

**Research Vessel Operator's Committee
Summary Report
of the
1992 Annual Meeting**

Hosted by

**The University of Delaware
College of Marine Studies**

**Sessions held at the
Verden Center
College of Marine Studies
Lewes, DE**

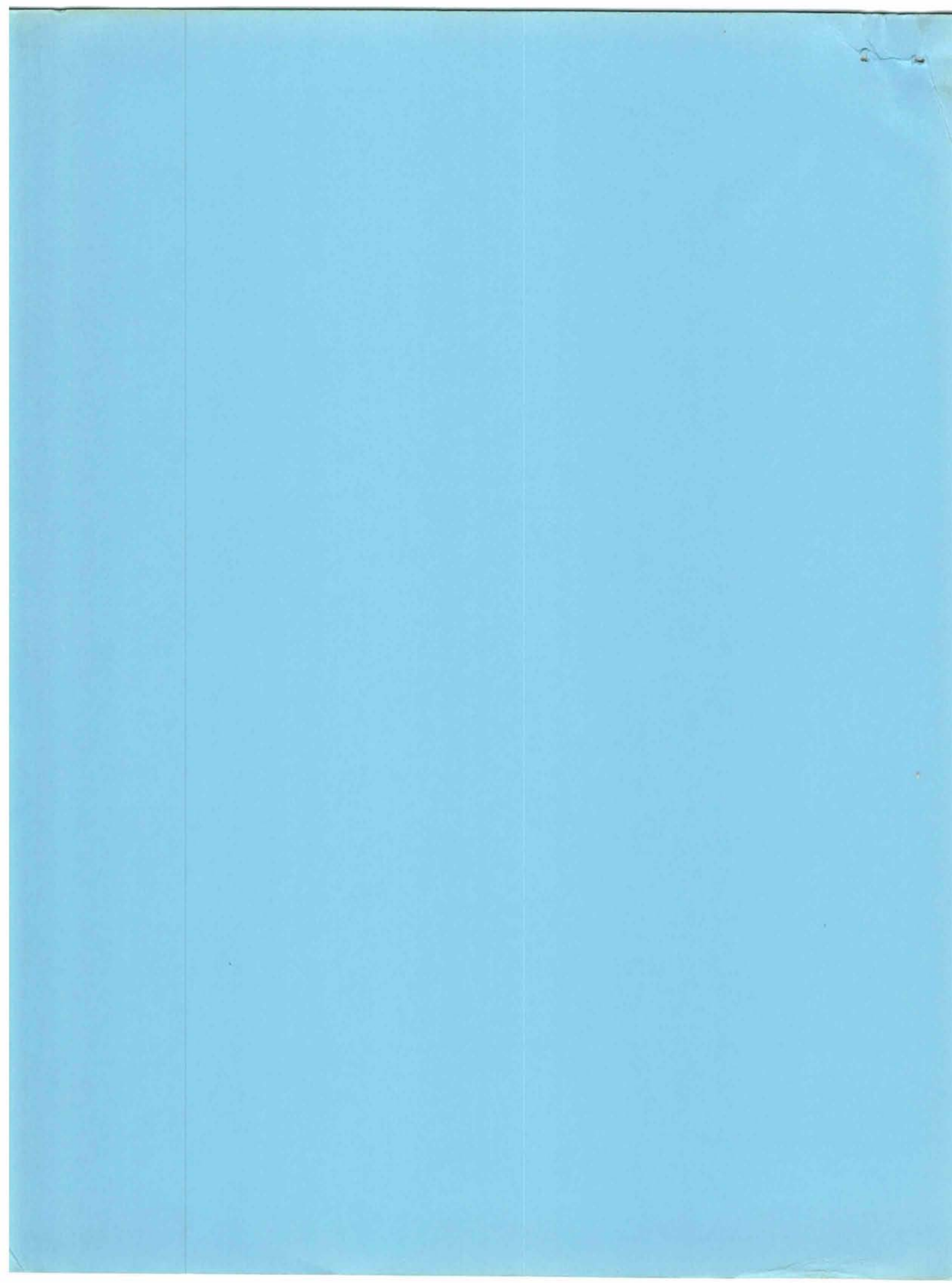
CONTENTS:

Minutes of the 1992 Annual Meeting

APPENDICES

- I. Agenda**
- II. List of Attendees**
- III. AAUS Information and Dive Statistics - Michael Lang**
- IV. Regulatory Update - George Ireland**
- V. Kevlar - Larry Cleary**
- VI. UNOLS Wire Pool and Fiber Optics - Don Moller**
- VII. Winch Control Questionnaire - Mike Markey**
- VIII. Coastal Marine Science Workshop - Don Wright/Jack Bash**
- IX. Letter to UNOLS Chair and RVOC Resolution - Mike Prince**
- X. Chronology of RVOC Meetings - Dean Letzring**





**MINUTES OF THE 1992 ANNUAL RVOC MEETING
GRADUATE COLLEGE OF MARINE STUDIES
UNIVERSITY OF DELAWARE
LEWES, DELAWARE
OCTOBER 20 - 22, 1992**

WELCOMING REMARKS

The meeting was called to order by Chairman Jim Williams, Marine Superintendent of Scripps Institute of Oceanography.

Wadsworth Owen, Director of Facilities and Services for the University of Delaware's Graduate College of Marine Studies welcomed the RVOC to Lewes after trying for over fifteen years to have the opportunity to host the meeting. He introduced Dr. Carolyn Thoroughgood, Dean of the Graduate College of Marine Studies.

Dr. Thoroughgood welcomed the RVOC and gave a brief history and overview of the University of Delaware and the Graduate School of Marine Studies.

AGENDA

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

OLD BUSINESS

1991 Meeting Minutes

A motion was made, seconded and passed to accept the minutes of the 1991 meeting.

RVOC Newsletter

The newsletter will continue with 2 or 3 issues, will be primarily dedicated to organizing next years meeting and other RVOC business. Other meaningful content depends directly on input from RVOC members.

Safety Committee Report

Mike Prince reported that the RVOC Safety Training manual was distributed late last year and that the latest revision of the UNOLS SAFETY STANDARDS had been approved by UNOLS at the September annual meeting and were currently at the printers. Tom Smith (U. of Alaska) is the new chairman of the safety committee. Members of the committee include Ken Palfrey, Don Newman, Tim Askew, Bill Hahn and Joe Coburn.

AGENCY REPORTS

National Science Foundation

Dolly Dieter discussed the new GRESE manual and proposal guidelines from OCFS. She reminded everyone that they had to use the new forms in the GRESE manual such as the revised Title page. She also mentioned that in some cases the wrong grant information was being shown in sections 9 and 12 of the UNOLS post cruise reports. Section 9 should show the grant information for the science project being supported

and Section 12 should show the ship operations grant information or other source of the actual ship operations funding.

Dolly also reported on the FY 93 budget for NSF and OCFS which has not been finalized yet. NSF will be cut by 2 to 5%. A 5% budget cut will mean that some "funded" science will have to be postponed and dropped out of schedules. The contribution to ship operations funding from ODP will not be more than \$1.5 million and could be as low as \$1 million. The best guess is that somewhere between \$30 and \$31 million will be available for NSF ship operations funding. For FY 92 NSF will spend approximately \$34 million. The proposals received to date add up to \$24 million and do not include the six largest ships which accounted for \$12 million last year. This equates to a strong need to cut the amount being proposed by \$5 - \$6 million. The budget will not be firm until December. There may be a need to re-visit the scheduling process again in December to resolve some of the funding issues.

NOAA

Captain Don Nortrup, the new Chief of Program Services for the NOAA Corps introduced himself and the other NOAA personnel in attendance, Captain Martin Mulhern who serves as the primary liaison between the NOAA program users and the NOAA Fleet and Scott McKellar who is the Deputy Chief of the Program Services Division. Capt. Nortrup relieved Capt. Dave Yeager who has attended previous meetings.

Scott McKellar gave an overview of the NOAA budget picture, the fleet replacement and modernization plan and the prospects for NOAA use of UNOLS vessels. The FY93 budget will probably incorporate a 7% cut. Current plans call for the continued operation of SURVEYOR and ALBATROSS. FY 93 budget also includes money for a small Repair to Extend (RTE) on the ALBATROSS and the projected FY 94 budget includes RTE money for the DELAWARE II and the OCEANOGRAPHER. NOAA has an MOU with the Navy that could allow for the transfer of up to 8 TAGOS vessels. The TAGOS 13, ADVENTUROUS, has already been transferred for charting and mapping duty. When converted, this vessel will probably replace the MT MITCHELL. A budget of \$20M has been allocated for conversion of this TAGOS vessel. One of the eight TAGOS vessels will be operated for the USGS. Money for chartering other vessels is limited in the FY93 budget. FY92 money will be used for VICKERS operations and charter of the LONGHORN and PELICAN. The TOGA COARE work is rated as a high priority project but the money to charter the vessels needed may not be available.

Oceanographer of the Navy

Patric Dennis of OON/JOI reported on OON activities. He emphasized that the Oceanographers modernization plan was just about complete. The Navy currently has three 300+ foot AGORS under construction at an approximate cost of \$60M each. The AGOR 24 contract has not yet been awarded, however full funding has been provided in the FY93 budget and the contract should be awarded next month. The name may be REVELLE. The FY94 budget will include funds for the AGOR 25 and the last Navy operated AGOR/TAG. The Navy has included \$19.5M in the FY93 budget to convert a TAGOS vessel for the NRL in Ft. Lauderdale, Fla.

Office of Naval Research

Keith Kallum reported on ONR issues. He reported that ONR successfully gave the WASHINGTON, now the VIDAL GOMEZ, to Chile and was unsuccessful in giving the

GYRE to Texas A & M due to obstacles raised by the EPA. Keith discussed the AGOR 24 process, indicating that negotiations between NAVSEA and ONR will probably be successful at incorporating approximately \$1M in changes to the specifications before the contract is awarded. These are primarily changes identified during the initial period of operating the R/V THOMPSON (AGOR 23).

The ALVIN operating agreement will be replaced with a new agreement for the operation of the National Deep Submergence Facility. This will be a three year agreement that would include the ROV's as well as the ALVIN. It is in the final stages of draft and has not been signed as yet. Plans are to open the operation of this facility up for competition when the agreement comes up for renewal next time. Also planned is the conversion of the KNORR to the submersible support ship as a replacement for the ATLANTIS II. This would probably coincide with the delivery of the AGOR 25. Included in ONR funds for the next few years will be money for conversion and upgrading of ARGO and JASON.

UNOLS

Jack Bash reported on the Research Vessel Technical Enhancement Committee (RVTEC) meeting which held its first meeting October 18 and 19. This committee is planning to model itself after the RVOC and to focus on the technical support of Research Vessels in the UNOLS fleet. The Chairman is Rich Findley of the University of Miami and the Vice Chairman is Dr. Doug Biggs of Texas A & M. Harry Barnes of the BBS is the representative to RVOC. Twenty three people representing thirteen operating institutions were at the meeting. Because funding for travel is more difficult for this group they plan to hold their meetings in conjunction with existing scientific forums. This years meeting and next years are held in conjunction with the MTS meetings. Next years meeting is planned for September 20 & 21 in San Diego and the MTS meeting is immediately afterward in Long Beach. Robert Hinton suggested that we make every effort not to hold RVOC meetings at the same time as the RVTEC meetings. Two key subjects that the group plans to tackle are what to do with ADCP data and cruise coordination with scientific users.

Jack reported that a preliminary review of the new Master/Technician critique of cruises show that the Master's are more critical in their comments than the Chief Scientists. There was some discussion about how these reviews would be used and presented and whether or not they were being reviewed by Marine Superintendents.

Jack reported on the activities of the Deep Submergence Science Committee and the Fleet Improvement Committee. The Fleet Improvement Committee is in the process of conducting a study of laboratories and berthing facilities on UNOLS vessels, updating the Fleet Improvement Plan and awarding a contract for the conceptual design of the Arctic Research Vessel. The Fleet Improvement committee will also be conducting a Coastal Oceanography Workshop in Williamsburg, Va. early next year.

Break and Visit to Univ. of Delaware Marine Operations Facilities

Continued Agency Reports

USCG

LCDR Bill Davis from the Ice Operations Facilities Branch at Coast Guard Headquarters gave a report on the activities of the Polar Icebreakers. The Coast Guard has recently upgraded the science facilities of both Polar Class Icebreakers, have added the first of

two science liaison officers that will prepare for the scientific aspects of a mission and will sail with the vessel to support the science program. The first person in this role is Neal Thayer. LCDR Davis also reported on the procurement plans for the new Coast Guard Icebreaker. This vessel is scheduled for delivery in 1997 and will be designed to better support science including a scientific party between 35 and 50. The crew size for normal operations will be approximately 65. Icebreaking capability is designed to be 4 1/2 feet at 3 knots and 8 feet with ramming. The homeport for this vessel has not yet been chosen but will probably be on the East Coast.

State Department

Tom Cocke gave a report on the status of R/V Foreign clearances. Overall the process is working well with very few problems getting clearances. Post cruise reports and obligations are being tracked by his office. If reports and data are not provided within 30 days after a promised date then a notice is sent to the Scientist involved, the ship operator, the funding agency and the UNOLS office. The Scientist retains the responsibility to fulfill the obligation and the others are utilized to apply the appropriate pressure to help them meet their obligations. Despite the fact that there has not been a significant amount of negative fallout as a result of late or neglected post cruise reporting the State Department considers fulfilling this requirement an obligation of the U.S. Government under the various treaties and international agreements having to do with marine research. Tom also mentioned that there appears to be a trend towards more cruise participation by coastal state scientists.

SPECIAL REPORTS

University of Delaware

Waddy Owen described the facilities at Lewes and the arrangement they have with the oil spill response vessels with whom they share the facilities.

R/V VICKERS

Don Newman reported on the VICKERS operation with a NOAA crew. The vessel has its Coast Guard certificate of Inspection, has been classed by ABS and inspected by NOAA. It is due for reinspection by the NSF/ABSTECH team in mid April, 1993. They have formed a VICKERS council with NOAA to work out management and operational problems through cooperation. Don dispelled the rumor that there was a structural problem with the vessel. NOAA purchased a Markey DUSH 5 winch that was installed on the VICKERS.

R/V MELVILLE

Jim Williams reported that the MELVILLE has just completed a 3 week warranty repair period. MELVILLE will be doing Sea Beam and Gloria until next summer. He stated that the stern slapping was a problem with the class when hove to with seas from astern. This problem does not have any bearing on structural integrity and is not related to the deflections in the deck. The deck deflections are not considered to be a major problem or any indication of structural defects. The Multi Beam is now operating up to specifications and to the satisfaction of Dr. Lonsdale. The automatic station keeping system by Robertson has been tested and is still in the process of having bugs worked out. One problem is that straight GPS as the navigation input is not stable enough without filtering. Finally, the new EDO dual axis Doppler speed log works fine without any interference with the ADCP.

R/V KNORR

Joe Coburn gave a report on the operation of the KNORR. He reiterated that there were a large number of mis-reports and rumors about structural problems, stern slapping and the vessel breaking up. He stated firmly that the structural condition of the vessel was resurveyed by ABS and that there has not been any structural problems. The more prominent deflections in the deck will be repaired. Other problems with the vessel have been cleared up and WHOI will continue to make improvements and repairs. The problems with the clean power has been cleared up. There has been a reliability problem with the propulsion control, however, there are several levels of backup that are effective until the main problem is fixed. The KNORR is currently working from the ice edge towards Tahiti. They will be doing 50 to 60 day legs for the WOCE program.

R/V THOMPSON

Robert Hinton reported on the THOMPSON's first full year of operations. Overall the acquisition process went well and many changes and improvements have been made since. Some problems still exist. The ACCU control system has not yet been certified by the Coast Guard. One of the reasons is that the system generates more alarms than expected because of the operating conditions, ie. stationkeeping vice straight steaming. The manning level has been set at 59 for crew and scientists. Improvements include adding a second Dush 5 winch, changing the J-Frame to a Hydro boom that clears up deck space, and adding a mechanical rail system for CTD handling. In order to improve the quality of water for science use, two small evaporators were added. Two fume hoods were added so that there are now hoods in all labs. The galley was rearranged to meet the needs of the Stewards department, including the removal of the deep fat fryer. The sewage system was modified so that holding tank space was increased. The # 5 ballast tank holds treated sewage so that it does not contaminate sampling while on station. Also, the vent for the sewage system was modified so that gasses are vented out the stack away from any air intakes. A bow crane was added to assist with loading the ship in port. Modifications were made to reduce noise in the labs. THOMPSON still has problems with the salt water piping systems deteriorating. Solution will probably include changing to copper nickel piping and an active cathodic protection system.

Bermuda Biological Station - WEATHERBIRD II

Harry Barnes reported on the continuing evolution of the WEATHERBIRD II. They had a problem with stern slamming that was solved by cutting the corners off the stern. BBS has just received funding for the remainder of the conversion process. This will include installation of permanent laboratories, bow thruster, a CTD lab designed for a 24 bottle rosette with racks for spare bottles and a dolly on a track to move the CTD into the lab quickly. The current plan is to select a yard soon and travel to the yard just before Christmas. The yard period will be about 4 months with the CAPE HATTERAS covering the schedule in Bermuda. The cost of this phase of conversion is around \$900,000 plus the cost of a new winch, other equipment and normal shipyard maintenance work.

OCEANUS Class mid-life refit

All three of these vessels are scheduled to undergo a major mid-life refit. The plan is to complete all three vessels before July 1994 so that the Standard Regulatory Tonnage can be retained in order to keep these vessels under 300 GT and uninspected. The ENDEAVOR was scheduled to start first, late this year. However, due to scheduling considerations the ENDEAVOR will be laid up for most of 1993. For this and several other reasons ENDEAVOR will be delayed until early next year. OCEANUS and WECOMA will begin their refits in late 93. The budget for the refits is approximately \$2M per vessel. The major component of the refit for all three vessels is to replace the superstructure, mast and stacks with a redesigned pilothouse and combination mast and stack (MACK). This item has been estimated at around \$700K. Construction will be with aluminum to keep topside weight down. The pilothouse will be higher and further forward than the present configuration. The stacks in front of the pilothouse will be removed and replaced by a single mast just aft of the pilothouse that incorporates the exhaust stacks. The plenum for engine room air intake will be redesigned and located to eliminate the maintenance problems present in the current design. Rodney Lay is the architect for the design and specification of the refit work under a previously funded award that covers all three vessels. Included in his work are studies to determine what the changes in motion will be and what will happen with stack gasses with the new design. The motion study has been completed, showing a small amount of additional motion in the pilothouse primarily from moving the pilothouse forward. The stack gas study has not been completed as yet. The actual refit work will be funded through separate awards to each operator. URI has already submitted their proposal, WHOI and OSU will submit in the near future. URI has gone through a prequalification process prior to requesting bids from competing shipyards. They have qualified 5 yards including the original builder, Peterson as well as American, Northwest, Atlantic, Bender and Avondale shipyards. Other items included in the refit plans are complete overhaul of the A/C system (URI/WHOI), Stern extension (URI/OSU), Bilge keels (ALL) and Wet Lab modification (URI/WHOI).

Institute of Ocean Sciences, Pacific

Dale Gibb gave a report of the Canadian Institute of Ocean Sciences program in Victoria. Due to general federal government budget cutbacks they have had to give up one large research vessel and modify others to replace it. They have gone to double crew operations on a lot of vessels to get more use out of the fewer vessels. They have one medium size research vessel alongside the pier, cold. Budget cutting pressures are to reduce salary and overtime costs. Plans are being formulated to coordinate scheduling and use of vessels between the Department of Fisheries and Oceans, the Mounties, the Canadian Coast Guard, and the Defense department.

Bedford Institute of Ocean Sciences

James Wheelhouse gave a report on operations and budget cuts for the east coast of Canada. They are using the double crew concept on one of their vessels which saved over \$100K in overtime. The Bedford Institute has cut back to operating two offshore patrol vessels and in the scientific fleet they are operating 7 major vessels, 13 minor vessels, and 33 other scientific platforms. Overall cutbacks amount to \$2.4M dollars per year for the long term which is equal to about 10%. They have sold off the BAFFIN and the DAWSON which was replaced by Dale's vessel the PERIZO. There was a brief discussion of the CREED which is a SWATH vessel. The general impression was that it handled seas well but used a lot of fuel and was expensive to operate.

Natural Environment Research Council (NERC)

Paul Stone, Marine Superintendent for Research Vessels services gave a report on Oceanographic Research Vessels in the United Kingdom. He was accompanied by Ken Robertson who is responsible for scientific services. Because of the new demands and the need for major maintenance they undertook and completed major overhauls on the DISCOVERY, DARWIN and the CHALLENGER. Work on the DISCOVERY was done in Portugal. The 10 ton traction winch reported on in New Orleans has been debugged and is now operating at 145 m/min. The main problems were with coordinating the traction winch with the take up drum. The 20 ton system still needs to be worked on but is not needed at the moment. A description of the DISCOVERY is included in the appendix.

American Academy of Underwater Sciences (AAUS)

Michael Lang of the Smithsonian Institute is the chairman of AAUS. He presented a brief history of AAUS, the Standards for Scientific Diving Certification and the Final Report of the Workshop on Scientific Shipboard Diving Safety. He also reported on a UNOLS/RVOC diving officers meeting. As a result of that meeting a data base was established to record and report on diving statistics for diving from UNOLS vessels and by AAUS member institutions. Michael provided a report of these statistics for 1990 and 1991 as well as a directory of UNOLS Diving Officers and a report of their meeting. These reports are included in appendix III. An analysis of accident statistics shows that AAUS has an incident rate of 1 in 100,000 dives, the recreational community has a rate of 4 in 10,000 and the commercial diving community has a rate of 1 in a 1,000. The commercial community is prepared for this type of rate and is ready to treat problems with medical teams and hyperbaric chambers on scene.

Report on Regulatory Issues

Captain George Ireland, USCG (Ret.) gave a report on regulatory issues that may have an impact on the UNOLS fleet. He mentioned that there has been an administration imposed moratorium on new regulations that has been lifted at this point. This moratorium did not affect items with due dates such as Oil Pollution Act of 1990 (OPA 90). George reported on OPA 90, the International Convention on Tonnage Measurement, Interim schemes for application of IMO treaties such as SOLAS and MARPOL, Global Maritime Distress & Safety System (GMDSS), the American's with Disabilities Act and other future issues. Handouts provided by George are included as appendix IV. A discussion of the limits of liability under OPA 90 led to a discussion of fueling from tank trucks at our own piers. It was concluded that this could be construed as a facility under OPA 90 and that RVOC should work on preparing a generic spill response plan that operators could adapt to their facilities and ships as appropriate. It was mentioned that many states such as Florida and Virginia are imposing their own requirements in this area.

In regards to tonnage, George reported that as long as existing vessels are not modified after July 18, 1994 they would retain their existing regulatory tonnage for purposes of determining application of U.S. Regulations. This would impact the OCEANUS class refits and drives the scheduling of that work. Any future refits or new construction will have to take into account the effect of convention tonnage measurement on the vessels status. If the Coast Guard retains 300 gross tons as the break point for inspection, after July, 1994, most new ships will be inspected and any existing ship would have to be careful not to substantially affect their gross tonnage

during a refit in order to avoid becoming an inspected vessel. For the application of the IMO resolutions such as SOLAS there are interim schemes published. These are included in the appendix.

Garry Brass suggested that RVOC should provide input to the Staff Director of the Council on Ocean Affairs on any legislative action items we would be interested in such as an exemption from the Radio Officer requirements of the Communications Act of 1934.

Inspection of Chartered Vessels

As a result of the panel review of the NSF Inspection program it was determined that there needed to be a uniform check list for inspecting non-UNOLS vessels chartered by UNOLS institutions. This will become important because when a vessel is chartered using federal funds it must be shown to meet the UNOLS safety standards. Tom Smith, U. of Alaska and chairman of the Safety Committee presented a strawman check list. Members of RVOC had received this check list prior to the meeting with the hope that we could arrive at a final version at the meeting. After just a few minutes of discussion it became clear that this list would have to go through a more thorough review than could be accomplished during the meeting. A sub-committee was formed consisting of Tom Smith, Robert Hinton and Mike Prince to prepare a list that was more generic and simpler in format and present it by mail or Telemail to the RVOC. A goal of early January was set for presenting a completed version to the UNOLS Council. Some of the items discussed included whether or not a chartered vessel required a letter of designation as a research vessel, what other types of inspections such as Coast Guard, SOLAS, NOAA, INSURV etc. would be accepted without review and whether or not a licensed operator was required. Some conclusions were that other inspections would be accepted based on a review of the level of inspection to determine that it was appropriate for the service proposed under the charter. The safety standards provide sufficient guidance concerning a letter of designation. The use of licensed operators should be required anytime it is required by law and in cases where it is not required by law, licensed operators should be used unless the marine superintendent can make a determination that the operator is otherwise qualified for the service intended by the charter. Also discussed was whether these inspections should be limited to boats over a certain size and whether or not bareboat charters should be allowed. Other concerns had to do with liability connected with doing the inspections, the cost of doing them and who would bear it, the mechanism for ensuring that all chartered vessels get inspected and what level of inspections are within the capability of a single marine superintendent.

Tuesday, October 22, 1992

Insurance and Liability

Dennis Nixon, URI and UNOLS Risk and Insurance advisor gave a report covering the current insurance market, the UNOLS group insurance plan and the institution responses to that plan, a review of the past years admiralty law cases and the American's with Disabilities Act. The current insurance market is grim, largely due to record losses during the last four years including the Loma Prieta earthquake, Hurricane Hugo, the Exxon Valdez and Hurricane Andrew. This loss has also caused many of the "names" that back the London Insurance market to leave the market. This resulting loss of capacity and record losses could result in premium increases between 25 and 100%. Because of the possibility of unlimited liability under OPA 90

the P & I clubs that currently provide the most coverage (\$700M) for pollution liability are starting to stay away from that market.

In August a letter was sent to all institutions that outlined a plan to provide a fleet insurance program paid for directly by the federal agencies. The letter asked for responses in 30 days. 12 institutions responded. The plan included: uniform coverage, \$25M for large vessels and \$15M for smaller vessels; uniform deductibles at a higher level, \$100K for large vessels and \$50K for smaller vessels; a broker of record would be selected for the fleet; group insurance would be purchased directly by the Federal Agencies; and a committee of operators, risk managers and agency representatives would be established. Hull insurance would not be reimbursed, however, operators could purchase it and coverage for lower deductibles if they wished to.

Of the 12 responses 5 were generally favorable and 7 were against the proposal. 8 institutions did not respond. The 7 institutions against represent 1/2 the fleet and 2/3 of the tonnage of the fleet. Because of this the mandated implementation of this program will be delayed but certain provisions will be required to make coverage more uniform. A summary of the comments in the responses and the number of institutions mentioning each one follows:

1. High deductible, no reimbursement for lower coverage (9)
2. Loss of Hull Insurance (5)
3. Already have low rates (5)
4. Good Idea (5)
5. Lose local or long time broker (4)
6. Pooling other institution risks (4)
7. Cost allocation techniques (3)
8. Set common standards as an intermediate step(3)
9. Violates grant policy (1)
10. Limits are not high enough (1)

The federal agencies have decided to take the intermediate step of setting some common standards and work towards the ultimate goal of establishing the group program. It might also be possible to form a pool of several operators but this would not bring the same kind of savings that a pool of all operators would bring. The new common standards will most likely be coverage limits of \$25M for large vessels and \$15M for smaller vessels. Deductible amounts would not be as high as proposed for the group plan but floors would be set at \$10,000. Hull insurance will no longer be reimbursable as a direct cost. After one year the situation will be re-examined and a determination will be made regarding the group insurance plan. In any event more co-operation is necessary for the group plan to succeed. The proposed changes in limits, deductible and hull insurance will take effect at the next renewal of insurance policies. A letter will be forthcoming on these changes.

There was some discussion of where you will charge the cost of deductible items, how this will effect the insurance of smaller vessels, the industry standards for deductibles and many other aspects of this program. It was suggested that UNOLS/NSF actively pursue a formal involvement of risk managers in this process even though they have been included in discussions to this point.

To summarize the changes to the NSF/ONR insurance program that will be instituted at this point and will be the subject of a letter in the near future. There will be no group program at this time.

Standard coverage limits will be required.
Lowest deductible allowed will be \$10,000.
Hull insurance will not be a reimbursable cost.
Must provide proof of insurance to NSF.

The next attempt at forming a group program will make more effort to get risk managers formally involved at an early stage.

Dennis reviewed six liability cases that were ruled on during that last year. Three involved lifting, one of job stress, one where a person fell from a barge and drowned and one where a seaman was run over by a train. These cases pointed out that the courts do not automatically rule in the favor of the plaintiff and that it is not impossible to operate a "seaworthy vessel".

Dennis gave an overview of the Americans with Disabilities Act and the apparent conflict between this law and our requirement to provide a seaworthy crew and vessel. Since there is very little case law as a result of this legislation and the Coast Guard has not implemented any specific regulations his advice was to use common sense in applying the spirit of the law and to review the physical standards for crew positions to ensure that they are not arbitrary. Licensed personnel must still meet physical requirements set by the Coast Guard. Written job descriptions published when a job is advertised will be evidence of essential job activities. A physical exam cannot be required until after an offer of employment is made.

Wire and Winches

Mr. Larry Cleary of Dupont gave a presentation on the uses of Kevlar rope with emphasis on decreased weight and improved safety. Portions of his presentation materials are included in appendix V.

A workshop discussion of problems and improvements associated with the winches and wires aboard UNOLS vessels was held. RVOC members completed forms prior to the meeting that describe the winch and wire setup on each vessel. This information will be compiled and included in the next RVOC newsletter. Some of the items discussed were problems with the galvanized coating on .322 wire, improvements to the Lebus shell that allowed for proper level winding of 3x19 wire on THOMPSON, the use of hydrobooms instead of frames, computer controlled winches, traction winches, and the minimum number of winches needed. Don Moller gave a presentation on the UNOLS wire pool and on Fibre Optic Cables. (See appendix VI for his presentation materials) Mike Markey of Markey Machinery asked the members to complete a questionnaire on computer control protocols for winches. A summary of the responses received is included in appendix VII.

Coastal Oceanography Workshop

Jack Bash presented a summary of a workshop planned by a subcommittee of the Fleet Improvement Committee. This workshop will be concerned with evaluating the future needs for facilities and infrastructure of the coastal marine science community. This meeting is planned for February 21-24 in Williamsburg, Va. The RVOC expressed a desire to have a representative at that meeting and the Chairman has been invited. A copy of the proposal for this workshop is included in appendix VIII.

Navigation Equipment

An hour and a half discussion was held concerning the state of navigation equipment on board our vessels and what we need to do to improve. As with the Wire and Winch discussion operators completed forms prior to the meeting that outlined their equipment and future plans. This information will be compiled for the next Newsletter. The one item that was agreed upon by all was that GPS was the standard for navigation on all vessels, however it would not be an ideal system until Selective Availability (SA) was either removed or we were given access to the P-Codes. This issue is one that we will present to the UNOLS council as a candidate for the legislative agenda to be presented to the Council on Ocean Affairs. For coastal vessels the SA problem could be resolved with differential GPS. Since the Coast Guard is working on a system of providing differential GPS through their radio beacon sites it was decided that we should get more information on these plans and possibly incorporate that capability into our navigations systems. We discussed integrated navigation systems versus systems that use one primary system with backups that can be switched to when necessary. Those vessels with Dynamic Positioning were especially concerned with having a smooth navigation input to the DP system. There was some discussion and interest in Electronic Charting and Digital Information Systems (ECDIS). We may include more on this subject in next years agenda. The NOAA reps pointed out that at this time there are no officially published digital charts.

OPEN DISCUSSION

At the end of the day on Wednesday a discussion of various subjects took place similar in fashion to the Marine Superintendents Round Table with everyone involved.

Discussed were:

Ship to Shore communications including the need to control it, how to account for it, various systems that are available and services that provide news to the ships. Also discussed briefly was the requirement for radio officers on several of our vessels. This will be another item suggested for the legislative agenda. The current approach would be to seek an exemption for UNOLS vessels with the GMDSS approved equipment.

Problems with EPIRBs

Caterpillar engines

Drug Testing

Customs boardings

EMI problems

Property control and customs declarations of scientific equipment

Thursday, 22 October 1992

Round Table Discussion

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

- Letters of non-compliance from State Dept.
- Rules concerning the purchase of replacement equipment
- Customs and Agriculture inspections in Miami and San Diego
- Alcohol and alcohol testing kits
- Checklist for charter vessels (Tom Smith, Robert Hinton, Mike Prince)
- Scientists operating deck equipment
- Accident/Safety statistics, start recording and reporting again (Joe Coburn)
- Letter to UNOLS about procedures for federal funding of shiptime. (app. IX)
- Legislative agenda
- OPA 90, Generic plan for facilities oil spill response
- RVOC member on FIC

Elections

Mike Prince was elected Chairman and Paul Ljunggren was elected Vice Chairman by unanimous vote. Tom Smith was continued as the chairman of the Safety Committee. Other members of this committee are Ken Palfrey, Joe Coburn, Bill Hahn, Time Askew and Don Newman.

Next Years Meeting

The University of Texas at Port Aransas, Skidaway Institute, USC and URI volunteered to host next years meeting. There were 11 votes for USC and 7 votes for Skidaway. Since the vote was divided and Skidaway has volunteered many times in the past and we all knew that Bill Coste would be disappointed it was moved, seconded and approved that we hold next years meeting at USC and the 1994 meeting at Skidaway.

Agenda items suggested for next year:

- Bottom Paints
- FCC or Industry rep on communications equipment
- ECTIS
- Science program co-ordination (workshop)
- Crew training (workshop)
- Vendors with instructive presentations (any suggestions?)

Adjournment

The RVOC thanked Jim Williams for his service as chairman and wish him smooth sailing in his retirement.

The RVOC thanked Waddy Owen, Dr. Thoroughgood and the University of Delaware staff for hosting a very successful meeting.

The meeting was adjourned at noon on October 22, 1992.

APPENDIX I

0830 Tuesday, 20 October 1992

0800 REGISTRATION AND COFFEE

0830 WELCOMING REMARKS

- Wadsworth Owen, Director of Facilities and Services, Univ. of Delaware
- Dr. Carolyn Thoroughgood, Dean, Graduate College of Marine Studies, Univ. of Delaware
- Jim Williams, Chairman, RVOC

0900 OLD BUSINESS

- Minutes of the 1991 Meeting - Jim Williams
- RVOC Newsletter - Mike Prince
- Safety Committee, Standards - Mike Prince/Tom Smith

1000 COFFEE BREAK AT MARINE OPERATIONS BUILDING

1100 AGENCY REPORTS

- National Science Foundation - Dolly Dieter
- NOAA - Don Northrup and Scott McKeller
- Oceanographer of the Navy - Patrick Dennis
- Office of Naval Research - Keith Kaulum
- UNOLS - Jack Bash
- U.S. State Department - Tom Cocke

1300 SPECIAL REPORTS

- Univ. of Delaware - Waddy Owen
- R/V VICKERS - Don Newman
- R/V MELVILLE - Jim Williams
- R/V KNORR - Joe Coburn
- R/V THOMPSON - Robert Hinton
- R/V WEATHERBIRD - Harry Barnes
- OCEANUS Class Mid-Life Refit- Bill Hahn/Joe Coburn/Ken Palfrey
- IOS Ship Operations - Dale Gibb
- Bedford Inst. of Ocean. - James Wheelhouse
- NERC - Paul Stone
- AAUS - Michael Lang, R/V Diving statistics
- Any other operators with special reports

1300 Tuesday, 20 October 1992 (cont.)

SOLUTIONS TO CURRENT PROBLEMS

1500 INTERNATIONAL TREATIES AND REGULATIONS

- Presentation by George Ireland on regulatory changes with regard to Convention Tonnage, SOLAS, GMDSS, Coast Guard Inspection. Changes in Equipment and Personnel requirements that might or have resulted from implementation of the treaties. Discussion of how these changes affect the Safety Standards and the NSF Inspection Program. Highlight of any recent regulatory or pending regulatory changes that are of interest to RVOC.

1600 INSPECTION OF CHARTERED VESSELS

- Review of inspection check list prepared by Tom Smith. Discussion and decisions leading to a finalized inspection check list to be utilized when chartering a non-UNOLS vessel under the provisions of Chapter 17 of the UNOLS Safety Standards

0830 Wednesday, 21 October 1992

CONTINUATION AND REVISITATION OF YESTERDAYS TOPICS

0830 INSURANCE AND LIABILITY

- Report by Dennis Nixon on liability and insurance issues. Report by Dolly Dieter and/or Dennis on UNOLS insurance coverage if appropriate. Discussion with Dennis about any liability or insurance problems or solutions.

PLANNING FOR THE FUTURE

1030 WIRE AND WINCHES

- Presentation by A. Simeon Whitehill, a manufacturer of Kevlar on new rope technology.
- Workshop on wire and winch problems and solutions. Each operator will be asked to spend 5 minutes describing their winch and wire set up and any problems they have or new systems that they would like to share. Discussion may develop as result of problems raised by operators or questions about new equipment. (PLEASE REFER TO WORKSHEET ATTACHED)

1345 COASTAL RESEARCH VESSELS

- The Fleet Improvement Committee and the Mid Atlantic Research Co-operative (MARCO) have proposed to conduct workshops or panels to plan for the future needs of Coastal Oceanographic Research. The FIC panel is concerned with a national plan and the MARCO group is interested in a regional plan. RVOC may be asked to participate in this process and as operators we should keep abreast of the process. Jack Bash will make a report.

1400 NAVIGATION EQUIPMENT

- Workshop on navigation systems on R/V's with each operator providing short presentation describing navigation equipment used on their vessels and how that information is integrated with science equipment or other bridge equipment such as radars, plotters, etc. (PLEASE REFER TO WORKSHEET ATTACHED)
- Discussion about what level of accuracy and precision we should be providing. GPS and Differential GPS, LORAN, DP and other systems.
- What needs are we not meeting or are coming in the future that we need to address. Get input from coastal oceanography people.

1600 TOPICS OF INTEREST FOR DISCUSSION AS TIME PERMITS

Ship to Shore Communications (Joe Coburn, Robert Hinton)

- The need for control of message traffic from vessels at sea; authority of the master.
- Requirement for Radio Officer
- Use of Satellites

Letters of Non- Compliance with post cruise obligations for foreign cruises (Bill Coste)
Rules concerning purchase of replacement equipment (Bill Coste)

0800 Thursday, 22 October 1992

0800 ROUND TABLE DISCUSSION

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

Some items already suggested:

- Letters of Non-Compliance with post cruise obligations for cruises involving clearances from other countries. Should the operating institution be in the loop? (Bill Coste)
- Rules concerning purchase of replacement equipment. (Bill Coste)
- Report by operators that have experienced problems with regards to customs and agricultural inspections. (Ron Hutchinson, Tim Askew)
- Review of NSF Inspection program (Jim Williams)
- Billing Days versus Sailing Times
- OPA 90
- ADA

1100 BUSINESS MEETING

- Election of Chairman
- Re-adopt RVOC Charter
- Suggestions for the 1992 Agenda and meeting format, everybody should come to meeting with one idea, preferably in writing. (PLEASE REFER TO WORKSHEET ATTACHED)
- Selection of the 1992 meeting location, come prepared to volunteer or suggest.

RVOC Winch and Wire Workshop

Please complete one of these for each R/V operated, bring to RVOC meeting and be prepared to give a brief report of the information.

R/V _____

Number of winches normally carried

Maximum number that can be carried

Describe winches available with length, size and type of wire and whether normally on board or available upon request.

List any problems, innovative solutions, questions or comments

RVOC Navigation Equipment Workshop

Please complete one of these for each R/V operated, bring to RVOC and be prepared to give a brief report of the information.

R/V _____

Primary Navigation equipment (type, manufacturer and model):

Backup navigation equipment (same information)

Is this equipment incorporated into an integrated navigation system? If so describe that system.

How is navigation information provided to the scientific party and to science equipment such as ADCP's etc.

What other kinds of ship's equipment (such as RADARS, Satcoms and plotters) receive navigation information and how is that done?

What level of accuracy and precision do you feel obligated to provide for the crews needs and the science mission needs?

How have you accomplished that level or how would you if you had the money?

APPENDIX II

1992 RVOC MEETING ATTENDEES

HARRY BARNES
 BERMUDA BIOLOGICAL STATION
 17 BIOLOGICAL LANE
 ST. GEORGES , GE 01
 BERMUDA
 809-297-1880

JACK BASH
 UNOLS OFFICE
 P.O.BOX 392
 SAUNDERSTOWN , RI 02874
 401-792-6825

BLAIR BOOKOUT
 UNIV. OF MIAMI/ RSMAS
 MARINE OPS
 3979 RICKENBACKER CSWY
 MIAMI , FL 33149
 305-361-4880

Dr.GARRETT BRASS
 UNIV. OF MIAMI, RSMAS
 UNOLS CHAIR
 4600 RICKENBACKER CSWY
 MIAMI , FL 33149-1098
 305-361-4690

CHUCK BRENN
 HARBOR BRANCH OCEAN. INST
 5600 OLD DIXIE HWY
 FT. PIERCE , FL 34946
 407-465-2400 X 274

LARRY BURCH
 UNIV. OF CONNECTICUT
 MARINE SCIENCE INST.
 AVERY POINT
 GROTON , CT 06340
 203-445-3476

LARRY CLEARY
 E.I. DUPONT DE NEMOURS & CO.
 FIBERS - LAUREL RUN BLDG. 3519
 P.O.BOX 80705
 WILMINGTON , DE 19880-0705
 302-999-3706

JOE COBURN
 WOODS HOLE OCEAN. INST.
 MARINE OPERATIONS
 WOODS HOLE , MA 02543
 508-548-1400

TOM COCKE
 U.S. STATE DEPARTMENT
 OES/OE, RM 5801
 WASHINGTON , DC 20520
 202-647-0240

BRUCE CORNWALL
 UNIV. OF MARYLAND
 CEES RFO
 P.O. BOX 38
 SOLOMONS , MD 20688
 410-326-4284

LCDR WILLIAM DAVIS
 USCG
 COMMANDANT (G-N10)
 2100 SECOND ST. SW
 WASHINGTON , DC 20593
 202-267-1452

PATRICK DENNIS
 JOI, SUITE 800
 1755 MASSACHUSETTS AVE, N.W.
 WASHINGTON , DC 20036
 202-232-1295

1992 RVOC MEETING ATTENDEES

DOLLY DIETER
 OCFS - NSF
 1800 G ST. NW
 WASHINGTON , DC 20550
 202-357-7837

DALE GIBB
 P.O. BOX 6000
 INSTITUTE OF OCEAN SCIENCES
 9860 W.SAANICH RD.
 SIDNEY , BC V8L 4B2
 CANADA
 604-363-6545

DON GIBSON
 UNIV. OF TEXAS
 MARINE SCIENCE INST.
 P.O. BOX 1267
 PORT ARANSAS , TX 78373
 512-749-6745

DR. LINDA S. GOAD
 UNIV. OF MICHIGAN
 CTR. FOR GREAT LKS. AND AQUATIC SCIENCES
 2200 BONISTEEL BLVD.
 ANN ARBOR , MI 48109-2099
 313-763-5393

DR. GRANT GROSS
 NSF
 1800 G ST. NW
 WASHINGTON , DC 20550
 202-357-7837

BILL HAHN
 UNIV. OF RHODE ISLAND
 GRADUATE SCHOOL OF OCEAN.
 KINGSTON , RI 02881
 401-792-6554

JOHN HARPER
 MEDICAL ADVISORY SYSTEMS
 PENNSYLVANIA AVE EXT. BOX 193
 OWINGS , MD 10736
 301-855-8070

ROBERT HINTON
 UNIV. OF WASHINGTON
 SCHOOL OF OCEAN. WB-10
 SEATTLE , WA 98195
 206-543-5062

DON HOFFER
 UNIV. OF RHODE IS.
 GRADUATE SCHOOL OF OCEANOGRAPHY
 P.O. BOX 145
 SAUNDERSTOWN , RI 02874-0145
 401-792-6556

CAPT. GEORGE IRELAND
 IRELAND CONSULTING SERVICES
 58 NORTHBRIAR DR.
 NO. KINGSTOWN , RI 02852
 401-885-2822

KEITH KAULUM
 ONR/ CODE 1121 RF
 800 N. QUINCY ST.
 ARLINGTON , VA 22217
 703-696-4531

BILL KEEFE
 UNIV. OF MARYLAND
 CEES
 BOX 38
 SOLOMON , MD 20688-0038
 410-326-4281

1992 RVOC MEETING ATTENDEES

LEE KNIGHT
SKIDAWAY INST. OF OCEANOGRAPHY
P.O. BOX 13687
SAVANNAH, GA 31406
912-598-2486

MICHAEL LANG
SMITHSONIAN INSTITUTE
ARTS & INDUSTRIES BLDG. SUITE 2201
WASHINGTON, DC 20560
202-786-2815

DEAN LETZRING
TEXAS A&M UNIVERSITY
MARINE OPERATIONS
P.O. BOX 1675
GALVESTON, TX 77553
409-740-4469

QUENTIN LEWIS
DUKE/UNC OCEANOGRAPHIC CONSORT.
DUKE UNIV. MARINE LAB
BEAUFORT, NC 28516
919-728-2111 x274

PAUL LJUNGREN
COLUMBIA UNIVERSITY
LAMONT-DOHERTY GEOLOGICAL OBSER.
RT. 9W
PALISADES, NY 10964
914-359-2900

JOERG-HENNER LOTZE
EAGLE HILL WILDLIFE RESEARCH STA.
STEUBEN, ME 04600
04600

SCOTT MC KELLAR
NOAA
OFFICE OF NOAA CORPS OPERATIONS
11400 ROCKVILLE PIKE, ROOM 610
ROCKVILLE, MD 20852
301-443-8641

DON MOLLER
WOODS HOLE OCEANOGRAPHIC INST.
MARINE OPERATIONS
WOODS HOLE, MA 02543
508-548-1400

CAPT. MARTIN MULHERN
NOAA
OFFICE OF NOAA CORPS OPERATIONS
11400 ROCKVILLE PIKE, ROOM 610
ROCKVILLE, MD 20852
301-443-8641

DON NEWMAN
USC
920 SO. SEASIDE AVE
TERMINAL IS., CA 90731
213-830-4570

DENNIS NIXON
UNIV. OF RHODE ISLAND
DEPT. OF MARINE AFFAIRS
225 WASHBURN HALL
KINGSTON, RI 02881
401-792-2147

CAPT. DON NORTRUP
NOAA
OFFICE OF NOAA CORPS OPERATIONS
11400 ROCKVILLE PIKE, ROOM 610
ROCKVILLE, MD 20852
301-443-8641

1992 RVOC MEETING ATTENDEES

EUGENE OLSON
FLORIDA INST. OF OCEANOGRAPHY
830 FIRST ST. SOUTH
St. PETERSBURG , Fl 33701
813-893-9100

WADSWORTH OWEN
UNIVERSITY OF DELAWARE
COLLEGE OF MARINE STUDIES
700 PILOTTOWN RD.
LEWES , DE 19958
302-645-4320

KEN PALFREY
OREGON STATE UNIVERSITY
HATFIELD MARINE SCIENCE CENT.
NEWPORT , OR 97365
503-867-3011x224

MIKE PRINCE
MOSS LANDING MARINE LABS
MARINE OPS
P.O.BOX 450
MOSS LANDING , CA 95039
408-633-3534

STEVE RABALAIS
LUMCON
HIGHWAY 56
STAR ROUTE BOX 541
CHAUVIN , LA 70344
504-568-2808

MICHAEL RAWSON
COLUMBIA UNIVERSITY
LAMONT-DOHERTY GEOLOGICAL OBSER.
PALISADES , NY 10964
914-359-2900x245

KEN ROBERTSON
NATURAL ENVIRONMENT RESEARCH COUNCIL
SCIENTIFIC SERVICES
NO. 1 DOCK, BARRY
SOUTH GLAMORGAN , CF6 6UZ
U.K.
44-446-737451

BILL SCHWINDT
WHITEHILL MANUFACTURING CO.
P.O.BOX 356
LIMA , PA 19037
215-494-2378

TOM SMITH
UNIV. OF ALASKA
SEWARD MARINE STATION
P.O.BOX 730
SEWARD , AK 99664
907-224-5261

GARY STOKES
UNIVERSITY OF DELAWARE
BILLING, COLLECTION & INSURANCE
NEWARK , DE 19716
302-831-2110

PAUL STONE
NATURAL ENVIRONMENT RESEARCH COUNCIL
R/V SERVICES
NO. 1 DOCK, BARRY
SOUTH GLAMORGAN , CF6 6UZ
U.K.
44-446-737451

ARTHUR SUNDBERG
UNIVERSITY OF DELAWARE
COLLEGE OF MARINE STUDIES
700 PILOTTOWN RD.
LEWES , DE 19958
302-645-4339

1992 RVOC MEETING ATTENDEES

DR. CAROLYN A. THOROUGHGOOD
UNIVERSITY OF DELAWARE
COLLEGE OF MARINE STUDIES
ROBINSON HALL
NEWARK, DE 19716
302-645-4339

DR. RICHARD WEST
OCFS - NSF
1800 G ST. NW
WASHINGTON, DC 20550
202-357-7837

DAVID WEST
SMITHSONIAN TROPICAL RESEARCH INST.
UNIT 0948
APO AA 34002-0948
011-507-284709

JAMES WHEELHOUSE
BEDFORD INST. OF OCEANOGRAPHY
MARINE SERVICES
P.O. BOX 1006
DARTMOUTH, NS B2Y 4A2
902-426-7292

JIM WILLIAMS
SIO - MARFAC
P.O. BOX 6730
SAN DIEGO, CA 92106
619-534-1643

APPENDIX III

DIVING OFFICERS
UNOLS / RVOC INSTITUTIONS

University of Alaska School of Fisheries and Ocean Sciences Fairbanks, AK 99775-1090 Stephen Jewett , Chief Diving Safety Officer OFFICE (907) 474-7841 FAX (907) 474-7204	ALPHA HELIX
Bermuda Biological Station for Research 17 Biological Station Ln Ferry Reach, GE 01 Bermuda Dana Masters , Diving Officer OFFICE (809) 297-1880 FAX (809) 297-8143	WEATHERBIRD II
Scripps Institution of Oceanography Diving Program A-010 Mail Code 0210 La Jolla, CA 92093 Wayne Pawelek , Diving Officer OFFICE (619) 534-2002 FAX (619) 534-5306	MELVILLE NEW HORIZON R.G. SPROUL
University of Delaware College of Marine Studies Pilottown Rd. Lewes, DE 19958 Art Sundberg , Diving Safety Officer OFFICE (302) 645-4339 FAX (302) 645-4006	CAPE HENLOPEN
Duke Oceanographic Consortium Duke University Marine Lab Beaufort, NC 28516 Woody Sutherland , Diving Officer OFFICE(919) 728-2111 FAX (919) 728-2514	CAPE HATTERAS
Skidaway Institute of Oceanography P.O. Box 13687 Savannah, GA 31416 Lee Knight , Assistant Director for Services OFFICE (912) 598-2486 FAX (912) 598-2751	BLUE FIN
Harbor Branch Oceanographic Institution 5600 Old Dixie Highway Fort Pierce, FL 34946 John Reed , Diving Officer OFFICE (407) 465-2400 ext. 205 FAX (407) 465-2446	SEWARD JOHNSON EDWIN LINK

University of Hawaii
Office of Environmental Health and Safety
2525 Maile Way - # 2
Honolulu, HI 96822
Edwin Hayashi, Diving Safety Officer
OFFICE (808) 956-3198 FAX (808) 956-3205

MOANA WAVE

Columbia University/ Lamont Doherty
Marine Sciences Department
Palisades, NY 10964
Michael Rawson, Diving Officer
OFFICE (914) 359-2900 ext 367 FAX (914) 359-6817

MAURICE EWING

Louisiana Universities Marine Consortium
Highway 56
Chauvin, LA 70344
Steve Rabalais, Diving Officer
OFFICE (504) 851-2808 FAX (504) 851-2874

PELICAN

University of Miami, RSMAS
4600 Rickenbacher CSWY
Virginia Key, FL 33149
Jack Nichols, Diving Safety Officer
OFFICE (305) 361-4107 FAX (305) 365-0840

COLUMBUS ISELIN
CALANUS

University of Michigan
Department of Atm., Oceanic and Space Studies
Ann Arbor, MI 48109-2143
Lee Somers, Diving Safety Officer
OFFICE (313) 936-0518 FAX (313) 764-4585

LAURENTIAN

Moss Landing Marine Laboratories
P.O. Box 450
Moss Landing, CA 95039
John Heine, Diving Safety Officer
OFFICE(408) 755-8663 FAX (408) 753-2826

POINT SUR

Oregon State University
Department of Civil Engineering
Aperson Hall Rm 202
Corvallis, OR 97331-2302
James Washburn, Diving Officer
OFFICE (503) 737-6893 FAX (503) 737-0485

WECOMA

University of Rhode Island
Graduate School of Oceanography
Narrangansett, RI 02882
Phillip Sharkey, Diving Officer
OFFICE (401) 792-6900 FAX (401) 792-6574

ENDEAVOR

University of Southern California
Catalina Marine Science Center
P.O. Box 398
Avalon, CA 90704
Kevin McAllister, Diving Officer

VICKERS

University of Texas
Marine Science Institute
P.O. Box 1267
Port Aransas, TX 78373-1267
Ken Dunton, Chairman/Diving Control Board
OFFICE (512) 749-6744 FAX (512) 749-6777

LONGHORN

Texas A&M University
Hyperbaric Laboratory
College Station, TX 77843-1264
Dr. William Fife, Diving Health and Safety Officer
OFFICE (409) 845-5031 FAX (409) 845-8913

GYRE

University of Washington
201 Hall Health Center GS-05
Seattle, WA 98195
Sam Sublett, Diving Safety Officer
OFFICE (206) 543-0465 FAX (206) 543-3351

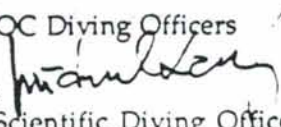
THOMAS G. THOMPSON
CLIFFORD A. BARNES

Woods Hole Oceanographic Institution
Iselin 151
Woods Hole, MA 02543
Terry Rioux, Diving Safety Officer
OFFICE (508) 457-2239 FAX (508) 457-2195

KNORR
ATLANTIS II
OCEANUS
DSV ALVIN



Office of the Assistant Secretary for the Sciences,
A&I Bldg. - 2201, Washington DC 20560 (202) 786-2815; 786-2819 (fax)

Date: 14 October 1992
To: UNOLS / RVOC Diving Officers
From: Michael Lang 
Smithsonian Scientific Diving Officer
Subj: 1992 UNOLS/RVOC Diving Officers Meeting, September 25, 1992 @ AAUS

Meeting Chair: Michael Lang, Smithsonian Institution

In Attendance: Stephen Jewett, University of Alaska
Dana Masters, Bermuda Biological Station for Research
Wayne Pawelek, Scripps Institution of Oceanography
Jim Stewart, Scripps Institution of Oceanography
Art Sundberg, University of Delaware
Woody Sutherland, Duke Oceanographic Consortium
John Reed, Harbor Branch Oceanographic Institution
Jack Nichols, University of Miami, RSMAS
Lee Somers, University of Michigan
John Heine, Moss Landing Marine Laboratories
Phillip Sharkey, University of Rhode Island
Ken Dunton, University of Texas
Sam Sublett, University of Washington
Kimbra Cutlip, Smithsonian Institution

The following is a summary of the items discussed at the UNOLS/RVOC Diving Officer's meeting:

Diving Activity Statistics

It was agreed that Diving Officers from ship operating institutions will maintain summary data from each diving cruise to submit to UNOLS annually. A standardized reporting form will be submitted to UNOLS by Michael Lang. The request for compliance with data submission has to come from UNOLS. It must be part of the post-cruise report and should include the number of diving cruises, number of dives, number of divers and any incidences or equipment problems.

Check-Out Dives

There is no blanket requirement for check-out dives under AAUS reciprocity. It is done at the discretion of the host Diving Officer. All Diving Officers in attendance reported performing check-out dives on individuals coming from non-AAUS institutions. Often, the first diving day of the cruise will serve as an orientation/check-out dive day for all diving members of the research party. John Reed is compiling a list of standard check-out criteria for AAUS Organizational Member Institutions. This list will be distributed to UNOLS/RVOC D.O.'s as well.

Use of Dive Computers

It is up to the lead institution to approve the use of dive computers. There is no current standard or recommended criteria for the approval of dive computers. Some RVOC institutions do not approve the use of computers as the sole means for monitoring decompression status, while others have never been requested to approve dive computer use.

It was recommended that a list be compiled of the required criteria for dive computer approval from AAUS organizational members. This list would serve as a reference for Diving Officers and Lead Institutions faced with approving dive computer use on UNOLS cruises.

3-5 Minute Stop at 10' - 30' Depth

Most institutions do not require a stop, but recommend a stop on repetitive and multi-level dives, and dives over 60 ft. (following AAUS recommendations).

Oxygen

Oxygen is required to be present on board the research vessel by all RVOC Institutions. The presence of oxygen on a zodiac is dependent, in most instances, upon the distance from the ship, and is at the discretion of the Lead diver/dive master on board.

Enriched Air Nitrox

It was suggested that the types of gases used, and blending could become an issue. Harbor Branch is the only vessel reporting Enriched Air Nitrox dives for 1990 or 1991. John Reed reports gas is mixed on board the vessel, with no incidents.

Dive Plan

Creation of a standardized form was recommended in the Workshop on Scientific Shipboard Diving Safety. There has been no action on this item, and the group reconfirmed an interest in creating such a standardized form.

PROGRAM ADMINISTRATION

	# CONTROLBOARD MEMBERS	OUTSIDE DIVERS PER YEAR	FROM OTHER UNOLS INST.	FROM AAUS ORG.
ALASKA	8	12	10	11
BERMUDA	6	2 - 3	2 - 3	2 - 3
SCRIPPS	17	0	0	0
DELAWARE	2 - 3	4 - 6	3	3
DUKE	7	60	20	20
SKIDAWAY	NO DIVING			
H.B.O.I.	8	10	10	8
HAWAII				
COLUMBIA	3 - 4			
L.U.M.CON.	5	15	0	4
R.S.M.A.S.	7	40	23	23
MICHIGAN				
MOSS LANDING	6	6 - 12	6 - 12	0 - 12
OREGON	5			
U.R.I.	8	0 - 10	75%	75%
U.S.C.	10	20-50	Unk	Unk
U.TEXAS		5	7	7
T.A.M.U.	15			3
WASHINGTON				
W.H.O.I.	9			

UNOLS 1990, 1991 DIVE DATA

	# OF DIVING CRUISES		# OF DIVES		# DIVES/DEPTH			(90&91 COMBINED)		
	1990	1991	1990	1991	0-	31'-60-	61'-100'	101'-130'	>130'	
					30'					
ALASKA	2	0	225		19	40	104	62		
BERMUDA	/	2	/	10	10					
SCRIPPS	0	0	0	0						
DELAWARE	0	2	0	38	6	26	6			
DUKE	4	2	239	90	97	77	53	64	38	
SKIDAWAY**	0	0	0	0						
H.B.O.I.	2	2	941	804	985	497	237	14	12	
HAWAII	/	/	/	/						
COLUMBIA	0	0	0	0						
L.U.M.CON.	/	6	/	50	18	32				
R.S.M.A.S.*	10	12	599	614	307	184	105	18		
MICHIGAN	0	0	0	0						
MOSS LANDING	1	1	70	41	11	69	31			
OREGON	0	0	0	0						
U.R.I.	1	0	37	0			14	23		
U.S.C.	0	0	0	0						
U.TEXAS	/	5	/	27	6	21				
T.A.M.U.	1	/	267	/	167	99				
WASHINGTON	0	0	0	0						
W.H.O.I.	0	0	0	0						
TOTALS *	21	31	2378	1674	1460	1113	649	181	50	

* RSMAS 1990 Dives not included in breakdown by depth categories

** No Diving Authorized

/ Represents no response

1990, 1991 DIVE PROFILES

	NO-DECO	NIGHT	% OF TOTAL		DIVES		BLUEWATER	DRY-SUIT	D.C.
			SURFACE SUP	NITROX	NITROX	D.C.			
ALASKA	100	0	0	0	0	0	100	80	
BERMUDA	100	0	0	0	0	100	12	0	
SCRIPPS									
DELAWARE	100	0	5	0	0	50	10	50	
DUKE	100	10	0	0	0	0	50	80	
SKIDAWAY									
H.B.O.I.	100	10	0	<10	1	10			
HAWAII									
COLUMBIA									
L.U.M.CON.	100	0	0	0	0	0	0	0	
R.S.M.A.S.	100	<5	0	5	0	0	0	13	
MICHIGAN	100								
MOSS LANDING	100				100				
OREGON									
U.R.I.	100	variable	0	0	100	variable	most		
U.S.C.									
U.TEXAS		25	0	50	0	0	0	0	
T.A.M.U.		15							
WASHINGTON									
W.H.O.I.									

APPENDIX IV

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

RVOC Annual Meeting

10/92

Regulatory Update

The purpose of this presentation is to provide you with a progress report of marine regulatory activities. These particular regulatory activities were selected because they are believed to have the greatest impact, either in the near future or later, on RVOC member vessels. These are not the only regulatory activities underway that will impact vessel operations.

Most regulatory activity during the past year involved implementation of Oil Pollution Act of 1990. A presidential moratorium on the federal rulemaking process slowed the system slightly. While items with dates driven by law were implemented, items driven by casualty data or technical improvements were placed on hold. I expect the regulatory pace to pick up next year.

Oil Pollution Act of 1990 (OPA-90)

The Oil Pollution Act of 1990 (OPA 90) has driven most Coast Guard regulatory activity for the past year and shall continue to do so for at least another year, perhaps two. That agency estimates that at least 35-40 separate rulemakings are required for full implementation of that statute. Several provisions of OPA 90 apply to vessels other than oil tankers, including oceanographic research vessels.

Some key provisions to be considered by operators of oceanographic research vessels, i.e. geographic scope, liability, and response plans are:

Geographic Scope - OPA 90 applies to discharges or a substantial threat of discharge into or upon the navigable waters of the U.S., the adjoining shoreline, or the exclusive economic zone.

RVOC Regulatory Update, Cont'd

Liability - The responsibility for oil spill removal costs and damages for vessels other than tank vessels is limited by the act to \$600.00 per gross ton or \$500,000, whichever is larger. However, this limitation may be broken if the incident was caused by:

- ◆ gross negligence or willful misconduct,
- ◆ violation of an applicable federal safety, construction, or operating regulation by the responsible party, an agent or employee of the responsible party, or a person acting pursuant to a contractual relationship with the responsible party.
- ◆ limits to liability are also broken if the responsible party knows of the incident and fails or refuses to report the incident as required by law, or fails or refuses to provide all reasonable cooperation and assistance requested by a responsible official in connection with removal activities.

Response - The Coast Guard now may direct or monitor response actions of a responsible party. In the past the Coast Guard monitored response actions and 'took over' the response if the responsible party's actions were neither timely nor adequate. All costs incurred by the Coast Guard are billed to the responsible party.

Oil spill response plans for oil tankers and oil terminals are to be prepared by 18 February 1993 and submitted to the Coast Guard for approval. Specifications for oil spill response plans for tank vessels are set forth in NVIC 8-92 and apply to vessels carrying oil in bulk as cargo or cargo residue. The plans must include provisions for training of shore-based and vessel personnel and for conducting periodic drills to exercise the plan.

The Coast Guard is required by OPA-90 to create Area Contingency Plans. Many offices are now in the process of organizing Area Committees to participate in this work.

Tonnage Measurement

The International Convention on Tonnage Measurement of Ships, 1969 (Tonnage Convention) is the driving force for this work. The Convention came into force internationally for new ships on 18 July 1982 and for existing ships comes into force 12 years later, on 18 July 1994. The convention came into effect in the U.S. on 10 February 1983. Final implementing regulations were published by the Coast Guard in the Federal Register on 12 September 1989. The convention, to which the U.S. is signatory provides a uniform system of measurement of ships the impact of which is that most U.S. ships will have higher tonnage values. International tonnages will be issued on certificates conforming to the tonnage convention standards.

There has been nothing new published with regard to Tonnage Measurement since the publication of that final rule, thus information I have provided previously should stand.

Vessels built prior to certain dates (19 July 1982 for vessels that engage in foreign voyages, and 1 January 1986 for vessels that engage in domestic voyages) may have existing tonnage values utilized for application of regulatory requirements for the life of the vessel.

Existing vessels that engage on foreign voyages, built before 19 July 1982, and that undergo major modifications affecting tonnage values before 18 July 1994, must be measured by the Convention Measurement System, but may also be measured by the old system before 18 July 1994, and may keep the tonnage values attained by the old system for the life of vessel.

The convention does not apply to an existing state numbered vessel (built before 1 January 1986) that does not make foreign voyages.

The International Maritime Organization, via Resolutions A.494, A.540, and A.541 has implemented a system of 'Interim Schemes' that provide for international recognition of national tonnages for certain existing vessels with regard to port state control of the SOLAS, STCW and MARPOL conventions. The interim schemes generally apply to vessels less than 1600 gross tons, measured by the old system, so the new tonnage rules do not place them in a category where additional requirements apply. A notation that national tonnage measured prior to the coming into force of the tonnage convention was used is to be placed on appropriate safety certificates issued by regulatory bodies.

Marpol Amendments

Regulations 26, Shipboard Oil Pollution Emergency Plan, was adopted by IMO's Marine Environment Protection Committee and will come into force on 4 April 1993 for new ships. The regulation is to be supplemented by guidelines and requires procedures to be followed on board in case of a pollution incident, a list of authorities to be notified, an on board plan of action, and points of contact for coordination of shipboard activity with national authorities. The regulation, an amendment to the MARPOL convention, will come into force for existing ships two years later, i.e. on 4 April 1995. IMO has also produced 'guidelines' to assist with implementation of such plans.

Regulations 9, 10 and 21 of the MARPOL Convention have also been amended to reduce the amount of oily waste that may be discharged from ships. The discharge criteria from non-tankers of 400 gross tons and above is to be reduced from no more than 100 ppm to no more than 15 ppm of oil. This amendment is expected to come into force on 6 July 1993 for new ships and 5 years later, or 6 July 1998, for existing ships.

Drug (Alcohol) Testing

Proposals are in the planning/drafting stages that would provide the Coast Guard access to certain National Driver Registry Data for the purpose of denying persons an original Merchant Mariner's Document and for suspension and revocation proceedings against mariner's right to continue to hold a Merchant Mariner's Document and/or license. Enabling legislation is contained in OPA 90.

Look for proposed standards for Random Alcohol Testing to be published soon. This proposal, to be published by the Office of the Secretary of Transportation will implement legislation from 1991, but may not include the marine mode of transportation.

Global Maritime Distress & Safety System (GMDSS)

GMDSS applies to 'compulsory' ships, i.e. cargo ships of 300 gross tons and over, that engage on international voyages, and certain passenger ships.

The FCC published final rules on implementation of GMDSS in the Federal Register of 16 March 1992.

RVOC Regulatory Update, Cont'd

Existing ships have until 1 February 1999 to comply with GMDSS at which time radiotelegraphy will no longer be recognized by as a distress and safety system.

However NAVTEX and 406 EPIRBs must be aboard compulsory ships by 1 August 1993.

Radio Officers are still required by the Communications Act of 1934 for U.S. flag vessels. The act must be amended to change this requirement. FCC can grant exemptions for certain ships that do not extend more than 150 miles from shore.

Equipment exemptions in the past have been granted to vessels for certain periods of time. Under GMDSS, exemptions may be granted by voyage. Thus, getting certain exemptions may be more difficult as GMDSS comes into force.

Certificates of Financial Responsibility

The Coast Guard published proposed rules on 26 September 1991 to implement provisions of OPA-90. The House subcommittee on CG and Navigation of the House Merchant Marine and Fisheries Committee then held hearings. At issue is the ability of vessel owners and operators to get insurance to cover unlimited liability for an oil spill. Issuance of final rules still pends. This rulemaking impacts vessels over 300 gross tons.

Lifesaving Equipment

This regulatory proposal was published in the Federal Register on 21 April 1989 and would bring Coast Guard regulations up to date with SOLAS standards. Final rules are to be published in the coming year.

The requirement for EPIRBs is contained in this rulemaking. I was told the Coast Guard has published a Navigation and Vessel Inspection Circular on EPIRBs, # 9-92, that should be distributed soon. It will require vessels to have Class A EPIRBs replaced by Category 1 EPIRBs except for those vessel that already have Class A EPIRBs aboard which were manufactured prior to 1 October 1988. In this case the Class A EPIRBs may be retained for up to six years before they must be replaced with Category 1 EPIRBs.

Americans with Disabilities Act

Proposed rules have not been drafted. This legislation is expected to impact the small passenger vessel industry (dinner boats, day cruise boats, ferries, etc) more than any other segment of the marine industry. Consequently the Coast Guard project officer is the same person responsible for rewriting the Small Passenger Vessel rules. The concept driving implementation of the act is 'readily achievable physical access'.

The Urban Harbors Institute of the University of Massachusetts completed a waterborne study for the Office of the Secretary of Transportation to provide focus for the act. I have not seen it.

There is an Americans with Disabilities Act Handbook, published by the Government Printing Office, ISBN # 0-16-035847-7 reported to be an outstanding resource on the subject.

The Coast Guard project office is LCDR Mark Cruder, Merchant Vessel Inspection Division, (202-267-1181) who told me he would welcome telephone calls on the subject.

On the Horizon

One Person Bridge Watch - Prior to the Exxon Valdez casualty there was a great deal written about this and a European ship was outfitted as a test platform. IMO will be the source of any regulatory activity.

Air Emission Standards for Ships - IMO, through the Marine Environment Protection Committee has this item on its work program.



GENERAL

A XII/Res. 494
4 January 1982

Original: ENGLISH

ASSEMBLY - 12th session
Agenda item 10(b)

IMCO

RESOLUTION A.494(XII)

adopted on 19 November 1981

REVISED INTERIM SCHEME FOR TONNAGE MEASUREMENT FOR CERTAIN SHIPS

THE ASSEMBLY,

RECALLING Article 16(1) of the Convention on the Inter-Governmental Maritime Consultative Organization,

NOTING that the International Convention on Tonnage Measurement of Ships, 1969, will come into force on ¹⁸ July 1982,

REALIZING that tonnages determined under the 1969 Tonnage Convention can be sufficiently different from those determined under tonnage regulations presently in force to create difficulties in connexion with the application of the International Convention for the Safety of Life at Sea, in force,

RECALLING Recommendation 2 of the International Conference on Tonnage Measurement, 1969, which, inter alia, recognized that the transition from existing tonnage measurement systems to the new system provided in the 1969 Tonnage Convention should cause the least possible impact on the economics of merchant ships,

BEARING IN MIND that the International Convention for the Safety of Life at Sea does not specifically define the gross tonnage of ships which should be measured for the purpose of application of the provisions of that Convention,

RECALLING ALSO that it adopted by resolution A.389(X) an interim scheme for tonnage measurement for certain ships, in order to overcome possible difficulties which might arise with regard to the application of the safety requirements in force for certain ships when measured in accordance with the 1969 Tonnage Convention in comparison with the national tonnage rules in effect prior to the coming into force of that Convention,

REALIZING that these difficulties will continue to exist in respect of compliance with Regulation 3 of Chapter IV of the 1974 SOLAS Convention, but that those difficulties may be resolved when a future global maritime distress and safety system enters into force,

BEING AWARE ALSO that similar difficulties will continue to exist in respect of other relevant provisions of the 1974 SOLAS Convention which are activated at 500 and 1,600 gross tons and that the first and second sets of amendments to the 1974 SOLAS Convention are currently under consideration,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee at its forty-fourth session,

1 REVOKES resolution A.389(X);

2 ADOPTS the following revised interim scheme for tonnage measurement for certain ships:

- (a) At the request of a shipowner, the Administration may allow a ship required to be measured under the provisions of the International Convention on Tonnage Measurement of Ships, 1969, to use the gross tonnage measured under the national tonnage rules which are in effect prior to the coming into force of the 1969 Tonnage Convention, for the purpose of application of the provisions of the International Convention for the Safety of Life at Sea, such tonnage, however, shall not be shown on the 1969 Tonnage Certificate;
- (b) For such a ship, the appropriate box in the pertinent Ship Safety Certificate of the International Convention for the Safety of Life at Sea, in force, or other such official certificate issued by the Administration may show only the gross tonnage measured under the national tonnage rules which were in effect prior to the coming into force of the International Convention on Tonnage Measurement of Ships with the following footnote:

"The above gross tonnage has been measured by the tonnage authorities of the Administration in accordance with the national tonnage rules which were in force prior to the coming into force of the International Convention on Tonnage Measurement, 1969.";

3 AGREES that the interim scheme shall not apply to ships the keels of which are laid after 31 December 1985 with the following exceptions:

- APR 1986
7/12/86
W/K
5/2
- (a) In respect of the requirements of Regulation 3 of Chapter IV of the 1974 SOLAS Convention for ships the keels of which are laid before 18 July 1994, the Administration may continue to apply the interim scheme, in which case the above-mentioned entry should be made in the Radiotelephony Certificate only; and
 - (b) In respect of the regulations for cargo ships of less than 1,600 tons gross tonnage (as measured under national systems), the keels of which are laid after 31 December 1985, the Administration may continue to apply the interim scheme until 18 July 1994;

4 REQUESTS the Maritime Safety Committee to ensure that a complete and thorough analysis of the continued use of tonnage as a regulatory criterion in the current International Convention for the Safety of Life at Sea, and other conventions as appropriate, be completed not later than 31 December 1986, at which time the Maritime Safety Committee should consider the implications of the analysis;

5 INVITES Member Governments and Governments of States Parties to the aforementioned Convention to take cognizance and to accept the use of this interim scheme for the purpose of application of the provisions of the International Convention for the Safety of Life at Sea.



ASSEMBLY - 13th session
Agenda item 10(b)

IMO

RESOLUTION A.540(13)
adopted on 17 November 1983

TONNAGE MEASUREMENT OF CERTAIN SHIPS RELEVANT TO THE
INTERNATIONAL CONVENTION ON STANDARDS OF
TRAINING, CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978



THE ASSEMBLY,

RECALLING Article 16(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations concerning maritime safety,

NOTING that the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, will enter into force on 28 April 1984,

NOTING ALSO that subsequent to the adoption of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, the International Convention on Tonnage Measurement of Ships, 1969, entered into force on 18 July 1982,

REALIZING that tonnages determined under the International Convention on Tonnage Measurement of Ships, 1969, can be sufficiently different from those determined under tonnage regulations previously in force thereby creating difficulties in the application of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978,

BEARING IN MIND that by resolution A.494(XII) the Maritime Safety Committee was requested to ensure a complete and thorough analysis of the continued use of tonnage as a criterion for the application of the provisions of the International Convention for the Safety of Life at Sea and other conventions as appropriate,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its forty-eighth session,

1. AGREES that the revised interim scheme for tonnage measurement for certain ships adopted by resolution A.494(XII), should also be applicable in respect of the provisions of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978;
 2. INVITES Member Governments and Governments of States Parties to the International Convention on Tonnage Measurement of Ships, 1969, to accept the use of the revised interim scheme for tonnage measurement for the application of the provisions of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978.
-



ASSEMBLY - 13th session
Agenda item 12

IMO



RESOLUTION A.541(13)
adopted on 17 November 1983

INTERIM SCHEME FOR TONNAGE MEASUREMENT FOR CERTAIN SHIPS FOR THE
PURPOSES OF THE INTERNATIONAL CONVENTION FOR THE PREVENTION
OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO

THE ASSEMBLY,

RECALLING Article 16(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations concerning marine pollution,

NOTING that the International Convention on Tonnage Measurement of Ships, 1969, came into force on 18 July 1982,

REALIZING that tonnages determined under the 1969 Tonnage Convention can be sufficiently different from those determined under tonnage regulations previously in force to create difficulties in connection with the application of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78),

RECALLING recommendation 2 of the International Conference on Tonnage Measurement, 1969, which, inter alia, recognized that the transition from existing tonnage measurement systems to the new system provided in the 1969 Tonnage Convention should cause the least possible impact on the economics of merchant ships,

BEARING IN MIND that MARPOL 73/78 does not specifically define the gross tonnage of ships which should be measured for the purpose of application of the provisions of that Convention,

RECALLING ALSO that it adopted by resolution A.494(XII) an interim scheme for tonnage measurement for certain ships, in order to overcome possible difficulties which might arise with regard to the application of the safety requirements in force for certain ships when measured in accordance with the

1969 Tonnage Convention in comparison with the national tonnage rules in effect prior to the coming into force of that Convention,

BEING AWARE that similar difficulties might also arise in respect of the application of the provisions of MARPOL 73/78,

HAVING CONSIDERED the recommendations made by the Marine Environment Protection Committee at its eighteenth session,

1. ADOPTS the following scheme for tonnage measurement for certain ships:

- (a) At the request of a shipowner, the Administration may allow a ship of less than 600 tons gross tonnage (measured under the previous national tonnage rules) the keel of which is laid on or before 31 December 1985 and which is required to be measured under the provisions of the International Convention on Tonnage Measurement of Ships, 1969, to use the gross tonnage measured under the national tonnage rules which were in effect prior to the coming into force of the 1969 Tonnage Convention, for the purpose of application of the provisions of MARPOL 73/78. Such tonnage, however, shall not be shown on the 1969 Tonnage Certificate;
- (b) For such a ship, the appropriate box in the International Oil Pollution Prevention Certificate of MARPOL 73/78 or other such official certificate issued by the Administration may show only the gross tonnage measured under the national tonnage rules which were in effect prior to the coming into force of the International Convention on Tonnage Measurement of Ships, 1969, with the following footnote:

"The above gross tonnage has been measured by the tonnage authorities of the Administration in accordance with the national tonnage rules which were in force prior to the coming into force of the International Convention on Tonnage Measurement of Ships, 1969.";

2. AGREES that the interim scheme shall not apply to ships the keels of which are laid after 31 December 1985, except that in respect of regulations for ships of less than 400 tons gross tonnage (as measured under previous national rules), the keels of which are laid after 31 December 1985, the Administration may continue to apply the interim scheme until 18 July 1994;

3. INVITES Member Governments and Governments of States Parties to MARPOL 73/78 to take cognizance and to accept the use of this interim scheme for the purpose of application of the provisions of MARPOL 73/78.

APPENDIX V

TO TIE, HOIST, HOLD, LIFT, SECURE - USING
PRODUCTS FROM KEVLAR® ARAMID FIBER

BY

LAURENCE T. CLEARY

RVOC MEETING
OCTOBER 21, 1992
LEWES, DELAWARE



CONSULTANT

LAURENCE T. CLEARY

Du Pont Fibers
Laurel Run Building
P.O. Box 80705
Wilmington, DE 19880-0705

Office (302) 999-3706
Home (302) 655-8568

THE PRODUCT

Kevlar® is one of the world's strongest synthetic fibers. Weight for weight, Kevlar® is five times stronger than steel. It offers excellent thermal stability, very good dimensional stability and has a low elongation to break, plus excellent dielectric properties. Du Pont began production of Kevlar® in 1972, initially for the belting material of high performance tires.

KEVLAR® 29 YARN-PRO

COLOR

DENSITY

FILAMENT DIAMETER

DENIER PER FILAMENT

TENACITY

*BREAK ELONGATION

*TENSILE STRENGTH

*MODULUS

**SPECIFIC TENSILE
STRENGTH

**SPECIFIC MODULUS

MOISTURE REGAIN AT 50%
RELATIVE HUMIDITY

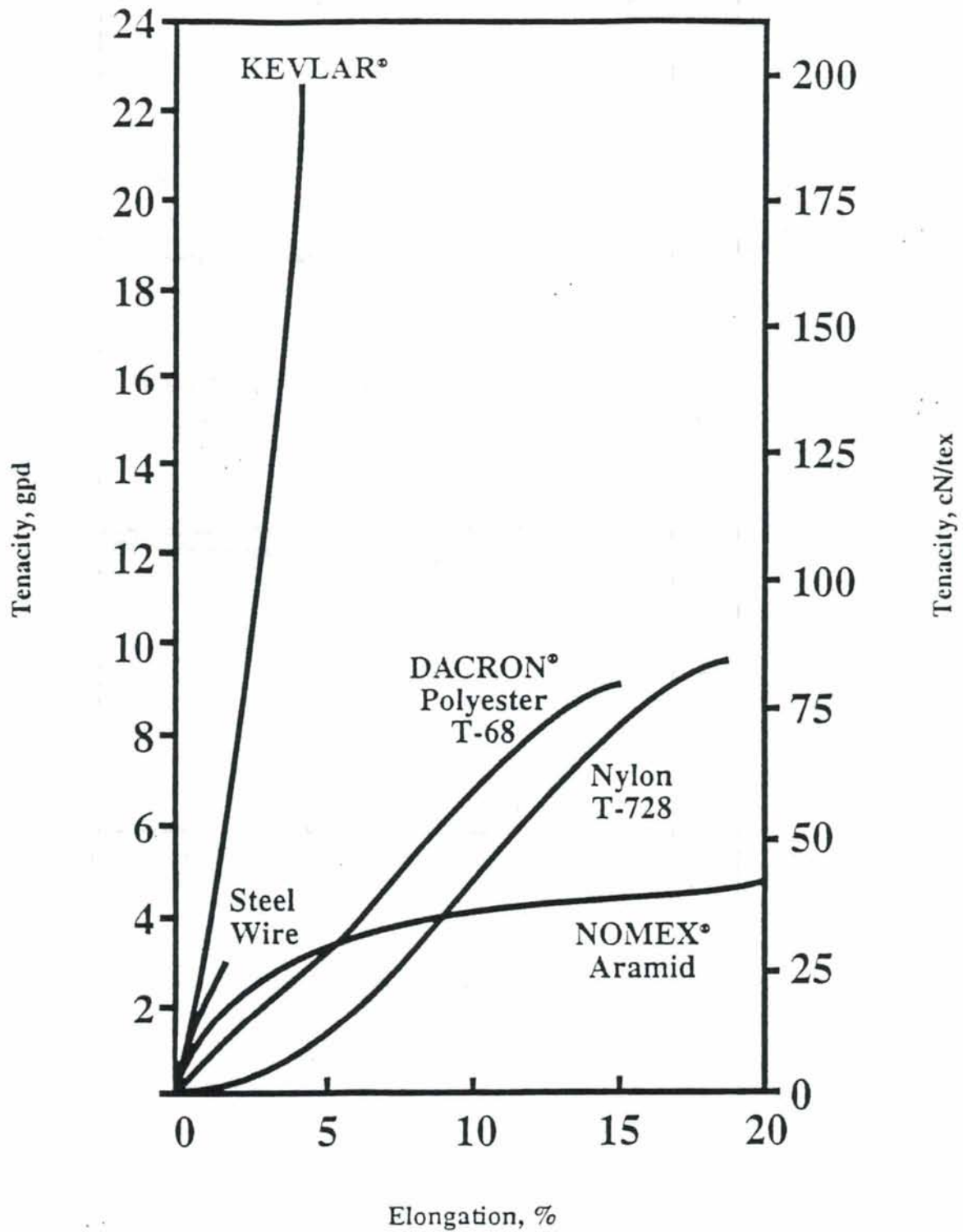
BOIL-OFF SHRINKAGE,)
DRY HEAT SHRINKAGE, @ 320° F.)
SHRINKAGE TENSION @ 320° F.)

CREEP

*DRY YARN TEST

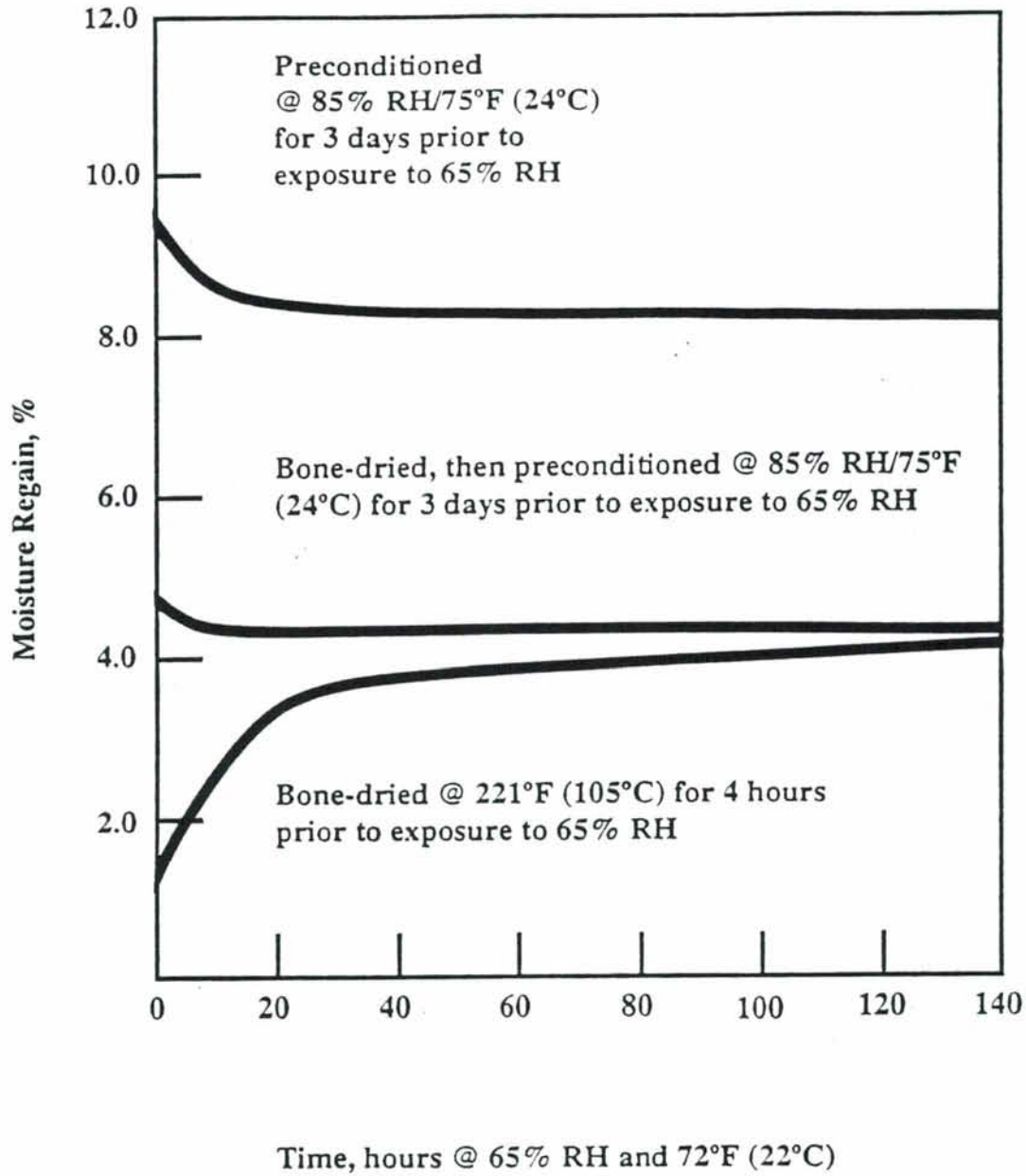
**YARN PROPERTY DIVIDED BY DEN

Stress-strain Curves for Industrial Filament Yarns and Steel Wire

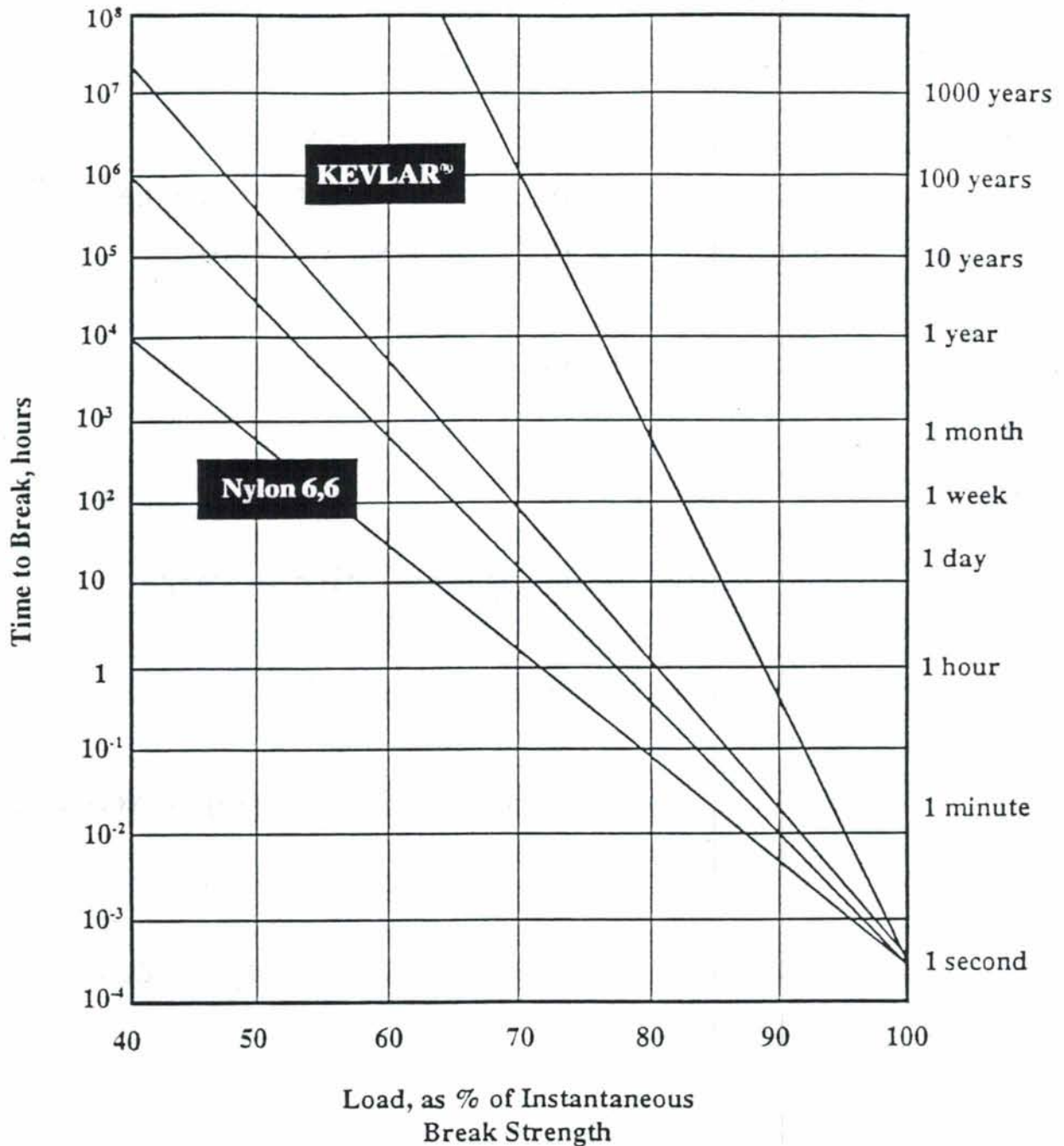


Moisture Regain of KEVLAR®

(After various preconditionings)



Stress Rupture of Yarns at Room Temperature

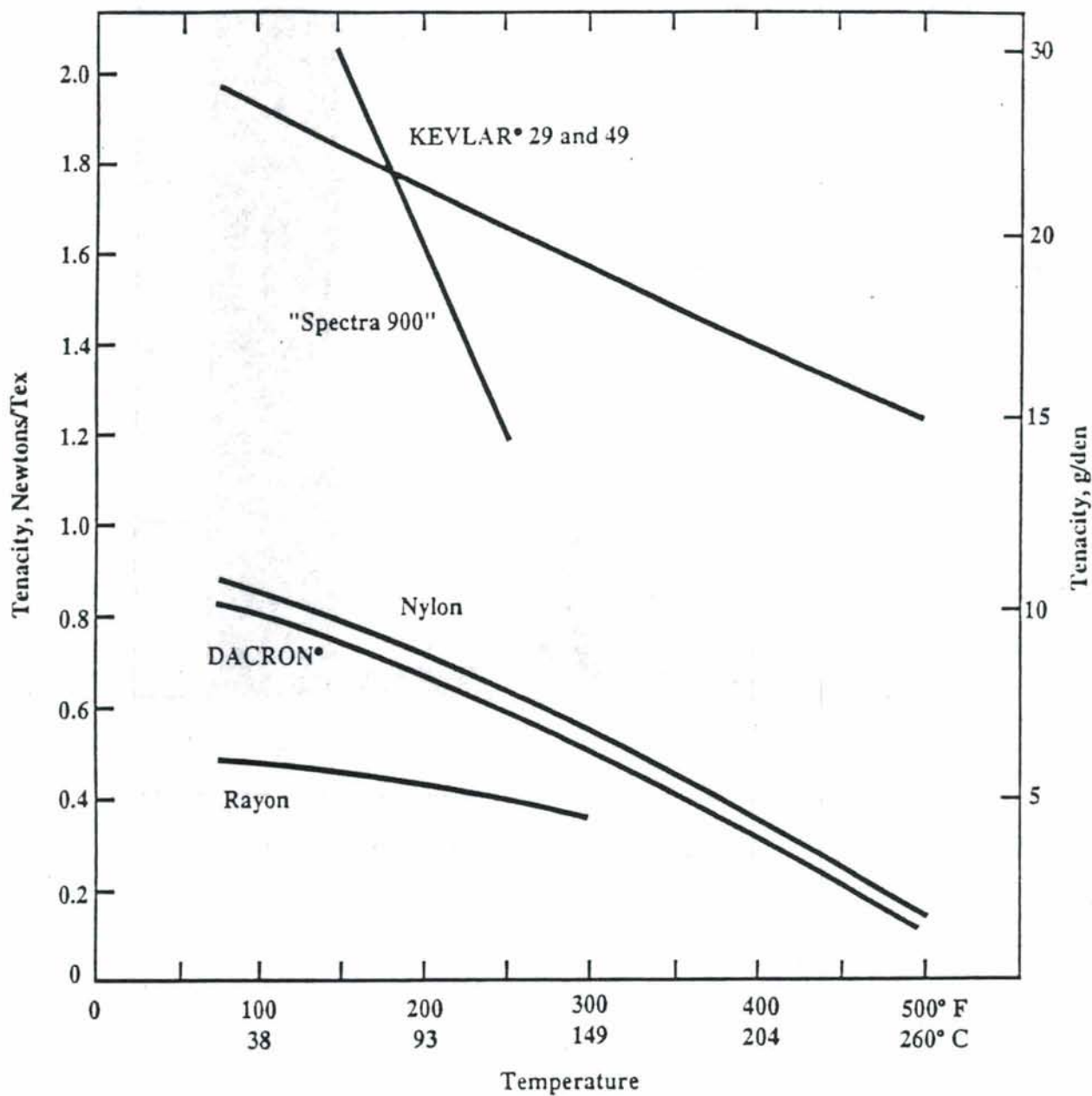


RVOC MEMBERS

- Perhaps you are "grappling with an uncommonly demanding problem" that calls for an "uncommonly sophisticated solution":
 - Rust, corrosion, galvanization
 - Extreme depths
 - Scientific sampling - simon pure
 - Environmentally friendly
 - High modulus, high strength to weight ratio
- Kevlar® in one form or another may or can work for you.
- Let's talk.

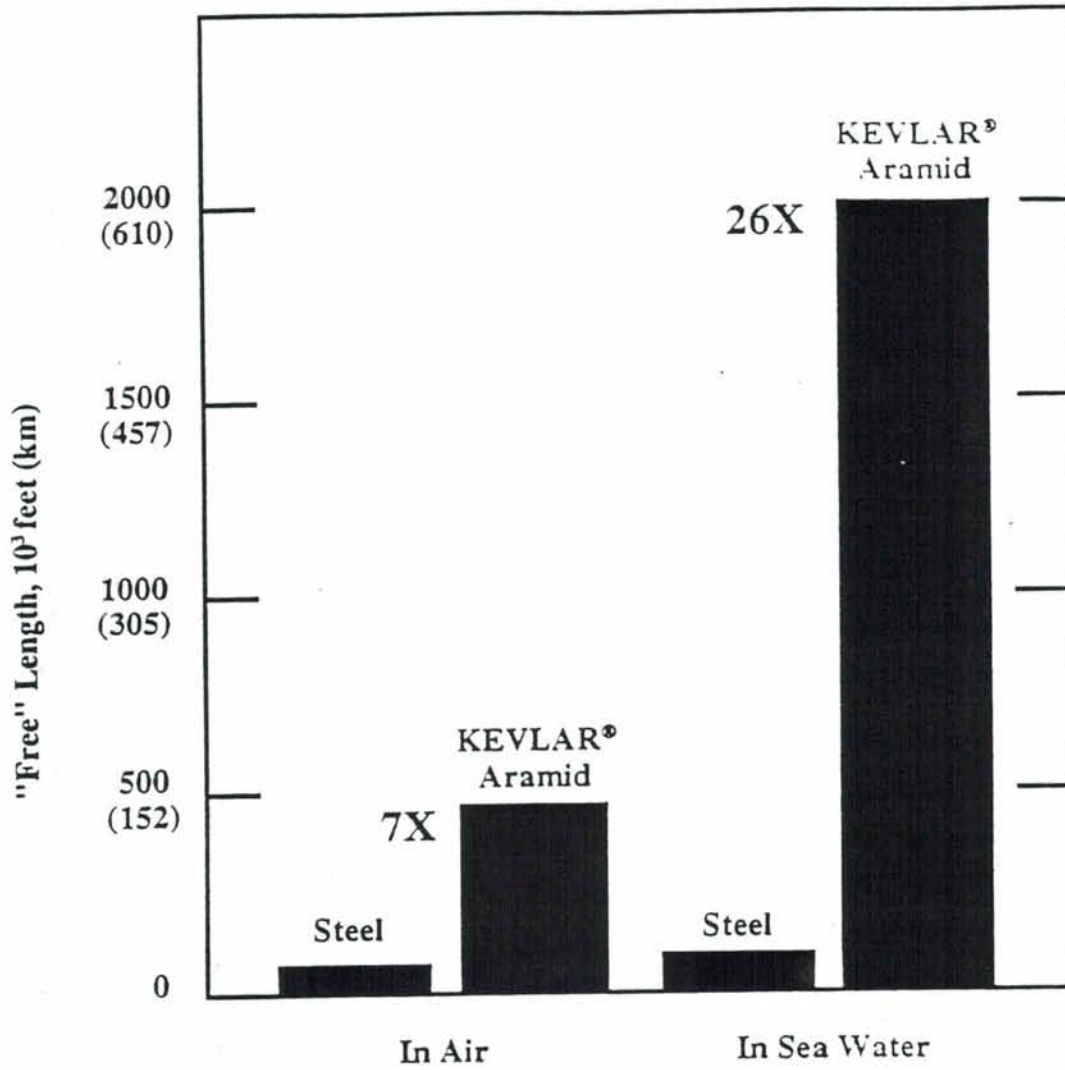
Comparison of Effect of Temperature on Tensile Strength

Tested at temperature after 5-minute exposure in air



"Free" Length Comparison

(Length at which strength member breaks of its own weight = tensile strength/density)



Braided Rope Efficiency = ~80% U.T.S.

CORDAGE INSTITUTE ROPE
SPECIFICATIONS*

THREE-STRAND LAID/EIGHT-STRAND PLAITED

<u>DIAMETER</u>	<u>CIRCUMFERENCE</u>	<u>WEIGHT</u>	<u>TENSILE STRENGTH</u>
Inches	Inches	(Average)	(Minimum, New)
<u>SISAL</u>			
4	12	435	84,000
<u>MANILA</u>			
4	12	434	94,500
<u>COMPOSITE (2GT/Polypropylene)</u>			
3	9	174	103,000
<u>POLYPROPYLENE</u>			
3	9	153	103,000
<u>POLYESTER</u>			
2 1/4	7	157	96,500
2**	6	128	106,000
<u>NYLON</u>			
2 1/8	6 1/2	109	95,500
2**	6	100	103,000
<u>KEVLAR® ARAMID***</u>			
1 1/4	4	54	112,000

- * Standard Construction
- ** Double Braided Nylon
- *** Wire Rope Construction

INTRODUCTION

Many thanks for the opportunity to be a part of your 1992 RVOC meeting.

This reviews fiber properties, seven case histories of uses of ropes/lines of Kevlar® aramid in marine environs during the last 20 years, prompts flights of imagination possibly for your use over the next 20 years, and offers to work with you to grapple with your problems where Kevlar® might offer solutions.

Energy Storage Capacity*

Fiber	Density Lb/In ³	Strength PSI	Break Elongation %	Energy Storage Capacity $10^{-3} \frac{\text{Ft-Lb}^{**}}{\text{Ft-Lb}}$
KEVLAR [®] 29	0.052	400,000	3.8	17
Improved Plow Steel	0.284	285,000	2.0	13
Polyester T-73 DACRON [®]	0.050	167,000	12	67
Nylon T-728	0.041	143,000	18	80

*Energy absorption capacity determined from area under stress-strain curves.

** Energy absorption (ft-lbs) normalized by a length (ft) and break strength (lb).
This quantity allows a comparison on an equal break strength basis.

COST

2 TO 3X competition, initially. But, if lines of Kevlar® have value to the user, or solves a unique problem, overall cost is clearly competitive.

WHAT KEVLAR® DOES FOR ROPES AND CABLES

1. High strength and modulus, permitting increased payloads and easier handling with smaller, lighter rope and cable systems
2. Five times lighter in air and twenty times lighter in water than steel cables of equal strength
3. Low elongation and high modulus
4. Corrosion resistant and dielectric
5. Excellent dynamic and static fatigue resistance, as well as outstanding stress relaxation behavior.

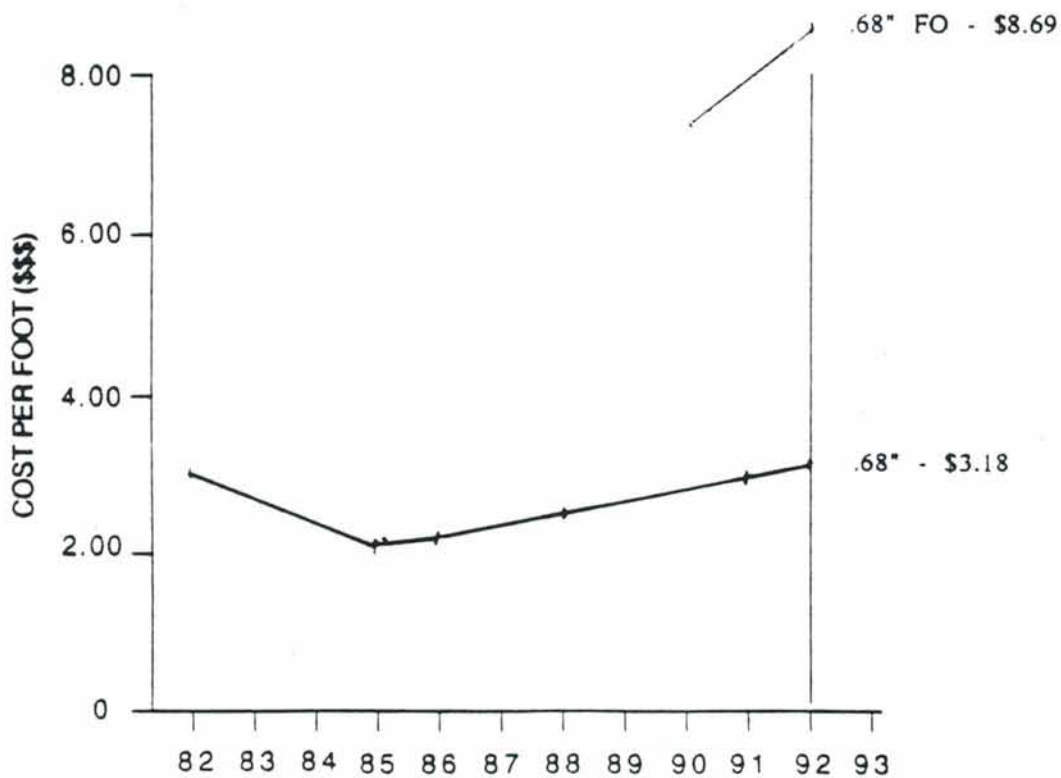
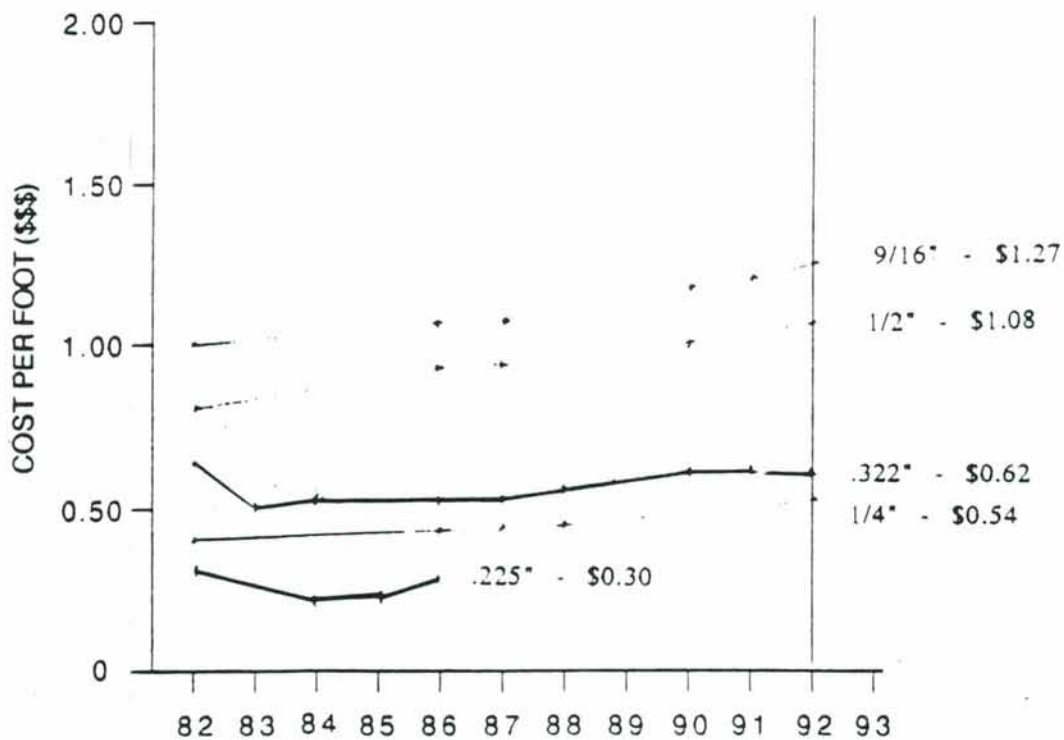
APPENDIX VI

OCEANOGRAPHIC CABLE POOL PURCHASES
SUMMARY
(1982 - 1992)

<u>Type</u>	<u>Size</u>	<u># Reels</u>	<u>Km</u>	<u>Cost (K\$)</u>
Coaxial	.68"	11	91	\$ 757
EM	.225"	18	139	133
EM	.303"	5	40	92
EM	.322"	69	659	1,247
Hydro	3/16"	9	83	73
Hydro	1/4"	20	180	258
Trawl	1/2"	22	200	524
Trawl	9/16"	<u>16</u>	<u>194</u>	<u>713</u>
	Totals	170	1,586	\$3,797

D.A.M. 10/92

OCEANOGRAPHIC CABLE POOL PURCHASES
 PRICE QUOTES
 (1982 - 1992)



GENERAL

Worldwide conversion of transmission paths:

Copper wire to OPTICAL FIBER (satellite+radio)

Computer & transmission technology:

Digital vs. analog

Speed now paramount

Hardware cost & availability

R/Vs now equipped with F.O. runs for LAN systems

Scientist & Engineers now using these technologies ashore
will want to extend capability to seagoing work

Scientist/eng'rs will start demanding:

high data rate transmission paths

for over-the-side work

APPLICATIONS
for
F.O. CABLES

GEOLOGY:

Deep towed variable frequency side-scans
Deep towed high frequency side-scans
Optical surveys (eg. ARGO/JASON)
Coring - video for decision making + records
Seismics - towed hydrophones

BIOLOGY:

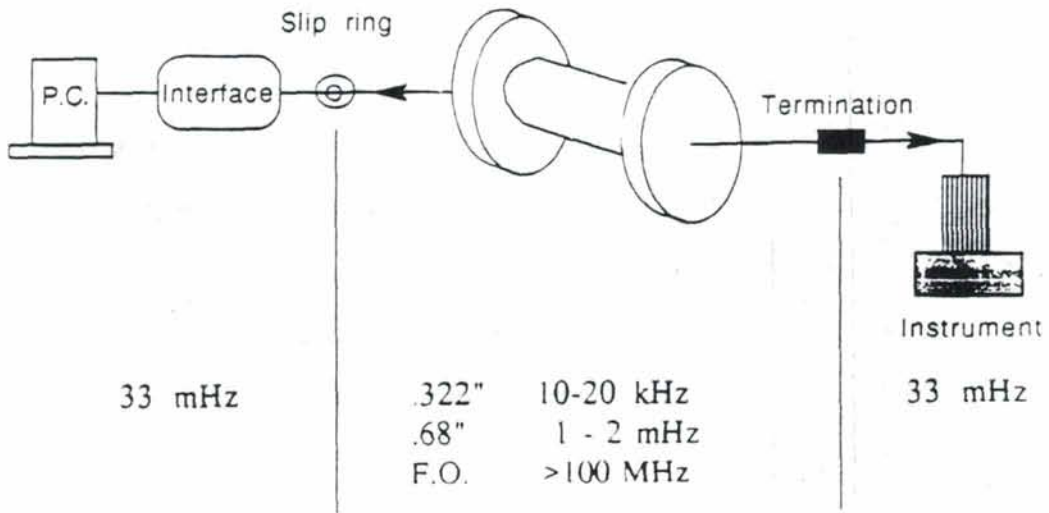
Bioacoustic backscattering
Variable freq. scanning
High freq. scanning
MOCNESS fishing with video
Video plankton recorder (w/laser)

PHYSICAL OCEANOGRAPHY:

???

CHEMISTRY:

???



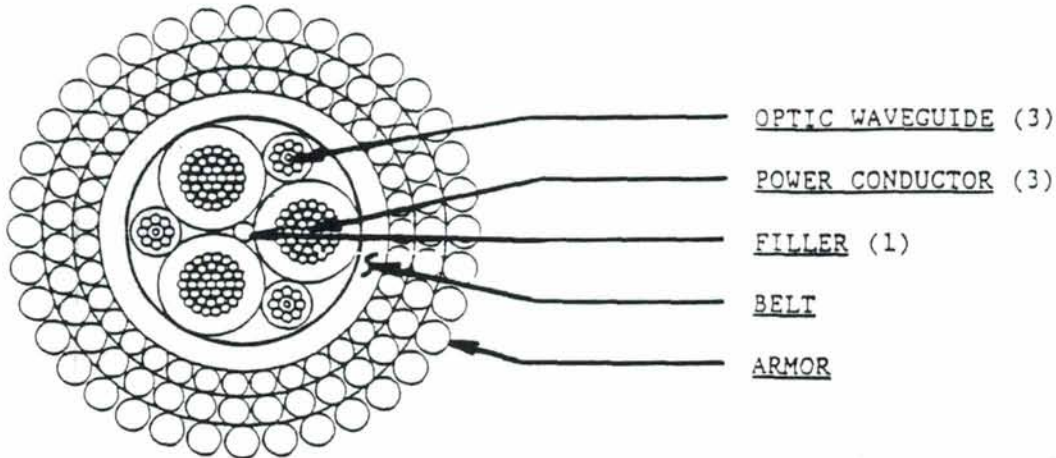
D.A.M - 10/92

the **ROCHESTER** corporation

751 OLD BRANDY ROAD

DATALINE

CULPEPER, VIRGINIA 22701 U.S.A



OPTIC WAVEGUIDE (3)

Fiber: 8.3/125/250 μ m Hermetic SMF; 110 kpsi .010"
 Buffer: .007" Wall Hytrel .024"
 Armor: 8/.015" IPS .054"
 Belt: .010" Wall Nylon .074"

CONDUCTOR (3)

Cdr: #11 AWG hard-drawn copper .098"
 Ins: .029" Wall HDPE .156"

ASSEMBLY

Cable 3 #11 AWG around a nylon monofilament with 1 optic and 2 fillers in each valley.
 Void fill .340"
 Tape: Adhesive Polyester .344"
 Belt: .039" Wall HDPE .422"

ARMORING

1st Layer: 35/.0375" GEIPS, right helix. .490"
 Tape: Adhesive Polyester .500"
 2nd Layer: 35/.044" GEIPS, right helix. .583"
 3rd Layer: 36/.050" GEIPS, Left Helix .681"

PHYSICAL

Wt. in Air 750 lb/kft
 Wt. in Seawater 609 lb/kft
 Specific Gravity (Seawater) 5.5
 Temperature Range -30°C to 80°C

MECHANICAL

Breaking Strength, Free End 43,000 lbf
 Breaking Strength, Fixed End 43,000 lbf
 Working Load @ .4% Strain 10,000 lbf
 Rotation @ 10,000 lbf < 1°/ft
 Minimum Bend Radius 24"

ELECTRICAL

Voltage Rating @ 66 Volts/mil 1,500 Vdc
 Insulation Resistance 10,000 M Ω ·kft
 dc Resistance 1.5 Ω /kft

NOTE: This design is proprietary to TRC.

the **ROCHESTER** corporation

751 OLD BRANDY ROAD
 CULPEPER, VIRGINIA 22701

(703) 825-2111
 FAX: (703) 825-2238 TWX: 710-839-3439

TITLE:

OPTICAL

Attenuation .7 dB/km
 @ 1300 nm .7 dB/km
 @ 1550 nm

DATE

Proof Test

110 kpsi

01/11/90

1

E

A302351

TRANSITIONAL CABLE

OBJECTIVES: Introduce OPTICS capability to gen'l user
Evaluate and test concepts for F.O. use
Determine operational req. for UNOLS F.O.

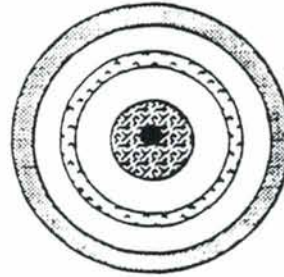
REQUIREMENTS: Insure access to wide potential user base
Assure suitability for "science" cruises
Make optics transparent to users
Minimize F.O. technical skills
Provide electrical redundancy
Avoid development effort (Initially)
Eliminate high cost for initial cable(s)

FIBER-OPTIC
TRANSITIONAL CABLES

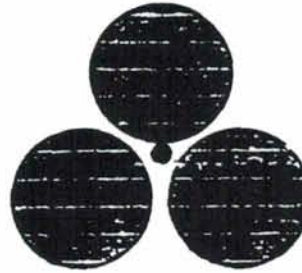
(OPTIONS WITHIN UNOLS STANDARD CABLES)



.322" EM Cable



.68" Coaxial Cable



9/16" 3x19 Wire Rope

APPENDIX VII

RESEARCH WINCH "PROTOCOL" CAPABILITY & REQUIREMENTS

(What would improve the winch "payback"?)

Thanks to the unique scheduling of O.S.U.'s new MCo. DESH-5 winch with its AC-SCR/AC variable-frequency drive and instrumentation, MCo. has had the rare opportunity to "play" with the complete working system in its shop.

An operator-accessible keypad PLC has been set up to display the three cable parameters, and to tie into the winch drive with simple automatic winch control features to "tell" the winch to...

- a) Payout and haul-in at a selected speed.
- b) Payout and haul-in at a selected speed to a selected scope, with controlled deceleration as that scope is approached.
- c) Change scopes, up or down, after selected periods, by selected amounts, at selected rates.
- d) Hoist at selected rate, to near-surface, with controlled stop to allow manual final recovery.

QUESTIONS...

- 1) Is this type of "protocol control" potentially useful? _____
- 2) Excluding "motion comp." what other "protocol formats" would be worth having? _____

- 3) Assuming that signals from your package sensors can also be fed thru the PLC to the winch drive, what additional winch responses would be useful?

- 4) Other winch comments? _____

Thanks for your input.

MJM
Mike Markey

MARKEY MACHINERY COMPANY, INC.

79 South Horton Street, Seattle, Washington, Zip 98134
P.O. Box 24788, Zip 98124
Telephone (206) 622-4697 Toll-Free 1-800-637-3430
Fax (206) 623-9839

=====

FACSIMILE TRANSMISSION

=====

TO: Moss Landing
ATTN: Mr. Mike Prince
FAX #: 1-408-633-4580
FROM: Barry Griffin
DATE & TIME: 11-24-92 2 PM

TOTAL NUMBER OF PAGES, INCL. COVER PAGE: 2 3
IF PAGE COUNT DIFFERS, PLEASE ADVISE

=====

Dear Mike;

Please accept our congratulations and best wishes on your new role piloting the RVOC. Count on us for continued support wherever and whenever needed in the years ahead.

RVOC "Protocol" Winch Questionnaire Results.

Thanks to those who took the time to respond. We received the following results.

Out of 10 questionnaires:

"Is this type of protocol control potentially useful?" Yes = 9
No answer = 1

"Excluding "motion comp", what would be useful?"

Datalogging of tension, scope, speed	(2)
Historical display of winch parameters	(2)
Payload (wire tension) controls winch speed	(2)
Winch (speed) responds to sensor tilt, rotation	(2)
Depth sensor input to speed	(1)
Maintain constant depth, temp, or conductivity	(1)
Maintain constant flow (water volume) with speed	(1)
Auto payout control to predetermined series of depths, pause, accelerate to new depth, etc.	(1)
No need at present	(1)
No comment other than "Yes" to potentially useful	(2)

"Other comments ?"

Need for pendant remote control of winches	(1)
Is AC-AC drive less electrically noisy than DC-SCR.	(1)
Lighter winches needed for inshore work.	(1)
May be difficult to integrate with existing hydraulics and controls	(1)
Want to know more info	(1)

Comments and future notes:

* Based on the above comments we are cautiously encouraged to continue development in-house of parametric control.

* A Markey Type DUSH-5 completed for Bermuda Biological has parametric capable hardware, in anticipation of future software, as it is defined and tested.

* Regarding "lighter" winches, we have just finished the design and pricing of an "inshore" Research Davit, for CTD and BT service, with 12 Foot lift and 10 Foot reach for loads to 900 Lbs. Winch capacity up to 1000 Feet of 1/4" Dia EM Cable. Unit has small hydraulic, Stainless winch, with powered 330 degree swing of the davit, instrumentation, and optional pendant control.

* We will research AC-AC vs DC-SCR noise.

Thanks again Mike.

Regards, Barry Griffin



P.S MIKE MARKEY SUGGESTED I SEND COPY
OF DAVIT DRAWINGS,

APPENDIX VIII

WORKSHOP TO ASSESS THE FUTURE VESSEL AND FACILITY NEEDS OF COASTAL MARINE SCIENCE

Williamsburg Hospitality House
Williamsburg, Virginia
February 21-24, 1992

*Sponsored by UNOLS
with a Grant from the National Science Foundation*

Rationale for a Workshop on Coastal Facilities

Research activities in the coastal ocean, defined here as embracing estuaries and the entire continental margin, have increased measurably in recent years and are expected to increase dramatically over the coming decade. The National Science Foundation has recently initiated interdisciplinary research programs in coastal oceanography such as: Land-Margin Ecosystem Research (LMER), Global Ocean Ecosystems Dynamics (GLOBEC), and, with joint support from ONR and NOAA, Coastal Ocean Processes (CoOP). In addition to the NSF programs, recent NOAA initiatives include a major Coastal Ocean Program (COP) while the Ecological Research Division of the Department of Energy is supporting interdisciplinary studies of the Dynamics of Continental Margins. Additional coastal research activities are in progress or planned by ONR, EPA, USGS, MMS, NASA, and the U.S. Army Corps of Engineers. A science plan outlining some broad coastal marine science objectives and suggested studies has recently been prepared by the CoOP steering committee and distributed to the community (Brink et al., 1992).

Recent workshops and related reports have focused, appropriately, on science questions and interdisciplinary program planning (e.g. CoPO Steering Committee, 1988; Brink et al., 1990, 1992; Holman et al., 1990). Implicit in these discussions and documents is the assumption that sophisticated - and intrinsically expensive - research platforms and other facilities will exist to enable the research objectives to be met. Included are research platforms of various sorts: ships, small boats, aircraft, semi-permanent moorings, and specialized facilities such as the research pier maintained by the U.S. Army Corps of Engineers at Duck, North Carolina. To a lessening degree, formulations of research objectives and plans are and have been influenced by (but not necessarily driven by) considerations as to the suitability and availability of the existing facilities. We often ask the question: "What can we do with what we have?" It is, of course, pragmatic and necessary that we continue to ask and answer that question. However, we must also ask: "What facilities do we need to address the most compelling research questions that we can formulate?"

Workshop Objectives and Scope

The overall purpose of the workshop is to assess the likely needs of the academic community for coastal and estuarine research vessels and related facilities over the next two decades. Using existing programs and initiatives as a starting point (e.g. Core NSF Programs, COP, LMER, CoOP, GLOBEC, E-MAP), the workshop participants should strive to define, in general terms, the research effort that will be required to address the major scientific questions of the coastal zone. A prime objective of the discussions will be to assess the needs of the agencies and the scientific community. Subsequent steps will be aimed at formulating a plan to modernize facilities and infrastructure that addresses these needs and recommends priorities. This plan will also serve as an important component of the UNOLS fleet improvement plan which is currently being updated.

Prior to the workshop, participants should give careful consideration to the following questions keeping in mind the needs of the broader scientific community: (1) What are the long-range goals of the major research program(s) with which you are familiar? (2) What facilities will be used in the near future? (3) What are the most serious technical limitations of existing facilities? and (4) What are the needs going to be several years from now? Answers to these questions can be framed in terms of vessel-related needs for: (a) obtaining synoptic observations; (b) obtaining high resolution time series; (c) conducting interdisciplinary studies; and (d) managing and communicating information. One expected product of the workshop will be an inventory of these needs as viewed by a diverse cross section of the scientific community. The ultimate aim of UNOLS and its Fleet Improvement Committee is to evaluate future needs for research ships suitable for carrying out coastal research. However, we recognize that ships are only part of the ensemble of facilities that researchers need and that specific ship requirements are often determined by the availability and limitations of other facilities including shipboard instrumentation and other types of platforms such as aircraft, satellites, moorings and fixed piers. Therefore, we will consider four main categories of facilities at the workshop: (a) research ships; (2) smaller research vessels; (3) non-ship platforms (aircraft, satellites, moorings, fixed platforms); and (4) shipboard instrumentation (including ROVs and shipboard data acquisition).

Approach

To set the general course and to initialize the working group discussions to follow, the morning of the first day will be devoted to presentations by five scientists with broad experience in interdisciplinary field research and representing the perspectives of different subdisciplines and federal agencies.

We will then break into the first set of four working groups which will be focused on the following themes: (1) synoptic observations; (2) time series; (3) interdisciplinary studies; and (4) information management and communication. The working groups, assisted by their chairs and rapporteurs, will be expected to prepare written reports on the outcomes of their deliberations and to present their conclusions to the entire workshop group at a plenary session on the morning of the second day.

Following the plenary session, working groups will be reorganized into the second set which will address facilities more specifically. The four groups will be focused on: (1) research ships; (2) smaller research vessels; (3) aircraft, satellites, moorings and fixed platforms; and (4) shipboard instrumentation. As before, these working groups will be expected to produce written synopses and to present their conclusions for general discussion at a plenary session on the morning of the third day of the meeting. Following this session the meeting will be adjourned.

At the close of the meeting (or a few days thereafter) working group reports should be submitted to the UNOLS Fleet Improvement Committee, Subcommittee on Coastal Facilities. This subcommittee will be responsible for integrating the working group products into a draft report that will be distributed for review before final dissemination.

Products

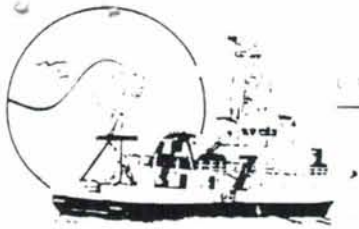
The final product of the workshop will be a report that will summarize, in a general sense, the long-term objectives of research and monitoring in the coastal zone, describe the mix of vessels and other facilities that will be required, and present a prioritized plan for implementation. The report (or a short version thereof) should be published in EOS or Oceanography. The essence of the report will also be incorporated into the UNOLS Fleet Improvement Update.

References

- Brink, K.H. and other members of the CoOP Interim Steering Committee, 1990. Coastal Ocean Processes (CoOP): Results of an Interdisciplinary Workshop, 51 pp.
- Brink, K.H. and other members of the CoOP Steering Committee, 1992. Coastal Ocean Processes: A Science Prospectus, 88 pp.
- CoOP Steering Committee, 1988. Coastal Physical Oceanography: Toward a National Plan. (Report of a Workshop held 23-26 January 1988 in Gulf Park, Mississippi) 188 pp.
- Holman, R. and 12 others, 1990. Nearshore Processes Research. (Report on the Nearshore Processes Workshop held in St. Petersburg, Florida, 24-26 April 1989) 25 pp. + appendices.
- Workshop Organizing Committee: Jack Bash, Tom Church, Clive Dorman, Tom Malone, Nancy Marcus, Mary Scranton, Charles Simenstad, Bob Smith, Don Wright.
- FIC Subcommittee on Coastal Oceanography: Jack Bash, Peter Betzer, Bob Dinsmore, Marcus Langseth, Tom Malone, Chuck Nittrouer, Charles Simenstad, Don Wright.

APPENDIX IX

Moss Landing Marine Laboratories



MARINE OPERATIONS
 P.O. BOX 486
 MOSS LANDING, CALIF. 93041
 408-433-2334 FAX 408-433-4065

Dr. Garrett W. Brass
 Chair, University-National Oceanographic Laboratory System
 Rosenstiel School of Marine and Atmospheric Sciences
 4600 Rickenbacker Causeway
 Miami, Florida 33140-1098

Dear Dr. Brass

As a result of various discussions and actions at our recent RVOC meeting there are several issues that we would like to present to you and the UNOLS council.

The RVOC expressed an interest in having representation at the Coastal Marine Science Workshop and to that end I have been invited by Don Wright and plan to attend. We would also like you to consider having one of our members assigned to the Fleet Improvement Committee in the future. We felt that FIC and RVOC could benefit by having a current ship operator as a member. If you think this would be appropriate you could request a volunteer from among our members.

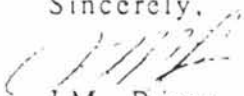
With regard to the legislative agenda for the COA there are only two items at this point. We would like to pursue an exemption from the provisions of the Communications Act of 1934 that require carrying a radio officer for the affected UNOLS vessels. These vessels would otherwise be in compliance with the requirements of GMDSS. The other issue has to do with Selective Availability (SA) and GPS. We generally feel that for many scientific missions that GPS with SA does not provide the accuracy necessary. This is especially true in the case of many sea floor mapping projects. Since the Federal Government is funding the majority of the research that is adversely affected by this degradation of the GPS system we believe that SA is counter productive to the government's needs with regard to research. The most simplistic solution would be to convince the Department of Defense that SA is not needed and to turn it off. Barring that, then some sort of access to the P-Codes for all or selected UNOLS vessels would be the fall back position.

The Inspection Check List for Chartered Vessels was assigned to a subcommittee consisting of Tom Smith, Robert Hinton and myself for further work. Our goal is to present a revised version to the RVOC in December and, if there is not too much controversy, present a recommended checklist to you prior to or at the January UNOLS Council meeting.

During the Round Table discussions the RVOC voted to draft a resolution to present to the UNOLS council concerning the mechanism for funding Ship Operations costs by federal agencies. The resolution is attached for your consideration and action.

We appreciated the fact that you attended our meeting. Your input and perspective added greatly to the quality of our discussions. We hope that you will consider attending next years meeting as well

Sincerely,


 J.M. Prince
 Chairman, RVOC

cc: Jack Bash, UNOLS Office



University-National Oceanographic Laboratory System

Research Vessel Operators Committee

Resolution of the Research Vessel Operators Committee
October 22, 1992

The RVOC strongly urges the UNOLS council to take any actions that would result in all Federal funds for ship operations, regardless of agency, being directed to operators through the Ship Operations Branch (OCFS) of the National Science Foundation.

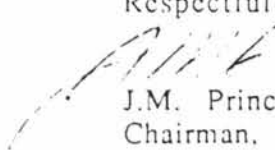
The transfer of funds from research accounts of individual investigators for projects other than those funded by NSF makes cost accounting and planning much more difficult. The NSF proposal process could be used as the central planning document for all Federal agencies that support oceanographic ship operations in the UNOLS fleet. This change would streamline cost accounting procedures and reduce the effect of changing ship schedules and costs on individual research budgets.

In summary we envision that funding all federal ship operations support for the UNOLS fleet through the NSF ship operations branch will result:

- (1) in more efficient cost accounting by the operators,
- (2) timely transfer of ship operating funds,
- (3) uniform acceptance of cost-accounting procedures, terminology, and charge days throughout all federal agencies.

The RVOC would appreciate consideration of this resolution by the UNOLS Council and any subsequent action towards this end that they may take.

Respectfully submitted,


J.M. Prince
Chairman, RVOC

APPENDIX X

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	University of Miami	Miami, FL
		Institute of Marine Science	
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	Annapolis, MD
		Chesapeake Bay Institute	
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	Sturgeon Bay, WI
		Peterson Boat Works	
1976	Nov. 30-Dec. 1	University of Rhode Island	Narragansett, RI
		Sweet Meadows Inn	
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	San Diego, CA
		Nimitz Marine Facility	
1980	Oct. 27-28	University of Texas	Port Aransas, TX
		Marine Science Institute	
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	St. Georges, Bermuda
1985	Sept. 25-27	Moss Landing Marine Laboratories	Moss Landing, CA
		Navy Postgraduate School	Monterey, CA
		Monterey Marine Aquarium	
1986	Oct. 8-10	Oceanografia - Veracruz	Veracruz, Mexico
		Mexican Naval Academy	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
1990	Oct. 9-11	LUMCON	New Orleans, LA
		Dauphine Orleans Hotel	
1991	Oct. 10-12	Institute of Ocean Sciences	Sidney, B.C., Canada
		Empress Hotel	Victoria, B.C., Canada
1992	Oct. 20-23	University of Delaware	Lewes, DE
		College of Marine Studies	
1993		University of Southern California	Catalina Island, CA
1994		Skidaway Institute of Oceanography	Savannah, GA

