

RESEARCH VESSEL TECHNICAL ENHANCEMENT COMMITTEE

Monterey Convention Center
One Portola Plaza
Monterey, CA
October 16, 17, 18, 1995

MEETING MINUTES

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Introduction

The meeting was called to order by Chair Rich Findley on Monday, October 16, 1995 at the Monterey Convention Center, Monterey, CA. Dr. Gary Greene, Director, Moss Landing Marine Laboratory welcomed the group to Monterey. The agenda is included as [Appendix I](#), and the list of attendees is [Appendix II](#).

Charter Change

Rich Findley noted that the charter did not include any mention of term limits for officers. Rich is in the first year of his second term and Tim Pfeiffer, the current Vice Chair, is in the second year of his first term. Tim will not be able to stand for reelection. The consensus of the group was that the Chair and Vice Chair should serve no more than two consecutive terms.

RVTEC Logo

Several sketches for logo designs were presented and the group was encouraged to submit additional ideas.

UNOLS Customer Satisfaction Survey

Rich Findley introduced the subject of the UNOLS customer satisfaction survey recently carried out by FIC. Jack Bash provided additional background information and a tabulation which included all the answers to the surveys received by FIC. This tabulation is included in [Appendix III](#). During the discussion concern was expressed regarding the existing Chief Scientist's and Captain's cruise assessment forms.

Safety

Jack Bash provided an introduction to the discussion of safety related matters, pointing out that RVOC had produced both the UNOLS Research Vessel Safety Standards and also the RVOC Safety Training Manual. The UNOLS Council has been examining the responsibility of the Chief Scientist. By law, the Captain is responsible for all that happens on the ship. The distinction drawn on research vessels between scientific operations and safety of the ship is often easier to make in theory than in practice. Diving operations have a fairly specific hierarchy of responsibilities associated with them. In general the results of the FIC study regarding safety at sea were positive. There was discussion of the use of Chapter One of the Safety Training manual, the Research Party Supplement, and it was felt that the techs could assist in ensuring that this reaches the scientists. There is much variation between ships, and even variation on a single ship between projects, on how the coordination of allocation of responsibilities for safety related matters is handled. Given the widely varying operating profiles of the ships and requirements of the scientific parties this variation is to be expected. The consensus of the group was that although the coordination and communication take place on an ad hoc basis, they are taking place effectively. The group agreed to begin accumulating video footage with the ultimate goal of being able to produce a safety video based on actual at sea back deck operations. There was also discussion of laboratory safety, material safety data sheets, and handling of radioactive isotopes and it was agreed that the video should include lab safety as well as deck operations.

Vans

Jack Bash reported that FIC is proceeding with the study of design guidelines for shipboard vans. The report which includes input from both RVOC and RVTEC will be published soon.

Cruise Assessment Forms

The Chief Scientist and Captain's post cruise assessment forms were discussed and there was an effort to determine how the purpose and use of the forms could be better specified and how the forms could be improved. Woody Sutherland agreed to continue to work on this problem and report back to the group later in the meeting.

Future of UNOLS

Jack Bash briefed the group on discussions surrounding the subject of Don Heinrich's "modest proposal". The ship acquisition programs have been successful in recent years, but the funding for science programs has not been keeping pace. The present shortfalls in funding for the fleet may get worse and several possible alternatives to the present practice of rotating lay-ups were discussed.

Data Standards and Interchange

When the meeting was reconvened after the lunch break Marc Willis took the floor to begin the discussion of data standards. Marc presented the "Specification for Shipboard Data Logging" which is included as [Appendix IV](#). There was some discussion of the resources necessary to implement this program in terms of the programmer time required for software development and the ease or difficulty of integrating NetCDF with existing data logging software. There was further discussion of the details of the implementation during which Eric Firing contributed several points from the point of view of a user of the data product. Lisa Rom reminded the group that there is a distinction between making the data available to embarked scientists and archiving the data. Our funding does not encompass archiving. After further discussion the following statement was adopted by the group:

It is the consensus of RVTEC that the "Specification for Shipboard Data Logging" is endorsed. The Data

Interchange Sub Committee is tasked to proceed with further development of a NetCDF extraction tool. Eric Firing has agreed to contribute guidance from the perspective of users of the data product.

Day 1 - Wrap-Up

The final discussions of the afternoon included the use of CDROMS for data storage and the use of e-mail and various electronic bulletin boards and mailing lists. Sam Neihardt and Guy Farnsworth presented the science layouts for the HEALY.

NOAA NODDS

The meeting reconvened on Tuesday, October 17, 1995 at the Monterey Convention Center. Dr. Doug McClean gave a presentation on the NOAA NODDS program. NODDS is a system which allows civilian users access to a wide variety of weather and oceanographic information produced by the Fleet Numerical Meteorology and Oceanography Center. The NODDS software runs on each user's local computer and once the user has selected which data products are of interest, the software automatically calls the NODDS computer in Monterey over standard phone lines and down loads the required data. All the background maps, captions, etc., are stored on the local computer and the data is compressed before transmission so the time spent on line is quite short. At the present time, phone lines are the only route of access to the NODDS data, but the group is working on developing an access protocol which can be used over Inmarsat C. Unfortunately, future funding for this program is uncertain. The slides for Dr. McClean's talk are included in [Appendix V](#).

SeaNet

Andy Maffei presented an update on the status of the SeaNet project. The slides from his presentation are included in [Appendix VI](#). SeaNet is intended to extend the Internet to ships, buoys, and other platforms throughout the ocean and will develop the infrastructure to support a collaborative effort to integrate shared network and telemetry tools for oceanography. NSF has funded SeaNet light, a pilot project to design and implement the first shipboard communications node. This node will be installed on R/V THOMPSON in support of JGOFS work and will communicate over an Inmarsat B High Speed Data link. Rex Buddenburg continued the discussion with an update on current and future communications technology.

Dissolved Oxygen Workshop

The meeting then moved to Monterey Bay Aquarium Research Institute's facility in Moss Landing where Ginot Friederich, MBARI, and Bob Williams, Scripps, presented a workshop on dissolved oxygen measurements. A copy of MBARI Technical Report No 91-6, "An Easy-to-Construct Automated Winkler Titration System", by Gernot E. Friederich, Louis A. Codispoti, and Carole M. Sakamoto, April 1991, is included in [Appendix VII](#). The workshop and demonstration covered proper sampling techniques to avoid contamination of the sample with air and use of the automated titration equipment.

Steve Etchemendy, MBARI's operations manager, conducted tours of their facilities, including the workshops where the ROV's are built and maintained, and MBARI's vessel. Rich Muller also conducted tours of R/V POINT SUR and the Moss Landing Marine Labs facility. Moss Landing hosted a reception for the group at the end of the day.

Chirp Sonars

The meeting reconvened on Wednesday, October 18, 1995 at the Monterey Convention Center. Mike Rawson and John Freitag discussed Chirp sonars. The data tapes can be replayed through the system's

deck unit without trouble but they have experienced difficulty in reading the tapes on other computers. Although both systems produce data in SEG Y format that format is not completely self documenting and much additional work is necessary to be able to read the tapes off line. The majority of the use of these systems has been through the paper hard copy output on board the ships. John stated their goal is to develop the use of the system as a tool in contrast to a dedicated survey system. The work necessary to reduce the data and compare the performance of the two existing Chirp systems will continue.

Database Subcommittee

Tom Wilson presented the report from the Database Subcommittee. He traced the evolution of the data base through the two paper editions to the present World Wide Web version. the RVTEC home page can be reached through the UNOLS home page located at

<http://www.gso.uri.edu/unols/unols.html>

or through the Oceanic database at

<http://www.cms.udel.edu>.

Tom demonstrated the functioning of the WWW database and the RVTEC home page he had created. The database contains both biographical information on people associated with the tech support groups and also on equipment available from each institution.

Elections

Tim Pfeiffer, the outgoing Vice Chair, reported that John Freitag and Marc Willis had expressed a willingness to stand for election as Vice Chair and he placed their names in nomination. Rich Findley called for additional nominations from the floor. There were none and Marc Willis was elected Vice Chair.

Charter Change

The revision to the charter which had been discussed on the first day of the meeting was formally adopted. The revised section of the charter reads:

The Chairperson and Vice Chairperson shall not serve more than two consecutive terms.

Cruise Assessment Forms

Woody Sutherland reopened the discussion on post cruise reports and presented a draft format of a revised report which included the following questions:

1. Length of the cruise, including transit

- Less than 7 days
- 7 - 14 days
- more than 14 days

2. Did the cruise meet scientific objectives?

- No Exceeded objectives

3. How did each of the following impact the success of the cruise?

	greatly harmed	-	-	-	greatly helped
a) Weather	()	()	()	()	()
b) Precruise planning with ship	()	()	()	()	()
c) Precruise planning with techs	()	()	()	()	()
d) Ship equipment (generators, winches)	()	()	()	()	()
e) Scientific equipment(CTD, computers)	()	()	()	()	()
f) Performance of Captain	()	()	()	()	()
g) Performance of crew	()	()	()	()	()
h) Performance of techs	()	()	()	()	()
i) Precruise coordination of scientific party	()	()	()	()	()
j) Instrumentation brought by scientists	()	()	()	()	()
k) Performance of scientific party	()	()	()	()	()

4. List any safety related problems or concerns:

5. Additional comments:

The same form could be used by the Chief Scientists, Captains and Technicians. In the following discussion there was still concern about the purpose and use of these forms.

1996 Annual Meeting

In discussing the plans for next year it was agreed that three days was sufficient for the meeting and that it would be desirable to hold it in conjunction with the MTS Conference. However, MTS 1996 will be in September and holding the meeting that early would be operationally difficult for many people. The meeting was scheduled for November 11, 12, 13, 1996, at Harbor Branch Oceanographic Institution, Ft. Pierce, Florida.

Long Range Planning

After some discussion the group reached a consensus that RVTEC should begin to prepare long range plans with a focus on fundamental, enabling technology and with input from the scientific community. The need for reassessing the design of the standard UNOLS conductor cable was cited as one example of the type of planning appropriate for RVTEC.

Gyro Interface

Tom Orvosh presented a gyro interface module that they had developed at URI based on the converter chip used in the OSU SAIL modules and a 6811 processor programmed in Fort. Details on the

construction and software are available from URI. Marc Willis mentioned that Furuno also has a NMEA 0183 gyro module and Tim Pfeiffer commented that there also were IBM PC bus boards available.

Auto Sal Interface and Software

Chip Maxwell discussed a new interface to the Auto Sal which uses Keithley MetraByte boards and is optically isolated at both the computer and the Auto Sal end. They have also developed software which standardizes procedures for Auto Sal measurements, including standardization, flushes, and repetitions. With this software they have found that inexperienced operators can produce standard results.

Respectfully submitted,

Timothy Pfeiffer
Vice Chair