Research Vessel Technical Enhancement Committee
University of Washington
South Campus Center
Seattle, WA
October 27-29, 1997

1997 Annual Meeting Minutes
Compiled by John Freitag from notes taken
by Tom Wilson and Dale Chayes

Appendices

I. Meeting Agenda
II. Meeting Participant List
III. Marine Corrosion Workshop Notes by William Riffe
IV. Project-Specific Shipboard Technical Support Costs
V. Vessel Mounted Doppler Current Profilers

Monday, 27 October, 1997

Meeting Called to Order - The 1997 annual meeting was called to order October 27th at 9:00 AM in the South Campus Center of the University of Washington in Seattle. After introduction by the Chair, Co-hosts Neil Bogue, University of Washington and Mike Webb, NOAA PMC made welcoming remarks to open the meeting. Following the opening remarks the Chair expressed thanks to Neil and Mike for their efforts in making the meeting a success and to Annette DeSilva from the UNOLS office for her organizing efforts.

Accept 1996 Minutes - Following introductions the minutes of the 1996 meeting were opened for discussion. There being none a motion was made and seconded to accept the minutes as written. The motion was passed. The meeting agenda is included as ***Appendix I*** and the participant list is included as ***Appendix II.***

UNOLS Reports:

UNOLS Activities - The UNOLS report was given by Annette DeSilva. Annette reported the bad news that ship time was generally down for 1998. Both NSF and ONR ship time are down however, this is partially balanced by the fact that NOAA and NAVO UNOLS ship time budgets are up. Requests for ALVIN and ROV requests are up. Annette explained the details of the NOAA/UNOLS MOA signed by UNOLS Chair Ken Johnson and Jim Baker (Undersecretary of Commerce for Oceans and Atmosphere) at the September UNOLS meeting in Washington, DC. This effectively puts the RON BROWN in the UNOLS scheduling pool. NOAA will also spend $1.8M on UNOLS charters. The RON BROWN will be going to the Indian Ocean in 1999. In other news, The UNOLS Charter is up for review this year. Also the Navy has announced plans to retire the SEA CLIFF and TURTLE DSV's. DESSC may have some say into the disposition of the assets, possibly into the academic community.

Annette also reported on the efforts of the UNOLS office to bring ship scheduling to the world wide web. The ideas came about as the result of a report of an appointed sub committee investigating weaknesses in the UNOLS ship scheduling process. The committee was chaired by Rick Jahnke of Skidaway Institute of Oceanography. The group at the University of Washington has been funded to deliver software to allow scheduling to take place on-line. The new system will enhance communication between funding agencies, ship operators and PI's. It will allow potential PI's the ability to browse a world map to locate others requesting ship time in the area and period of their interest.

Annette concluded with a request for photographs suitable for inclusion in the Research Fleet Brochure which is in the process of being updated.

Fleet Improvement Committee (FIC) Report - John Freitag reported that although he sits on the UNOLS FIC committee he was unable to attend the last meeting due to an illness. There is a meeting planned in Seattle the week following this meeting. Larry Atkinson from Old Dominion University is the new FIC chair. Larry appears to be an enthusiastic and energetic chair who will direct a great deal of energy on behalf of FIC goals. The meeting is being held at the NOAA PMC facility. Discussion is planned on the 9th draft of Fisheries Research Vessels Talking points and the impact of the new Coast Guard regulations. Also on the agenda is the presentation of the long awaited "Glosten Report" by Bill Hurley of Glosten Associates. The report, funded by the NSF, evaluates the impact of the new international regulations on admeasurement, SOLAS and ISM and their impact on Class III vessels in particular. There will also be discussion of replacement of the ALPHA HELIX, the BLUE FIN and the OCEANUS Class. Discussion of the SMR's for the AGOR-26 mid Pacific vessel will be discussed

Arctic Icebreaker Coordinating Committee (AICC) Report - John Freitag reported on the UNOLS AICC committee. The Arctic Icebreaker Coordinating Committee (AICC) is charged with two missions. The first is the coordination of Science Of Opportunity cruises on board the Coast Guard Polar class breakers and the second is the oversight of the construction of the new icebreaker WAGB20 HEALY. HEALY is unique in that it is the first USCG vessel with Science written into the mission statement. Also unique is the crew size and science complement, crew complement of 75, science party of 34. The ship is 425 feet in length and displaces 17,000 tons. It has 30,000 SHP and is expected to break 4.5 feet of ice at 3 Knots. The launch is scheduled in the next few weeks and delivery is scheduled for January of 1999. Testing will begin the following spring and continue into the fall. At this point it is expected that the ship will transit the NW passage on its ice trial voyage. AICC, charged with coordinating the scientific user community with regard to the HEALY, is assessing the functional design of the science spaces, equipment and labs and will be responsible for designing the science testing portion of the Ice trials. AICC has made great progress to date having had all ten recommended changes made to the Coast Guard accepted and implemented. AICC is calling on the RVTEC to be involved in the testing program and we will be discussing this possibility later in the meeting. At a recent meeting in Washington last Friday reps from AICC, NAVSEA and the Coast Guard discussed the science outfitting and test planning and it is clear that the Coast Guard is committed to our participation in the program. They also agreed to consider the UNOLS model in staffing the science cruises.

Research Vessel Operators' Committee (RVOC) Report - Annette reported on the RVOC meeting held last week in Woods Hole. RVOC now has an inventory, by region, of small boats. The safety committee is in the process of revising the safety standards and a report is due in August. RVOC has undertaken the production of a safety video training film, this is to be produced by Jamestown Marine Services with the science parties as the intended audience. Jamestown Marine Services has also been awarded the contract for UNOLS/NSF vessel inspections. There were presentations on SeaNet, the MBARI SWATH vessel, WESTERN FLYER, and the Glosten report. The RVOC reportedly liked our cable workshop of last year and are considering a similar presentation. Various certification issues were also discussed.

Following the RVOC report there was a short discussion about the impact of the new international regulations on marine technician programs. A suggestion was made to establish a working group to study the impact of IMS standards on technician responsibilities.

At 10 AM the chair called a short break.

Agency Reports:

National Science Foundation (NSF) - The meeting was reconvened at 10:30 and NSF Program Manager Sandy Shor reported on the latest at the NSF. He announced that his temporary tenure ends in 31 December but is fairly confident that he will be remaining in the position. Lisa Rom is back at work at NSF and is involved in educational programs and Oceanographic Technology coordination. Bad news is that the NSF does not yet have a budget but it is expected that budgets for Ocean Sciences and instrumentation will be flat for next year. It appears that operational shortages may partly be a coordination issue.

Naval Oceanographic Office (NAVO) - Dennis Kryon from NAVO reported on the upcoming NAVO programs on UNOLS vessels, There will be a total of 10 Physical Oceanography surveys. The NAVO contingent will be headed up by a Senior NAVO Representative (SNR) who will be acting in the capacity of Chief Scientist.

United States Coast Guard (USCG) - Phil McGilivery gave the report for the Coast Guard. They are initiating a program to improve the oceanographic capabilities in the Coast Guard establishment. This will include hiring a science liaison, establishing a close working relationship with ASA, putting up informative web pages and harmonizing user manuals. Phil reported that they have just installed INMARSAT Std B on the POLAR SEA. They are working to improve the training of the MST rate to be more useful to science needs.

They have recently signed a MOA between the USCG/NOAA/NURP/NASA regarding telecom protocols. Phil further reported that the two Polar class breakers went South last week to support the Antarctic breakout.

Following Phil's report, John initiated a discussion on the HEALY science testing by giving a synopsis of events leading up to the invitation to our group to participate in the testing. Dale Chayes opened the discussion by asking what framework are we contemplating and where is the funding coming from? Discussion proceeded on the role of the AICC Vs RVTEC, the involvement of NAVSEA in view of their being the source of the funding. It was noted that Phil's operation takes control only after the acceptance. The test cruise will be up to three months long. Phil felt that we didn't need to make a detailed plan, just an outline. John related that we need to document the performance observed during the test. We need a mechanism to identify interested parties. Interest was shown by Woody, Dale, Barrie Walden, Rich Findley, Neil Bogue John Freitag and Tony Amos. It was agreed that these parties would meet to discuss various scenarios.

The meeting was adjourned for lunch at noon.

The meeting reconvened at 13:07

NAVO Ship Program - First up was Woody Sutherland reporting on the NAVO ship program. Woody reported some initial operational mix up with things like XBT probes and Sippican software versions. There was also an issue regarding automatic navigation inputs. There were a few issues over the fact that different ships had different bottom sampling tools. Discussion went to CTD's, Sea Bird 911's with dual sensors were the de facto standard. Calibration? SIO wants cals pre and post cruise. You need a lot of sensors to pull this off, how stable are they? Findley said they use a yearly cal and the scientist pays for more. He feels that the sensors are stable. Tony Amos uses pre and post cals but feels that the sensors are stable. All agreed that salinities have to be run even if the scientists don't feel that they need it for their work. Autosals? SIO using their own digital interface with 8400's. Question came up if software is available for Portasals? No answer forthcoming. NAVO has been using direct salinities, is that OK? Tony said that he had done the calcs and finds then OK. Seasoft: there have been some difference in versions used, next year everyone will be using windows version. There has been some confusion in station naming, should be corrected next year. For the NAVO cruises, if something is needed to carry out

the mission, such as a computer or hard disk, it needs to be in the proposal up front.

There was discussion on the different ADCP formats (DAS vs. Transect) in spite of all the same NB equipment. It was suggested that Tom Weingartner and Eric Firing may be able to provide assistance in this regard. Eric pushes DAS which is no longer supported by RDI. Data will be public domain and reside at NODC.

Woody was asked if he and SIO will coordinate as last year, he said yes.

UNOLS Ship Inspection Program - Annette reported next on the new ship inspection program. A contract has been let to Jamestown Marine Services for non Navy UNOLS vessels. They were the highest score and the low bidder. The idea is for constructive reports to promote safety and efficiency. The program will be administered at the NSF by Dick West. Eleven vessels are targeted for the first year, LAURENTIAN and OCEANUS have been done to date. The written reports are not out yet but feedback to the new inspection process appears to be positive.

Discussion went on about how inspection could relate to and improve science programs.

At 14:40 the meeting recessed for a short break.

SeaNet Update - The meeting reconvened at 14:50 with an update on SeaNet by Dale Chayes (LDEO) and Rex Buddenburg (Naval Postgraduate School).

Dale reported on the SeaNet meeting held at the Brookings Institution in Washington last month. Several members in the group has attended the meeting. Ellen Kappel, Dale and Andy Maffei from WHOI were funded under NOPP for an ONR grant of $1.5M to undertake the development of the SeaNet system and place 5 systems on UNOLS vessels. The interface and accounting software and administration will be handled by the OMNET group, Bob Heinmiller and Susan Kubany, the firewall structure and land connectivity is the domain of MCI Communications and the Satellite link is being undertaken by COMSAT Corporation. In the initial implementation the connect time charges will be absorbed by the grant, however, OMNET will generate memo billings to inform the users what charges would be incurred in an unsubsidized situation. The intent here is to allow the user community to become acquainted with the system concepts and develop applications to exploit the system without incurring large bills for connect time. The system concept is intermittent connection to the internet and will make heavy use of caching in order to minimize time on the satellite. Dale is in charge of the hardware implementation which will be based on INMARSAT Std B technology. There was a prototype system deployed on R/V THOMPSON last year. It is expected that that the greatest impact will be on e-mail operations. The target vessels for the five systems have not been defined at this point. It is expected that a request for proposals will go out and the ships picked from among the proposals submitted.

Rex Buddenburg from the Naval Postgraduate school has been involved in the SeaNet project from the beginning and, in fact, briefed this group at the earlier La Jolla meeting. Rex filled the group in on the latest state of the art vis-à-vis Teledesic, Iridium and other LEO and MEO systems and their possible application to both SeaNet and our type of marine operations.

Salary Survey Discussion - Following the SeaNet update, the discussion on the potential salary survey was opened. Rich Findley pointed that his interest in such a survey was rather personal as he felt that he would be able to use the results as a bargaining position for a salary upgrade at his institution. It was pointed out that the federal government publishes similar data for many job descriptions from accountants to physicians to zookeepers but that the size of the marine technician and marine facilities managers community was so small that such data simply does not exist. It was further noted that there is a history in doing this. The RVOC has compiled such data for mates, captains, engineers and deckhands and has found it useful in determining salary levels at various institutions. Similarly, Bill Coste conducted a salary survey of technicians back in 1988. The Coste survey is now dated to the point of uselessness and several members felt that a new survey was in order. There were objections by some members of the group. It was pointed out that the RVOC survey was conducted by and for Marine Superintendents (who were not included in the survey) and was not available to those being profiled. It was also pointed out

that the Coste survey was heavily sanitized to remove any reference to institution and even area. Another argument given against the survey was the fact that salaries at a given institution were heavily influenced by local cost of living and prevailing market conditions, thereby limiting the usefulness of the survey to a given area. Cost of living in Lewes, Delaware is vastly different than in La Jolla, California. Given the shortcomings of such a survey, the majority still favored going ahead. It was decided to lightly sanitize the results and hold them at the UNOLS office. The results will be available but on an "as requested" basis rather than a mass mailing. This seemed to satisfy the majority of the objections.

A motion was made by Tom Wilson to proceed with the survey, this was seconded by Rich Findley and a vote was taken. The motion was passed 29 for, four against. Annette said that she would work with Rich and John to create a survey and distribute it.

At 4:45 p.m. the meeting was adjourned for the day. Following the meeting we will be touring THOMPSON.

Tuesday, 28 October, 1997

Meeting commenced with informal networking at 8:00 am.

The meeting was called to order by John Freitag, RVTEC chair at 9:00 a.m.

Marine Corrosion Workshop - John introduced Mr. Bill Riffe from Marine Environmental Research to present a workshop on the subject of marine corrosion. Mr. Riffe has spent many years in the field dealing with various corrosion related problems in his consulting work. He intends to share many of those experiences with us today in addition to presenting some insight into the electrical and chemical basis of the corrosion process. [Notes from Mr. Riffe's workshop are included as ***Appendix III***.] His contact information is:

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The Chair called for a short recess at 10:30 a.m.
The meeting was reconvened at 10:45 am. Mr. Riffe continued with the marine corrosion workshop.
Meeting recessed for lunch at 12:00 noon.
Meeting reconvened at 1:15 p.m. There was a question and answer period with Mr. Riffe regarding issues raised at the Marine Corrosion workshop.

RVTEC Subcommittee Reports:

Annual reports were presented by the RVTEC subcommittees:

On-line Resources Subcommittee - Tom Wilson of SUNY presented a report from the On-line Resources subcommittee. The status of the RVTEC "Home Port" Web site was outlined, along with a proposal to investigate shifting all or part of the site from the URI mainframe to a PC at SUNY. A strawman proposal for the format of an on-line equipment database was discussed and suggestions solicited.

A proposed RVTEC logo design was presented by Tom Wilson. A motion was made by Sandy Shor and seconded by Rich Findley to accept the design as the official RVTEC logo. The chair asked for a voice vote and the motion passed by acclimation.

Data Interchange Subcommittee - Steve Poulos of University of Hawaii, chairman of the Data Interchange Subcommittee, was not able to be present to report on the work of the committee. John Freitag reported that FIC had considered and endorsed our proposal to adopt NetCDF as the data standard and ISO 9660 format CDROM as the storage standard. A request was made to include appropriate links to on-line NetCDF resources from the RVTEC Home Port. A short discussion followed. It was noted that in an earlier meeting Lisa Rom (former OCFS Program Manager) had stressed that this group was not to set standards, that standards had to come from the scientific users. Discussion stressed that with users moving from ship to ship, the scientific clientele had the right to expect some measure of uniformity in the product received at the end of the cruise and that NetCDF seemed to be the closest approach at the present time. Institutions have also been following Rich Findley's lead in going to CD-ROM as the preferred data dissemination standard because the ability to read these discs is almost universal at the present time.

Long Range Instrumentation Planning Subcommittee - Rich Findley of University of Miami presented a report from the Long Range Instrumentation Planning Subcommittee. He described present models of data collection and distribution using sensors that are collected by a single computer and then distributed to clients. He then presented a proposed model using Keithley Smartlink modules that convert sensor inputs directly to a TCP/IP network interface, enabling any network client to request data from any sensor directly using standard commercial network protocols (e.g. Dynamic Data Exchange DDE).

The chair called a 15 minute break.

Project Specific Support of Technical Services - Upon reconvening Sandy Shor discussed the latest NSF viewpoint on user charges and ancillary services. [His paper on "Project Specific Shipboard Technical Support Costs" is included as ***Appendix IV***.] He told us that one of the big problems facing funding agencies was the disparity in the way that the various institutions charge for their services. Some institutions charge for CTD services by the station, others by the day and still others include CTD services in the price of basic Tech support. This, clearly, is guaranteed to frustrate a PI who is moved from ship to ship, particularly if the replacement ship charges user fees and these extra charges must come from his/her grant rather than the basic ship support provided by the NSF. Sandy said that he has been looking at various ways of reducing this problem for some time and said that he intends to have new guidelines out by next year's proposal time. He said that the ideal situation is one price for all, that is, all services included with no extra charges to be paid for by the scientist. There are several ways of handling this, one would be to include the specific charges up front in the proposal but as a separate category from basic support. This would allow the costs to be picked up under the Technician grant from the beginning. Those late scheduled cruises could be handled by a supplemental request to the agency.

The meeting recessed at 5:00 PM and adjourned for a tour of SeaBird, Inc.

Wednesday 29 October, 1997.

The meeting commenced with informal networking at 8:30 a.m.

John Freitag called the meeting to order at 9:00 a.m.

1998 RVTEC Meeting Site and INMARTECH '98 - A discussion was held regarding the site of the 1998 annual meeting, and about the proposal to sponsor the INMARTECH 98 meeting jointly with RVTEC 1998. After discussion of possible meeting sites, a motion was made by Rich Findley and seconded by Tom Wilson to hold RVTEC 98 in San Diego and host INMARTECH at the same time. The motion passes by acclamation. Discussion was held on the possibility of including some low-key manufacturers demonstrations in the meeting.

New Instrumentation Presentations/Show and Tell:

Tom Wilson presented results of an intercomparison of broadband and narrowband Acoustic Doppler Current Profilers conducted aboard R/V SEWARD JOHNSON.

John Freitag presented a verbal summary of a report he prepared for NSF on the current state of the market for Doppler Current Profilers. Copies of the report will be included as Appendix V to the RVTEC meeting minutes.

Tony Amos from University of Texas made a presentation on his "living logbook" Keeping an accurate log of shipboard events has typically been about as popular as visiting the dentist, yet the information contained in such a narration can be crucial to interpretation of the data at some later date. Tony outlined his procedures for making this task somewhat easier. He presented a computer based format which allows watchstanders and bystanders to make entries into a standardized format which is easy to interpret when needed, even years down the road.

The Chair called for a 15 minute break at 10 AM.

Meeting reconvened at 10:15 a.m.

Tom Wilson presented preliminary information regarding beta tests of the SeaTrak GPS attitude/heading sensor. SeaTrak is being developed by Seagull Technology of Los Gatos CA with a planned release date of early 1998. The manufacturer is actively seeking input from the research vessel community regarding their experiences with presently available technology and suggestions for desired features in new products of this type. John Wilson of Seagull was present to answer questions and is the point of contact for anyone wishing to give input to the final design.

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Nominations and Election of Vice Chair - The election for Vice Chair was held. Rich Findley, chair of the nominating committee, reported that Marc Willis of Oregon State and Tony Amos of University of Texas had agreed to be candidates. John Freitag opened the floor for nominations, no additional names were offered. Tom Wilson moved to close nominations Rich Findley seconded. The motion passed on a voice vote. John Freitag then called for a vote, and Tony Amos was elected as Vice Chair, term to begin at the adjournment of this meeting and end at adjournment of the 1999 annual meeting.

Updating of Action Plans - After calling for discussion for the floor, the chair made the following actions on RVTEC subcommittees:

- Tom Wilson was reappointed as the chairperson of the On-line Resources subcommittee.
- Steve Poulos was reappointed as the chairperson of the Data Standards subcommittee.
- Rich Findley was reappointed as the chairperson of the Long Range Instrumentation planning subcommittee
- Don Moller was reappointed as the chairperson of the Wire and Cable Specifications subcommittee.

New business:
Barbara Martineau of WHOI gave a short report in Don Moller's absence on the Wire and Cable Specifications subcommittee. Don has a new reel of 0.68 inch fiber optic cable available. It was related that Don has seen little push from scientific community for fiber optic cable.

A discussion was held regarding liaison with RVOC. It was decided that there should be an official long term liaison from RVTEC to RVOC. The Chair will seek someone to serve in this capacity.

Tom Wilson suggested RVTEC should solicit topics and speakers for technical sessions at the next

RVTEC/INMARTECH meeting. Some topics suggested from the floor were coring, ADCPs, multibeam and other high resolution acoustics, navigation and positioning, flow through instrument issues, seawater supply systems, and moorings.

Annette DeSilva thanked Neil Bogue and Mike Webb for hosting the meeting.

Woody Sutherland moved to adjourn, Rich Muller seconded. The motion was passed by voice vote and the meeting adjourned at 12:00 p.m.