. Each member institution shall be notified of the Annual Meeting by the Secretary of the Council at least one month prior to the Annual Meeting.

D. OFFICERS

1. The Research Vessel Operator's Council shall have a Chairperson and a Secretary. The Chairperson and Secretary will be elected by majority vote at the Annual Meeting for a two year term. Date of office shall commence at the close of the Annual Meeting. The Chairperson and Secretary shall be elected in alternate years.
2. The Chairperson shall represent the Council in all matters stipulated in the purpose of these by-laws and in all matters deemed necessary in the interest of the Council. The Chairperson shall implement the programs enumerated by the Council and shall conduct the Annual Meeting and whatever special meetings are deemed necessary by the Chairperson or the members.

- 2 -

3. The Secretary shall record the business of the Council. The Secretary shall be responsible for dissemination of information through newsletters or other media as stipulated in these bylaws to all members of the Council.
4. If the Chairperson or the Secretary are unable to fulfill their duties of office, the Chairperson shall appoint a successor to act with full authority until the succeeding Annual Meeting.

E. COMMITTEES AND PANELS

1. Upon the recommendation of the Chairperson and with a majority vote of the Council, at the Annual Meeting, various panels and committees, as necessary to the work of the Council, may be constituted. The duration of action of such panels and committees shall be stipulated at the time of inception. Size of such panels and committees, scope of action, and membership shall be stipulated at the time of inception.
2. Special committees may be established if required between the Annual Meetings but they must be confirmed by a vote at the Annual Meeting.

F. ANNUAL MEETING AND OTHER MEETINGS

1. A general meeting of the Council shall be held at least once yearly. The Chairperson shall preside. The business of the meeting shall encompass reports of any active panels and committees, and discussions of projects and actions of the Council. Speakers from the marine community may also be included on the agenda. Workshops for projects of general concerns are encouraged.
2. Passage of projects and actions shall be by majority vote of the members present at the meeting.
3. The various panels and committees shall each meet at least once yearly, at the general meeting.

G. FINANCES

UNOLS will provide limited funding for the Council to include the following:

- a. Travel expenses for the Chairperson and Secretary to the annual meeting.
- b. Meeting facilities when required.
- c. Travel and meeting expenses for panels, committees workshops or the annual meeting when appropriate.

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

April 20, 1989

UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195
(206) 543-2203

TO: UNOLS Institutions
FROM: Executive Secretary,
UNOLS
SUBJECT: UNOLS Charter

This is to distribute the UNOLS Charter to UNOLS institutions and to other interested parties.

A Proposed Revision of the UNOLS Charter was presented to the UNOLS Membership at the UNOLS Annual Meeting on October 28, 1988. The Membership adopted in principle the Proposed Revision. At the same time, some among the membership suggested modest changes to the Proposed Revision.

The UNOLS Council, at their February 27, 1989 meeting, considered the modest changes, agreed to them, and determined to begin operating under the UNOLS Charter distributed herein. This is the Charter adopted in principle on October 28, 1988 but with the minor modifications suggested on October 28, then endorsed by the Council on February 28.

Changes from the October 28, 1988 version are confined to:

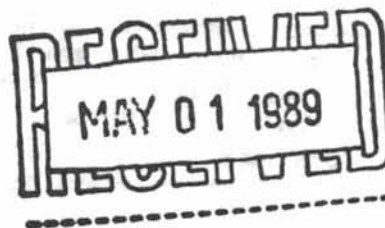
- paragraph 4b., page 2, concerning the UNOLS Chair,
- paragraph 4d., page 3, concerning the UNOLS Council,
- paragraph 4f., page 3, concerning Committees, and
- paragraph 4, Annex III, page 12, concerning RVOC membership.

Changes are described in attachments to this memo.

The UNOLS Charter, as distributed herein, will be presented for adoption to the UNOLS membership at the September, 1989 Annual Meeting.

Attachments

ccs: UNOLS Council
D. Heinrich, NSF
B. Malfait, NSF
A. Yeager, NOAA
K. Kaulum, ONR
B. McGregor, USGS
D. Aurand, MMS
G. Saunders, DOE



Paragraph 4b., page 2, under Organization,

In the October 28, 1988 revision:

b. The Chair, represents UNOLS throughout the oceanographic community, calls and presides over UNOLS meetings, chairs the UNOLS Council and Executive Committee, appoints other committees and provides direction and oversight to the Executive Secretary and the UNOLS Office.

Changed to:

b. The Chair, represents UNOLS throughout the oceanographic community, calls and presides over UNOLS meetings, chairs the UNOLS Council and Executive Committee, in consultation with the UNOLS Council, appoints other committees and provides direction and oversight to the Executive Secretary and the UNOLS Office.

The purpose of this change is to ensure that the UNOLS Chair consults with the Council in appointing Committee members.

Paragraph 4d., pages 2,3 under Organization

In the October 28, 1988 version:

d. The UNOLS Council represents and acts on behalf of the UNOLS membership as the operating and governing body of UNOLS. It monitors UNOLS activities, giving attention to the effective use of available oceanographic facilities and determining the performance of UNOLS Institutions in providing access to federally supported facilities for scientists from other institutions. It evaluates the need for replacement and additional facilities and assesses whether some facilities are outmoded or in excess of current needs. It considers and makes recommendations to funding agencies of the needs for specialized facilities or new concepts in facilities and the balance between facilities and funded research programs. It accepts charges from funding agencies for special studies and reviews, and will make recommendations based on its findings. It assists funding agencies to obtain adequate and uniform financial data and cruise reporting of ship operations. It counsels in the formation of and appointments to UNOLS committees, and provides oversight to them. The UNOLS Council shall report fully and faithfully to the UNOLS membership and to sponsoring agencies on its actions, activities and plans. Reports shall include an annual summary report delivered at the annual UNOLS meeting, reports of Council meetings and special reports on important actions or activities.

The UNOLS Council consists of nine elected members, including the UNOLS Chair and Vice Chair who shall also be Chair and Vice Chair of the Council and, ex-officio, as fully participating Council members, the chairs of the Ship Scheduling Committee, the Fleet Improvement Committee, the ALVIN Review Committee, the Research Vessel Operators Committee and of other standing Committees. No more than one elected

member of the UNOLS Council shall serve from any one institution. If, during an elected member's term, that individual's status changes so that the eligibility criteria are no longer satisfied that individual will lose membership on the Council. If any elected member of the UNOLS Council misses three consecutive meetings, that individual will lose membership on the Council. Replacements will be elected in accordance with Procedures to fill unexpired terms.

Changed to:

d. The UNOLS Council represents and acts on behalf of the UNOLS membership as the operating and governing body of UNOLS. It monitors UNOLS activities, giving attention to the effective use of available oceanographic facilities and determining the performance of UNOLS Institutions in providing access to federally supported facilities for scientists from other institutions. It evaluates the need for replacement and additional facilities and assesses whether some facilities are outmoded or in excess of current needs. It considers and makes recommendations to funding agencies of the needs for specialized facilities or new concepts in facilities and the balance between facilities and funded research programs. It accepts charges from funding agencies for special studies and reviews, and will make recommendations based on its findings. It assists funding agencies to obtain adequate and uniform financial data and cruise reporting of ship operations. It counsels in the formation of and appointments to UNOLS committees, and provides oversight to them. The UNOLS Council shall report fully and faithfully to the UNOLS membership and to sponsoring agencies on its actions, activities and plans. Reports shall include an annual summary report delivered at the annual UNOLS meeting, reports of Council meetings and special reports on important actions or activities.

The UNOLS Council consists of nine elected members, including the UNOLS Chair and Vice Chair who shall be Chair and Vice Chair of the Council. The chairs of the Ship Scheduling Committee, the Fleet Improvement Committee, the ALVIN Review Committee, the Research Vessel Operators Committee and of other standing Committees serve, ex-officio, as fully participating members of the Council. No more than one elected member of the UNOLS Council shall serve from any one institution. If, during an elected member's term, that individual's status changes so that the eligibility criteria are no longer satisfied that individual will lose membership on the Council. If any elected member of the UNOLS Council misses three consecutive meetings, that individual will lose membership on the Council. Replacements will be elected in accordance with Procedures to fill unexpired terms.

The purposes of changes here are to make clear the membership on the UNOLS Council and especially to make it clear that ex-officio membership on the Council is limited to Chairs of standing or permanent UNOLS Committees.

Paragraph 4f., page 3, under Organization

In the October 28, 1988 version:

f. Committees are established for such special purposes as decided by UNOLS and the UNOLS Council. These Committees address issues as set out in their terms of reference. Recommendations to funding agencies shall be delivered through the UNOLS Council or Executive Committee. All such committees are UNOLS committees. These committees are established by the UNOLS Chair in consultation with the UNOLS Council. Committees function under terms of reference adopted by the Council. Committee chairs and members are appointed by the UNOLS Chair with approval of the Council, unless otherwise specified in a Committee's terms of reference. Terms of reference for Committees are adopted as annexes to the Charter.

UNOLS Committees shall remain in effect for no longer than three years, after which time they shall be dissolved unless they are reaffirmed by the UNOLS Council. The Council shall review all Committee's terms of reference and activities as a basis for affirmation, change or dissolution.

Changed to:

f. Committees are established for such special purposes as decided by UNOLS and the UNOLS Council. These Committees address issues as set out in their terms of reference. Their recommendations to funding agencies shall be delivered through the UNOLS Council or Executive Committee. All such committees are UNOLS committees. Permanent or standing committees shall be established by vote of UNOLS members, then formed by the UNOLS Chair in consultation with the UNOLS Council. Special purpose or temporary committees may be established and formed by the UNOLS Chair and Council on their own authority. Committees function under terms of reference adopted by the Council. Committee chairs and members are appointed by the UNOLS Chair with approval of the Council, unless otherwise specified in a Committee's terms of reference. Terms of reference for permanent or standing Committees are adopted as annexes to the Charter.

UNOLS Committees shall remain in effect for no longer than three years, after which time they shall be dissolved unless they are reaffirmed by the UNOLS Council. The Council shall review all Committee's terms of reference and activities as a basis for affirmation, change or dissolution.

The purposes of this change are to differentiate between permanent or standing committees and temporary ones, and to establish a general membership rule (as opposed to

unilateral action by the UNOLS Chair) in establishing UNOLS Committees and ex-officio members to the UNOLS Council.

Paragraph 4, page 14, Annex III, Research Vessel Operators Committee

In the October 28, 1988 version:

4. Membership in the RVOC while based on representation from UNOLS operator institutions is also open to other UNOLS institutions or non-UNOLS institutions who operate research vessels for purpose similar to UNOLS. Each operator institution shall designate a member to RVOC. Institutions other than operators may designate members as they choose.

Changed to:

4. Membership in the RVOC is based on representation from UNOLS Operator institutions. Membership is also open to all UNOLS institutions or non-UNOLS institutions who operate research vessels for purposes similar to UNOLS', and in accordance with RVOC by-laws. Each UNOLS Operator institution shall designate a representative to RVOC. Institutions other than operators may designate representatives in accordance with RVOC by-laws.

The purpose of changes here was to make Charter language concerning RVOC membership consistent with that in RVOC by-laws. (The intent has always been to accomodate to RVOC by-laws concerning their membership criteria.)

**RESEARCH VESSEL OPERATORS COMMITTEE
CHRONOLOGICAL LIST OF MEETINGS**

YEAR	DATE(S)	INSTITUTION/FACILITY	LOCATION
1962	April 25	U. S. Coast Guard Headquarters	Washington, DC
	May 17-18	Department of Labor	Washington, DC
	June 5	American Chemical Society	Washington, DC
1963	June 4	Merchant Marine Institute	New York, NY
1964	Jan. 9	Woods Hole Oceanographic Institution	Woods Hole, MA
1965	Feb. 9-10	Institute of Marine Science University of Miami	Miami, FL
1966	April 21-22	Statler Hilton	Washington, DC
1967	April 12-13	National Academy of Science	Washington, DC
1968	Feb. 15-16	Scripps Marine Facilities Division	San Diego, CA
1969	March 20-21	U. S. Naval Academy Chesapeake Bay Institute	Annapolis, MD
1970	April 30-May 1	University of Washington	Seattle, WA
1971	Oct. 20	Lamont Doherty Geological Observatory	Palisades, NY
1972		Marine Technology Society	Washington, DC
1973	Nov. 27-28	Texas A&M Marine Facility	Galveston, TX
1974	Nov. 20	Oregon State University	Newport, OR
1975	Oct. 21-22	Lathem Smith Lodge Peterson Boat Works	Sturgeon Bay, WI
1976	Nov. 30-Dec. 1	Sweet Meadows Inn University of Rhode Island	Narragansett, RI
1977	Nov. 1-2	Woods Hole Oceanographic Institution	Woods Hole, MA
1978	Oct. 2	Queen Mary	Long Beach, CA
1979	Oct. 22-23	Scripps Institution of Oceanography Nimitz Marine Facility	San Diego, CA
1980	Oct. 27-28	University of Texas Marine Science Institute	Port Aransas, TX
1981	Oct. 15	Duke University Marine Laboratory	Pivers Island, NC
1982	Sept. 27-28	Harbor Branch Foundation, Inc.	Fort Pierce, FL
1983	Oct. 4-6	University of Hawaii	Honolulu, HI
1984	Oct. 15-17	Bermuda Biological Station	Bermuda
1985	Sept. 25-27	Moss Landing Marine Laboratories Navy Postgraduate School Monterey Marine Aquarium	Moss Landing, CA Monterey, CA
1986	Oct. 8-10	Oceanografia - Veracruz Mexican Naval Academy	Veracruz, Mexico Anton Lizardo, Mexico
1987	Oct. 12-14	University of New Hampshire	Durham, NH
1988	Oct. 4-6	University of Washington	Seattle, WA
1989	Oct. 3-5	University of Miami	Miami, FL

RVOC
LIST OF ATTENDEES 1962-1988

1962

Jonathan Leiby (WHOI) - Chairman
John Dermody (Uof W) - Secretary

List of Authorized Delegates

Richard G. Bader - NSF
C. G. Bookout - Duke University
David C. Chandler - Univ. of Michigan
C. E. Dawson - Gulf Coast Research Laboratory
Charles Drake - Lamont Geological Observatory
J. D. Frautschy - Scripps Institute of Oceanography
W. K. Howard - Duke University
F. O. Jennings - Office of Naval Research
William P. Lemmer - University of Michigan
Robert J. Menzies - Duke University
Stanley Potter - Dwight S. Simpson & Associates
Consultants to Duke University
Robert E. Schuller, Jr. - Texas A&M College
Maxwell Silverman - Woods Hole Oceanographic Inst.
Valvin R. Sinclair - Lamont Geological Observatory
Robert E. Stevenson - Texas A&M College
Peter G. Trapani - Scripps Institution of Oceanography
Richard C. Vetter - Committee on Oceanography
National Academy of Sciences

Rolf L. Bolin - Hopkins Marine Station
Wayne V. Burt - Oregon State Univ.
Barnes Collinson - Univ. of Rhode Island
John Dermody - Univ. of Washington
R. S. Edwards - Woods Hole Oceanographic Institution
Homer L. Hadley - Texas A&M Research Foundation
Robert J. Hurley - Marine Laboratory - Univ. of Miami
John Leiby - Woods Hole Oceanographic Institution
Arthur Maxwell - Office of Naval Research
Dick O'Brien - Woods Hole Oceanographic Institution
F. W. Princehouse - University of Washington
Dixie Lee Ray - National Science Foundation
Prof. H. L. Seward - Woods Hole Oceanographic Inst.
Dwight S. Simpson - Dwight S. Simpson & Associates
Consultants to Duke University
Clifford Tetzloff - Great Lakes Research Division
University of Michigan
H. H. Whaley - John Hopkins University

1963

Jonathan Leiby - Chairman
Ellis Rittenhouse - (OSU) - Secretary

Attendees

J. Leiby - WHOI
J. Dermody - University of Washington
R. J. O'Brien - University of Miami
C. R. Sparger - Texas A&M University
P. G. Trapani - SIO

CDR. E. M. Benkert - U. S. Coast Guard
J. A. Knauss - University of Rhode Island
R. E. Schuller, Jr. - Texas A&M University
C. Tetzloff - University of Michigan

By Laws of The Research Vessel Operators' Council - August 1, 1963

1964

J. Leiby - Chairman
J. Dermody - Secretary

Participants

W. V. Burt - Oregon State University
J. Gibbons - Univ. of Rhode Island
J. A. Knauss - URI
F. W. Princehouse - U of Washington
M. Silverman - SIO
C. R. Sparger - TAMU
H. H. Whaley - CBI

C. L. Drake - Lamont
A. B. Hall - WHOI
R. J. O'Brien - Univ. of Miami
R. E. Schuller, Jr. - TAMU
V. R. Sinclair - Lamont
P. G. Trapani - SIO

Observers

M. C. Mc Clean - ONR

H. P. Smith - MBL

1965

J. Leiby - Chairman
E. B. Rittenhouse - Secretary

Attendees

W. V. Burt - OSU
Michael Garstang - Florida State
J. Gibbons - U of Rhode Island
S. Guill - U of Washinton
J. Leiby - WHOI
John G. Newton - Duke University
Warren Okkerse - Univ. of Hawaii
F. W. Princehouse - U of Washington
D. D. Scott - WHOI
V. R. Sinclair - Lamont
Clifford Tetzloff - Univ. of Michigan
H. H. Whaley - Hohn Hopkins University

John Dermody - U of Washington
R. Gerard - Lamont
R. W. Gregg - Hopkins Marine
P. B. Huling - Duke University
Edgar L. Newhouse - Lamont
Lewis Newton - TAMRF
J. F. Pike - WHOI
Ellis Rittenhouse - OSU
Max Silverman - Scripps
C. R. Sparger - TAMRF
P. G. Trapani - Scripps
R. F. White - Univ. of Miami

Observers

Donald V. Geoffrion - Office of Naval Material
George A. Solli - IMS - Univ. of Alaska

F. D. Jennings - ONR

1966

J. Leiby - Chairman
E. Rittenhouse - Secretary

1967

J. Leiby - Chairman
E. Rittenhouse - Secretary

Attendees

D. W. Booth - John Hopkins
R. S. Edwards - WHOI
J. Gibbons - Univ. of Miami
S. G. Guill - U of Washington
Feenan Jennings - ONR
Ronald H. Marcks - WHOI
John G. Newton - Duke
W. W. Okkerse - U of Hawaii
D. D. Scott - WHOI
V. R. Sinclair - Lamont
George Solli - Univ. of Alaska
Peter G. Trapani - Scripps
R. F. White - Univ. of Miami

John Dermody - U of Washington
J. D. Frautschy - Scripps
S. S. Griffin - Lamont Geo.
Stuart Hale - URI
J. Leiby - WHOI
Stewart B. Nelson - Oceanographer of Navy
Lewis Newton - TAMU
E. B. Rittenhouse - OSU
Max Silverman - Scripps
H. Skjerdings - Lamont
C. Tetzloff - Univ. of Michigan
H. H. Whaley - John Hopkins
J. F. Zipf - Florida State Univ.

IRVC

E. D. Angell - Marine Acoustical Service, Inc.
W. A. Boudreaux - Shell Oil Co.
J. Hirshman - Alpine Geophysics Assoc. Inc.
W. G. Sherwood - AC Electronics (Defense Res. Lab)

W. G. Boriack - Shell Oil Co.
Kenneth S. Elmes - Sea Scope Inc.
Robert E. Manner - TI
W. H. Tabb - Mobil Oil Corp.

1968

J. Leiby - Chairman
Frank Bean (UofW) - Secretary

Attendees

Frank Bean - U of Washington
A. H. Clough - Douglas, Alaska
R. S. Edwards - WHOI
R. Gerard - Lamont
M. Gilmartin - Hopkins Marine Station
S. G. Guill - U of Washington
P. B. Huling - Duke
J. Leiby - WHOI
S. Nelson - Adm. Asst. to Oceanographer of Navy
W. W. Okkerse - U of Hawaii
Max Silverman - Scripps
C. Tetzloff - U of Michigan
H. H. Whaley - John Hopkins University

L. B. Bowhay - Stanford Univ. Hopkins Marine Station
Jack Dullaghan - Scripps
J. D. Frautschy - SIO
J. Gibbons - Univ. of Miami
Sydney Griffin - Lamont
Stuart Hale - URI
Gary L. Jayne - NAVSHIPS
R. H. Lockwood - Scripps
John Newton - Duke
E. B. Rittenhouse - OSU
George A. Solli - IMS - U of Alaska
Peter G. Trapani - Scripps

1969

J. Leiby - Chairman
F. T. Bean - Secretary

1970

Jonathan Leiby - Chairman
Frank T. Bean - Secretary

Attendees

Frank T. Bean - U of Washington
R. S. Edwards - WHOI
James Gibbons - U of Miami
S. S. Girffin - Lamont-Doherty Geo. Obs.
Jay Katz - U of Michigan
L. I. Knowles - U of Hawaii
Don Mraz - U of Wisconsin
Lewis Newton - TAMU
Don Rozenberg - U of Alaska
P. G. Trapani - Scripps

J. Brooks Bowhay - Hopkins Marine Sta.
George W. Flager - Ed Ball Marine Sta.
Florida State University
P. F. Irving - Alan Hancock Fdn.
U of Southern California
Jon Leiby - WHOI
John G. Newton - Duke
R. G. Redmond - OSU
Cliff Tetzloff - U of Michigan

Agency Represented

Max Silverman - Naval Ship System Command
R. H. Warsing - Office of the Oceanographer of the Navy

Visitor

K. W. Jeffers - ESSA - Pacific Marine Center

1971

Jonathan Leiby - Chairman
Frank T. Bean - Secretary

1972

1973

Jonathan Leiby - Chairman
Frank T. Bean - Secretary

Attendees

Don H. Rosenberg - U of Alaska
J. F. Campbell - U of Hawaii
John Newton - Duke University
Len B. Knight - Skidaway
John B. Watkins, Jr. - U of Washington
Jonathan Leiby - WHOI
Bob Sexton - URI
Jay Katz - U of Michigan

Charles H. Billings - U of Hawaii
Charles Kelley - U of Hawaii
J. E. McCauley - Virginia Institute Marine Sci.
Peter Branson - Scripps
Frank Bean - U of Washington
Dick Edwards - WHOI
Cliff Buehrens - URI
Clifford Tetzloff - U of Michigan

Tony Inderbitzen - U of Delaware
George Flager - Florida State University
T. K. Treadwell - TAMU
Ellis Rittenhouse - Oregon State University
Gerald Shanley - Uof Puerto Rico

Jim Gibbons - U of Miami
Don Mraz - U of Wisconsin
D. E. Letzring - TAMU
Paul Irving - U of Southern California

Agency

Dr. Albert G. Greene, Jr. - NFS/OFS
Joe Bennett - ONR
Ken Popliam - ONR

Sandra Toye - NFS/OFS
Max Silverman - NavShips
Bob Dinsmore - UNOLS

Other

Corwith Cramer - SEA
Charles Martin - Risk Engineering Service

Salvadore J. Guarino - Halter Marine Serv.
M. O. Kinkel - SUSIO

1974

Jonathan Leiby - Chairman
James Gibbons - Secretary

Attendees

James Gibbons - U of Miami
R. P. Dinsmore - UNOLS
John G. Newton - Duke
Richard S. Edwards - WHOI
Peter Branson - Scripps
William Kerr - U of Hawaii
J. Boyce Watkins - U of Washington
Harold Screen - CBI - John Hopkins Univ.
T. K. Treadwell - TAMU
E. B. Rittenhouse - OSU
Joseph Bennett - ONR
B. M. Pierce - OSU

Jonathan Leiby - WHOI
Clifford A. Buehrens - URI
Jay T. Katz - U of Michigan
Clifford Tetzloff - U of Michigan
Donald Mraz - U of Wisconsin
Charles H. Martin - Risk Engineering Serv.
Robert A. Schelling - U of Washington
Robert B. Elder - OFS/NFS
J. H. Thompson - U of Texas
A. L. Inderbitzen - U of Delaware
R. G. Redmond - OSU

1975

Jonathan Leiby - Chairman

Attendees

Jon Leiby - WHOI
Bob Schelling - U of Washington
Dick Tagg - USGS
Clifford Buehrens - URI
Bill Kerr - U of Hawaii
H. H. Whaley - John Hopkins Univ.
Dolly Dieter - U of Alaska
Fris Campbell - U of Hawaii
Dean E. Letzring - TAMU
John Thompson - U of Texas

Boyce Watkins - U of Washington
Dick Redmond - OSU
Eric B. Nelson - Duke
George A. Flager - Florida State Univ.
John M. Zeigler - VIMS
Harold Screen - John Hopkins Univ.
A. L. Inderbitzen - U of Delaware
Paul Irving - USC
Donald Mraz - U of Wisconsin
William Erb - Department of State

Clifford Tetzloff - U of Michigan
Robert S. Fiebelkorn - U of Hawaii
Jay Katz - U of Michigan
Maurice Rinkel - SUSIO
R. Gerard - Lamont-Doherty

J. Gibbons - U of Miami
Jack Dullaghan - Scripps
Dick Thibault - U of Michigan
R. P. Dinsmore - UNOLS
R. Elder - NSF

1976

Jonathan Leiby - Chairman
James Gibbons - Secretary

Attendees

David B. Bannerman, Jr. - URI
Cliff Buehrens - URI
Dolly Dieter - U of Alaska
Alyn C. Duxbury - U of Washington
Robert B. Elder - NSF
Bob Ewing - U of Texas - Galveston
Jim Gibbons - U of Miami
William G. Harkness - U of Hawaii
Jay Katz - U of Michigan
Dean Letzring - TAMU
Don Milligan - OCEANAV
Van Nield - NORDA
Maurice Rinkel - SUSIO
Harold Screen - CBI - John Hopkins Univ.
Tom Stetson - UNOLS
Cliff Tetzloff - U of Michigan
Sandra Toye - NSF/OCE
Allyn Vine - WHOI
John Zeigler - VIMS

Peter Branson - SIO
Cory Cramer - SEA
R. F. Dinsmore - WHOI
R. S. Edwards - WHOI
Bill Erb - Department of State
Sam Gerard - Lamont-Doherty
William Hahn - URI
Tony Inderbitzen - U of Delaware
Jon Leiby - WHOI
Jon Lucas - SEA
Eric B. Nelson - Duke
Dick Redmond - OSU
Bob Schelling - U of Washington
Bob Sexton - URI
Richard C. Swenson - NORDA
John Thompson - U of Texas
Eugene B. Veek - U of So. California
Boyce Watkins - U of Washington

1977

Jonathan Leiby - Chairman

Attendees

Clifford A. Buehrens - URI
Corwith Cramer - SEA
R. P. Dinsmore - WHOI
Joe Dropp - Oceanographer of the Navy
Robert B. Elder - NSF/OFS
Robert Ewing - U of Texas - Galveston
J. Gibbons - U of Miami
W. G. Harkness - U of Hawaii
Jon Leiby - WHOI
J. Lindon - WHOI
Don Milligan - Oceanographer of Navy
George Newton - Duke Marine
Tim Pfeiffer - U of Delaware
L. Shumaker - WHOI
W. R. Taylor - CBI-John Hopkins Univ.

Larry Clark - UNOLS
E. R. Dieter - U of Alaska
J. D. Donnelly - WHOI
Dick Edwards - WHOI
William Erb - Department of State
M. H. Fleming - NOAA/NMFS
J. Hain - SEA
Mary K. Johrde - NSF/OFS
Dean Letzring - TAMU
Jon Lucas - SEA
Don Mraz - U of Wisconsin
Gene Olson - SUSIO
R. G. Redmond - OSU
T. Stetson - UNOLS
Cliff Tetzloff - U of Michigan

John Thompson - U of Texas
Eugene Veek - U of So. California
L. Hoyt Watson - WHOI

G. Tollios - WHOI
Boyce Watkins - U of Washington

1978

Jonathan Leiby - Chairman

Attendees

Gene Allmendinger - U of New Hampshire
Larry Clark - UNOLS
Dolly Dieter - U of Alaska
Dick Edwards - WHOI
Tom Forhan - NSF
Jim Griffin - URI
Ron Jackson - Holmes & Narver, Inc.
Dean Letzring - TAMU
Robert L. Murphy - Holmes & Narver, Inc.
Don Neuman - U of So. California - MSF
Wadsworth Owen - U of Delaware
Fred Rees - U of Alaska - Dauphin Island
Tom Stetson - UNOLS
Cliff Tetzloff - U of Michigan
T. K. Treadwell - TAMU
Boyce Watkins - U of Washington
CDR. Julian M. Wright, Jr. - NSTL

Pete Branson - SIO
Norm Deniston - Relief Capt. for HERO
Joe Dropp - Oceanographer for Navy
Bob Ewing - U of Texas - Galveston
Sam Gerard - Lamont-Doherty
William G. Harkness - U of Hawaii
Jon Leiby - WHOI
Don Mraz - U of Wisconsin-Milwaukee
Eric B. Nelson - Duke
Gene Olson - Florida Institute
Dick Redmond - OSU
Bob Schelling - U of Washington
W. L. Sullivan, Jr. - State Department
Dan Toporoski - Scripps
Brad Veek - U of So. California - IMCS
Skip Wright - USN NAV.OCEAN

1979

Dean E. Letzring - Chairman
Brad Veek - Secretary

Attendees

John Ludwigson - freelance writer/NSF
Bob Schelling - U of Washington
Bob Williams - U of Washington
T. K. Treadwell - TAMU
Jack Bash - URI
Cliff Tetzloff - U of Michigan
W. G. Harkness - U of Hawaii
R. H. Ewing - U of Texas - Galveston
Eric B. Nelson - Duke Univ.
Fred Rees - U of Alabama, Dauphin Island
Bill Erb - State Department
Bill Westphal - Occidental College
Dean E. Letzring - TAMU
Dolly Dieter - U of Alaska
LCDR Brian Cronyn - Naval Ocean. Command
Wadsworth Owen - U of Delaware

Dick Edwards - WHOI
Boyce Watkins - U of Washington
Tom Forhan - NSF
Dan Toporoski - SIO
Cliff Buehrens - URI
Brad Veek - USC
W. B. Clark - U of Hawaii
E. E. Allmendinger - U of New Hampshire
Jack Dullaghan - SIO - retired
Woody Reynolds - Naval Postgraduate Sch.
Jonathan Leiby - WHOI
Pete Branson - SIO
Tom Stetson - UNOLS
C. R. Bishop - SIO
R. G. Redmond - OSU

1980

Dean E. Letzring - Chairman
Brad Veek - Secretary

Attendees

Jack Bash - URI
Dolly Dieter - U of Alaska
Jim Gibbons - U of Miami
Henry Kennedy - L-DGO
Dean Letzring - TAMU
Eric B. Nelson - Duke Univ.
Wadsworth Owen - U of Delaware
Kelly Pulsifer - Scripps
Robert Schelling - U of Washington
Thomas Stetson - UNOLS
Andrew Stone - CNOC & NAVOCEANO
John Thompson - U of Texas
Brad Veek - USC

Jean E. Buhler - Harbor Branch Fdn.
Richard S. Edwards - WHOI
W. G. Harkness - U of Hawaii
Jonathan Leiby - WHOI
John G. McMillan - NSF
Gene Olson - Florida Inst. for Oceanog.
James G. Pollock - Scripps
R. G. Redmond - OSU
Lew Skelton - Moss Landing Marine Lab.
Lee Stevens - State Department
Cliff Tetzloff - U of Michigan
T. K. Treadwell - TAMU
R. E. Williams - U of Washington

1981

Dean E. Letzring - Chairman
Brad Veek - Secretary

Attendees

Frank Alexander - NSF/OFS
Cliff Buehrens - URI
W. B. Clark - U of Hawaii
Dick Edwards - WHOI
Robert Gerard - Lamont-Doherty
Lee H. Knight - U. System of Georgia-Skidaway
Wm. Mitchell - U of Texas - IG
Capt. Eric B. Nelson - Duke
Ken Palfrey - OSU
LCDR Stephen M. Schrobo - Commander Naval Ocean.
Lee Stevens - Department of State
Duane M. Tollaksen - ONR Det./NORDA
Joe Ustach - Duke/UNC Consortium

Jack Bash - URI
Jean E. Buhler - Harbor Branch FDN
Dolly Dieter - U of Alaska
Dr. Dirk Frankenbert - U of N. Carolina
W. G. Harkness - U of Hawaii
Dean Letzring - TAMU
Don Mraz - U of Wisconsin
Wadsworth Owen - U of Delaware
Kelly Pulsifer - Scripps
Richard Shutts - Moss Landing Marine Lab.
John Thompson - U of Texas -PAML
Capt. T. K. Treadwell - TAMU
Brad Veek - U of So. California

1982

Brad Veek - Chairman

Attendees

Eugene Allmendinger - U of New Hampshire
Jack Bash - U of Rhode Island
Jean E. Buhler - Harbor Branch Fdn.

William Barbee - U of Washington
Cliff Buehrens - U of Rhode Island
W. B. Clark - U of Hawaii

Dolly Dieter - U of Alaska
Robert Gerard - U of Miami
Robert S. Jones - Harbor Branch Fdn.
John G. McMillan - NSF
Jack Morton - Florida Inst. of Technology
Capt. Eric B. Nelson - Duke/UNC Consortium
LCDR Stephen M. Schrobo - Commander Naval Ocea.
Lee Stevens - Department of State
John Thompson - U of Texas - PAML
Brad Veek - U of So. California

Paul Eden - U of Miami
W. G. Harkness - U of Hawaii
Dean E. Letzring - TAMU
Wm. Mitchell - U of Texas - IG
Don Mraz - U of Wisconsin
Wadsworth Owen - U of Delaware
Richard Shutts - Moss Landing Marine Lab.
Bill Sweet - Mineral Management Ser.
Capt. T. K. Treadwell - TAMU
Capt. Jim Williams - Scripps

1983

Dolly Dieter - Chairperson
John Bash - Secretary

Attendees

E. Eugene Allmendinger - U of New Hampshire
Jim Steuart - Scripps
S. H. Applegarth - ABS Consultant
William D. Barbee - UNOLS
Jack Bash - U of Rhode Island
E. R. Dieter - U of Alaska
Lee H. Knight - Skidaway
John McMillan - NSF
Isabel Miles - CBI Johns Hopkins
David A. Managhan - Medical Advisory Systems
Eric B. Nelson - Duke University
K. M. Palfrey - OSU
Cliff Tetzloff - U of Michigan
Ofelia Villalonga - U of Miami
Jim Williams - SIO, Marine Facilities

Robert Gerard - L-DGO
William Harkness - U of Hawaii
Emily Henager - TAMRF
Larry Jones - Moss Landing
Bruce K. Cornwall - CBI/JHU
John Donnelly - WHOI
Richard L. Longfield - U of Hawaii
Richard A. Martino - Naval Ocea. Office
William H. Mitchell - U of Texas at Austin
Don Newman - U of So. California
Wadsworth Owen - U of Delaware
Richard Shutts - Moss Landing
T. K. Treadwell - TAMU
Boyce Watkins - U of Washington

1984

Dolly Dieter - Chairperson
J. Bash - Secretary

Attendees

E. Eugene Allmendinger - U of New Hampshire
John F. Bash - U of Rhode Island
Mike Chapman - MECIO
W. Thomas Cocke - Department of State
Bruce K. Cornwall - Chesapeake Bay Institute
John Donovan - TAMU
Sam Gerard - Lamont-Doherty
K. W. Jeffers - U of Washington
Richard Keegan - Magnavox
Rodney Lay - R. L. & Associates
Richard L. Longfield - U of Hawaii
John McMillan - NSF

William D. Barbee - UNOLS
Richard Chandler - WHOI
W. B. Clark - U of Hawaii
Tom Cooley - NSF
E. R. "Dolly" Dieter - U of Alaska
Capt. Jack Fuechsel - National Ocean Ind.
Ron Hutchinson - U of Miami
Larry Jones - Moss Landing Marine Labs.
Lee Knight - Skidaway Inst.
Jonathan Leiby - WHOI
Richard A. Martino - Naval Oceanographic
Ralph Miller, CDR, USN-COMNAVOCEANCOM

Bill Mitchell - UTIG
Don Newman - U of So. California
Wadsworth Owens - U of Delaware
Mike Prince - Moss Landing Marine Lab.
Cliff Tetzloff - U of Michigan
J. B. Watkins, Jr. - U of Washington
Marsh J. Youngbluth - Harbor Branch Fdn.

David Monaghan - MAS
Eric B. Nelson - Duke
K. M. Palfrey - OSU
Steve Rabalais - Louisiana Univ. Marine Cons.
Richard B. Tripp - U of Washington
Bob Wilson - Scripps

1985

Dolly Dieter - Chairperson
Jack Bash - Secretary

Attendees

Bruce Adey - Seattle, Wa.
Richard Chandler - WHOI
Bruce Cornwall - JHU/CBI
R. S. Edwards - WHOI
John F. Bash - URI
Dr. Thomas N. Cooley - NSF
E. R. Dieter - U of Alaska
Emily Henager - TAMRF
Jon King - U of Washington
Wes Lovaas - ONR
William H. Mitchell - U of Texas
Keith Kaulum - ONR
Rodney E. Lay - R. E. Lay & Associates
John G. McMillan - NSF/OFS
Nelson Navarre - U of Michigan
Wadsworth Owen - U of Delaware
Capt. T. K. Treadwell - TAMU
Eugene L. Olson - Florida Institute of Ocean.
Steve Rabalais - LUMCON

Capt. William D. Barbee - UNOLS
W. Thomas Cocke - U.S. Dept. of State
Lt. Scott E. Davis - U.S. Coast Guard
Dr. E. Allmendinger - U of New Hampshire
W. B. Clark - U of Hawaii
Dr. J. W. Coste - U of Hawaii - Marine Center
Jim Graf - ABS
Larry Jones - Moss Landing
Duane H. Liable - Glosten Association
Richard A. Martino - Naval Ocean. Office
Capt. William Jeffers - U of Washington
Lee H. Knight - Skidaway Institute
Dr. Elizabeth A. Martin - R. E. Lay & Assoc.
David A. Monaghan - MAS
Don Newman - U of So. California
Mike Prince - Moss Landing
Capt. Eric B. Nelson - Duke
Capt. Kennard M. Palfrey, Jr. - OSU
Capt. Jim Williams - Scripps

1986

Dolly Dieter - Chairperson
Jack Bash - Secretary

Attendees

Capt. Fausto Olivares Acosta - Comision Intersecretarial
de Investigacion Oceanografia
Tom Cocke - U.S. Department of State
Robert Gutierrez - OSU
Dr. Gene Allmendinger - U of New Hampshire
W. B. Clark - U of Hawaii
Mary Jo Gutierrez - OSU
William Hurley - Glosten Associates
Capt. K. W. Jeffers - U of Washington
Cpt. Dean E. Letzring - TAMU
John G. McMillan - NSF/OFS

Capt. William B. Barbee - UNOLS
Jack Bash - URI
Dr. Robert D. Gerard - Lamont Doherty
Emily Henager - TAMRF
Dr. Howard S. Barnes - Bermuda Bio. Sta.
Dr. James W. Coste - U of Hawaii
Richard H. Dimmock - WHOI
Ron Hutchinson - U of Miami
Dr. George H. Keller - OSU
Wes Lovaas - ONR
David A. Monaghan - MAS

Cdr. Ralph Jacobs - CNOC/Navocean
Jon King - U of Washington
Mike Markey - Markey
William H. Mitchell - U of Texas at Austin
Don Newman - U of So. California
Wadsworth Owen - U of Delaware
Mike Princ - Moss Landing
Capt. J. Augusto O. Ruiz - Escuela Nautica Veracruz
Capt. Alberto M. Vazquez - Secretaria de Marina
Dr. Robert Wilson - Scripps

Thomas J. Jozwiak - MAS
Vice Admiral Gilberto Lopez Lira -
Secretaria de Marina
Capt. Eric B. Nelson - Duke
Dennis Nixon - U of Rhode Island
Benifacio Pena-Pardo - Universidad Veracruz
Steve Rabalais - LUMCON
Capt. T. K. Treadwell - TAMU
Capt. Jim Williams - Scripps
Mr. Ernesto Zarur - UNAM

1987

Jack Bash - Chairperson
Jim Williams - Secretary

Attendees

Dr. Gene Allmendinger - U of New Hampshire
Howard S. Barnes - Bermuda Biological Station
Mike Chapman - MECCO
Capt. Joe Coburn - WHOI
Bruce Cornwall - CBI
Capt. R. P. Dinsmore - WHOI
Linda Goad - U of Michigan
Dr. Tom Hall - MAS
Capt. C. W. Hayes - International Industries
Ron Hutchinson - U of Miami
Capt. K. W. Jeffers - U of Washington
Jon Leiby - WHOI
Barbara Martineau - WHOI
David A. Monaghan - MAS
Don Newman - U of So. California
Eugene Olson - Florida Institute of Ocean.
Capt. Ken Palfrey - Hatfield Marine Science Ctr.
Mike Prince - Moss Landing
Gail Santosuosse - U of New Hampshire
Len Weimar - U of Alaska

Capt. William D. Barbee - UNOLS
Jack Bash - U of Rhode Island
W. B. Clark - U of Hawaii
Tom Cocke - U.S. Department of State
Capt. Bill Coste - U of Hawaii
Capt. John Dudley - Lamont Doherty
David C. Hackney - Robertson-Shipmate Inc.
George Hampson - WHOI
Mike Higgins - Eastport International
Capt. George Ireland - ICS, Inc.
Henry "Chip" Kennedy - ITT Antarctic Ser.
Wes Lovaas - TAMU
John G. McMillan - NSF/OFS
Bob Nauta - U of Michigan
Dr. Dennis Nixon - U of Rhode Island
Wadsworth Owen - U of Delaware
John H. Parson - Bedford Institute
Steve Rabalais - LUMCON
Dolly Dieter - U of Alaska
Capt. Jim Williams - Scripps

1988

Jack Bash - Chairperson
Jim Williams - Vice Chairman/Secretary

Attendees

J. F. Bash - URI
George Ireland - ICS
Harry Barnes - Bermuda Biological Station
David McWilliams - OSU
Dean E. Letzring - TAMU
Donald Bradford - MMA

L. C. Weimar - U of Alaska
Eric B. Nelson - Duke Univ.
Ken Palfrey - OSU
Mike Prince - Moss Landing
Don Newman - U of So. California
Steve Rabalais - LUMCON

Daniel Schwartz - Harbor Branch
Gene Allmendinger - U of New Hampshire
Dennis Nixon - URI
Bill Barbee - UNOLS
Dolly Dieter - U of Alaska
Ed Gelb - NOAA
Jim Williams - SIO
Joe Coburn - WHOI
Bruce Cornwall - CBI
Wadsworth Owen - U of Delaware
Bill Clark - U of Hawaii
Eugene Olson - FIO
Terry Jackson - PMEL
Don Moller - WHOI
Mike Markey - Markey Machinery Co.
Mike Chapman - MECCO

Capt. Tony Fitch - Inst. Ocean Science Canada
Tom Cocke - Department of State
Lee Stevens - JOI
Jon King - U of Washington
Sam Gerard - Lamont
William Mitchell - U of Texas Austin
K. W. Jeffers - U of Washington
George Keller - OSU
John Lund - NOAA
Bill Coste - U of Hawaii
Linda Goad - U of Michigan
Ron Hutchinson - U of Miami
Larry Clark - NSF
Dwayne Timmons - NOAA
Mike Slattery - Slattery Crane

IRELAND CONSULTING SERVICES, INC.
58 Northbriar Drive
North Kingstown, Rhode Island 02852

Marine Operations and Safety

Captain George F. Ireland
(401) 885-2822
(401) 885-3678

Fax 401-885-4730
Telex 7101101035

TONNAGE MEASUREMENT OF SHIPS
Notice of Proposed Rulemaking

2nd Report

The purpose of this report is to expand my interpretation of the Coast Guard's Notice of Proposed Rulemaking (NPRM) having to do with Tonnage Measurement of Ships.

This NPRM was published in the Federal Register of 26 April 1989. The comment period ended on 26 June 1989. No public hearings were planned or considered necessary by the Coast Guard. I was told that only one comment was received and that was not considered substantive.

The next step in this process is for the Coast Guard to publish final rules which will probably become effective 30 days after they are printed in the Federal Register.

This NPRM was written to implement the International Convention on Tonnage Measurement of Ships, 1969. This international convention came into force internationally on 18 July 1982. It became effective in the U.S. on 10 February 1983. U.S. implementing legislation was effective on 21 October 1986. The convention comes into force for existing ships on 19 July 1994.

This NPRM implements the technical standards of the 1969 tonnage Convention for vessels which engage in foreign voyages, and also effects U.S. vessels which engage only on domestic voyages addressed by U.S. implementing legislation.

The effect of this rulemaking is that the tonnage measurement of ships which engage in foreign voyages will be standardized with the rest of the world, and that new and existing U.S. vessels will be measured in accordance with the Convention Measurement System. While the proposal contains technical standards for how vessels shall be measured, my comments are limited to application of the new standards, i.e., to what vessels and when. Presumably the new standards will result in vessels having greater values of gross tonnage than under the old system, so application is important.

RVOC Annual Meeting
Tonnage Measurement

The Convention Measurement System will be the primary system of measurement for U.S. vessels over 79' in length. Those vessels of over 79' and engaged in foreign voyages, whether documented or not, will need to be issued an International Tonnage Certificate, 1969. In general, existing vessels have until July 19, 1994 to be measured by the new system.

The NPRM provides that the existing domestic, or national system of tonnage measurement (termed by the NPRM as the Standard Measurement System), be continued for regulatory purposes so that application of laws of the United States would be preserved in order that vessels engaged in domestic commerce would not be adversely affected. This is so for ships which do not make foreign voyages. As a consequence there should be little impact to these existing vessels, i.e. the new system will not make them subject to inspection or subject to new manning criteria.

Application to existing vessels which engage in foreign voyages is slightly different and addressed in a separate page of this report. In short, there is provision enabling most vessels to preserve existing tonnage values for regulatory application for the life of the vessel. An 'interim scheme' is provided for vessels constructed recently so they can use old tonnages until July 19, 1994 when the convention comes into force for existing vessels.

An exception has to do with vessels being converted to an extent that 'substantially affects gross tonnage'. An existing vessel (keel laid before 19 July 1982) converted after 18 July 1994, may be measured then only in accordance with the Convention Measurement System. This may provide an incentive for operators contemplating a vessel conversion to have it completed prior to 19 July 1994.

The existing Dual and Simplified Systems of Measurement will be continued. The Simplified Measurement System will be extended so that all vessels up to 79' loa may, at the owner's option, be measured using this system. Vessels over 79' will lose the option of simplified measurement.

Readers should note that the term "foreign voyage" is used throughout. The NPRM has its own definition of "foreign voyage" which comes from the implementing legislation so it stands by itself. This term is different from "international voyages" which is used extensively in Subchapter U.

RVOC Annual Meeting
Tonnage Measurement

IMPACT TO UNOLS VESSELS WHICH MAKE FOREIGN VOYAGES

Existing vessels which engage in foreign voyages (those having keels laid prior to 19 July 1982), will be able to retain existing tonnages for regulatory purposes. These tonnages will be recognized internationally as well for purposes of SOLAS, STCW (Standards of Training, Certification, and Watchkeeping for Seafarers, 1978), and MARPOL conventions. There is similar provision for some small vessels having keels laid prior to 1 January 1986 under an 'interim scheme'.

Existing vessels which engage in foreign voyages have until 19 July 1994 to be in compliance with the Convention Measurement System. Thus a vessel having the keel laid before 19 July 1982 will have two tonnages after 18 July 1994, one an existing tonnage for regulatory purposes, and the other a Convention Measurement Tonnage.

The proposals make reference to 3 Resolutions issued by the International Maritime Organization having to do with implementation of the Convention Measurement System. These, in general, provide an 'interim scheme' for small existing vessels to continue to use existing tonnage when applying SOLAS, STCW, MARPOL Convention requirements.

SOLAS: Ships having keels laid before 1 January 1986 may continue to use national tonnage as before. National tonnage is cited on SOLAS certificates with Convention Measurement Tonnage shown on the International Tonnage Certificate. Existing ships less than 1600 gross tons (measured under a national system) having the keel laid after 31 December 1985 enjoy benefits of the interim scheme only until 18 July 1994 at which time application to the SOLAS Convention is determined by the new tonnage.

STCW: Application is same as for SOLAS.

MARPOL: Ships having keels laid before 1 January 1986, and which are less than 400 gross tons may continue to use national tonnage for application of the MARPOL Convention. Tonnage measured by the Convention Measurement System is shown on the International Tonnage Certificates. Vessels of less than 400 gross tons having keels laid after 31 December 1985 enjoy the benefits of the interim scheme only until 18 July 1994 at which time application to the MARPOL Convention is determined by the new tonnage.

RVOC Annual Meeting
Tonnage Measurement

Tonnage certificates issued on behalf of the Panama Canal and Suez Canal authorities are not affected by this rulemaking.

IMPACT TO UNOLS VESSELS WHICH DO NOT MAKE FOREIGN VOYAGES

New Vessels

These vessels (built after January 1, 1986), if more than 79' loa, may have been measured by the Convention Measurement System already. At the owner's request, the vessel may also be measured under the Standard Measurement System (existing system) and apply values of tonnage obtained through that system for application of U.S. laws and regulations.

If a new vessel is 'state numbered' and does not make foreign voyages, the vessel would not be required to be measured by the Convention Measurement System even though it is greater than 79' loa.

Existing Vessels

The Convention Measurement System does not apply to a documented vessel not engaged on a foreign voyage and that had its keel laid before January 1, 1986. It also does not apply to an existing 'state numbered' vessel which does not make foreign voyages.

There is provision that if such an existing vessel undergoes "a change which the Commandant finds substantially affects the vessel's gross tonnage" it may be required to be measured under the Convention Measurement System. Although not written clearly, the wording suggests to me that for this new measuring system to be required, such a change would need to have been completed since 1 January 1986. In that case it would be treated as a new vessel, i.e., would be measured in accordance with the Convention Measurement System and would also be able to be measured in accordance with the Standard Measurement System and enjoy the regulatory benefits of that system.

POLLUTION PREVENTION

<u>Material</u>	<u>Distance from Shore</u>	<u>Activity</u>
Oil and oily waste	—	Discharge always prohibited
Oily mixture	< 12 nmi	Discharge not to exceed 15 ppm ⁽¹⁾
Oily mixture	> 12 nmi	Discharge not to exceed 100 ppm ⁽¹⁾ while proceeding enroute ⁽¹⁾
Sewerage (untreated)	> 12 nmi	Discharge permitted
Plastics ⁽²⁾	—	Discharge always prohibited
Garbage ⁽³⁾ - floating (dunnage, packing material, etc.)	> 25 nmi	Disposal permitted
Garbage ⁽³⁾ - food and other waste (ground or comminuted) ⁽⁴⁾	> 3 nmi	Disposal permitted
Garbage ⁽³⁾ - all other ⁽⁵⁾	> 12 nmi	Disposal permitted

(1) Requires oil/water separator with monitor and alarm.

(2) Plastics include synthetic line and nets as well as plastic bags and containers

(3) Special rules apply in Mediterranean, Baltic, Black, Red Seas, and in Persian Gulf.

(4) Ground or comminuted garbage must pass through a screen with openings no greater than 25 mm (or 1 square inch).

(5) Includes paper products, rags, glass, metal, bottles, crockery and similar refuse.

CRUISE REPORT
Ship Utilization Data

NOV 13
12/89

Appendix VII

1. Ship Name	2. Operating Institution	3. Cruise (leg) number																																																																																	
4. Dates on Project: Begin: End:	7. Participating Personnel:																																																																																		
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; text-align: center;">Port Calls</td> <td style="width:33%;"></td> <td style="width:34%;"></td> </tr> <tr> <td style="text-align: center;">Place</td> <td style="text-align: center;">Date</td> <td></td> </tr> </table>	Port Calls			Place	Date		<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">Code</td> <td style="width:40%; text-align: center;">Acad. title, Name and Institution</td> <td style="width:15%; text-align: center;">Title on Cruise</td> <td style="width:25%; text-align: center;">Classification (Sci., Tech., Obs., etc.)</td> </tr> <tr><td>1.</td><td></td><td></td><td></td><td></td></tr> <tr><td>2.</td><td></td><td></td><td></td><td></td></tr> <tr><td>3.</td><td></td><td></td><td></td><td></td></tr> <tr><td>4.</td><td></td><td></td><td></td><td></td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td></tr> <tr><td>6.</td><td></td><td></td><td></td><td></td></tr> <tr><td>7.</td><td></td><td></td><td></td><td></td></tr> <tr><td>8.</td><td></td><td></td><td></td><td></td></tr> <tr><td>9.</td><td></td><td></td><td></td><td></td></tr> <tr><td>10.</td><td></td><td></td><td></td><td></td></tr> <tr><td>11.</td><td></td><td></td><td></td><td></td></tr> <tr><td>12.</td><td></td><td></td><td></td><td></td></tr> <tr><td>13.</td><td></td><td></td><td></td><td></td></tr> <tr><td>14.</td><td></td><td></td><td></td><td></td></tr> </table>			Code	Acad. title, Name and Institution	Title on Cruise	Classification (Sci., Tech., Obs., etc.)	1.					2.					3.					4.					5.					6.					7.					8.					9.					10.					11.					12.					13.					14.				
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8. Area of Operations, Area index and geographic description																																																																																			
Research in Foreign Waters? _____ Country: _____																																																																																			
9. Primary Project(s)																																																																																			
a. Project title, Principal Investigator, Institution	b. Sponsoring Agency/activity	c. Grant or Contract Number																																																																																	
10. Ancillary Project(s)																																																																																			
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11. Science Party: Scientists _____ Grad. Students _____ Undergrads _____ Techs _____ Observers _____ Foreign Observers _____	12 Cost Allocation Data																																																																																		
	a. Days charged	b. Agency or activity Charged																																																																																	
		c. Grant or Contract No.																																																																																	
	Signature, Operating Institution Official	Date																																																																																	

CRUISE REPORT
Ship Utilization Data
Instructions

General: This revision of the UNOLS CRUISE REPORT, Ship Utilization Data is made to explicitly establish responsibility for completing and submitting Ship Utilization Data Forms with the Ship Operator, to clarify requirements and expand instructions for filling out the form.

Although it will still be necessary for Operators to obtain some information from P.I.'s/Chief Scientists (e.g. science grant numbers, participants), the responsibility for completing and submitting Cruise Reports lies with the Operating Institution.

Cruise Reports should be submitted as soon after completion of cruises as practical, for all operational (chargeable) days, including days at sea (both operations projects and transits) and chargeable inport days. All reports should be submitted to the UNOLS Office, NSF and ONR; reports for projects charged to other agencies should also be furnished to that agency.

Instructions for individual entries on Cruise Reports.

3. Cruise (leg) no.: Each Cruise Report should have a number. Many institutions have established systems for identifying cruises for each calendar year. A report should be prepared for each cruise or leg(s) of a cruise involving a discrete and uninterrupted primary project. Transits not included in a science cruise should be reported separately. The sum of all Cruise Reports in a year must cover all chargeable days for that year.

4. Dates and Port Calls: Show the inclusive dates of the cruise including chargeable port days which make up the total scope of the cruise. Inclusive dates should equal the sum of Days at Sea and Days in Port (5 and 6). Under Port Calls, list the port of origin, any intermediate calls and the termination port, whether they are the ship's home port or chargeable (away) ports.

5. Days at Sea. According to UNOLS' UNIFORM OPERATIONS AND COST ACCOUNTING TERMINOLOGY, days at sea are all days actually at sea incident to a scientific mission, including day of arrival, day of departure and transit time.

6. Days in Port. List all chargeable days, generally days in port away from home port and associated with the cruise being reported. Generally, all days in a port away from home port are divided between the preceding and subsequent cruises, according to use.

7. Participating Personnel. List names of the entire scientific party, including marine technicians assigned by the operating institution, students, observers and official foreign observers. Show academic or other official titles, institutional affiliations, and classification as in item 11 (i.e. scientist, grad student, technician, student observer, foreign observer). If aboard for less than entire at sea reporting period, show inclusive dates.

8a. Area of Research: Indicate area(s) of operations according to the attached Standard Navy Ocean Area and Region Index and provide a brief description; e.g. NA6, Georges Bank or NP13, NP12, NP11, NP10, North Pacific transect.

8b. Research in Foreign Waters: Indicate whether or not research was conducted in foreign waters and if so, what country. (If you requested and received a clearance - yes - if you didn't, answer had better be no.) Transits in and out of foreign ports are excluded, but if an extraordinary port clearance is required (e.g. as for USSR), report that as Port Clearance Required.

9. Primary Projects: Those projects which govern the principal operations, area and movements of the ship and to whose sponsor some or all of the days are charged (see 12). If days are charged to a project, it is Primary; if not, it usually isn't.

9a. Project Title, Principal Investigator and Institution. Project title, P.I. and institution submitting the proposal and receiving the science grant that justifies the ship operation. Do not substitute the chief scientist if different from the P.I. If the proposal/grant is part of a multi-project program (e.g. GOFPS, Tropic Heat, WOCE) indicate that in addition to the proposal/grant title.

9b. Sponsoring Activity: List the Federal, State, local or private agency funding the science project. In cases where an agency funds research through an intermediate contractor or other agency, explain; e.g. DOE through SAIC contract.

9c. Grant or Contract Number. This is the science grant or contract, not the ship operations grant.

9d. Participating Personnel. List (by code) the personnel participating significantly in each project. Observers, including assigned foreign observers, are generally listed with the primary project. Individuals may contribute to and be listed with more than one project.

9e. Discipline: List discipline of each of the primary projects, in one of the categories on the attached coding list of Activities (e.g. chemical oceanography, transit).

10a-e: Provide the same information as for Primary Projects. If time is charged to a project (in 12), it will ordinarily be listed as Primary, not Ancillary.

11. Science Party: Provide the number of scientists, technicians, graduate students, undergrads, observers (other than official foreign) and foreign observers. These data are used to calculate the number of person-days the ship provided in each category. Thus, if there are changes in the scientific party during a cruise, do not merely count all participants listed in 7 and divide among categories here. Rather, provide a rough average number. (i.e. if two observers are aboard for only 10 days of a 20-day cruise, the correct entry is $2 \times 10/20 = 1$.) Foreign observers are those official observers assigned aboard as a condition of foreign clearances, whether they aid in the research or not. Other foreign nationals are generally aboard as functioning members of the science party, and should be listed according to function. Except for foreign observers, who will always be listed as such, the precedence for individuals fitting into two or more categories is: scientist, grad student, undergrad, technician, observer (select a single category per individual).

12. Cost Allocation Data. This part of the form should be completed with extraordinary care. It is the prime basis for ship and fleet statistics and, by funding agencies, for calculating the number of days' ship operation and allocating those days by agency, division, project, etc. The sum of days charged on all Cruise Reports for a given ship in a given year should be the total of that ship's annual days of operation.

12a. Days charged. Days charged should be the sum of days at sea and chargeable days in port (i.e. usually operational days in a port other than home port). See Uniform Operations and Cost Accounting Terminology (attached). Days charged should agree with entries in 4, 5, and 6 above.

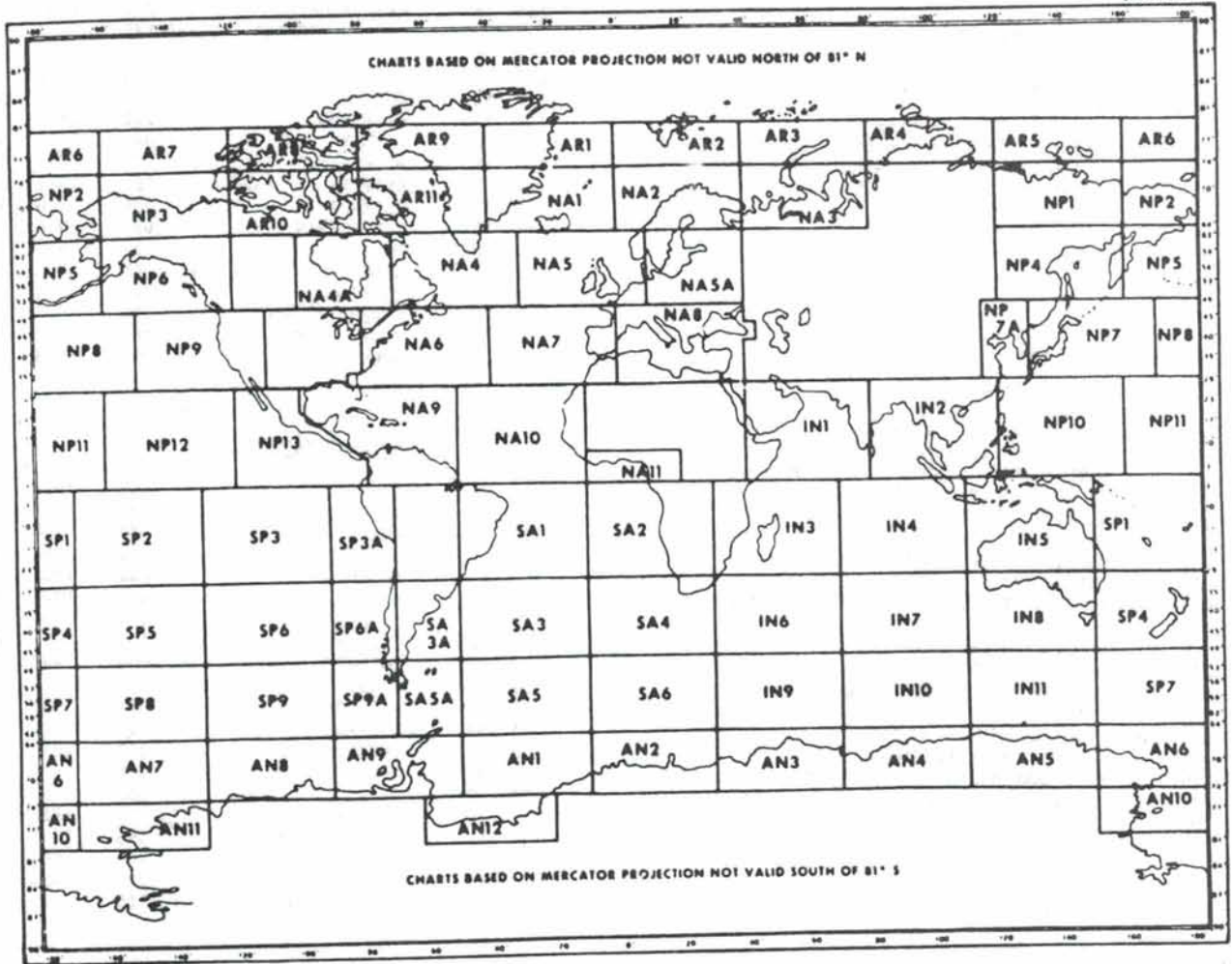
12b. Agency or activity charged. The agency or activity who has agreed to pay, usually the agency listed under 9b. On occasion an agency will provide funds by means of a pass-through with another agency or a contractor. (e.g. USGS has funded some ship operations by passing them through NSF; DOE often contracts for a project and that contractor pays you.) In these cases, list the original funder -- USGS, DOE, etc.

12c. Grant or Contract No. This is the grant or contract under which you get these ship operations funds. For NSF work, this is your Ship Operations Grant. In some cases NSF provides ship ops funds through individual science grants, in which case use the science grant number. There should always be an appropriate, identifiable number for ONR funding as well. If the ship funds come through a grant to another institution, note that fact: ONR's NOOXX-91-6-OOXX to WHOI.

13. Signature Block: The only signature required is that of the responsible individual at the Operating Institution.

STANDARD NAVY OCEAN AREA AND REGION INDEX LIMITS

JANUARY 1972



UNOLS COMPUTER FILES
(Ship Statistics)

<u>ACTIVITIES</u>			<u>SHIPS (ACTIVE)</u>					
			FT.	YR.	#SCI.			
01	PO	PHYSICAL OCEANOGRAPHY	108	44	MELVILLE	245	1969	29
03	CO	CHEMICAL OCEANOGRAPHY	168	55	KNORR	279	1970	34
04	BI	BIOLOGICAL OCEANOGRAPHY	166	55	ATLANTIS II	210	1963	29
08	GG	GEOLOGY & GEOPHYSICS	116	44	T. WASHINGTON	209	1965	22
09	MC	MA?PPING/CHARTING	162	54	ENDEAVOR	177	1976	16
13	PA	POLLUTION ASSESSMENT	170	55	OCEANUS	177	1975	12
14	OT	OTHER - includes transit, training, other disciplinary studies.	126	43	WECOMA	177	1975	16
			138	46	GYRE	182	1973	20
			104	40	MOANA WAVE	210	1973	19
			144	48	ISELIN	170	1972	16
			111	44	NEW HORIZON	170	1978	13
			145	48	CAPE FLORIDA	135	1981	12
			153	50	CAPE HATTERAS	135	1981	12
			118	41	ALPHA HELIX	133	1966	15
			109	44	ROBERT G. SPROUL	125	1981	12
20	NSF	NATIONAL SCIENCE FOUNDATION	156	52	CAPE HENLOPEN	120	1975	12
21	ONR	OFFICE OF NAVAL RESEARCH	154	51	WARFIELD	106	1967	10
22	USGS	U.S. GEOLOGICAL SURVEY	124	58	CAYUSE	080	1968	08
23	BLM/MMS	BUREAU OF LAND MANAGEMENT/MNRL, MNGMNT. SERV	150	49	BLUE FIN	072	1972	08
24	NOAA	NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	137	42	CLIFFORD A. BARNES	065	1966	06
25	DOE	DEPARTMENT OF ENERGY (ERDA)	146	48	CALANUS	064	1970	06
26	OFED	OTHER FEDERAL	101	57	LAURENTIAN	080	1974	08
27	STMU	STATE/MUNICIPAL	125	58	POINT SUR	135	1981	12
28	OTPR	OTHER/PRIVATE	140	47	LONGHORN	105	1971	12
			175	59	PELICAN	105	1985	15
			176	60	SEWARD JOHNSON	176	1984	20
			177	60	EDWIN LINK	168	1982	20
			178	53	BERNIER	239	1983	32
<u>AGENCIES</u>			<u>SHIPS (INACTIVE)</u>					
40	UHI	UNIVERSITY OF HAWAII	142	48	GILLISS	209	1962	19
41	UAK	UNIVERSITY OF ALASKA	158	53	VEMA	197	1923	14
42	UWA	UNIVERSITY OF WASHINGTON	112	44	AGASSIZ	180	1944	13
43	OSU	OREGON STATE UNIVERSITY	152	50	EASTWARD	118	1964	15
44	SIO	SCRIPPS INSTITUTION OF OCEANOGRAPHY	106	41	ACONA	085	1961	09
45	USC	UNIVERSITY OF SOUTHERN CALIFORNIA	134	42	HOH	065	1943	06
46	TAMU	TEXAS A & M UNIVERSITY	122	43	YAQUINA	180	1944	17
47	UTX	UNIVERSITY OF TEXAS	163	54	TRIDENT	179	1944	13
48	UMIA	UNIVERSITY OF MIAMI, RSMAS	113	44	DOLPHIN	096	1968	07
49	SKIO	UNIVERSITY OF GEORGIA, SKIDAWAY	151	49	GOLDEN ISLES	047	1970	04
50	DUKE/UNC	DUKE UNIVERSITY/UNIVERSITY OF NORTH CAROLINA	149	49	KIT JONES	064	1939	04
51	JHU	JOHNS HOPKINS UNIVERSITY	135	42	KESTREL	055	1965	05
52	UDEL	UNIVERSITY OF DELAWARE	172	55	CHAIN	213	1944	26
53	LDGO	LAMONT-DOHERTY GEOLOGICAL OBSERVATORY	148	48	ORCA	045		
54	URI	UNIVERSITY OF RHODE ISLAND	136	42	ONAR	065	1954	06
55	WHOI	WOODS HOLE OCEANOGRAPHIC INSTITUTION	102	40	KANA KEOKI	156	1967	15
56	ASMB	UNOLS ASSOCIATE MEMBERS	114	44	E.B. SCRIPPS	095	1965	08
57	UMICH	UNIVERSITY OF MICHIGAN	160	53	CONRAD	209	1962	15
58	MLML	MOSS LANDING MARINE LABORATORY	132	42	T.G. THOMPSON	209	1965	20
59	LUMCON	LOUISIANA UNIVERSITIES MARINE CONSORTIUM	141	47	FRED H. MOORE	165	1967	20
60	HBOI	HARBOR BRANCH OCEANOGRAPHIC INSTITUTION						
<u>AREAS OF OPERATION</u>								
86	IO	INDIAN OCEAN						
87	NP	NORTH PACIFIC						
88	SP	SOUTH PACIFIC						
89	NL	NORTH ATLANTIC						
90	SL	SOUTH PACIFIC						
91	CB	CARIBBEAN						
92	GM	GULF OF MEXICO						
93	MD	MEDITERRANEAN						
94	PL	POLAR						
95	CST	COASTAL U.S.						
96	GL	GREAT LAKES						

UNIFORM OPERATIONS & COST ACCOUNTING TERMINOLOGY

The following definitions are proposed for uniform usage within UNOLS:

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

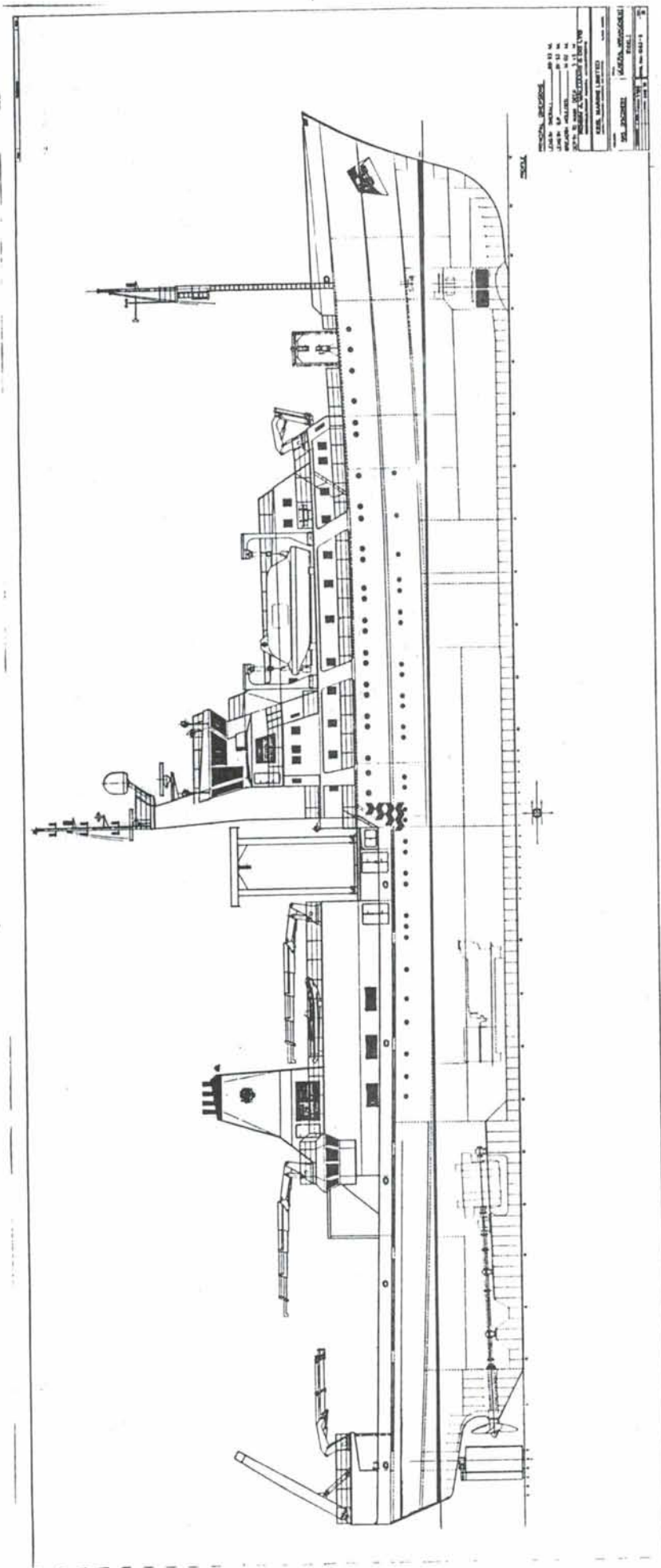
DAYS AT SEA - All days actually at sea incident to the scientific mission. Includes day of arrival and day of departure. Includes transit time. Includes time anchored (except port call anchorages), hove to, and drifting. Does not include days in foreign ports.

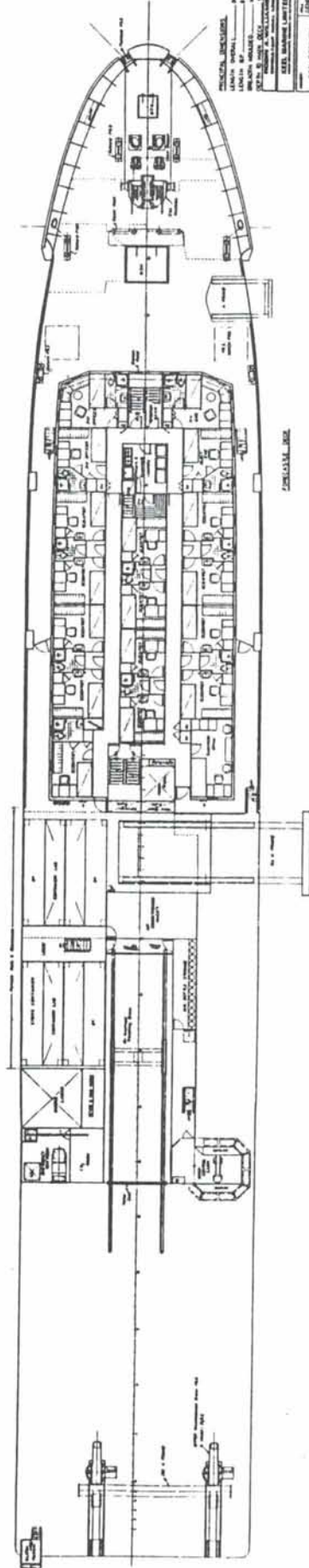
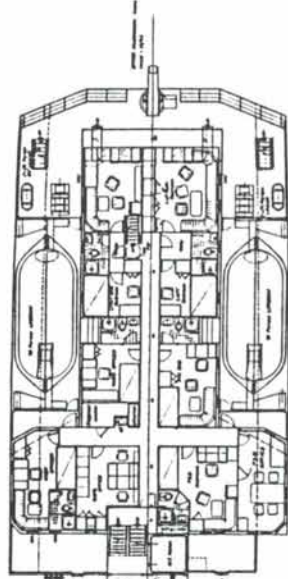
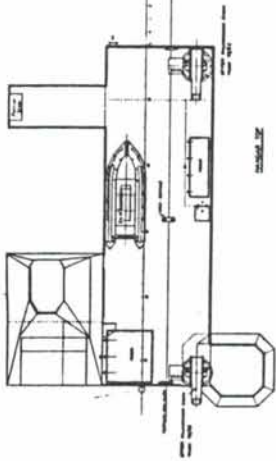
LAY DAYS - Days in homeport for purposes of fitting out, cruise preparation, crew rest, and upkeep. May in rare cases include similar periods in other ports.

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

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

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





INDEXED DRAWING

DATE: 1941

BY: [Name]

SCALE: 1/4" = 1'-0"

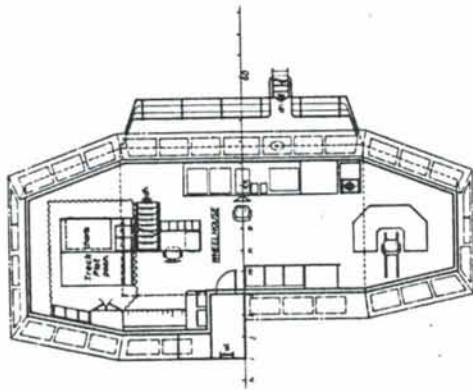
PROJECT: [Project Name]

DESIGNER: [Designer Name]

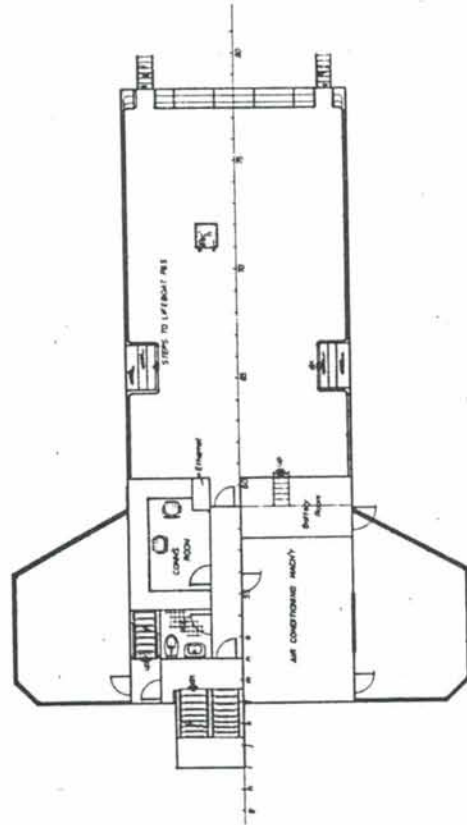
ENGINEER: [Engineer Name]

SHIP: [Ship Name]

NO. 100-1



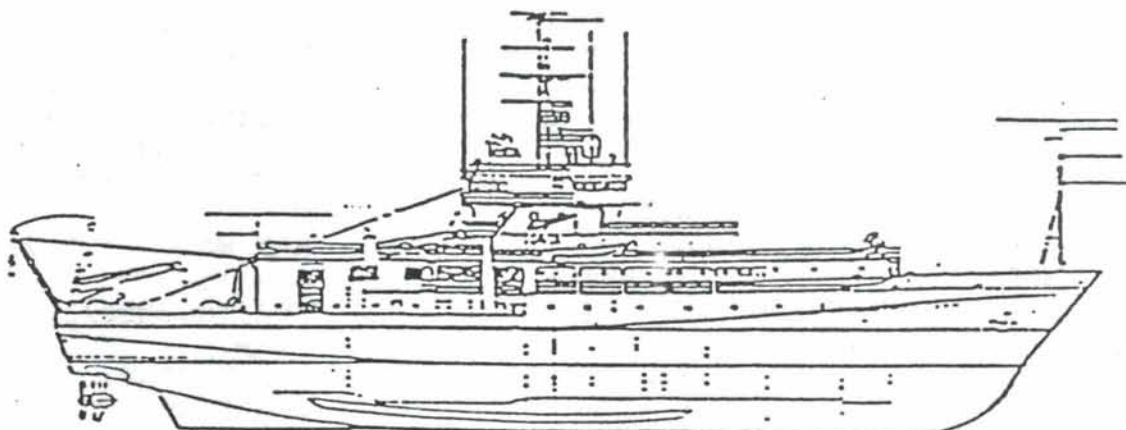
PLAN AT WHEELHOUSE



BRIDGE DECK

ROBIN A. WILLIAMS & CO LTD DOMINANT NAVAL ARCHITECTS		KEEL MARINE LIMITED <small>INCORPORATED IN GREAT BRITAIN</small>	SHEET NO. 2 OF 3
PROJECT BRV DISCOVERY		GENERAL ARRANGEMENT SHEET 2	DATE 1975 JAN 30
DRAWN BY J. W.	CHECKED BY J. W.	SCALE 1:100	SHEET NO. 1003-5

OCEANOGRAPHIC RESEARCH SHIP



THOMAS G. THOMPSON

Halter Marine, Inc.
Moss Point, MS

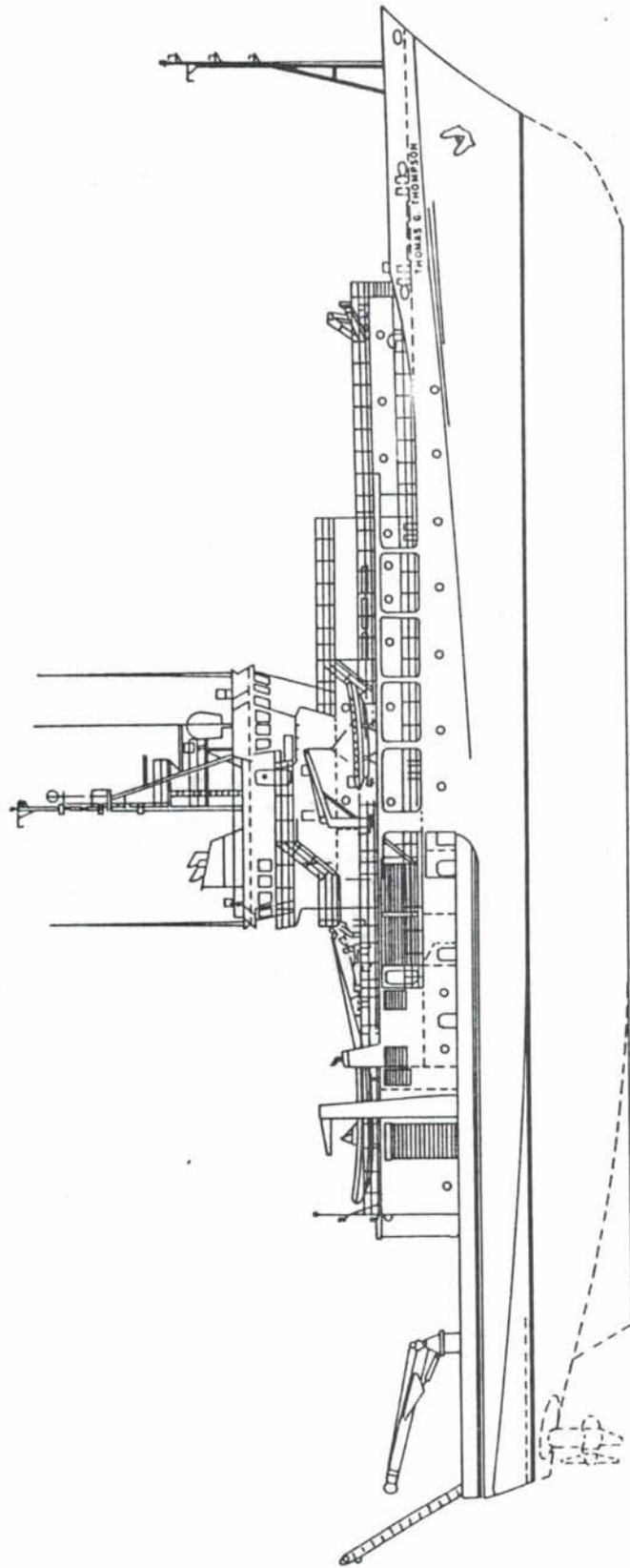
<u>MILESTONES/ KEY EVENTS COMPLETED</u>	<u>SCHEDULED START</u>	<u>*REVISED START</u>	<u>ACTUAL START</u>	<u>SCHEDULED COMPLETE</u>	<u>*REVISED COMPLETE</u>	<u>ACTUAL</u>
Detail Engineering	08/01/88		08/01/88	12/05/89		
Model Testing	10/20/88		10/31/88	02/28/89	11/30/89	
Steel Cutting	12/19/88		12/05/88	03/09/90		
Module Erection	03/27/89		12/05/88	04/30/90		
Keel Laying	03/29/89		03/29/89	03/29/89		03/29/89
Testing	10/01/89	10/15/90		09/16/90	01/26/91	
Launch	04/16/90	07/09/90		04/20/90	07/09/90	
Dock Trials	08/20/90	12/17/90		08/24/90	12/21/90	
Inclining	09/03/90	01/07/91		09/07/90	01/11/91	
Builder's Trials	09/17/90	01/28/91		09/21/90	02/01/91	
Acceptance Trials	10/22/90	03/11/91		10/26/90	03/15/91	
Delivery	12/10/90	*05/09/91		12/10/90	*05/09/91	

* Projected 150 day extension for major ECP incorporation

RECP/ECP STATUS

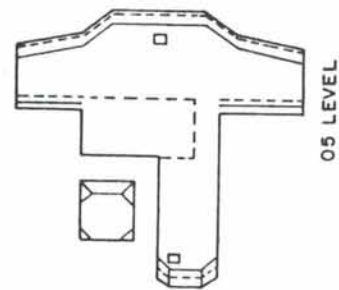
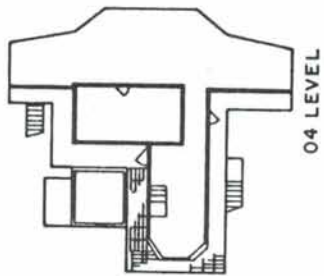
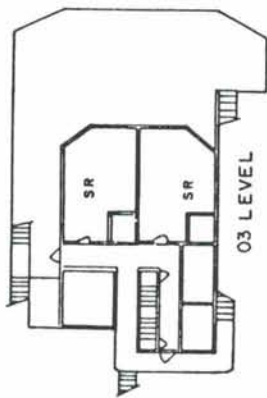
NUMBER	NAME	STATUS	DUE DATE
ECP001	ADDITIONAL MOD.TEST INST.	UNDER CON.	
ECP002	ADDITIONAL MOD.TEST	DISP.	
ECP003	TANKS RELOCATION	UNDER CONT.	
ECP004	COPPER NI. PIPE	DISP.	
ECP005	RELOCATE LABS/VAN	MAX MOD.	12/13/89
ECP006	WATERFALL WINCH	MAX MOD.	12/13/89
ECP007	MISCELLANEOUS IMPROV.	MAX MOD	
ECP008	MSD INSTALLATION	MAX MOD.	12/13/89
ECP009	COMP. INSTAL.(637K+30DAY)	REVIEW	11/14/89
ECP010	SEAL WELDING	UNDER CONT.	
ECP011	AFT CAPSTAN (73K)	REVIEW	4/21-8/31
ECP012	SEA BEAM 2000	DISP.N/A	
ECP013	KRUPP ATLUS	MAX MOD.	12/13/89
ECP014	SIX FOOT EXTENSION	HMR ISSUED	
ECP015	115 VOLT OUTLETS	FMR ISSUED	5/13-8/31
ECP016	35FT.BROW	DISP.	
ECP017	REEFER/FREEZER	UNDER CONT.	
ECP018	LIGHT TABLE ETC.	FMR ISSUED	9/18/89
ECP019	CCTV WINCH&DECK (35K)	REVIEW	9/20/89
ECP020	RUB RAIL (16K)	REVIEW	9/20/89
ECP021	INCINERATOR	HMI PREP.	8/31/89
ECP022	WRITING SURFACES	DISP.	
ECP023	OPEN/ENCLOSED GEN. (-53K)	REVIEW	9/6/89
ECP024	SIZE A/J FRAME	HMI PREP.	9/11/89
ECP025	STRENGTHEN DECK UNDER VAN(54K)	REVIEW	11/14/89
ECP026	SCIENCE INFO SYS. WIRING	HMI PREP.	9/14/89
ECP027	ADD TRANSDUCER MOUNTS(20K)	REVIEW	11/14/89
ECP028	RADAR UPGRADE (37K)	REVIEW	11/14/89
ECP029	DPS IMPROVEMENTS (137K)	REVIEW	11/14/89
ECP030	WINCH CONTROL & INSTR.	HMI PREP.	9/11/89

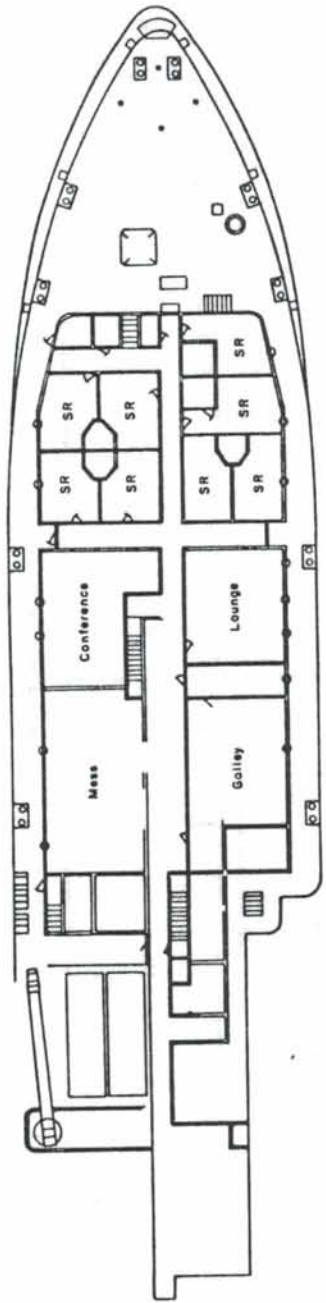
RECP019	WINCH WIRE	NOT ISSUED	
RECP020	OUTFITTING 2 CHEM. VANS	NOT ISSUED	
RECP021	LAB INTERNAL REARRANGEMENT	NOT ISSUED	
RECP022	INFO SYS.HARDWARE/SOFTWARE	NOT ISSUED	
RECP023	VERTICAL REFERENCE SYSTEM	NOT ISSUED	
RECP024	ACCU IMPROVEMENTS	NOT ISSUED	



THOMAS & THOMPSON

OUTBOARD PROFILE

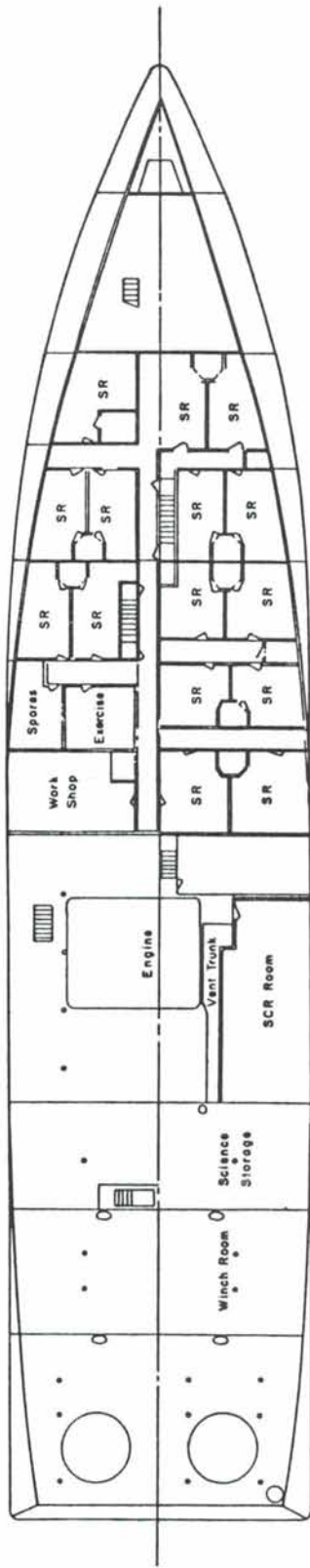




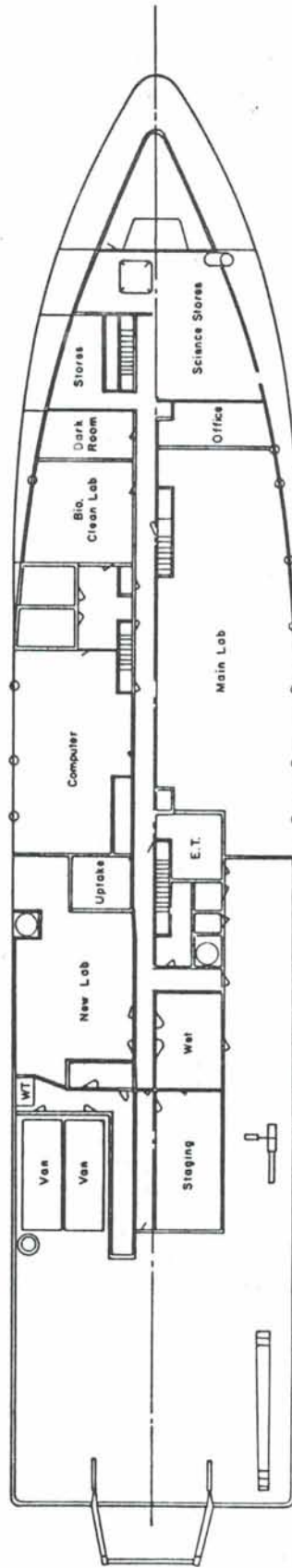
01 LEVEL



02 LEVEL



1st PLATFORM DECK



UPPER MAIN DECK

Harry Barnes, Director Operations
Bermuda Biological Station for Research

Conversion of 115' oil field supply boat to oceanographic research vessel for the Bermuda Biological Station for Research.

Case for a larger vessel

Bermuda Biological Station for Research has been operating a series of small research vessels, one 55' and two 65' since the early 1950s. These vessels were maintained predominantly for hydrographic stations conducted 13 miles off the island, in about 3,000 meter depths. This station, known as "Station S" after Hank Stommel who started the work in 1954, is the longest continuously monitored anywhere.

With the current interest in Global change the importance of this long time series of records has increased, programs like the Global Ocean Flux Study [GOFS] have recognized the importance of augmenting this time series with additional time series studies in the same location.

Dr Knap of BBSR is PI on a grant from NSF to perform this work. Our 65' ship however, was too small to do the work satisfactorily. The work requires 4-5 days continuously on station 50 miles off the island with six plus in the science party. There is a demand for greater numbers in the science party.

In addition to GOFS work, we have full schedule of other work which is hard to maintain due to the weather limitations of the small ship. So a larger ship was needed.

Case for this type of vessel.

To save operating costs and make logistics simpler it was essential for the vessel to be able to berth along side BBSR's dock. This and the cost factor were the the most important in the selection of the vessel we ultimately chose. A water depth of 9 foot 6 inches is the minimum at the dock.

Supply boats are heavily built to conservative designed, they are relatively shallow draft for working in the Gulf. All spaces onboard are easily converted as they are mostly ballast tanks. The crew

quarters are needed as they are. The main decks are clear and low to the water to ease deployments. The vessels have high stability which gives freedom to make radical alterations. Also, due to the down turn in off shore oil industry and the glut of such boats, they are good value for money.

The vessel we chose is 115' X 28' X 8', launched in 1983, she was operating as a tender to a seismic ship. All her ballast tanks had been converted to carry fuel, as a result all tanks were in first class condition. The purchase price was \$385,000. Very few of these boats were built after '82 due to "the crash" in the industry at that time so our boat represented a late model. This size of boat seemed optimal she will fit at our dock anything smaller would not have the space we needed. The next size up would be in 130' range, these boats are in real terms much bigger Typically, one of these will be rated to carry a 200 ton deck cargo, this was more ship than we needed, and due to their carrying capacity much more expensive.

Conversion

It was thought that due to financial constraints it would not be possible to do complete conversion at one time. We did however, complete a preliminary design and obtain quotations on the full conversion. This confirmed our initial thoughts, that project would have to be split into two or three phases.

Phase One

Working with a budget of \$450,000 for the conversion which was eaten into by architects, surveys, lawyers, and travel costs etc. It was decided to first make all repairs necessary to get the ship in top condition. Second make modifications only necessary to perform the work we had scheduled. This required adding a crane, stern and side A frames, winches and portable laboratories. No changes were needed to the existing crew quarters. We also decided to install a 1 foot extension to the keel and port/starboard rolling chocks. These were to increase roll damping and slow down lee-way while stationary. There will be no more major work needed to the ships bottom. At about \$100,000, the most costly part of phase one has been the hydraulic system. This also took the most designing and had the most changes, time does not permit me tell the story.

Phase Two

This will consist of removing the forward ballast tanks and replacing them with state rooms heads showers etc. with reduced tanks under and installing a bow thruster.

On the main deck will be installed a permanent lab to port side with an aft control station and an O1 deck for CTD winch.

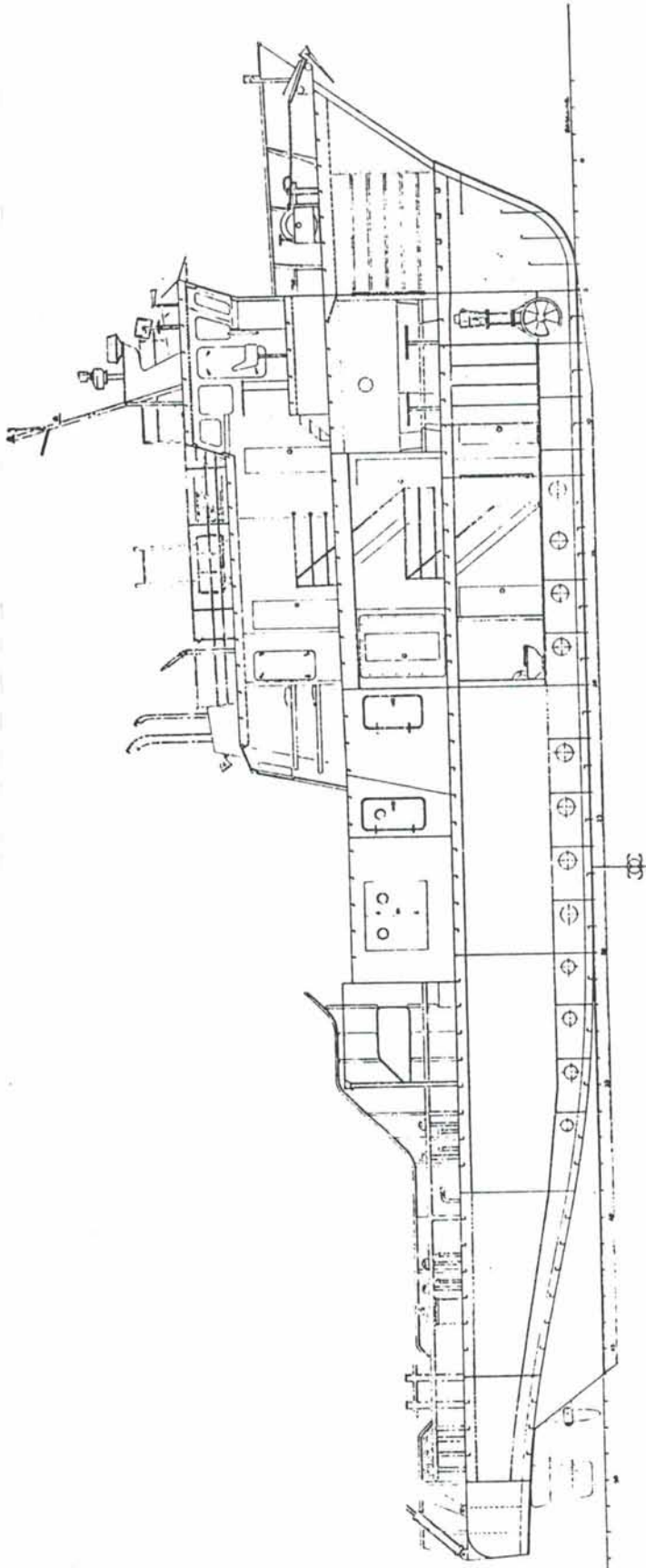
New systems will include an up grade to the hydraulic system, larger generators, water makers and new air conditioning/heating.

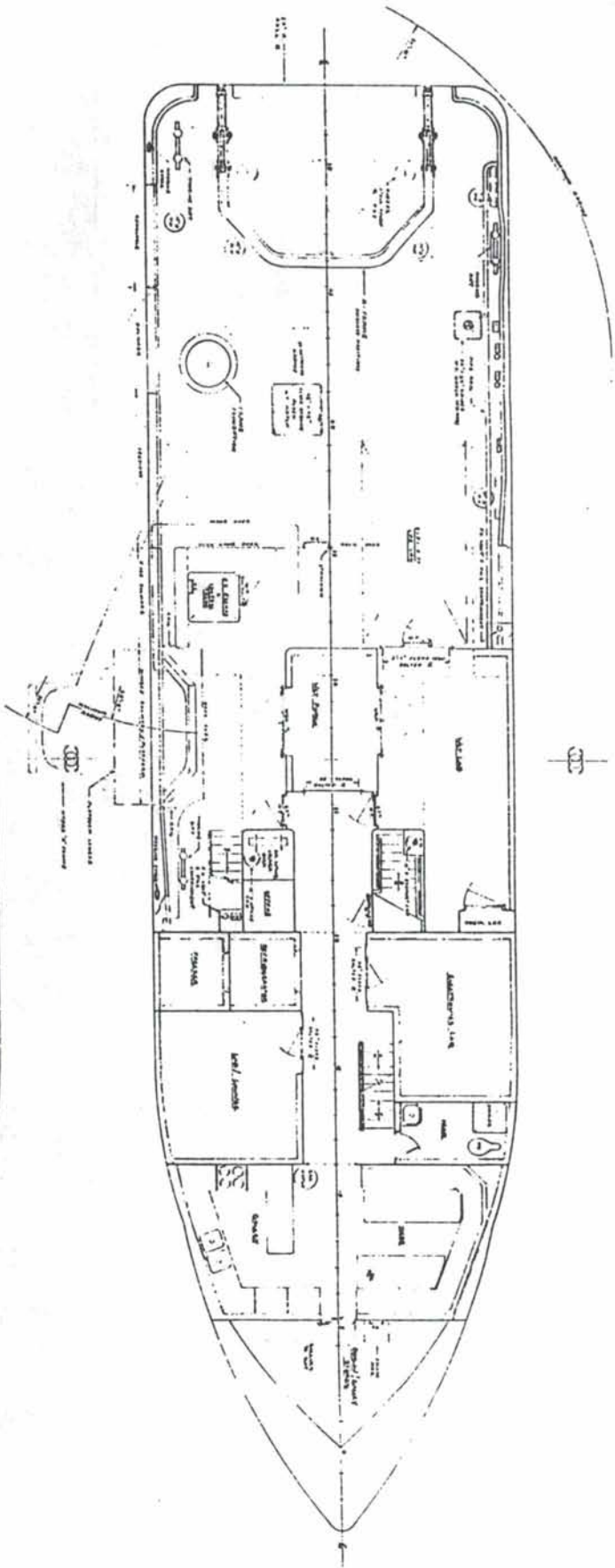
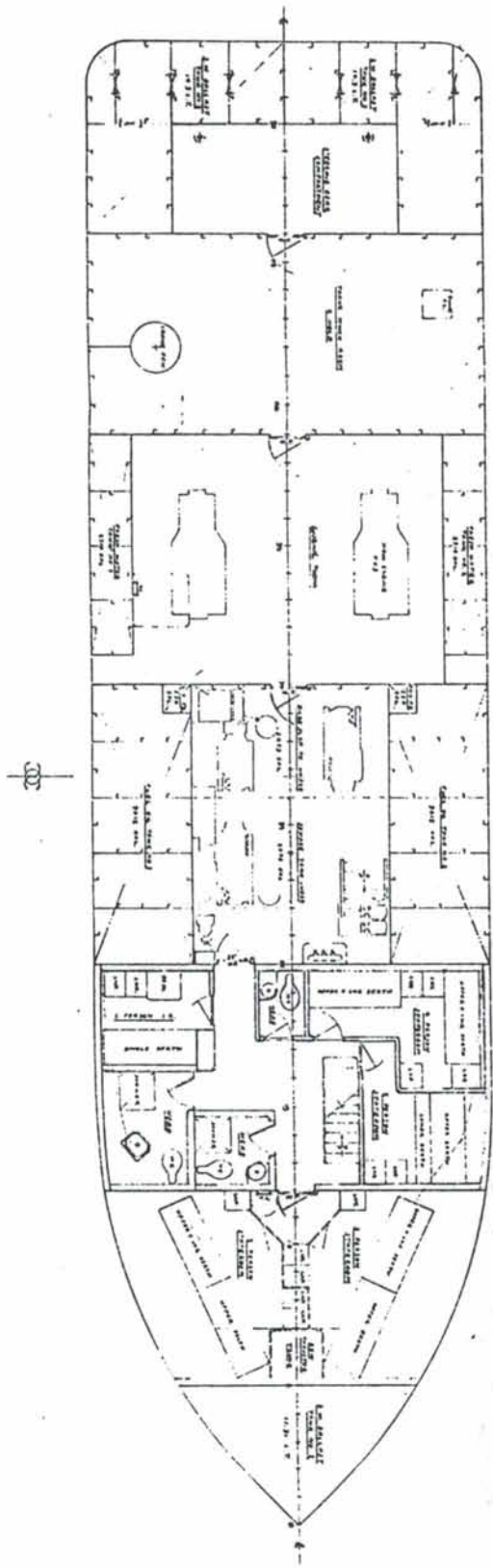
Science capabilities will also be increased by converting present crew quarters on main deck to two labs.

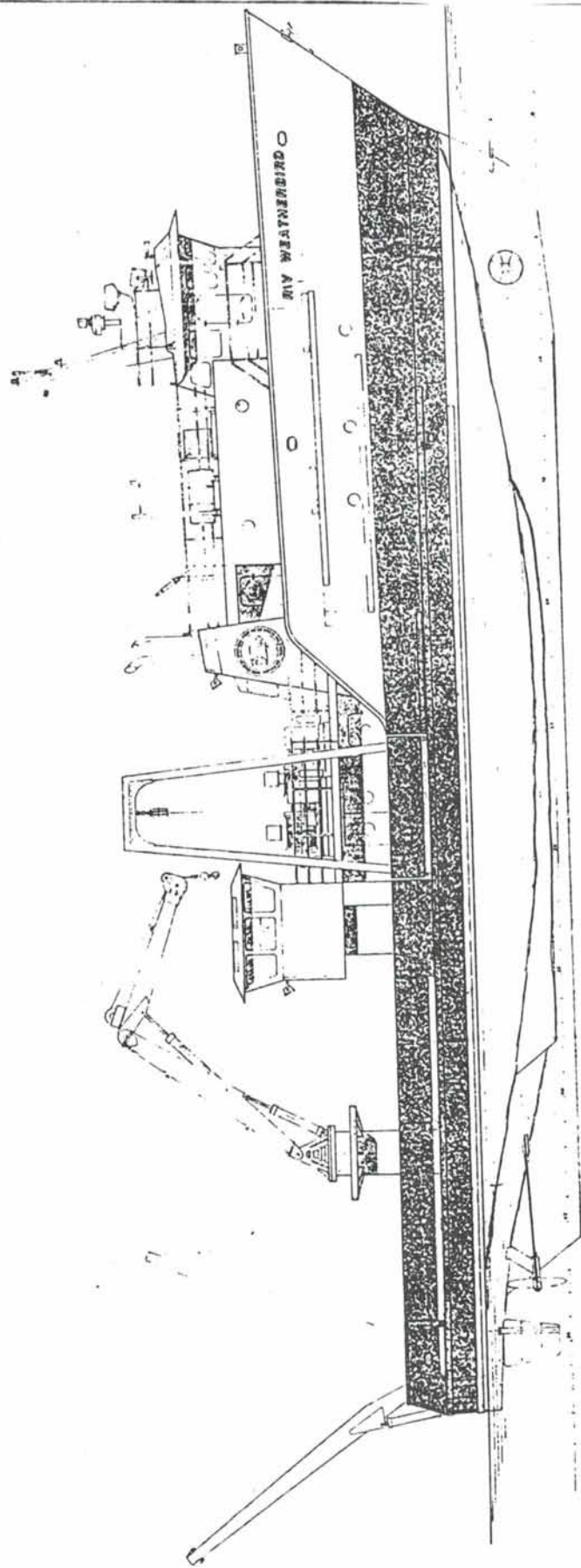
Funding for the purchase and phase I conversion has come from BBSR and a bank loan. Phase II will be funded by an NSF grant or not started.

Some typical costs:-

Hydraulic system	\$100,000
Steering system	\$20,000
Architects fees	\$30,000
Crane	\$18,000
Crane foundation	\$10,000
Stern A frame & foundation	\$32,000
Side A frame & foundation	\$17,000
Engine rebuilds	\$35,000







17

LIFESAVING EQUIPMENT

U.S. Coast Guard Notice of Proposed Rulemaking

The Coast Guard published this 92 page Notice of Proposed Rulemaking in the Federal Register on April 21, 1989. The period for public comment was to end on August 21 but will be extended to mid November of this year. Although no public hearings were planned, the Coast Guard will hold at least one such hearing in Seattle, Wa. in mid October. These changes are in response to requests from ferry vessel operators who are greatly impacted by these proposals. Final rules are expected to be published about one year later, i.e. the end of 1990.

Unlike the recent NPRM regarding tonnage measurement, this project is listed as 'significant' in the semi annual regulatory agenda because of 'substantial public interest'.

This NPRM does four things:

Implements recent amendments to Chapter III (Lifesaving Appliances) of the SOLAS Convention into U.S. regulation

Reorganizes lifesaving regulations into a single subchapter rather than having separate requirements listed with each type of vessel, thereby reducing duplication of regulations

Implements recommendations from casualty investigations made by the National Transportation Safety Board (NTSB) and Coast Guard investigating officers

Begins implementation of the Global Maritime Distress and Safety System (GMDSS)

Of particular significance is that many of the costly equipment requirements APPLY TO EXISTING SHIPS. Because existing ships are usually 'grandfathered' from expensive items, but are not in this proposal, the requirements contained in this NPRM should be brought to the attention of persons operating vessels that may be impacted.

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Application

With respect to Oceanographic Research Vessels (ORVs), the proposal states that application is to 'each ORV required to meet Subchapter U of this chapter'. Therefore, application is to 'inspected' vessels, i.e., seagoing motor vessels of 300 gross tons and over and which are engaged in oceanographic research. This proposal does not apply to ORVs of less than 300 gross tons.

As is customary, requirements for 'new' and 'existing' vessels differ. A 'new' vessel is defined as one having its keel laid after July 1, 1986. This date comes from the SOLAS Convention.

Technical Requirements

The major thrust of the technical requirements is to reduce the risk of persons suffering from hypothermia should they have to abandon ship. This is done by upgrading survival craft and associated launching devices, requiring immersions suits for certain applications, and improving communications equipment so that rescue forces can get on scene more quickly.

An overview of the significant requirements follows:

Survival Craft (life boats and life rafts)

The standards cited in the following paragraphs are for those ORVs permitted to carry not more than 50 scientists (termed special personnel) and which do not meet IMO subdivision standards for special purpose ships. Such vessels must meet the proposed lifesaving requirements for cargo ships. Vessels meeting the subdivision standards may comply with the less stringent proposed equipment requirements for passenger vessels. Vessels carrying more than 50 scientists would need to comply with the proposed standards for passenger vessels.

Vessels in ocean/coastwise service and less than 85 meters (278') in length, (this is load line length), may as an alternative to lifeboats, have life rafts on each side with capacity for 100% of persons on board. Further, if the largest raft should be unavailable, must have capability to launch capacity for 100% of persons on board from that side. This means be able to move rafts from side to side, or if cannot, then must have additional rafts in place.

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Vessels in ocean/coastwise service and 85 meters or more in length must have covered life boats with capacity on each side for 100% of persons on board. In addition, these vessels must have life rafts capable of being launched from either side with capacity for 100% of the persons on board. If rafts cannot be moved from side to side, then additional rafts must be provided. The launching appliances (davits) must not depend on any means other than gravity or stored mechanical power independent of the vessel's power supply. Sheath screw davits and other such arrangements are being phased out because it takes too much time and too many people to operate them. This was a lesson learned from the MARINE ELECTRIC casualty and others.

Life rafts must be stowed so that adjacent rails have openings to ease launching or the rafts must be fitted with mechanical launching devices.

Rescue Boats

Each vessel in ocean service must carry a rescue boat approved by the Coast Guard which meets SOLAS standards. This may also be one of the lifeboats.

The standards for rescue boats include measures for stowage, launching and recovery of these vessels. Launching must be done without use of ships electrical power and within a prescribed period of time.

Vessels in coastwise service must meet the same standards except that the rescue boat may be a workboat etc and does not need to be approved by the Coast Guard, although stowage, launching and recovery standards must be met.

Vessels working on the outer continental shelf need not have a rescue boat provided that:

The vessel is arranged to allow a helpless person to be recovered from the water

recovery of the person can be observed from the navigating bridge, and

the vessel does not regularly engage in operations that restrict its maneuverability.

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Lifesaving Equipment

Other Equipment

Other equipment required by this NPRM includes

Portable two radio telephones for use with life boats/life rafts capable of working on Ch 6, and 16.

A Category 1 EPIRB on each side of the vessel (this is the 406 MHz EPIRB).

A Class S EPIRB, a 406 MHz EPIRB, or SART (Search and Rescue Transponder) for each life boat and rescue boat.

One EPIRB or SART on each side of the vessel to be carried into a life raft.

Vessels on an international voyage are NOT required to carry a life boat radio if the vessel has 406 Mhz EPIRBS.

Distress flares, lines on ring life buoys, lights and whistles on life jackets and immersions suits, and immersion suits for boat crews are additional items of required equipment.

Life boats and inflatable life rafts must be stowed with equipment meeting the new standards. Life rafts must meet SOLAS A Pack, SOLAS B Pack or Limited service requirements depending upon route of the vessel.

Lif jackets are now called exactly that to conform with SOLAS terminology. PFD language will stay with recreational boating. Lif jacket standards have been improved to provide more buoyancy. New jackets will be phased in over period of time.

Operational Requirements

There are requirements for two documents; a station bill (for vessels over 500 gross tons) to cover emergencies and which must be posted before each voyage. The requirements are very detailed and designed so that proper actions are taken in case of fire, abandon ship, etc. to the extent that persons are detailed to close portholes, stop ventilation fans etc. The second document(s) is for operating instructions for survival craft and launching controls to be posted in proper places capable of being seen in conditions of emergency lighting, etc.

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Lifesaving Equipment

Application to Existing Ships

Proposed Time Requirements

Life rafts

These must be aboard before July 1, 1991.

Rail Openings

These must be fitted before July 1, 1991

Gravity Davits, Winches

These must be fitted before July 1, 1991.

Covered Life boats

These must be aboard on or before July 1, 2001.

Life boats, powered

By July 1, 1991, each life boat must be powered by machinery or hand propelling gear if has capacity of 60 - 100 persons. If capacity is over 100 persons the life boat must be motor propelled.

There is provision for allowing existing equipment to remain aboard provided that it is in good condition and properly maintained. However, the proposal states that certain equipment must be replaced as cited above with the proposed due dates.

Another section states that if required new lifesaving appliances are aboard and in use before July 1, 1991 and are not in full compliance with the regulatory standards, they will be allowed to remain on board. This is an incentive for early compliance. This section of the proposal is not worded well and I have been told will be better stated in the final rules.

Of significance, EXISTING vessels are not required to be fitted with updated rescue boats or their launching devices. Vessels built after July 1, 1986 however will need to meet this proposal.

Finally, I expect the proposed implementation dates to slip several months. If Final Rules are published by the end of 1990 industry will need at least a year to prepare for implementation, thus new dates will probably be substituted in the final rules.

IMPROVED PERFORMANCE OF
ACOUSTIC DOPPLER CURRENT PROFILERS
ON THE RESEARCH VESSEL COLUMBUS ISELIN

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Submitted to Sea Technology
June 1989

Abstract

We report here performance comparisons of an RD Instruments (RDI) acoustic Doppler current profiler (ADCP) mounted in three different configurations on the University of Miami research vessel (R/V) Columbus Iselin. In the past this vessel has been plagued with acoustics problems, not only with hull-mounted ADCPs but with standard 12 kHz depth sounding as well. However, the source of these difficulties has been unclear, and numerous possibilities, including machinery noise, electronics noise, entrained bubbles or other problems associated with high sea states, as well as others, have been suggested.

With the installation of a hull-mounted RDI ADCP in April, 1986, we embarked on a systematic program to isolate and remove causes of acoustical interference. Results reported here will show, first, that many of the observed problems are inherent to the hull design of the Columbus Iselin (and probably other similar vessels in the University National Oceanographic Laboratory System (UNOLS) fleet as well) and, second, that many of these problems can be removed or at least reduced by installing the transducers in a streamlined housing, mounted external to the hull.

Introduction

The R/V Columbus Iselin was designed and built in 1972 for service as a general purpose oceanographic research vessel. The principal dimensions are: length - 169'; beam - 36'; operational draft - 10'; displacement - 810 L.T.. The ship is fitted with dual 2000 mm DIA controllable pitch propellers, each powered by a Caterpillar D398 marine diesel. In addition, a 200 h.p. bow tunnel thruster assists in maneuvering the vessel for

station keeping or docking. The Columbus Iselin is owned and operated by the University of Miami Rosenstiel School of Marine and Atmospheric Science as a member of the UNOLS fleet and is supported by the National Science Foundation. Fig. 1 shows the outboard profile of the vessel and the fore-aft location of the transducer compartment. An expanded plan view (Fig. 2) of this compartment shows the transducer locations, including the new external housing (Doppler sea chest) described below.

The present 150 kHz RDI ADCP was obtained with funds provided by the National Science Foundation. However, an earlier hull-mounted ADCP had been used on the Columbus Iselin during the 1979 Indian Ocean (INDEX) Experiment. It was in fact the rather poor performance of this ADCP, together with continued problems in simple depth sounding, that suggested to us that a careful plan of tests and observations would have to be followed to ensure the success of the new ADCP installation. This was especially true since there was considerable uncertainty as to the sources of acoustic signal degradation on this particular vessel. At the very least, factors such as machinery noise, flow noise at different ship speeds, electronics noise, transducer location, and weather or sea-state conditions would have to be considered.

In the next section we present results obtained on three one-day test cruises in October and December, 1986, and March, 1989. Although the final acoustic configuration tested in March, 1989, appears to work well, some striking results from the earlier test cruises deserve comment as well.

Between the first two cruises and the last cruise, various other tests were conducted as part of other experiments. We will refer briefly to these tests as well in the following description.

Except for modifications to the transducer arrangement, every effort

was made to operate the ADCP under an identical instrument configuration for each test. In all cases an 8m bin length was chosen and pings were averaged over 30 sec ensembles. Bottom tracking was always enabled. For a given test, the ship was held as nearly as possible to a constant speed and heading while data were collected for a group (typically 4-15) of ensembles. Although the type and amount of data in each test varied due to software modifications, this did not affect the physical behavior of the profiler. We also point out here that for the first two tests (i.e. before the external housing was installed) the horizontal locations of the 12 kHz and 150 kHz transducers were reversed relative to the final positions shown in Fig 2.

Results are presented here in terms of the percentage of good pings per ensemble, as determined by the RDI software. We recognize that for some purposes other parameters (e.g. signal level) might provide more useful information. However, the intent here was solely to provide a relative basis of comparison for the different tests.

ADCP performance during the three test cruises

a). October 7, 1986

The purpose of this test was to provide a "bench mark" against which subsequent modifications could be judged. The ADCP was installed in a standard transducer well (as shown in Fig. 3, but without the 1/4" polyethylene window) and no attempt was made to shield the transducer faces from the external flow field. Due to space limitations in the sea chest, the transducer faces could only be recessed about 2 inches into the hull.

Weather and sea-state conditions for this test were relatively calm (sea-state 1-3 ft, winds <10 kts). Little variation in ADCP performance

could be observed with ship heading, suggesting that sea-state was not a factor in limiting ADCP results in this case. In addition, audio monitoring of the 12 kHz depth sounder indicated that entrainment of bubble clouds below the hull happened only very rarely. These circumstances allowed us to focus on various combinations of ship's speed through the water, engine rpm's, and propellor pitch settings under conditions of low ambient sea-state noise. Bottom depths were typically $>300\text{m}$, which turned out to be greater than the effective range of the profiler under virtually all combinations of speed, pitch, and rpm settings (except when the vessel was stopped).

Significant results from this test are shown in Figs. 4(a,b) and 5. Fig. 4 shows a representative comparison of results from two different pitch/rpm combinations; in both cases the resulting hull speed was 6-7 kts. This test demonstrated clearly (as did similar pitch vs. rpm tests at other speeds) that although performance depended on hull speed, changes in machinery noise caused by variations in pitch and rpm settings had little influence.

The striking dependence of ADCP performance on hull speed is shown in Fig. 5, where the bin number at which the average (over all ensembles at a given speed) percentage-good figure decreased to 50% is plotted as a function of hull speed. It is clear that performance was drastically reduced in a speed window centered at $10 \text{ kts} \pm 1-2 \text{ kts}$. At 10 kts virtually no bins provided useful data. Even more surprisingly, above 10 kts performance again improved and at about 12.5 kts (roughly the maximum speed of the Columbus Iselin) approached levels found at lower speeds. Unfortunately, the most economical cruising speed for the Iselin is precisely within this window (10-11 kts)!

The acoustic signal from the 12 kHz depth sounder, on the other hand, did not show any marked deterioration at 10 kts relative to higher or lower speeds. Furthermore, little evidence of entrained bubble clouds could be heard in this signal (in contrast to the next test described below).

These results suggested to us that the source of ADCP interference in this case was not increased machinery noise (as this increases with speed). Nor was it caused directly by bubble entrainment under the hull at higher speeds in this case. Instead, the sources of interference must be related specifically to hull speed and, presumably, to the location of the ADCP transducer, suggesting that the flow pattern around the hull must be involved.

Model (towing tank) tests to study this problem further were prohibitively expensive. However, it is well known that above a certain speed boundary layer separation will occur at some point along a ship's hull (usually first appearing near the stern). Results from naval architecture (e.g. Saunders, 1957) suggest that the point where separation occurs is often a function of ship speed and this point moves forward as speed is increased. The separation region is characterized by high turbulence levels and increased dynamic pressure fluctuations, whereas aft of the separation point the turbulence is more intermittent. At 150 kHz the acoustic wavelength is 1 cm. We could thus conjecture (with no directly observed proof) that small-scale, but highly energetic, turbulent pressure and velocity fluctuations in the vicinity of the separation point could interfere with the ADCP transducers. (It should also be recalled that, as originally installed, these transducers could only be recessed a few inches into the hull). If by 12 kts the separation point had moved forward of the transducers, one would expect to see less energetic and more intermittent

turbulence. In fact it was observed that at 12 kts the ADCP interference also showed an intermittent character - occasionally data from entire pings would be lost.

b) December 4, 1986

Although machinery noise did not appear to be a serious problem, efforts were made before this second cruise to reduce any such noise sources. For example, it was found that considerable high-frequency acoustic energy was contributed by loose aluminum deck plates in the engine room; bolting these plates in place significantly reduced this problem.

Based on the previous test it was decided to install a nearly acoustically transparent low-density polyethylene window (Selfridge, 1985) over the ADCP transducer well (Fig. 3), with the goal of holding any turbulent fluctuations away from the transducer faces. Due to scheduling considerations this window had to be installed while the ship was afloat at the dock in Miami. A split ring was fabricated to fit the inside diameter of the transducer housing. When installed, the ring could be expanded by an arrangement of set screws. Once in place, the 1/4" thick window was secured in place using 1/4" flathead screws in pre-drilled and tapped holes in the expansion ring. With the window in place, the transducer well was allowed to flood with seawater; a standpipe vented any accumulated air.

Due to limited time this test was restricted to the region over the Miami Terrace (i.e. to depths of 280m - 300m). Therefore, the maximum number of useful bins before side lobe interference from the bottom would occur was 29 or 30. Also, during this test the sea state was somewhat higher (3-5 ft).

We will describe this test only briefly since the polyethylene window

did not markedly improve performance. Representative results are shown in Figs. 4(a,b) and 5 by the open circles. Although the "notch" in ADCP performance was somewhat reduced the improvement was only marginal (Fig. 5). Soon after this test the Columbus Iselin spent three months in the northwestern Mediterranean as part of the 1987 MEDOC experiment (Schott et al., 1988). Results from this cruise showed that, as expected, only marginal improvement could be expected with the window. Also, in the severe sea states (>20 ft) often encountered during Mistral events, the ADCP was often unusable. Monitoring of the 12 kHz signal indicated that bubble clouds provided a serious source of interference (in addition to the "notch" problem discussed above) in these sea states. Finally, on two occasions during this experiment pressure fluctuations during periods of high seas ripped the window from its mountings.

After the ship returned from the Mediterranean, a video camera was installed under the hull in an attempt to observe both any separation phenomena and entrained bubble clouds and to correlate these observations with ADCP (and 12 kHz) performance. Although some difficulty was experienced with this camera (either through flooding of the camera case or through high dynamic pressures in high seas rotating the camera so that it was no longer aimed at the transducer well) we were at least able to observe entrained bubble clouds in high seas. These could be easily correlated with noise bursts in the 12 kHz signal and with ADCP interference. One important observation was that these bubble clouds typically did not extend more than about 1 ft below the hull at the location of the transducer well.

At this point it was clear that two separate problems had to be addressed: a) the influence of bubble clouds in rough seas, and 2) the

possible effect of turbulent boundary layer separation. The former problem in particular suggested that minor modifications to the existing installation would probably not result in any significant improvement. It was concluded that a suitably designed transducer housing projecting below the hull could reduce both of the problems referred to above. Since this could not be done with the ship in the water, it was decided to wait until the 1988-1989 winter yard period.

c) March 10, 1989

The final configuration of the external transducer housing installed in winter 1989 is shown in Fig. 6. Based on the video camera observations of bubble entrainment, the housing was designed to project at least 1 ft below the hull. It was also hoped that the "boat-shaped" housing design would help to move any potential separation point away from the transducers throughout the normal range of ship speeds. The housing was designed to hold both the ADCP and 12 kHz transducers, with sufficient expansion capability to house a second (600 kHz) ADCP transducer.

This design consists of a sea chest, 26" deep and about 60" long, fabricated from 3/4" plate. It is inserted into the hull with the bottom extending 12" below the baseline or keel of the ship, thereby placing the transducer approximately 18" away from the shell plate. The sea chest is fitted with 1/4" plate fairings both fore and aft. Although many shapes (including airfoils) were considered for the fairings, ease of fabrication dictated that a relatively simple shape be used. The transducers are bolted in place on rubber isolation pads to help reduce hull-induced noise. In operation, the sea chest is flooded with fresh water to a head of 10 ft.

The March 10, 1987, test was conducted in the same area of the Miami

Terrace (thereby limiting depths to 280m - 300m) as the previous test. Also, this test was conducted under significantly worse wind and sea-state conditions (7-9 ft seas toward 170° - 180°T, and 20-25 kt winds from about 320°T) than previous tests.

Finally, since previous tests had demonstrated that ship speed and sea state were the most important factors governing performance, it was decided simply to run several downwind legs at varying ship speeds (including 10 kts, the worst case from previous tests) and then to turn and attempt to maximize bubble entrainment by steaming the Iselin at the highest possible speed (this turned out to be 9-10 kts) into the wind and seas (headings of 350° - 0°T).

Results of this test are summarized in Fig. 7 in a format similar to that used in Fig. 5. Note, however, that both "upwind" and "downwind" legs are shown at 10 kts ship speed. Also, no attempt was made to run tests below about 3.5 kts since the meteorological conditions made it difficult to hold the ship's heading below this speed.

Several conclusions can be drawn from this figure. First and most important, there is virtually no evidence of a performance degradation in the vicinity of 10 kts ship speed. In fact, performance in the range 9-12 kts now seems to be slightly better than at lower speeds. Second, although performance deteriorated somewhat on the upwind 10 kts leg, the "50% good" threshold still was not reached until slightly shallower than bin 25 (equivalent to about 200m depth). Finally, the ADCP generally continued to track bottom in 280m - 300m depth throughout this test, including the upwind portion.

Acoustic monitoring of the depth sounder indicated that only rarely did entrained bubble clouds reach the depth of the 12 kHz transducer; this

resulted in a much improved depth trace with few of the signal drop-outs which had plagued the system under similar conditions in the past. This was true even on the final upwind leg when the bow of the Iselin was often lifted free of the water.

Conclusions

The tests described above have demonstrated that two sources contributed to the acoustics problems experienced in the past on the Columbus Iselin. First, the relatively shallow draft and flat bottom of the vessel caused excessive bubble entrainment in rough seas. This caused problems at both the 12 kHz depth-sounding frequency and the 150 kHz ADCP frequency. Second, even in calm seas it appears that the flow pattern around the hull could cause almost complete signal loss (at 150 kHz) in a narrow (9-11 kts) but, unfortunately, commonly experienced range of ship speeds.

Based on the video observations it is relatively easy to understand why the transducer housing significantly reduced interference from bubble clouds. In particular, the v-shaped leading edge of the housing would tend to deflect such clouds from the transducer faces.

The reasons for the removal of the 150 kHz "notch" at speeds of 9-11 kts are less obvious. It is known for example that boundary layer separation (assuming this is indeed the phenomenon responsible for the notch) will be delayed if pressure is increased over a region of the hull. It is possible to speculate that the inclined bottom face of the housing serves this function. Whatever the exact explanation (a more appropriate subject for individuals with at least some formal training in naval architecture), it appears that the flow modification introduced by the

housing served to move any separation phenomena away from the transducers within the normal range of ship speeds.

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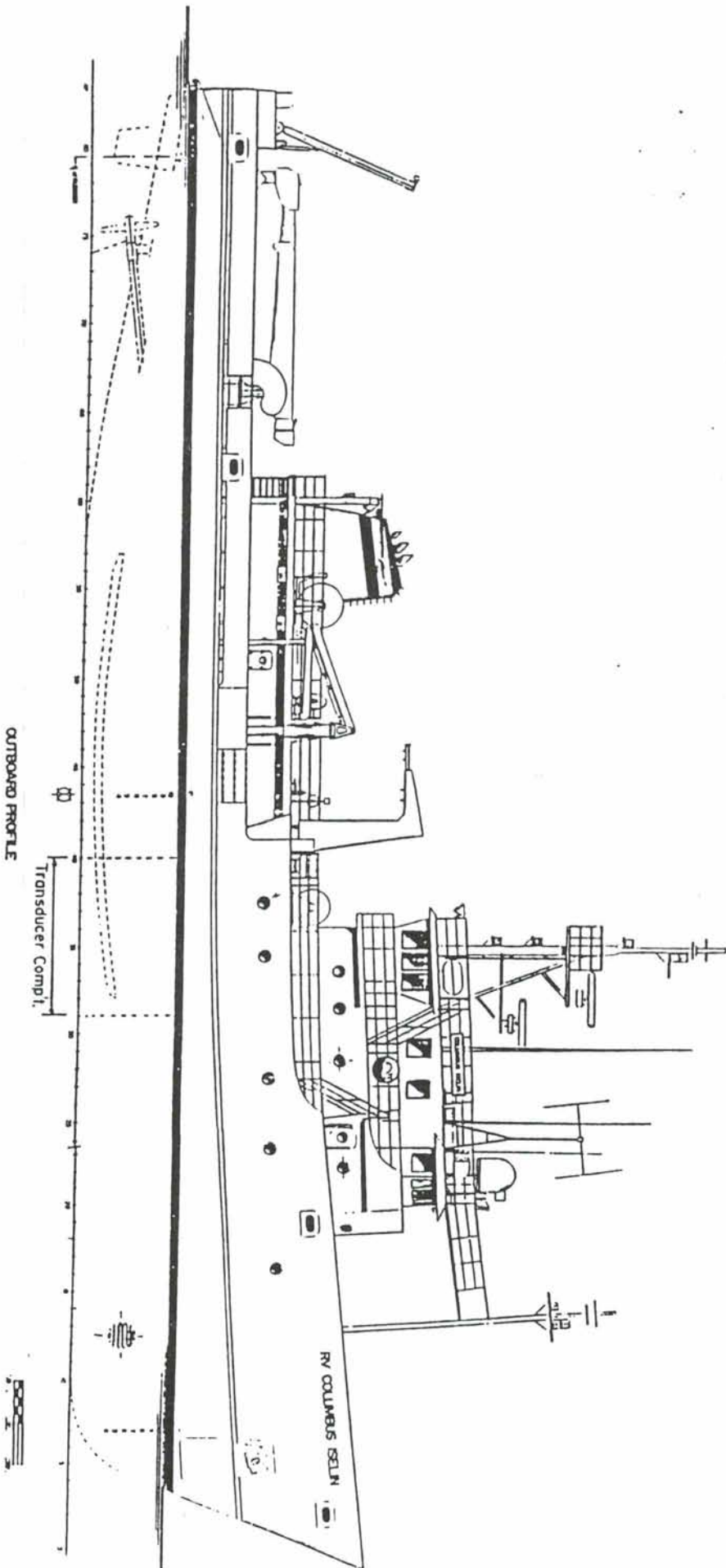
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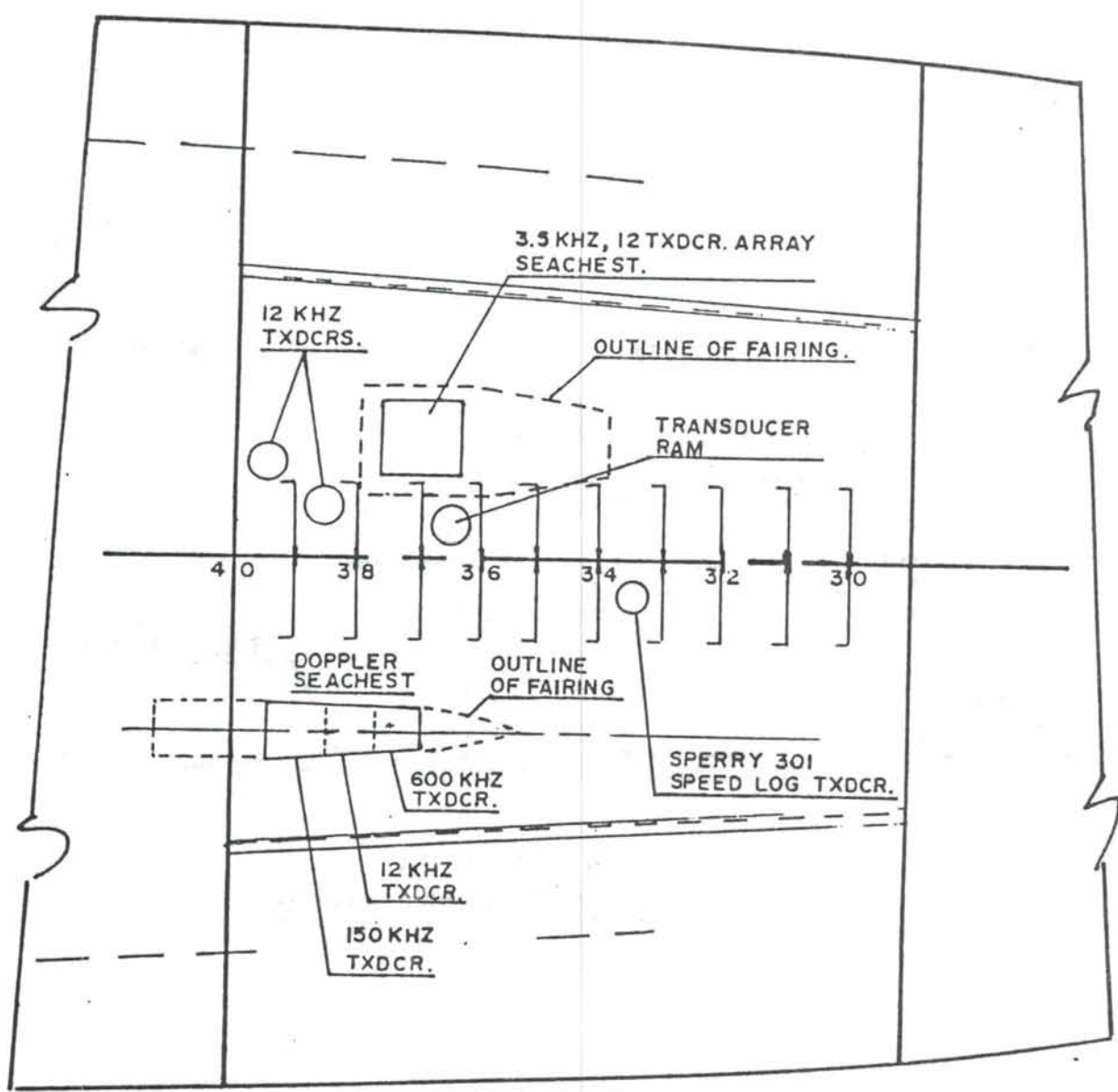
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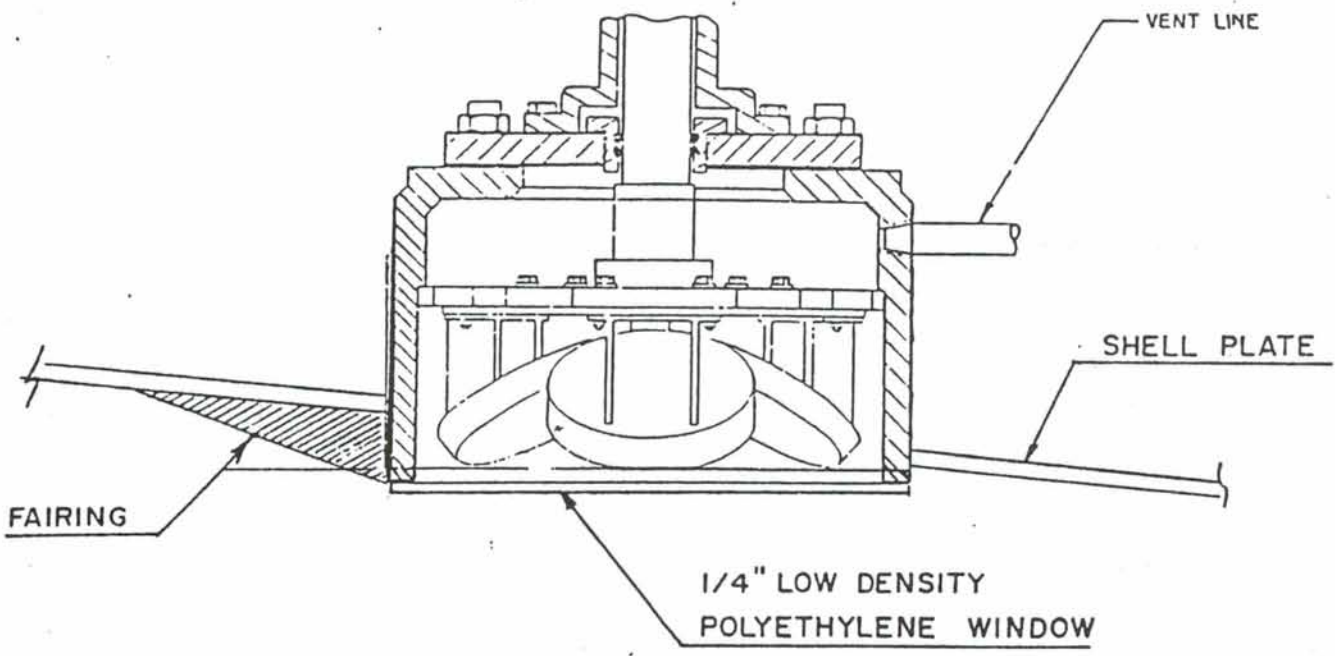
Figure captions

- Fig. 1. Outboard profile of the R/V Columbus Iselin showing the fore-aft location of the transducer compartment.
- Fig. 2. Plan view of the R/V Iselin transducer compartment. The final, external Doppler sea chest housing is shown below the centerline between roughly frames 35 and 42. Before the installation of the external faired housing (that is, for the first two acoustic tests), the horizontal locations of the 12 kHz and 150 kHz transducers were reversed relative to the positions shown here. The remaining 12 kHz transducers are functional but were not used for the tests described here.
- Fig. 3. ADCP transducer-well configuration used for the first (without the polyethylene window) and second (including the window) tests described here.
- Fig. 4. Average percentage and standard deviation of good ADCP pings as a function of bin number for tests of the original transducer configuration with and without the polyethylene window. Results are shown for two combinations (a,b) of propeller pitch and engine speed which resulted in the same hull speed.
- Fig. 5. Bin number where the average number of good pings reached 50% as a function of ship speed for tests with and without the polyethylene window.
- Fig. 6. External faired transducer housing installed on the R/V Iselin in early 1989.
- Fig. 7. As for Fig. 5, but with the external ADCP transducer housing.



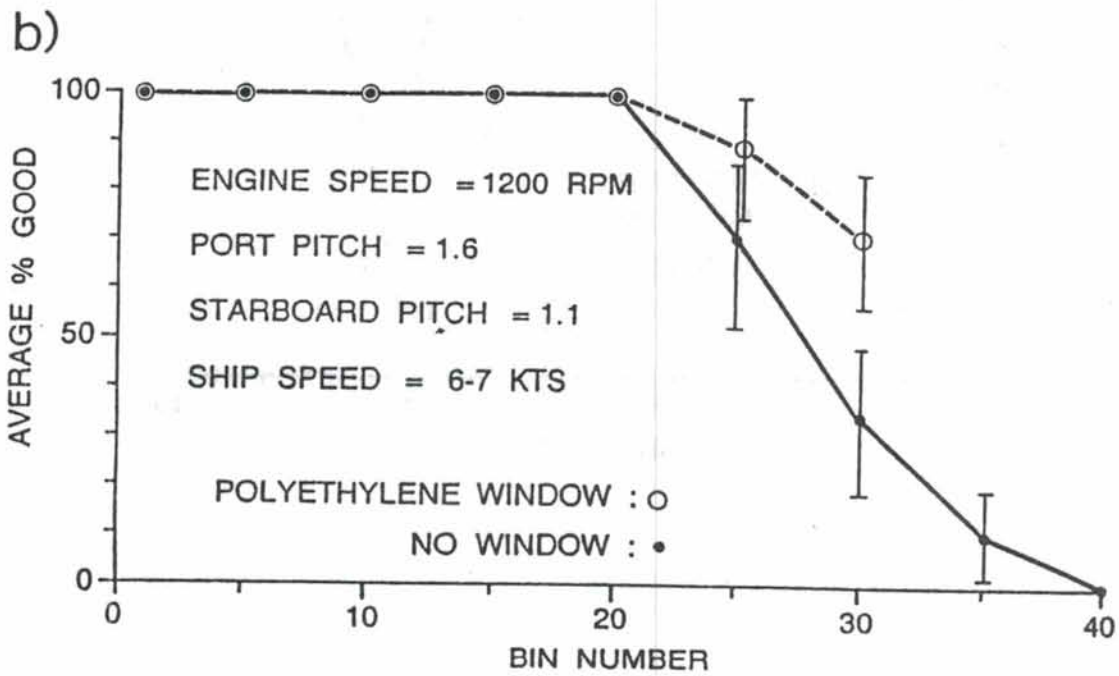
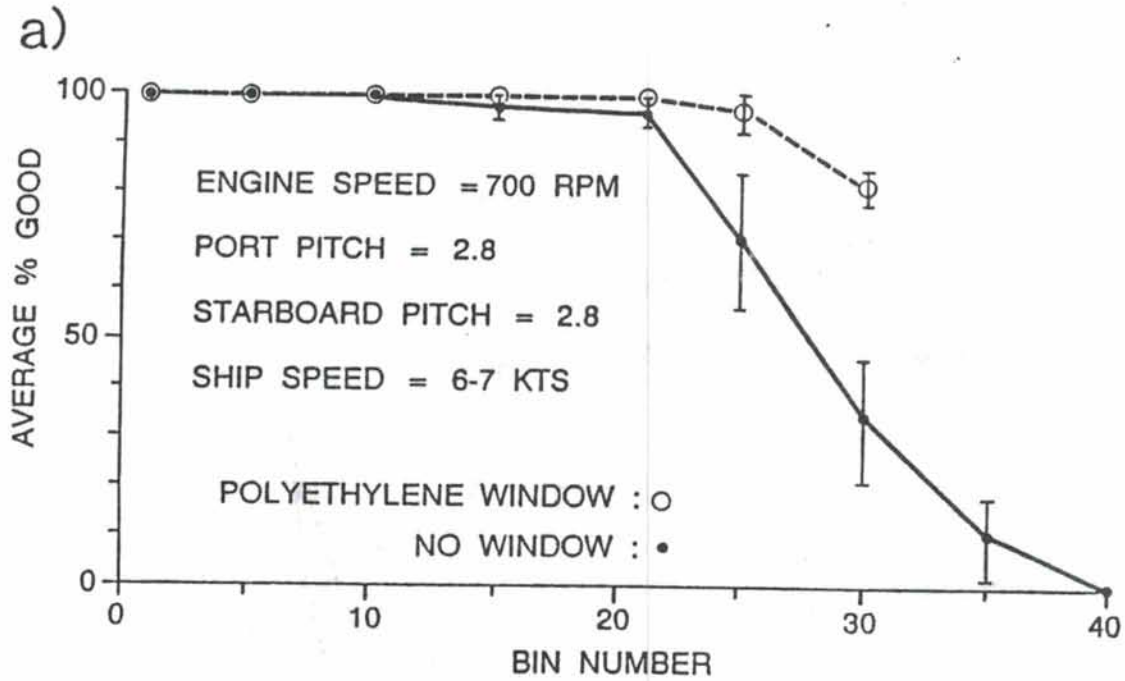


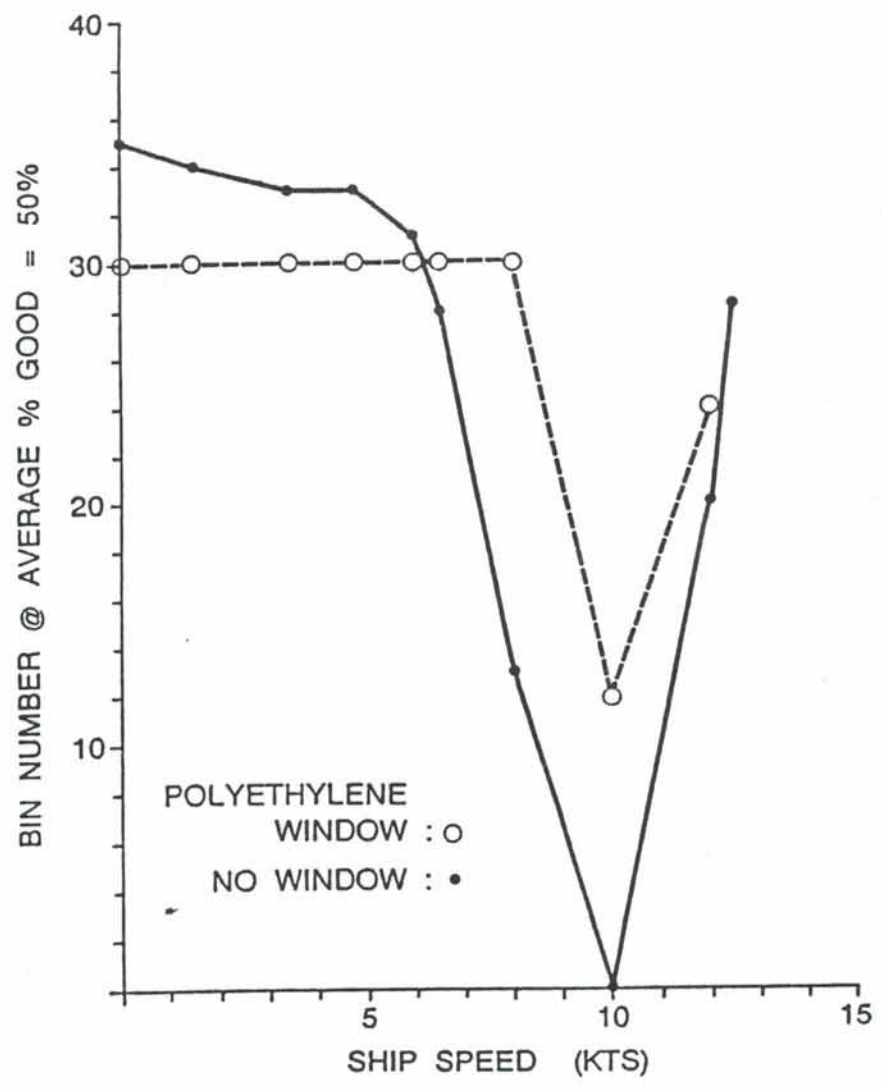
PLAN VIEW
TRANSDUCER COMPT.

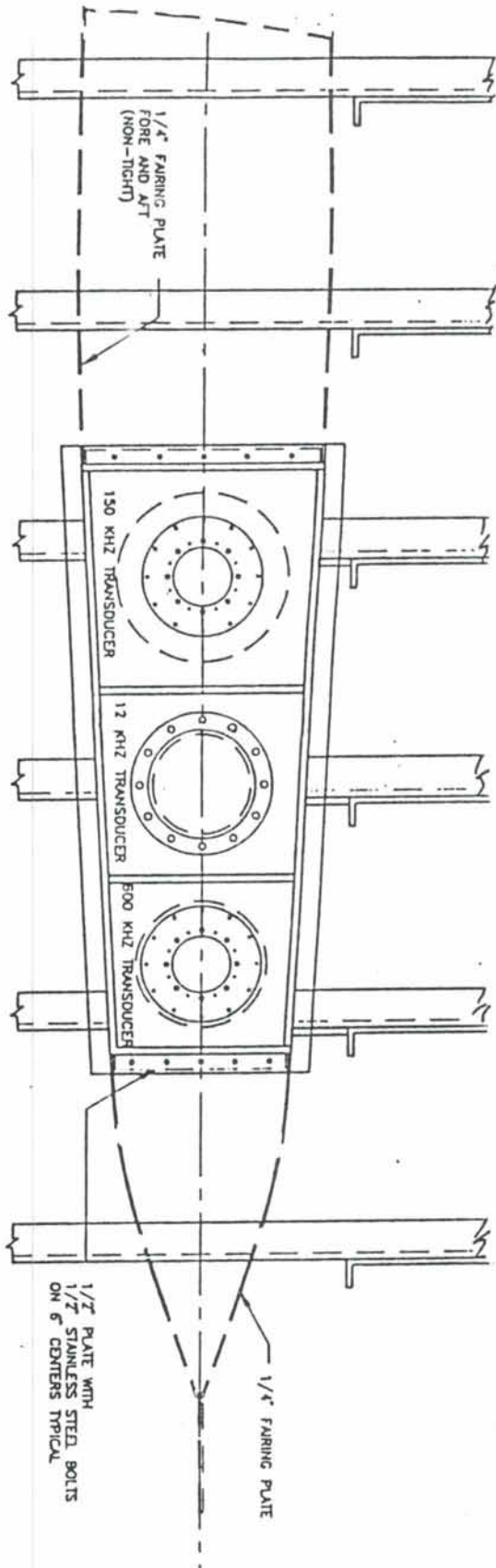


ORIGINAL DOPPLER INSTALLATION
R.V. COLUMBUS ISELIN

Fig. 4.



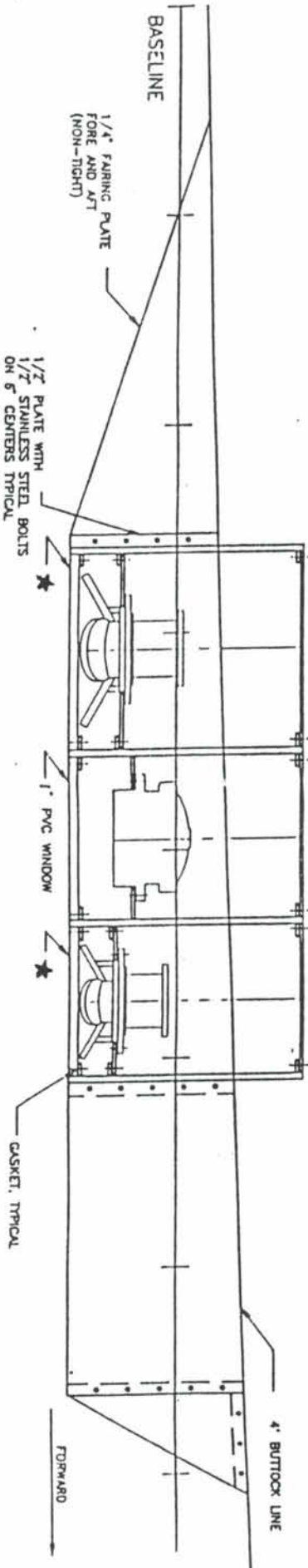




PLAN VIEW

DOPPLER SEACHEST INSTALLATION

R.V. COLUMBUS ISELIN



ELEVATION



Get Tough On Drugs!

Presented at:

Greater New Orleans Barge Fleeting Association

1989 River and Marine Industry Seminar

New Orleans, Louisiana

September 22, 1989



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ZERO TOLERANCE

Zero Tolerance is a policy implemented by the U.S. Customs Service and the U.S. Coast Guard to hold all drug users accountable for their illegal actions. Individuals possessing measurable quantities of controlled substances are subject to the full extent of available criminal and civil sanctions. Conveyances (e.g., vessel, vehicle or aircraft) which are used to facilitate the movement of controlled substances are subject to seizure and forfeiture.

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I. GENESIS OF ZERO TOLERANCE:

- A. In 1981, President Reagan launched a comprehensive campaign against drug abuse, warning that if we fail to act, we are "running the risk of losing a great part of a whole generation."
 - B. On August 4, 1986, the President announced his national strategy to eliminate drug abuse in America and stated, "Our goal is not to throw users in jail, but to free them from drugs. We will offer a helping hand; but we will also pressure the user at school and in the work place to straighten up, to get clean. We will refuse to let the drug user blame their behavior on others; we will insist they take responsibility for their own actions."
 - C. In December 1986, Peter Nunez, U.S. Attorney for the Southern Judicial District of California, (San Diego) and the Special Agent-in-Charge (San Diego) implemented a Zero Tolerance initiative to prosecute in Federal District Court every case involving the seizure of personal use amounts of controlled substances in which the essential elements of prosecution were present.
 - D. During December 1987, the National Drug Policy Board (NDPB) noted that although the data shows that there is a heightened public awareness about the dangers of drugs with the demand for drugs on the wane, far too many Americans persist in the use of illicit drugs and the abuse of legal drugs and thus pose a continued risk to the safety, security, public and economic health of the nation. Consequently, it is recommended that the NDPB adopt a policy that such drug use can no longer be tolerated. A concept paper to this effect was approved in principle by the NDPB in February 1988.
 - E. On March 16, 1988, the United States Customs Service proposed an initiative to arrest and seize the passports of any traveler caught bringing illicit drugs across the U.S. borders. This initiative was approved by the NDPB on March 17, 1988, and put into effect on March 21, 1988.
 - F. On March 21, 1988, after unanimous endorsement by the NDPB, the United States Customs Service imple-
-

mented a nationwide Zero Tolerance program. While Customs continues to focus its attention on major drug traffickers, the drug user must also be held accountable for contributing to the drug problems of the nation. Through this program, Customs is making it clear to the user that the nation will no longer tolerate any illicit drugs crossing the border. In addition, through the National Drug Policy Board's endorsement of the program, a vital link has been forged between the supply and demand sides of the anti-drug effort.

- G. On March 30, 1988, the Attorney General issued a memorandum to the U.S. Attorney's (Subject: Combined Zero Tolerance/User Prosecution Initiative) in which he stated, "I encourage federal prosecutors nationwide to emulate the program in San Diego (where the U.S. Attorney prosecutes all personal use cases coming across the border) with all available prosecution resources."
- H. On April 30, 1988, the Coast Guard implemented the National Drug Policy Board's combined Zero Tolerance Initiative to comply with the Administration's stand to hold all drug users accountable for their illegal actions. This meant for the Coast Guard that during their regular law enforcement activities, they would take steps to identify and take appropriate action against suspected drug users.
- I. The White House Conference for a Drug Free America published their Final Report in June 1988. The report was the culmination of six regional conferences across the country and a national conference held in Washington, D.C. Thousands of citizens dedicated to fighting illegal drug use participated in these conferences and contributed their insight, experience, and recommendations. In this report, they recommended a U.S. national policy for Zero Tolerance.

II. DEFINITION OF ZERO TOLERANCE:

A. What Is Zero Tolerance?

Zero Tolerance is a policy implemented by the U.S. Customs Service and the U.S. Coast Guard to comply with the President's stand to hold all drug users accountable for their illegal actions. This means

for the U.S. Customs Service and the U.S. Coast Guard, that during their regular law enforcement activities, steps are taken to identify and take action against suspected drug users.

Simply stated, individuals possessing measurable quantities of controlled substances will be subject to the full extent of available criminal and civil sanctions.

Individuals who use, possess, transport, or import any measurable amounts of controlled substances or drug paraphernalia will be arrested for violations of 21 U.S. Code 844 and 21 U.S. Code 952. In addition, any conveyance (e.g., vessel, vehicle or aircraft) which is used to facilitate the movement of controlled substances is subject to seizure and forfeiture under civil statutes 19 U.S. Code 1595a (a), 21 U.S. Code 881, 49 U.S. Code App. 782.

B. Why Is The Zero Tolerance Initiative Important?

Impairment resulting from illicit drug use and legal drug abuse is a direct cause to or contributing factor in:

1. Murder and other violent crimes;
2. Highway deaths;
3. Airline and other public transportation crashes;
4. Health epidemics (AIDS);
5. National productivity and economic shortfalls.

A large segment of the American public persists in illicit drug use and abuse of legal drugs (e.g., the moderate, recreational or weekend user/abuser who views such use as personal and harmless) and, thus, continues to be a threat to the safety and security of the public.

No appreciable reduction in the supply of drugs will be realized until demand for drugs is significantly reduced.

Sanctions are necessary to curtail the user from

further drug use and deter the non-user from the beginning to use drugs.

III. ZERO TOLERANCE (PERSONAL USE) QUANTITIES:

The following quantities constitute a Zero Tolerance violation:

<u>Substance</u>	<u>Quantity</u>
Marijuana.....	1 ounce or less
Hashish.....	1 ounce or less
Cocaine.....	1 gram or less
Heroin.....	1 gram or less
PCP.....	1/10 gram or less
LSD.....	500 micrograms or less
Methamphetamine.....	1 gram or less

IV. SEARCH, ARREST AND SEIZURE:

A. Searches:

1. Boardings:

- a. The United States Coast Guard and the United States Customs Service will continue their routine practice of regular patrols, boardings and inspections.
- b. Although Zero Tolerance specifically applies to all conveyances, including aircraft, vehicles and vessels, enforcing Zero Tolerance does not change the primary emphasis of the interdiction of smugglers and performing inspections nor will it require any change in the normal deployment of Coast Guard ships and aircraft.

B. Seizures:

The Coast Guard and Customs Service will seize and arrest when any measurable amount of illegal drugs are encountered.

1. Physical Seizures:

- a. When a conveyance is found with illegal drugs, the normal course of action is to place the conveyance under physical seizure.
- b. When a vessel is seized, the Coast Guard may escort the vessel to port where it will be turned over to the Customs Service.
- c. If accompanying the vessel to port would jeopardize other Coast Guard missions, the Coast Guard may choose to direct the seized vessel to proceed to port without escort and report to Coast Guard or Customs authorities, who would be notified of the vessel's expected arrival.

2. Constructive Seizures:

- a. A vessel may be placed under "constructive seizure" in lieu of physical seizure in rare incidents.
- b. A "constructive seizure" means that the conveyance for all intents and purposes is considered to be under seizure. However, District Directors, U.S. Customs Service, have the authority under Section 1605 of Title 19 of the United States Code to place the conveyance in the physical custody of the owner pursuant to certain terms and conditions as outlined in a Constructive Seizure Agreement. An example of a Constructive Seizure Agreement is provided as Attachment A.
- c. The terms and conditions of the agreement are outlined in items 1 through 7 of the sample agreement.

3. Summons To Appear:

- a. The Anti-Drug Abuse Act of 1988, required U.S. Customs Service, U.S. Coast Guard, as well as other agencies, to establish, by promulgating regulations, certain administrative procedures to be used when a conveyance is seized for violations involving the possession of personal use quantities of a controlled substance.
-

- b. These procedures apply only to commercial fishing industry vessels that are proceeding to and from fishing areas or intermediate ports of call, or are actively engaged in fishing operations, and which are subject to seizure and forfeiture for violations involving the possession of personal use quantities of a controlled substance.
- c. These provisions were implemented on February 16, 1989, and will remain in effect until further notice.
- d. When a commercial fishing industry vessel, in the above described circumstances, becomes subject to seizure and forfeiture, the seizing officer will issue a Summons to Appear (Customs Form 358) in lieu of immediate physical seizure. [See Attachment B.]
- e. Conceptually, these commercial fishing industry vessels are being released immediately pursuant to a Constructive Seizure Agreement as authorized by 19 USC 1605. The specific terms of the agreement are noted on the reverse side of the Summons to Appear form. [Note: Attachment B reflects both the front and back sides of the form.]

4. Common Carrier Exemption:

A distinction exists between a common carrier and a contract carrier with respect to the application of Zero Tolerance.

- a. A water common carrier is a vessel that engages in the business of public employment for the carriage of goods or passengers for hire indiscriminately. A water contract carrier does not hold itself out to the public for hire, but rather agrees to transport only the property of another person. Under the Zero Tolerance policy, vessels, including common carriers and contract carriers, may be subject to seizure if a controlled substance in personal use quantities is found on board the vessel. The law exempts common carriers from seizure
-

and forfeiture for these violations only under limited circumstances. Vessels, including towboats, operating as contract carriers are not common carriers for the purpose of enforcing the drug laws. The common carrier exemption from seizure under 19 USC 1594(b) does not apply to contract carriers. A boarding officer must consider the totality of the circumstances in determining whether a vessel in the commercial maritime industry is operating as a common carrier.

- b. Common carriers may be exempt from seizure under limited circumstances depending on the location of controlled substances on the vessel and the involvement of the owner, master, operator, pilot or other person in charge. First, if the substance was not found on the person or in the baggage of a passenger, or in the manifested cargo, the vessel is subject to seizure without further inquiry. Secondly, if the substance is found in one of these locations; and, if the owner or operator, or the master, pilot or other person in charge, participated in, or had knowledge of the violation, or was grossly negligent in preventing or discovering the violation, the vessel is again subject to seizure without further inquiry. However, if the owner or operator, or the master, pilot or other person in charge was not involved with the violation; and, if the vessel is determined to be a common carrier, the vessel is not subject to seizure.

C. ARRESTS:

Individuals possessing measurable quantities of controlled substances aboard conveyances will be subject to the full extent of available criminal and civil sanctions. In cases of sole federal jurisdiction, individuals will be arrested and referred for federal prosecution. In cases of concurrent federal, state and/or local jurisdictions, subject to statutory and jurisdictional limitations, violators will be turned over to either federal, state or local officials based on the particular circumstances of

the arrest action.

Violators will be charged with 21 USC 844 (Simple Possession -- a misdemeanor) and 21 USC 952 (Importation - a felony).

1. Prosecutions:

If it is the violator's first offense and he pleads guilty to the misdemeanor, the felony charge will be dropped. The violator may then be sentenced to one of the following or a combination thereof:

- a. Criminal fine;
- b. Imprisonment (one year or less);
- c. Placed on probation;
- d. Placed in a drug treatment center; or
- e. Performance of community service.

V. FINES, PENALTIES & FORFEITURES:

A. Notice of Seizure:

A written Notice of Seizure [See Attachment C] is provided under the provisions of Section 6079 of the Anti-Drug Abuse Act of 1988 (P.L. 100-690) to the person in charge of the conveyance seized pursuant to 19 USC 1595a, 21 USC 881, and/or 49 USC App. 781/782, for violations involving personal use quantities of controlled substances. A separate Notice of Seizure is mailed to the owner and other known parties in interest. "Owner or interested party" means one having a legal and possessory interest in the property seized for forfeiture or one who was in legal possession of the property at the time of seizure and is entitled to legal possession at the time of granting the petition for expedited procedures (e.g., lienholders). The Notice of Seizure provides information regarding the legal and factual basis of the seizure and provides information regarding the rights of the petitioner.

B. Petitioning Process:

Owners and interested parties may file a petition requesting the release of the seized conveyance. The petition must be under oath (notarized) and the

contents of the petition shall include:

1. A complete description of the property, including identification numbers, if any, and the date and place of the violation and seizure.
2. A description of the petitioner's interest in the property, supported by the documentation, bills of sale, contracts, mortgages, or other satisfactory documentary evidence; and
3. A statement of the facts and circumstances relied upon by the petitioner to justify expedited return of the seized property, supported by satisfactory evidence.

C. Petition for Expedited Procedures:

Section 6079 of the Anti-Drug Abuse Act of 1988 (P.L. 100-690, Title VI) required the Attorney General and the Secretary of Treasury to prescribe regulations to minimize the adverse impact caused by prolonged detention of property seized for civil forfeiture for violations involving the possession of personal use quantities of controlled substances.

1. Elements To Be Established In Petition:

Pursuant to 6079, such seized property shall be promptly returned where an owner can establish in a petition:

- a. A valid, good faith interest in the property;
- b. That he did not know of or consent to the violation; and
- c. That he had no knowledge or reason to believe that the property was being or would be used in violation of law, or that if he at any time had, or should have had knowledge that the property would be used in a violation, that he did what reasonably could be expected to prevent the violation.

D. Manner of Filing Petition for Expedited Procedures:

1. A petition for expedited procedures must be
-

received by Customs Service within 20 days from the date the Notice of Seizure was mailed.

2. In the case of a commercial fishing industry vessel, for which a Summons to Appear is issued, a petition for expedited procedures must be received by Customs Service within 20 days from the original date when the vessel is required to report.
3. The petition must be sworn (under oath) by the petitioner and signed by the petitioner or his attorney at law. If the petitioner is a corporation, the petition may be sworn to by an officer or responsible supervisory employee thereof and signed by that individual or an attorney at law representing the corporation.
4. The petition shall be addressed to the U.S. Customs Service and filed in triplicate with the District Director for the district in which the property was seized, or for commercial fishing industry vessels, with the District Director having jurisdiction over the port to which the vessel was required to report.
5. Both the envelope and the request must be clearly marked "PETITION FOR EXPEDITED PROCEDURES".

E. Administrative Determination:

1. Upon receipt of the petition, the U.S. Customs Service will try to make a final administrative determination on the merits of the case within 21 days of the date of seizure and will either return the property or notify interested parties that administrative forfeiture proceedings will be commenced.
 2. If no final determination is made within 21 days of seizure, then Customs, within 20 days of receipt of the petition, will determine whether the petition has established the appropriate factors [See V. C. 1. a., b., and c. above.].
 3. If the petition fails to establish the factors listed above, Customs will, depending upon the facts and circumstances, either commence administrative forfeiture proceedings, or remit
-

the forfeiture upon payment of a mitigated penalty.

F. Judicial Forfeiture Procedures:

1. A Notice of Expedited Judicial Forfeiture Procedures (See Attachment D) is required to be given in all cases involving the seizure of conveyances for drug-related offenses. The procedures are set forth in the Notice of Expedited Judicial Forfeiture Procedures. They only apply to cases where the government decides to proceed to forfeiture and the owner or other interested party (including lienholder) decide to contest the forfeiture in court.
2. The Notice is provided in accordance with Section 6080 of Public Law 100-690 to the person in possession of a conveyance which was seized for a drug-related offense.
3. The Notice provides information for filing a Claim and Cost Bond. A Claim and Cost Bond is filed when the petitioner wishes to contest the forfeiture action in court.
4. To file a Claim and Cost Bond, the petitioner must file the claim with the U.S. Customs Service by posting a cost bond in the amount of \$5,000, or 10% of the value of the conveyance, whichever is lower, but not less than \$250.
5. The Claim and Cost Bond must be filed with the U.S. Customs Service within 20 days of the date of first publication.
6. Once the Claim and Cost Bond is filed, the matter will be referred to the appropriate U.S. Attorney to institute judicial (court) forfeiture proceedings.
7. The petitioner may request from the U.S. Attorney an expedited decision on whether the forfeiture action will proceed and for a determination of any rights or defenses.

G. Judicial Determination:

1. If the U.S. Attorney does not grant or deny the petition within 20 days after it is filed,
-

the conveyance will be returned pending further forfeiture proceedings.

2. The U.S. Attorney may:
 - a. Deny the petition and retain possession of the conveyance;
 - b. Grant the petition, move to dismiss the forfeiture action, if filed, and promptly release the conveyance to the owner;
 - c. Advise the petitioner that there is not adequate information available to determine the petition and promptly release the conveyance to the owner.
3. The U.S. Attorney must file a complaint for forfeiture within 60 days of filing the claim and posting a cost bond, unless the period is extended by the court.
4. If the U.S. Attorney does not file the complaint within the time allowed, the court shall order return of the conveyance and the forfeiture may not proceed.

H. Posting Cash Substitute (Substitute Res):

1. It is important to note that conveyances under physical seizure are placed into storage facilities until the case has been adjudicated. The only way to obtain early release of the conveyance, is by substituting the property for the appraised value in cash, an irrevocable letter of credit, travellers checks, certified check, or a money order made payable to the U.S. Customs Service (in accordance with 19 USC 1614). This may transpire at any time after the seizure. What in fact occurs, is that the cash is substituted for the conveyance and Customs will treat the cash as if it were the conveyance and proceed against the cash or other substituted property in lieu of the conveyance.
 2. If the cash substitute (substitute res) is posted and it is determined that the property should be administratively forfeited, the cash (substitute res) will be forfeited in lieu of
-

the property.

VI. LAWS ENFORCING ZERO TOLERANCE:

The laws most commonly used to enforce Zero Tolerance violations are reflected in Attachment E.

VII. PRECAUTIONARY MEASURES TO PRECLUDE ZERO TOLERANCE VIOLATIONS:

A. Establishment of Company Drug Policy:

A company's primary objective in establishing a drug policy is to deter drug use and provide for the safety of its employees and the traveling public. Every public and private transportation organization, without exception, should have an anti-drug policy that covers every employee from top management to part-time workers. Both labor and management should be involved in the development and implementation of each policy, and each policy should be based on the public's right to a safe transportation system and the worker's right to a safe work environment. Each policy should contain a variety of complementary elements. Drug testing alone, or employee awareness program alone, or medical treatment alone does not constitute an effective policy. The following elements are suggested:

1. Prohibit Use, Possession, Transportation and Distribution of All Illicit Drugs:

The goal of any drug policy is to define clearly and concisely what behavior will and will not be tolerated. For transportation, that standard is Zero Tolerance of illicit drug use, on or off the job. No level of illicit drug use or impairment is acceptable.

2. Drug Awareness Training:

A successful anti-drug policy requires that employees be fully informed about the dangers of illicit drug use and the effects of illicit drugs on health and job performance. The organization should demonstrate concern for the well-being of all its employees, for the work-

force's productivity, and for the prevention of a safe and secure transportation system and workplace. Employees need to know how the company intends to enforce the policy, to whom the policy will apply, and why a drug policy is being implemented. Information about prevention programs, the availability of employee assistance programs, and the consequences for violations of policy need to be clearly communicated and broadly disseminated. In addition, it is important to promote voluntary prevention activities that encourage workers to contribute directly - through peer intervention - to a drug-free transportation workplace.

3. Employee Assistance with Treatment and Rehabilitation:

Companies should view rehabilitation as an investment in a valued employee. In addition, a rehabilitated employee can often be an asset to a company's prevention and rehabilitation program. Employee assistance in treatment and rehabilitation will vary with the transportation workforce, number of employees, location of worksites, and size and proximity of resources. At minimum, these programs, whether offered separately or through health insurance, should include the following elements:

- a. Diagnostic counseling and referral for treatment and rehabilitation;
- b. Supportive, long-term followup care, to ensure that the employee is continuing with the rehabilitation process; and
- c. Confidentiality.

4. Drug Testing:

- a. Drug testing, especially in safety-related and security-related occupations and industries, is an essential part of a drug policy, but it is only a part. Drug testing, whether using urinalysis or blood samples, is no substitute for sound management practices and a comprehensive antidrug policy. When properly developed and implemented in a company, drug testing, with
-

appropriate safeguards, can be an important deterrent. Drug testing can discourage non-users from ever beginning to use drugs; it can deter casual drug users from taking the risk of getting caught using drugs; and it can challenge drug-dependent persons to seek an alternative to drug use through counseling and rehabilitation. Drug testing can coexist with other complementary programs such as education, rehabilitation, and treatment.

- b. The most widely used occasions for testing in the transportation industry are before a job applicant is hired (pre-employment), during employee medical examinations (periodic or scheduled), following suspected behavior (reasonable cause and suspicion), and after an accident (post-accident). Random testing, although less widely used and opposed by some in the industry, an important and effective deterrent to drug use. Employers should use all occasions for testing, including random, for employees whose jobs directly affect health, safety and security, to ensure that they are, beyond question, fit for duty.

5. Consequences for Illicit Drug Use Up To and Including Dismissal for Employees Who Do Not Adhere to the Antidrug Policy:

Anti-drug policies are designed to deter drug use and to provide employees who have drug problems the necessary help to recover. However, drug policies should clearly outline disciplinary action for employees who violate the company's drug policy. If employees are unwilling to seek treatment or to rehabilitate, an organization has a clear responsibility to its other workers and to the safety of the traveling public to end its association with the drug user.

6. Establish Training Requirements:

Supervisors play a large role in establishing and maintaining a drug-free workplace. Supervisors need to be trained in how to identify drug users and how to handle workers with drug problems, taking into account the interests of

the drug user, the workforce, and the company.

The training should result in a thorough indoctrination and an understanding of the intent and specifics of the company's antidrug policy, its relevance to work performance, and potential problems associated with drug use; the ability to recognize and document employee performance and behavioral changes; knowledge about what steps to follow after identifying a drug user in the organization; and an awareness of the legal and liability issues involved in intervening with a drug user or in failing to do so.

7. Promote Public Awareness:

Young people often dream of growing up to become airline pilots, truck drivers, ship captains, railroad engineers, or bus drivers, so transportation workers are in a good position to be role models for tomorrow's transportation workforce. Transportation employees have an excellent opportunity to spread the Zero Tolerance drug message by word and deed to these young people.

B. Reasonable Precautions to Prevent Zero Tolerance Violations:

Attachment F provides suggested reasonable precautions for boat owners to take to ensure illegal drugs are not brought aboard vessels.

VIII. CONTACT POINTS:

A. U.S. Customs Service:

1. A map depicting the various U.S. Customs Service regions, districts and ports (Attachment G) is of assistance in determining the District Director having jurisdiction of the location in which the seizure occurred.
 2. The U.S. Customs Directory (Attachment H) lists the Customs District Directors with names, addresses and telephone numbers. It also reflects top key officials by title, name, address and phone number.
-

B. U.S. Coast Guard:

1. A listing of the U.S. Coast Guard key officials with accompanying addresses and phone numbers is found as Attachment I.

IX. CONCLUSION:

There is no area where the private choice to use drugs has more devastating public consequences than on our nation's roads, railways, waterways and airways. Where transportation is concerned, drug use is not a victimless crime. The transportation industry can make a real difference by doing its part by not looking the other way on the issue of drug use. Only by holding all drug users accountable for their actions will we ever be able to stem the demand for drugs.

CONSTRUCTIVE SEIZURE AGREEMENT

I, _____ (owner), acknowledge that the United States Customs Service has placed a _____ (conveyance) identified as _____ (description) under seizure this date because Customs has reason to believe that the conveyance was used in violation of certain U.S. Customs (or related) laws, _____ (laws violated). Before entering into this agreement, I have confirmed my interest in the subject conveyance to be that of _____ (owner or lienholder).

I understand that although Customs deems the conveyance under seizure, the District Director of Customs, _____ (name) District, under the authority of Title 19, United States Code, Section 1605, has the authority to store the conveyance at a place which is deemed appropriate. Therefore, in accordance with my request, the actual custody of the conveyance has been turned over to me, with the forenamed District Director retaining constructive custody thereof, pursuant to the following terms and conditions:

1. Movement or use of the conveyance must be arranged by written agreement with the District Director.
2. The conveyance may not be sold, mortgaged, used as collateral, loaned, or otherwise encumbered or disposed of in any way unless and until it is officially released by the U.S. Customs Service.
3. The conveyance must be properly serviced and maintained in its present condition at the expense of the undersigned.
4. Customs officers have the right to view, board, or inspect the conveyance at any time such inspection is deemed appropriate or necessary by Customs.
5. The U.S. Customs Service and its individual officers shall be held harmless for and released from any and all damage, injury, or loss which may occur to any persons or property as a result of operation or use of the conveyance while held by the undersigned pursuant to this agreement.

Attachment A

(Page 2 of 2)

6. The conveyance must be surrendered to Customs officers upon demand.
7. All insurance coverage maintained on the conveyance shall be kept in force at the expense of the undersigned.

In the event the undersigned does not produce the conveyance upon demand, he shall be liable to the United States for an amount equal to the domestic value of such conveyance as determined at the time of seizure.

Breach of any of the above-listed terms and conditions may result in immediate referral of the matter to the U.S. Attorney's office for institution of judicial forfeiture proceedings and appropriate civil or criminal sanctions against the undersigned.

If Customs determines that, upon compliance with prescribed terms and conditions, the forfeiture of the conveyance will be remitted, then the seizure status will be removed and no Customs storage nor transportation expenses will be incurred from the date of this agreement.

(Party-in-Interest)

District Director District
U.S. Customs Service

Witnessed: _____

Date: _____

Place: _____

DEPARTMENT OF THE TREASURY
UNITED STATES CUSTOMS SERVICE



SUMMONS TO APPEAR
(Vessel)

No 000000

19 U.S.C. 1605

1. TO (Name of Vessel):

2. YOU ARE HEREBY SUMMONED TO APPEAR AT
(Location of District Director of Customs):

3. LATEST
PERMISSIBLE
REPORTING DATE:

The United States Customs Service has issued this summons to appear in lieu of physical seizure of the vessel identified above because Customs has reason to believe that the vessel was used in violation of United States laws involving the possession or transportation of a controlled substance.

If the above-described vessel is not a commercial fishing industry vessel as defined in section 2101(a)(1)(B)(i) of Title 48, United States Code, it is required to report immediately to the District Director of Customs at the location shown above. If it is a commercial fishing industry vessel, the vessel must report immediately upon conclusion of this fishing operation, but in no case later than the date in item 3.

Although the above-described vessel is deemed by Customs to be under seizure, pursuant to section 1605 of Title 19, United States Code, actual custody of the vessel has been temporarily turned over to the undersigned individual in charge of the vessel.

I hereby acknowledge the fact that the above referenced vessel is summoned to appear on the date above and by affixing my signature, do promise to comply with this summons for the vessel to appear as ordered. The conditions on the back of this document are part of this summons.

4. SIGNATURE

5. DATE SIGNED

6. OFFICER'S NAME

7. AGENCY

8. UNIT

9. TELEPHONE NUMBER

PRESENTED BY

It is further understood that the vessel may not be sold, mortgaged, used as collateral, loaned, or otherwise encumbered or disposed of in any way unless and until it is officially released by the United States Customs Service, and that all insurance coverage shall be maintained on the subject vessel.

In the event the described vessel fails to appear upon the date set forth herein, or to comply with the terms of this summons, the vessel may be seized or a warrant may be issued for its arrest, and any person who prevents or impedes such compliance with this Summons to Appear may be subject to criminal prosecution under the laws of the United States.

Customs Form 358 (111688) (Back)

DEPARTMENT OF THE TREASURY
U.S. CUSTOMS SERVICE
19 CFR 171.55; 21 CFR 1316.99

ATTACHMENT C
(FRONT)

NOTICE OF SEIZURE OF A CONVEYANCE FOR PERSONAL USE QUANTITIES OF CONTROLLED SUBSTANCES

This written notice is provided under the provisions of section 6079 of the Anti-Drug Abuse Act of 1988 (P.L.100-690) to you, as the person in charge of a vessel, vehicle or aircraft seized pursuant to 19 U.S.C. 1595a, 21 U.S.C. 881, and/or 49 U.S.C.App. 781/782, for a violation involving the possession of personal use quantities of a controlled substance.

A separate notice will be mailed to the owner and other known parties in interest (including lienholders) explaining the legal and factual basis of the seizure as well as their rights.

Under the law and implementing regulations, the owner, or other parties with an interest in the seized property may petition the U.S. Customs Service for an expedited decision with respect to a conveyance seized for drug-related violations involving personal use quantities.

If the vessel is a commercial fishing industry vessel, which is proceeding to or from a fishing area or intermediate port of call, or which is actively engaged in fishing operations and a SUMMONS was issued in lieu of physical seizure, the petition must be filed with the District Director of Customs to whom the fishing vessel must report, as specified in the summons, and must be received by Customs within 20 days of the reporting date.

If the conveyance is not a commercial fishing industry vessel, the petition must be addressed to the District Director of Customs whose name and address are shown below and be received by the U.S. Customs Service within 20 days of the mailing of the notice of seizure.

In either case, the petition must be under oath (notarized) and establish:

(1) the petitioner has a valid, good faith interest in the seized property as owner or otherwise;

(2) the petitioner acted in a normal and customary manner to ascertain how the property would be used; and

(3) the petitioner did not know of, or consent to the illegal use of the property, or have reason to believe that the property would be illegally used; or in the event that the petitioner knew or should have known of the illegal use, the petitioner did what reasonably could be expected to prevent the violation.

Upon receipt of the petition, the U.S. Customs Service will try to make a final administrative determination on the merits within 21 days of the date of seizure and either return the property or notify interested parties that administrative forfeiture proceedings will be commenced. If no final determination can be made within 21 days of seizure, then Customs, within 20 days of receipt of the petition, will determine whether the petition has established the factors listed above and if it does, Customs will terminate the proceedings and return the property, except where it is evidence of a violation of law. If a petitioner fails to establish the factors listed above, Customs will, depending on the facts and circumstances, either commence administrative forfeiture proceedings, or remit the forfeiture upon the payment of a mitigated penalty according to its guidelines.

While Customs is considering the case, the owner may obtain release of the seized conveyance in accordance with 19 U.S.C. 1614 (at any time after the seizure) by substituting the property's appraised value in cash, an irrevocable letter of credit, travellers checks, certified check, or a money order made payable to the U.S. Customs Service. Customs will proceed against the cash or other substituted property instead of the conveyance.

If Customs decides to administratively forfeit the seized conveyance or property substituted therefor, it will notify interested parties and begin publication, as required by 19 U.S.C. 1607. After publication for three consecutive weeks, the Government will have title to the conveyance (from the date of the violation). If you wish to contest the forfeiture and have judicial (court) proceedings, instead of an administrative forfeiture, you will have 20 days from the date of first publication to file a claim and cost bond in the amount of \$5,000, or 10 per cent of the value of the seized conveyance, whichever is lower, but not less than \$250, as provided in 19 U.S.C. 1608. The case will then be referred to the appropriate U.S. Attorney for disposition. The NOTICE OF EXPEDITED JUDICIAL FORFEITURE PROCEDURES on the reverse side of this form reviews the procedures that apply to your property if you choose that option.

If you have any questions concerning the reasons for, or the circumstances surrounding the seizure, or the procedures to be followed in connection with this matter, or if you require additional information, you may request an informal conference with the District (or Area) Director or one of his employees.

District (or Area) Director

ATTACHMENT C
(REVERSE)

NOTE: Although the following notice is required to be given in all cases involving the seizure of conveyances for drug related offenses, the procedures set forth below only apply to cases where the government decides to proceed to forfeiture and the owner or other interested party (including a lienholder) decides to contest the forfeiture in court.

NOTICE OF EXPEDITED JUDICIAL FORFEITURE PROCEDURES

This notice is being provided in accordance with section 6080 of Public Law 100-690 to the person in possession of a conveyance (vessel, vehicle or aircraft) which was seized for a drug related offense. A separate notice will be mailed to the owner and other known parties in interest (including lienholders) explaining the legal and factual basis of the seizure as well as their rights.

You were in possession of a vessel, vehicle or aircraft which was seized for a drug related offense. The Government may seek forfeiture of the property.

If the government wishes to forfeit the property, it may do so in an administrative proceeding by publishing a notice for three consecutive weeks, after which title to the conveyance (from the date of the violation) will vest in the United States. This proceeding is not subject to court review. However, you may obtain court review, by filing a claim with the U.S. Customs Service and by posting a cost bond in the amount of \$5,000, or 10 per cent of the value of the seized conveyance, whichever is lower, but not less than \$250. The claim and cost bond must be filed with the U.S. Customs Service within 20 days of the date of first publication.

If you file a claim and post a cost bond, the matter will be referred to the appropriate U.S. Attorney to institute judicial (court) forfeiture proceedings. You may petition the Attorney General for an expedited decision on whether the forfeiture action will proceed and for a determination of any rights or defenses you may have. If the Attorney General does not grant or deny your petition within 20 days after it is filed, the conveyance will be returned to you pending further forfeiture proceedings.

The Attorney General may:

- (A) deny the petition and retain possession of the conveyance;
- (B) grant the petition, move to dismiss the forfeiture action, if filed, and promptly release the conveyance to the owner;
- (C) advise the petitioner that there is not adequate information available to determine the petition and promptly release the conveyance to the owner.

The Attorney General must file a complaint for forfeiture within 60 days of your filing a claim and posting a cost bond, unless the period is extended by the court. If the Attorney General does not file the complaint within the time allowed, the court shall order return of the conveyance and the forfeiture may not proceed.

An owner of a conveyance may obtain release of the conveyance by providing security in the form of a bond equal to the value of the conveyance unless the conveyance is contraband, needed as evidence of a violation of law or because it is particularly suited to use in illegal activities by reason of its design or characteristics.

District (or Area) Director

THE APPLICATION OF THE ZERO TOLERANCE
REGARDING THE DISTINCTION BETWEEN
WATER COMMON CARRIERS AND WATER CONTRACT CARRIERS

A good working definition of a water common carrier is a vessel that is engaged in the business of public employment for the carriage of goods or passengers for hire generally, i.e., it is available to transport all goods or people who present themselves for such carriage.

This is the generally accepted definition of a water common carrier. See 49 USC 10102(30); 46 USC 801; Semon v. Royal Indemnity Company, 279 F.2d 737 (5th Cir. 1960); United States v. One (1) Liberian Refrigerator Vessel, 447 F.Supp 1053 (M.D. Fla. 1977), aff'd sub nom. EA Shipping Co., Inc. v. Bazemore, 617 F.2d 136 (5th Cir. 1980).

The common carrier exemption prohibits the seizure and forfeiture of common carriers for Zero Tolerance violations if:

- (1) The controlled substance is found on the person, in the baggage of a passenger for hire, or in the manifested cargo of the vessel, and
- (2) The master or person in charge did not participate in, or have knowledge of, the violation, or was not grossly negligent in preventing or discovering the violation. See EA Shipping Co., Inc. v. Bazemore et al, 617 F.2d 136 (5th Cir. 1980); cf. United States v. One (1) Rockwell International Commander 690C/840, 754 F.2d 284 (8th Cir. 1985); See H.R. Rep. No. 794, 99th Cong., 2d Sess., at 14, 15.

The common carrier exemption is derived from 19 USC 1594(b), which provides:

No [vessel] used ... as a common carrier is subject to seizure and forfeiture ... for violations relating to merchandise contained:

- (a) on the person;
- (b) in baggage belonging to and accompanying a

passenger being lawfully transported on such [vessel]; or

- (c) in the cargo of the [vessel] if the cargo is listed on the manifest and the marks, numbers, weights, and quantities of the outer packages or containers agree with the manifest; unless the owner or operator, or the master, pilot ... or other person in charge participated in, or had knowledge of, the violation, or was grossly negligent in preventing or discovering the violation. (Emphasis added.)

Under the Interstate Commerce Act, a contract carrier is defined by 49 USC 10102(31) as:

"Water contract carrier" means a person, other than a water common carrier, providing water transportation for compensation under an agreement with another person, including transportation on a vessel provided to a person other than a carrier subject to the jurisdiction of the [Interstate Commerce] Commission under the subtitle when the vessel is used to transport only the property of the other person.

This definition is consistent with case law with regard to contract carriers. It is a suitable definition for law enforcement purposes. Therefore, under this definition, a vessel acting as a contract carrier does not hold itself out to the general public, but rather agrees to transport only the property of another person. A vessel cannot be both a common carrier and a contract carrier at the same time. See Cornell Steamboat Co. v. United States, 321 U.S. 634, 64 S.Ct. 768, 88 L.Ed. 978 (1944); American Trucking Associations, Inc. v. I.C.C., 659 F.2d 452 (5th Cir. 1981); Cf. Barrett Line v. United States, 326 U.S. 181, 65 S.Ct. 1504 (1945).

TEST FOR COMMON CARRIAGE

In United States v. One (1) Liberian Refrigerator Vessel, 447 F.Supp 2053 (M.D.Fla. 1977), aff'd sub nom. EA Shipping Co., Inc. v. Bazemore, 617 F.2d 236 (5th Cir. 1980), the court held that "the rationale for the common carrier exemption revolves around the nature and character of the carriage engaged in by the owner or master and the duties and responsibilities the law implies therein." See also United States v. One (1)

1957 Oldsmobile Automobile, 256 F.2d 931 (5th Cir. 1958). The test to be applied in determining whether a water carrier is a common carrier for purposes of enforcing the Zero Tolerance policy is whether under the totality of the circumstances a reasonable person would determine that the carrier is holding itself out as ready to engage in the transportation of goods or passengers for hire for all goods or people who present themselves for such carriage. United States v. One (1) 1944 Steel Hull Freighter Converted Wartime Landing Craft Utility Vessel (LCU) SHAMROCK, 697 F.2d 1030 (11th Cir. 1983). The factors to be considered in making this determination include, but are not limited to:

- (1) Cargo manifest reflects a wide variety of cargo. United States v. Stephen Brothers Line, supra;
- (2) Active solicitation by the carrier among established freight forwarders. United States v. Stephen Brothers Line, supra;
- (3) The carrier is generally known throughout the trade as planning to transport merchandise or passengers to the extent of its capacity. United States v. Stephen Brothers Line, supra;
- (4) A holding out to carry goods or passengers indiscriminately for others. United States v. One (1) Liberian Refrigerator Vessel, 447 F.Supp 1053 (M.D. Fla. 1977), aff'd sub nom. EA Shipping Co., Inc. v. Bazemore, 617 F.2d 136 (5th Cir. 1980);
- (5) The carrier advertises or solicits for the general carriage of goods or passengers on regular, published routes. Non Vessel Carriers, 1961 AMC 1024, 1034-5 (FMB. 1961): .
- (6) The carrier has assumed a legal duty to carry for all equally. Cape Charles, 198 F. 346 (E.D.N.C. 1912);
- (7) Documentary evidence of public employment for hire, e.g., invoices, shipping documents, bills of lading. United States v. Stephen Brothers Line, supra;
- (8) The carrier is transporting cargo for two or more shippers. Gerber v. SS Sabine Howaldt, 310 F.Supp. 343 (S.D.N.Y. 1969); Ella Pierce Thurlow, 300 F. 103 (S.D.N.Y. 1921).

- (9) The Interstate Commerce Commission has issued a common carrier certificate for the carrier. See Para. 5, infra.
- (10) The carrier has filed tariffs or rate schedules with the ICC or Federal Maritime Commission. See Para. 5, 6, infra.

Water common carriers and contract carriers must be documented with the ICC and have tariffs on file. See 49 USC 10761, 10762, 10922, and 10923. However, the ICC has no jurisdiction over carriers carrying bulk commodities as set forth in 49 USC 10542-10544. Since most commercial carriers transport bulk commodities, failure to be certificated or have tariffs on file is not dispositive of the class of carrier in these instances.

Similarly, water common carriers are required to file tariffs with the Federal Maritime Commission. See 46 USC 817. However, most barge traffic is not regulated for interstate commerce by the Federal Maritime Commission. See 46 USC 804. Again, a failure to file a tariff will not be dispositive of the class of carrier under these circumstances. Neither the ICC nor the Federal Maritime Commission requires either a common carrier or contract carrier to carry documentation on board the vessel indicating the class of carrier.

A commercial vessel operating as a contract carrier is subject to seizure for violations involving personal use quantities of controlled substances under the Zero Tolerance policy. There is no exemption for contract carriers in 19 USC 1594(b).

A vessel that has been determined to be operating as a common carrier may still be subject to seizure under the Zero Tolerance Policy. A common carrier must meet certain conditions in 19 USC 1594(b) in order to be exempt from seizure. These conditions relate to where the controlled substances are found on the vessel and the degree of involvement of the owner, operator, master, pilot, or person in charge in the violation. The following factors are critical in analyzing whether a vessel has met the conditions for exemption as a common carrier:

- (1) If the substance was not found on the person or in the baggage of a passenger, or in the manifested cargo, the vessel is subject to seizure without further inquiry.
- (2) If the substance was discovered on the person or in the baggage of a passenger, or in the manifested

Attachment D

(Page 5 of 5)

cargo, who was involved in the offense? If the owner or operator, or the master, pilot, or other person in charge participated in, or had knowledge of, the violation, or was grossly negligent in preventing or discovering the violation, the vessel is subject to seizure without further inquiry.

- (3) If the owner or operator, or the master, pilot or other person in charge was not involved in the offense, as discussed above, then a determination must be made whether the vessel is being operated as a common carrier.

LAWS USED TO ENFORCE ZERO TOLERANCE VIOLATIONS

The following are the most commonly used laws to enforce Zero Tolerance violations:

- | | |
|-----------------|---|
| 19 USC 1433 | Report of arrival of vessels, vehicles and aircraft |
| 19 USC 1436 | Penalties for violations of the arrival, reporting and entry requirements |
| 19 USC 1453 | Lading and unlading of merchandise or baggage penalties |
| 19 USC 1454 | Unlading of passengers, penalty |
| 19 USC 1459 | Reporting requirements for individuals |
| 19 USC 1459(a) | Individuals arriving other than by conveyance |
| 19 USC 1459(b) | Individuals arriving by reported conveyance |
| 19 USC 1497 | Failure to declare |
| 19 USC 1584 | Falsity or lack of manifest; penalties |
| 19 USC 1586 | Unlawful unlading or transshipment |
| 19 USC 1594 | Seizure of conveyances |
| 19 USC 1595a | Forfeitures and other penalties |
| 19 USC 1595a(a) | Importation, removal, etc., contrary to laws of United States |
| 19 USC 1595a(b) | Penalty for aiding unlawful importation |
| 19 USC 1595a(c) | Merchandise introduced contrary to law |
| 19 USC 1605 | Seizure, custody, storage |
| 19 USC 1608 | Seizures, claims and judicial condemnation |

Attachment E

(Page 2 of 2)

21 USC 844	Penalties for simple possession
21 USC 844a	Civil penalty for possession of small amounts of certain controlled substances
21 USC 881	Forfeitures
21 USC 857	Interstate and foreign sale and transportation of drug paraphernalia
21 USC 952	Importation of controlled substances
21 USC 953	Exportation of controlled substances
49 USC 781	Unlawful use of vessels, vehicles, and aircrafts; contraband article defined
49 USC 782	Seizure and forfeiture



ZERO TOLERANCE

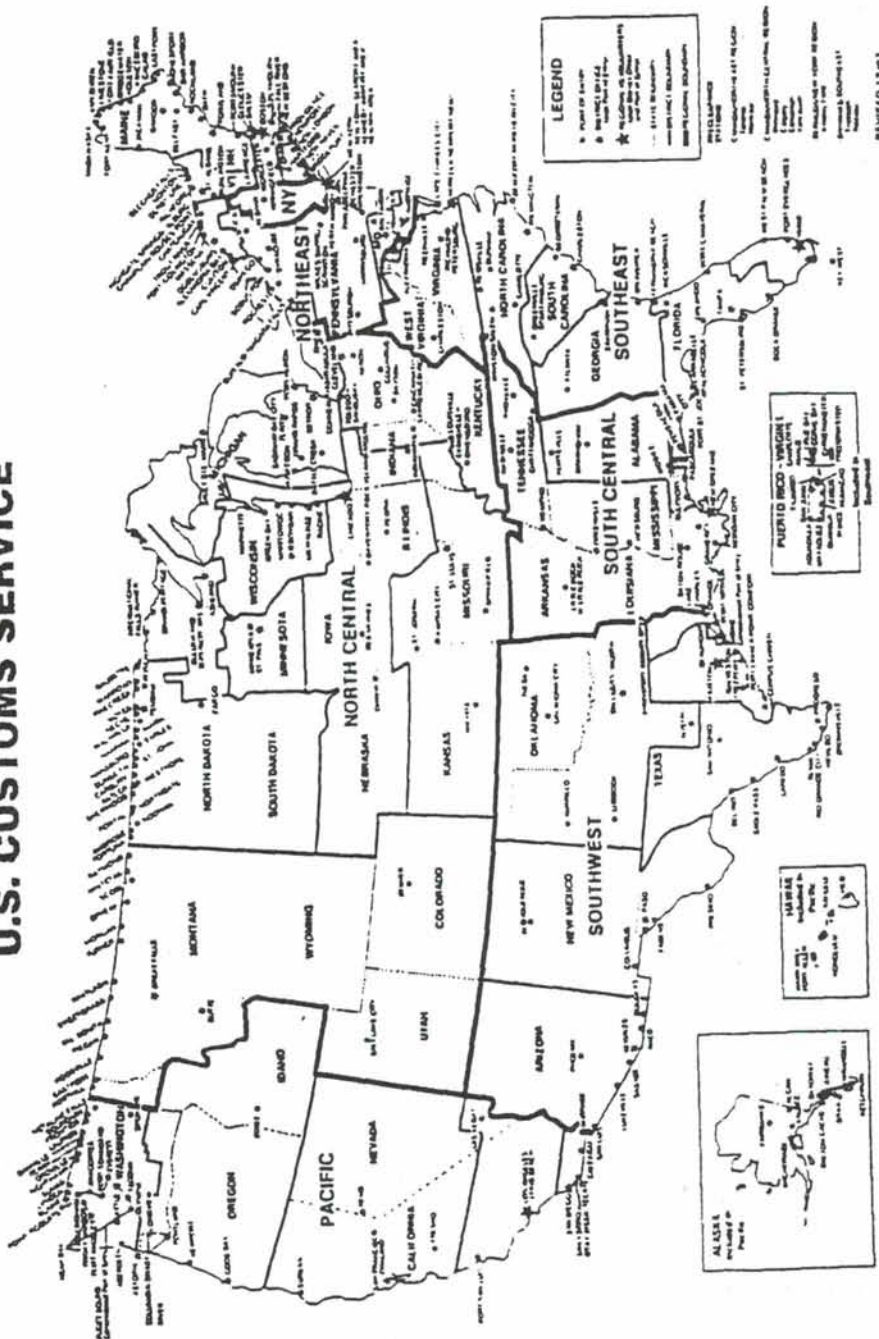
REASONABLE PRECAUTIONS

Boat owners have the responsibility to ensure that illegal drugs are not brought aboard their vessels. There are a number of actions they can take in that regard. The following suggestions are provided for bareboat charter operators, fishing boat owner/operators, recreational boat owner/operators, and those engaged in coastal trade:

- Post a Zero Tolerance notice in a visible, public area on board the vessel.
- Ensure that all advertising contains a Zero Tolerance statement.
- Make Zero Tolerance a condition of all contracts for boat leases, rentals, and charters.
- Have each salaried crew member sign a statement that he or she will not introduce or use illegal drugs on board.
- Provide drug education for the crew.
- Establish a written company policy in support of Zero Tolerance.
- Report, via radio telephone, to the Coast Guard any possession or use of illegal drugs discovered on board the vessel.
- Secure those compartments on board the vessel which are restricted to public access.
- Inform friends and others on board your boat that any illegal drug use will not be tolerated.
- Provide cooperation and assistance to Coast Guard and Customs officers as they carry out their boarding duties.

It is recommended that boat owners take as many of these precautionary measures as are appropriate. In the event that illegal drugs are discovered by a Coast Guard boarding party, the vessel normally will be seized. The owner/operator's efforts will, however, be considered during the administrative forfeiture proceeding.

U.S. CUSTOMS SERVICE



Customs Districts

(Note: New York and Minnesota have Area Directors instead of District Directors)

- Pac. Anchorage, Alaska 99501 / 420 E. Tenth Ave., Suite 101 (907) 271-4041 Enace Orreaga
- N.E. Baltimore, Maryland 21202 / 40 S. Gay St. (301) 943-2666 A Robert Reichlich
- N.E. Boston, Massachusetts 02233 / 1059 / 10 Causeway St., Suite 801 (617) 565-6147 Joke V. Loub
- N.E. Buffalo, New York 14202 / 111 W. Huron St., Room 403 (716) 846-4374 Callion L. Brainerd
- S.E. Charleston, South Carolina 29403 / 200 E. Bay St. (803) 724-4312 William Byrd
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- N.Cen. Detroit, Michigan 48226 / 477 Michigan Ave., Second Floor (313) 226-3177 William L. Nonsand
- S.W. El Paso, Texas 79905 / Bldg. B, Room 134 (214) 726-5301 Robert W. Nordman
- N.Cen. Great Falls, Minnesota 56401 / 600 Central Plaza, Suite 200 (509) 451-7631 Mike Mack
- Pac. Honolulu, Hawaii 96808 / 113 Merchant St. / P.O. Box 1641 (808) 541-1753 George Roberts
- S.W. Houston, Texas 77053 / 701 San Jacinto St., P.O. Box 51790 (713) 224-2334 Patricia McCauley
- S.W. Laredo, Texas 78041-3110 / Lincoln Suarez Bridge (512) 724-2267 Joseph Casadillo
- Pac. Los Angeles/Long Beach, California / 300 S. Ferry St., Terminal Island 90731 (213) 516-6001 John Hefovich
- S.E. Miami, Florida 33131 / 77 S.E. 5th St. (305) 516-4101 Thomas J. Mastina
- N.Cen. Milwaukee, Wisconsin 53202 / 317 E. Wisconsin Ave. (414) 291-1924 Richard J. Bindle
- N.Cen. Minneapolis, Minnesota 55401 - 110 S. Fourth St. (612) 348-1690 Robert W. Housness
- S.Cen. Mobile, Alabama 36632 / 150 West St. / P.O. Box 27-48 (205) 690-2106 David L. Wilkin
- N.Y. New Orleans, Louisiana 70130 / 423 Canal St. (504) 589-6133 Joel B. Nibb
- N.Y. New York, New York / New York Seaport Area, New York 10048 (212) 466-3817 Jean F. Maguire (Acting)
- N.Y. New York, New York / Customs House, & World Trade Center (212) 917-1542 John J. Marvige
- N.Y. Kennedy Airport Area, Jamaica, New York 11430 (718) 917-1542 John J. Marvige
- N.Y. Newark Area, Newark, New Jersey 07114 (201) 645-3760 Peter J. Basch
- N.Y. Airport International Plaza (609) 287-2637 Fred Lawrence
- N.Y. Norfolk, Virginia 23510 / 101 E. Main St. (804) 441-6546 Phil Spayd
- N.Y. Ogdensburg, New York 13669 / 127 N. Water St. (315) 991-0660 William Drezel
- N.Y. Philadelphia, Pennsylvania 19106 / 2nd & Chestnut St., Room 102 (215) 825-6201 Raymond J. Hagerty, Jr.
- N.Y. Port Arthur, Texas 77642 / 4550 75th St. (409) 724-0081 Anthony Piazza
- N.Y. Portland, Maine 04112 / 312 Fort St., P.O. Box 4688 (207) 850-3126 Emory W. Ingalls
- N.Y. Portland, Oregon 97209 / 511 N.W. Broadway (503) 221-2465 Clyde Kelley, Jr.
- N.Y. Providence, Rhode Island 02903 / 74 Weybosset St. (401) 528-5080 Philip Bernard (Acting)
- N.Y. St. Albans, Vermont 05478 / Main & Stebbins St., P.O. Box 111 (603) 524-6572/8 Frank R. Spinnally
- N.Y. St. Louis, Missouri 63105 / 7911 Fenwick Bldg., Suite 425 (314) 415-3134 Theodore Galanowicz
- N.Cen. San Diego, California 92108 / 880 Front St., Suite 519 (619) 556-4340 Paul Anderson
- Pac. San Diego, California 92108 / 880 Front St., Suite 519 (619) 556-4340 Paul Anderson
- Pac. San Francisco, California 94116 / 355 Battery St., P.O. Box 2450 (415) 773-2091 Helene E. Pablock
- S.E. San Juan, Puerto Rico 00903 / P.O. Box 7112 (787) 944-4256 Robert J. Richter
- S.E. Savannah, Georgia 31401 / 1 East Bay St. (706) 442-0534 Donald C. Holland
- Pac. Seattle, Washington 98174 / 909 First Ave. (206) 442-0534 Donald C. Holland
- S.E. Tampa, Florida 33605 / 4430 East Adams Dr., Suite 301 (813) 228-2381 Duane Zwickert
- S.E. Washington, D.C. 20041 / 1918 1142 (202) 566-8511 Sidew A. Reyes
- S.E. Gateway Bldg., Dulles Intl. Apt., Chantilly, Va 22021 (703) 441-4100
- S.E. Washington, North Carolina 28401 / One Virginia Ave. (919) 345-4601 John R. Barb

Telephone numbers listed are those which may be dialed commercially

Published by the United States Customs Service / Washington, D.C. 20229 / (202) 566-1962

U.S. Customs Service
1301 Constitution Avenue, N.W.
Washington, D.C. 20229
(202) 566-8195



U.S. Customs DIRECTORY

REGIONAL OFFICERS	NEW YORK	SOUTHEAST	MEXICO	SOUTHWEST	PACIFIC	NORTH CENTRAL
Address	2 World Trade C. / NEW YORK / NY 10048	1 E. 10th St. / TAMPA / FL 33611	133 Canal St. / NEW ORLEANS / LA 70110	3838 San Felipe St. / HOUSTON / TX 77027	308 N. Los Angeles St. / LOS ANGELES / CA 90013	18 E. Moore St. / CHICAGO / IL 60604
Regional Commissioner	Edward J. Koss (112) 466-4444	George Henry (809) 536-2922	J. Robert Graham (504) 299-4324	James Paul (713) 975-5444	Thomas L. V. Blumstein, Jr. (313) 896-1981	Richard Markham (312) 314-4238
Asst. Regional Commissioner (Operations)	Anthony Piazza (312) 466-4447	Caroline Fox (809) 536-2922	David F. Bennett (504) 299-4324	Low Blumstein (713) 975-5444	Robert Frazier (313) 896-1981	Robert Mall (312) 314-4238
Regional Council	John A. Bennett (312) 466-4100	Susan F. Seidel (809) 536-1311	James M. Nelson (504) 299-4081	David P. Lindsay (713) 975-4627	Paul E. Wilson (313) 896-1914	Paul H. Peck (312) 314-2548
Regional Director	William F. Johnson (312) 466-1928	Charles C. Housh (809) 536-1306	Samuel B. Reinhard (504) 299-4187	Raymond E. McPherson (713) 975-4699	Robert D. Housh (313) 896-1349	Donald H. Allen (312) 314-2548
Asst. Regional Commissioner (Laboratory)	Yvonne (312) 466-4111	John Galus (809) 536-1928	James L. Chapp (504) 299-4099	John A. Stone (713) 975-4641	John E. Housh (313) 896-5007	Charles Morrison (312) 314-2548
Public Affairs Officer	Edward V. Carlson (312) 466-4115	Michael Shepley (809) 536-1128	Lu Oyama (504) 299-4916	Debra De La Torre (713) 975-4699	Mike Fleming (313) 896-1919	Charles Morrison (312) 314-2548

U. S. Coast Guard Zero Tolerance Contact Points

Commandant U. S. Coast Guard 2100 Second St. SW Washington, DC 20593-0001 4158	FTS: 267-2390 COM: 202-267-2390 FAX: FTS: 267-4158 COM: 202-267-
Commander (P) Atlantic Area, U. S. Coast Guard Governors Island New York, NY 10004-5000	FTS: 664-7196 COM: 212-644-7196 FAX: FTS: 668-7984 COM: 212-664-7984
Commander (P) Pacific Area, U. S. Coast Guard Coast Guard Island Alameda, CA 94501-5100	FTS: 536-3196 COM: 415-437-3196 FAX: FTS: 536-3017 COM: 415-437-3017
Commander (d) First Coast Guard District Coast Guard Bldg. 408 Atlantic Avenue Boston, MA 02210-2209	FTS: 223-8480 COM: 617-223-8480 FAX: FTS: 223-8401 COM: 617-223-8401
Commander (d) Second Coast Guard District 1430 Olive St. St. Louis, MO 63103-2398	FTS: 279-4601 COM: 314-425-4601 FAX: FTS: 279-5017 COM: 314-425-5017
Commander (d) Fifth Coast Guard District Federal Bldg. 431 Crawford St. Portsmouth, VA 23704-5004	FTS: 393-6287 COM: 804-398-6287 FAX: FTS: 393-6289 COM: 804-398-6289
Commander (d) Seventh Coast Guard District 909 SE First Ave. Brickell Plaza Federal Bldg. Miami, FL 33131-3050	FTS: 350-5654 COM: 305-536-5654 FAX: FTS: 350-4702 COM: 305-536-7402
Commander (d) Eighth Coast Guard District Hale Boggs Federal Bldg. 500 Camp St. New Orleans, LA 70130-3396	FTS: 682-6223 COM: 504-589-6298 FAX: FTS: 682-3967 COM: 504-589-3967

Attachment I

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Commander (d) Ninth Coast Guard District 1240 East 9th St. Cleveland, OH 44199-2060	FTS: 942-3910 COM: 216-522-3910 FAX: FTS: 942-3261 COM: 216-522-3261
Commander (d) Eleventh Coast Guard District Union Bank Bldg. 400 Oceangate Long Beach, CA 90822-5399	FTS: 984-5202 COM: 213-499-5201 FAX: FTS: 984-5205 COM: 213-499-5205
Commander (d) Thirteenth Coast Guard District Jackson Federal Bldg. 915 Second Ave. Seattle, WA 98174-1067	FTS: 399-5078 COM: 206-442-5078 FAX: FTS: 399-4883 COM: 206-442-4883
Commander (d) Fourteenth Coast Guard District Prince Kalaniana'ole Federal Bldg. 300 Ala Moana Blvd., 9th Floor Honolulu, HI 96850-4982	FTS: 551-2051 COM: 808-541-2051 FAX: FTS: 551-2123 COM: 808-541-2123
Commander (d) Seventeenth Coast Guard District P. O. Box 3-5000 Juneau, AK 99802-1217	FTS: 907-586-7346 COM: 907-586-7346 FAX: FTS: 907-586-7379 COM: 907-586-7379
Commander (m) Maintenance & Logistics Command Atlantic Bldg. 400., K Section., 2nd Floor Governors Island New York, NY 10004-5098	FTS: 664-7196 COM: 212-668-7196 FAX: FTS: 664-7198 COM: 212-668-7198
Commander (m) Maintenance & Logistics Command Pacific Coast Guard Island Alameda, CA 94501-5100	FTS: 536-3939 COM: 415-437-3939 FAX: FTS: 536-5805 COM: 415-437-5805

U. S. Coast Guard Public Affairs Office

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Commander (Apa)
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New York, NY 10004-5000

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Commander (Apa)
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Coast Guard Island
Alameda, CA 94501-5100

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FAX: FTS: 536-3807
COM: 415-437-3807

Commander (dpa)
First Coast Guard District
Coast Guard Bldg.
408 Atlantic Avenue
Boston, MA 02210-2209

FTS: 223-8515
COM: 617-223-8515
FAX: FTS: 223-8523

Commander (dpa)
Second Coast Guard District
1430 Olive St.
St. Louis, MO 63103-2398

FTS: 279-4627
COM: 314-425-4627
FAX: FTS: 279-5017

Commander (dpa)
Fifth Coast Guard District
Federal Bldg.
431 Crawford St.
Portsmouth, VA 23704-5004

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FAX: FTS: 827-9289

Commander (dpa)
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909 SE First Ave.
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Miami, FL 33131-3050

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FAX: FTS: 350-7402

Commander (dpa)
Eighth Coast Guard District
Hale Boggs Federal Bldg
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New Orleans, LA 70130-3396

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Commander (dpa)
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1240 East 9th St.
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Commander (dpa) Eleventh Coast Guard District Union Bank Bldg. 400 Oceangate Long Beach, CA 90822-5399	FTS: 984-5230 COM: 213-499-5230 FAX: FTS: 984-9215
Commander (dpa) Thirteenth Coast Guard District Jackson Federal Bldg. 915 Second Ave. Seattle, WA 98174-1067	FTS: 399-5896 COM: 206-442-5896 FAX: FTS: 399-4883
Commander (dpa) Fourteenth Coast Guard District Prince Kalaniana'ole Federal Bldg. 300 Ala Moana Blvd., 9th Floor Honolulu, HI 96850-4982	FTS: 808-546-7595 COM: 808-546-7595 FAX: FTS: 808-546-7999
Commander (dpa) Seventeenth Coast Guard District P. O. Box 3-5000 Juneau, AK 99802-1217	FTS: 907-586-7290 COM: 907-586-7290 FAX: FTS: 907-586-7774 COM: 907-586-7774
Commanding Officer USCG Training Center Public Affairs Office Petaluma, CA 94952-5000	FTS: 623-7374 COM: 707-778-2214 FAX: FTS: 623-7339 COM: 707-765-7339
Commanding Officer USCG Reserve Training Center Public Affairs Office Yorktown, VA 23690-5000	FTS: 827-2458 COM: 804-898-3501
Commanding Officer U. S. Coast Guard Yard Public Affairs Office Curtis Bay Baltimore, MD 21226-1797	FTS: 922-6260 COM: 301-922-6260
Commanding Officer USCG Marine Safety Office Public Affairs Office 610 South Canal St. Chicago, IL 60607-4573	FTS: 353-6820 COM: 312-353-5081

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