

**UNOLS COUNCIL MEETING**  
**Summary Report**  
**2 – 3 February 2000**  
**W. Alton Jones Campus**  
**Whispering Pines Conference Center**  
**University of Rhode Island**  
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**Welcome and Introductions** – The UNOLS Council met in the Laurel meeting room at the W. Alton Jones Campus Whispering Pines Conference Center of the University of Rhode Island. Bob Knox, UNOLS Chair, called the meeting to order at 0830 on 2 February 2000. The items on the agenda, [Appendix I](#), were addressed in the order as reported below. Participants of the meeting, [Appendix II](#), introduced themselves.

**Accept Minutes** – The minutes of the September 1999 Council meeting were reviewed. A correction on page 4 was noted to change "Dave" to "Mark" Brzezinski. The minutes were accepted as amended.

**Committee Reports** – Bob Knox summarized the committee reports that are included as [Appendix III](#).

**Arctic Icebreaker Coordinating Committee (AICC)** – The AICC has been very busy. HEALY was delivered to the US Coast Guard and will be conducting shakedown cruises out of Pensacola, FL before going to San Juan, PR for warm water trials in February/March. The AICC has held open meetings at AGU (12/99) and TOS (1/00) to provide information to the community as to the capabilities of HEALY and future research operation strategies. HEALY will visit Baltimore for a public relations visit on 22-24 March. The FIC will hold a meeting aboard when the ship transits from Norfolk to Baltimore. As an educational program, science teachers who will be aboard the ship during the cold water trials will also ride from Norfolk to Baltimore. Jack Bash encouraged everyone to visit the ship during the Baltimore in-port period.

**DEep Submergence Science Committee (DESSC)** – The DESSC report has three parts: DESCEND, December meeting, and terms of reference. Patty noted that the DESCEND workshop report is being drafted. The steering committee is attempting to organize the report so that it will be a useful document for the agencies and science community. The Terms of Reference have been updated to better reflect the DESSC's new role. Bob encouraged the Council to look over the terms and provide any comments to Patty.

**Fleet Improvement Committee (FIC)** – The FIC report includes a summary of FIC's November meeting aboard WESTERN FLYER, the status of AGOR 26 and the WHOI SWATH. The report also describes mid-life planning efforts for the regional ships and replacement of CAPE HENLOPEN. It discusses the science mission requirements for the ALPHA HELIX replacement and provides a chapter by chapter review of the Biennial Review.

**Research Vessel Operators' Committee (RVOC)** – The Committee members have been working on the cooperative agreements for each of their operations. At the last meeting, RVOC spent considerable time

on quality improvements and how to define as well as measure excellence. This is an area of high interest. The Research Vessel Safety Standards have been updated and distributed.

**Research Vessel Technical Enhancement Committee (RVTEC)** - The RVTEC report addressed activities of their 1999 meeting. The meeting included a workshop on NetCDF. There was some discussion on the status of the salary survey. John explained the technicians had very mixed feelings regarding the survey and as a result there was little response to the questionnaire over the past year. There was some discussion by the Council on why this had not received more attention. It was explained that participation by the group has been slow because some felt that it was of little value and could cause problems at their institution. The RVTEC plans to continue the survey for another year.

On a different subject, Jack Bash reported the status of the nuclear submarine as a science platform. The decision has yet to be made as to whether or not the Navy will agree to use a submarine for science. The last of the STURGEON class submarines is nearing retirement age. A decision will need to be made soon.

Tom Royer asked about the status of SeaNet™. It has been slow to get off the ground. The cost is still high for data transmission and the average scientist can't afford to use it for their large data sets. A lot of effort and resources has been put into developing SeaNet™ and it is not being used to its fullest potential. A good use of the system is educational and public outreach. Charlie Flagg indicated another potential use, real-time modeling. Real-time at-sea modeling has a need for two-way communications and the demand is there. It was noted that many scientists don't know SeaNet™ exists. The science community needs to be educated on its capabilities. Mike Reeve said that he will be taking this effort on and SeaNet™ users should provide feedback to him.

**Ship Scheduling Committee (SSC)** – The SSC report indicated that THOMPSON's schedule still remains unsettled. NSF ship time totals for the large ship use are up in 2000. Overall Navy funding is down in 2000 since NAVO funds dropped from \$7.5M to \$3M. CORE made a concerted effort to maintain the NAVO funding at \$7.5M, however, had very limited institutional support.

### AGENCY REPORTS:

**United States Coast Guard** – The USCG provided a written report included as [Appendix IV](#).

**Department of State (DOS)** – Tom Cocke gave the report for Department of State. With the addition of Liz Maruschak to the staff things have been going well. State has been plagued with Y2K problems that included the inability to add data to their existing system. NSF has provided funds for an expert to remedy the problems. Post cruise obligations still are running late. Brazil threatened to deny clearance because of late post cruise data. DOS will be heavily involved with the OPSAIL 2000 program that will bring over 200 tall ships into various ports in the US. Tom's office will be handling these requests. To assist Tom in getting a better response for the clearance process it was suggested we identify those institutions doing a good job at reporting and model all operations after them. It was noted that this falls under our excellence area. Perhaps a report card of some sort is needed.

Tom's office has been having problems in upgrading their computer programs. They will be upgrading from a DOS based system to Windows based ACCESS.

Bob Knox brought up the problem of translating post cruise reports. Could this better be done as a group, spreading the tasks among several institutions? Bob encouraged some thought on this issue.

**National Oceanic and Atmospheric Administration (NOAA)** – CDR Beth White provide the report for NOAA. NOAA is going through a major review that includes a user customer survey. Facilitated all-hands sessions have been conducted to address the items reported on in the surveys. NOAA is now working on the implementation phase of the recommendations.

RON BROWN is in the yard for routine maintenance and to bring the ship to ISM compliance. New NOAA Corps members are in training at Kings Point. The Corps is now staffed at 230, with a goal of

increasing to 260 personnel.

**NOAA/NMFS** – NMFS Administrator, Dr. Penelope Dalton has agreed to the wording of the NMFS/UNOLS MOA. NOAA administrator, Dr. James Baker will sign the MOA when a suitable date can be arranged.

The acquisition process for the new fisheries FRV is on hold. NOAA had been working with NAVSEA in the acquisition project, but as of November, NAVSEA stepped away from the project. NOAA will be taking this effort over. They can use the technical requirements developed by NAVSEA after they have been updated. They hope to have the bid package out in March. It has been determined that the contract will have to go to a small business which means that yards like Halter Marine are ineligible.

**National Science Foundation (NSF)** – Dolly gave the report for NSF and noted that their funding for 2000 did not meet the ship operations costs. As a result, they have had to shorten and postpone cruises and reduce rates. Dolly thanked the operators during this and explained that they have been very cooperative. There is little money left over for upgrades in 2000. Mike Reeves reported that the budget problems are a result of the science programs funding too much sea-going science at a time when the budget is flat. A NSF budget for 2001 will be submitted in February. The President's State of the Union address requested \$750M new money for NSF. The technician support budget has not been as impacted as the ship operations budget.

**Naval Oceanographic Office (NAVO)** – Paul Taylor provided the report for NAVO now in the 4<sup>th</sup> year of operations with UNOLS. This year \$3M has been appropriated for UNOLS with six institutions participating. An additional 10 to 15 more ship days may be added in 2000. Paul's viewgraphs are included as [Appendix V](#).

**Office of Naval Research (ONR)** – The ONR report was provided by Tim Pfeiffer. UNOLS ship support from the Navy was close to last year's level with the exception of the NAVO work. Approximately \$18M was spent in 1999 with about \$14M expected for 2000.

The AGOR 26 contract was signed with Lockheed Martin. A \$9M increase for construction was appropriated by Congress and transferred to NAVSEA. The ship should be ready for delivery in two years. A written ONR report is provided as [Appendix VI](#).

**NSF Academic Research Fleet Review** – Bob Knox led the discussion on the fleet review. He reviewed the recommendations included on page 3 of the Academic Fleet report. Considerable discussion followed concerning the recommendation that NSF is to develop a long-range upgrade and replacement plan for the fleet.

The National Ocean Research Leadership Council (NORLC) met with the Federal Oceanographic Fleet Coordinating Committee (FOFCC) to address long range needs and utilization issues. FOFCC has taken the first step in developing the plan. The agencies will work together with NSF taking the lead on this item. FOFCC will become the Federal Oceanographic Facilities Committee (FOFC) in reporting to the NORLC

Dolly Dieter responded by reporting that the three lead agencies (NSF, ONR & NOAA) have met a few times to address this topic. They have been working on developing an approach for the plan. This is a challenging problem since it is difficult to figure out what the funding will be in the next couple of years let alone ten years in the future. The three agencies are looking at all of the recent reports that have been put together (Futures, DESCEND, carbon cycling, etc.).

General discussion continued on the details of the NSF review. The subject led into the presentation by Paula-Anderson Findley on enhancing operational/technical support performance.

**Enhancing Operational/Technical Support Performance** – Paula-Anderson Findley provided a presentation on enhancing performance for the UNOLS Fleet. She has considerable experience in providing seminars on enhancing quality and performance in an organization. Her background in studying

various accepted performance enhancing techniques and seminar experience are particularly germane because of her understanding of the oceanographic community including personal experience of sailing aboard UNOLS research vessels as a technician. Paula came prepared, having examined in detail the NSF Fleet Review report. She noted the unique complexity of the oceanographic community organization and explained that efforts for enhancing performance should first review existing programs.

Paula's discussion included a series of viewgraphs which are included as [Appendix VII](#). The presentation was open to Council discussion and questions were encouraged. As a result, the dialog took many directions though out the course of the presentation. These minutes will attempt to reflect the general tone of the conversation.

The discussion began with a quiz. Paula asked that all meeting participants position themselves on a triangle in the area that best describes themselves: relationships, goals or processes. Paula noted that this triangle would be referenced throughout the discussion.

Paula reviewed two quality approaches, International Standards organization/International Safety Management (ISO/ISM) and Total Quality Management (TQM). She reviewed the objectives and purpose of each of these approaches and their differences. If the ISO certification approach is selected, you need to assure that your suppliers are also ISO certified. Both ISO 9002 and ISM are directly related to the marine industry but do not directly address the interaction of the science community to ship operations. She went on to explain the reasons for using an audit process, what gets audited and who gets audited. The consequences for failure for these two approaches are very different. There are experts at NSF in product training who can provide guidance in this area.

Next, Paula addressed the Academic Fleet Review findings and recommendations. She divided the NSF Review into eight elements: utilization, vision, structure, improvement, funding, operations, innovations (new technology) and strategic long range planning. Paula asked the Council "What is the definition of quality?" Responses included value, customer satisfaction, good proposals, meeting standards, pride in workmanship, reliable, excellence, meeting expectations, rewarding. She asked the Council to think about the things that are missing from the report:

- customer satisfaction
- employee satisfaction
- cost drivers

On a related issue, Paula noted that if response to the technician salary survey hasn't been good, this notes a problem. There is a concern about being open. These things need to be addressed.

Paula defined the term "gap analysis." On a scale from very satisfied to unsatisfactory, the gap is the difference between how important you think something is and how satisfied you are with that item. To determine your ranking, a pilot study can be conducted. In the case of UNOLS, it might be a survey where you list the eight report findings and then ask the customer how satisfied they are and how they would rank these items. There was a question on how to approach such a study. Paula indicated that there needs to be a leadership team, then experts can work with the team to define a plan. It is a journey that can take a couple of years. It is major effort. Another question was asked on how to deal with people changeover? The Council is elected. Paula noted that there are always some common threads, there is continuity. Teams are normally small with approximately eight to ten people.

An important item that needs to be decided before initiating a program is whether you wish to seek compliance or excellence. Paula read some of the findings and recommendations from the Fleet Review. Some appear to be compliance items and some appear to be excellence driven. This evolved into a discussion on the post cruise assessment process. The process is not working optimally. It has the appearance of being a one-way street of communication. Is there any accountability? Are the operators, tech groups and scientists working together in the assessment process? How do we integrate all parties and how do we ask the right assessment questions?

Paula indicated that we need to convey the message that making improvements is possible. It was noted

that sea-going scientists have their own, unique missions. How do the technician groups strive to meet all these different missions? Steve Rabalais noted that his instructions to the LUMCON technicians are "to make the science party happy." Paula made a chart showing a strategic plan where there are specific goals in the plan and then there are all the different entities that need to meet each of these goals. This would be analogous to the UNOLS model where there are a variety of service related goals that need to be met by operators, technicians, the UNOLS Office and the Council. There was discussion on the mission of UNOLS. There was some debate over the mission with two general opinions:

1. To provide world leadership in ocean sciences, and
2. To provide the best possible facilities to support world leadership in ocean science.

How to define a UNOLS leadership council was asked. A team needs to define the issues, and set expectations.

- We need to define our level of satisfaction.
- We need to select an approach of either compliance or excellence.

The leadership team needs to assure that the approach that will be pursued will provide the methodology needed to reach the defined goals. We need to choose a methodology that works for our needs. We should set expectations and outcomes. Referring back to the triangle, in order to meet goals, goal-type people, relationship-type people, and process-type people are needed. All points of the goals need to be addressed.

Paula presented the various improvement program options, ISO, ISM, Deming, Baldrige and 6 Sigma. A comparison chart of these options is provided in the viewgraphs. Paula also provided a summary of the total quality management discussion in terms of customer focus, continuous improvement, total involvement, systemic support and measurement.

### *Afternoon Break*

Bob Knox asked that we continue the discussion on fleet excellence of the morning. He indicated that we would need to start at step one with establishing our satisfaction ranking. Perhaps a survey will need to be conducted. There was a question on what is the role of the UNOLS Council in this process. Perhaps this question should be asked of the community in the survey.

It was recommended that each UNOLS operator institution have a ship committee. Each of these committees should strive for excellence. Dennis Hansell noted that the BBSR ship committee is made up of the users, not just BBSR employees.

RVOC has been addressing the issue of ISM compliance. Some ships must comply, while others do not. There is the question of whether all ships should be mandated to comply with ISM. The RVOC has also noted that quality improvements need to be addressed by all parties: technician groups, ship operators and scientists.

Returning to the issue of the Council's role, Bob Knox suggested that the Council as a whole is the right body to determine the program goals. However, there needs to be a smaller, more focussed group to take on the project implementation. Tim Cowles indicated that we need to clearly define our goals. We need a very clear statement of what we want and what is the quality standard. The very first step should be defining the goals.

It was generally agreed that a small group will be appointed and tasked to draft the first steps for striving towards quality of service improvements. They will be asked to chart out feasible first steps that organizations and institutions can take to strive for excellence. This will be circulated to the Council for review. There was some concern about trying to do this by e-mail alone. We need to keep the momentum. There was a suggestion that hiring a professional to assist in this effort might be beneficial.

Bob will draft a tasking statement for the committee and present it to the Council before the meeting adjourns. There was a suggestion to include elected council members, one RVTEC member and one

RVOC member on the committee.

**Post Cruise Assessment Reporting** – Jack Bash reported that no new changes have been made to the assessment form. The form is on the web and should be automated to electronically collect the information into the database. Jack recommended that we wait until an excellence program is selected before modifying the assessment report.

Tom Shipley indicated that the low community feedback might be a result of the community's impression that the assessment information is not used. We need to collect the data and summarize it in a useful way and follow through on recommendations or problem areas. We need to hear from the community. More work is needed in this area.

**UNOLS Biennial Review of Sea Going Oceanographic Facilities** – Larry Atkinson, FIC Chair reported that the report is progressing. Input from authors is slowly being submitted. The review outline and material can be viewed at: <http://archive.unols.org/committees/fic/ficom/AUTHSHIP.HTM>. This will be a major agenda item at the upcoming FIC meeting in March.

**Moorings as a Facility** – Dennis Hansell reported he was unable to attend the moorings meeting at NSF in September. Feedback from the meeting did not indicate an immediate need for the establishment of moorings as a facility. However, there is support for the concept. A hero is needed to lead the effort if it is to continue. For the time being no Council action will be taken.

**Seismic Acquisition issues and UNOLS Fleet Capabilities** – Tom Shipley provided written information that is included as [Appendix VIII](#). Tom co-chaired a meeting with Greg Moore on seismic acquisition on 17-19 October. Approximately 40 people participated.

There are emerging technologies in seismic acquisition available to researchers. These include:

- 2D and 3D high resolution
- 2D and 3D deep penetration
- nested scales of surveying
- improved visualization and processing
- 4-C emerging technology

However, there is declining usage of seismic tools due in part to the difficulty in accessing and using existing equipment. The work is expensive to carry out. Tom showed a chart of seismic programs carried out in the US by year beginning in 1974. In recent years there is only about four months of seismic work per year. It is difficult to have a dedicated seismic ship for only four months of work per year.

Present activity levels will not support the underway and planned science programs for the next decade. To achieve the minimum objectives of the estimated science plans over the next decade would require at least 8-fold increase in funding. The MARGINS program will have high requirements. The reality is that the science budgets have been level over the years.

Some recommendations for increasing seismic work include simplifying use, improving quality and enfranchising more scientists. This can be achieved by developing one or more facilities to support two classes of seismic operations. It was also recommended to develop a seismic data archive facility.

Other recommendations included:

- Simplify contracting for specialized commercial technology (this was also a recommendation of the Academic Fleet Review report).

- Promote a multi-national program for long-term contracting of commercial multi-streamer 3-D MCS (in an era of IODP). This is an expensive option and would need to be multinational effort.

The future appears to be in new technology. There is concern that EWING is not current with the

technology improvements. This is an important issue that needs to be addressed.

Tom's workshop report will be sent to NSF.

**ADCP Discussion** – Charlie Flagg led a discussion on shipboard ADCP planning (see *Appendix IX*). A user group has raised ADCP issues that need to be addressed. The group would like UNOLS to endorse and to address these concerns.

Some of the recommendations include:

- Establish a pool of equipment that could be shared among users.
- Work with the manufactures to develop a plan for the progression to state of the art systems.
- Come to an agreement on the architecture for a universal data acquisition system.

The user group would like to have a meeting of operators, users and manufacturers and are requesting a UNOLS endorsement for such a meeting. Tim Cowles explained that biology users dictate that every ship has a working ADCP unit. This is a critical item. A discussion followed as to who would fund such a workshop. NSF is the likely candidate however commercial funding should also be pursued.

Bob Knox received an endorsement from the Council in favor of the ADCP meeting. This fits with the goal for quality improvement. The funding issue will need to be resolved.

### **New Ship Construction:**

**R/V SAVANNAH** – The contract has not been awarded for this ship. Funding shortfalls may require some design changes. The issue remains to be settled by the Georgia State Legislators.

**F.G. WALTON SMITH** – The catamaran has been delivered to RSMAS and is undergoing shakedown tests. *Appendix X* provides a photo and deck lay outs of the ship. It will be ready for service in the spring. A NSF inspection will be required before it can become a UNOLS vessel.

**Regional Ship Planning** – Lee Black has been leading an effort in regional ship planning. A group of operators and scientists (who were attending the Winch and Wire Symposium) held a meeting in New Orleans. Another meeting is planned in Baltimore in March where they will also meet with the FIC. Goals of this group include planning for mid-life upgrades of regional ships both in terms of scope and timing. A letter from Lee Black is included as *Appendix XI*.

**WHOI SWATH** – The design is completed for this ship, fund raising continues. No major changes since September.

**AGOR 26** – The ship construction contract has been signed. The ship should be ready for delivery in 2001.

**SEA CLIFF** – The SEA CLIFF engineering study is on-going. The project has been held up while WHOI waits for input from one of the contractors.

**ATV** – The Navy is retaining ownership and control of the vehicle at this time.

## **February 3, 2000**

**Quality of Service** - Bob Knox began the day with a continuation of the fleet review and enhancement of quality of service discussion from day one. He formed a subcommittee to follow up on action items. Committee members include:

- T. Cowles (chair)
- B. Prezelin
- T. Shipley
- D. Hansell
- J. Freitag
- S. Rabalais

The charge to the subcommittee is provided as [Appendix XII](#).

The group is to work via email and have preliminary findings by 1 May. These findings are to be available prior to the summer Council meeting where further discussion will follow.

**Discussion on Ship Scheduling Problems in 2000** - It was noted that this is one of the strongest years in the number of total ship days scheduled. A few problems have been reported. THOMPSON's schedule is still unsettled and will depend on the outcome of tests of the PROD drill. Across the fleet there are still some proposals that need to be negotiated. A small number of funded programs may need to be moved into 2001.

**NAVO/Navy Ship Time** – The funding for NAVO/UNOLS ship time has always been a congressional initiative rather than an item in the regular budget. The future of this congressional initiative is uncertain. Paul Taylor explained that NAVO has eight ships that are always forward deployed. As a result, the Navy cannot fulfill their requirements off the US coast. UNOLS ships have completed NAVO's gravity work, but there is other work that needs to be conducted that if funded would last for the next five years. NAVO is very satisfied with the service and results provided by the UNOLS vessels. Bob Knox offered to assist in any way to help foster the NAVO programs.

**White Paper on Ship Scheduling** – Jack Bash has revised the white paper on ship scheduling. There are now links to the Research Vessel Safety Standards, the Safety Training Manual, and to the Department of State. There is a new section describing the UNOLS ship time request web map. More description in the introduction is needed. The Council was instructed to look over the revised paper and pass comments to Jack.

Jack continued with a report on the ship scheduling changes. There is now an online form for posting schedules. It dictates uniformity that allows the capture of scheduling data into a database. All UNOLS schedulers will be asked to use the new web form. The capturing of this data should simplify schedule searches and archiving. Joe Ustach recommended that this on-line schedule form be adapted so that schedulers can use it to submit their "letter of intent" for the summer scheduling meeting.

In the new on-line scheduling system there is a "transit bank". This permits schedulers to indicate those transits that are available for no-cost riders such as students or researchers. There will be another location on the UNOLS web page showing the list of ships that have transit time. It will be up to the schedulers to decide if they want to make available this time for the transit bank. If PIs know about this they might want to take a class along. They could possibly get human resources or education funding.

Beth White added that NOAA has a teachers-at-sea program. There was some discussion on what was considered a research cruise by the Coast Guard with respect to R/V status. In some cases, educational cruises are not considered research.

**UNOLS Office transfer** – Mike Prince reported on the UNOLS Office transfer status. The office will transfer on 1 May. The new UNOLS Office will be located in the library building of MLML. The office phone number is (831) 632-4410. Consideration has been given to registering the UNOLS domain name. Mike asked the Council's preference for .org or .edu. The Council preferred .edu. Mike indicated that if there were no major cost implications, he would pursue the edu. option. [Since the meeting the UNOLS domain has been registered. The web address for the new office is [archive.unols.org](http://archive.unols.org)].

The web page will likely stay at URI for time being. The plan is to build on what is there and not reinvent the system. Every effort will be made to make the transition seamless.



Annette will remain at URI and can still be reached through the current UNOLS telephone numbers and email and postal addresses.

Dolly indicated that the new UNOLS proposal is still being reviewed by the agencies, but should be negotiated by the end of the month.

Bob asked that each of the UNOLS committee Chairs think about how business might be done without having as many meetings. The travel budget is not insignificant. Any way that it can be reduced would be helpful. Also, adequate planning for trips is very helpful in reducing costs.

Patty discussed the strategy of the DESSC planning meeting which is normally held each year in December at the AGU conference in December. This meeting is a good way to reach the MG&G community, but is often not represented by the biologists. She suggested having a DESSC presence at the Ocean Sciences meeting. Mike Reeve reinforced that this is a good idea and that the meeting is well represented by all oceanographers.

**MATE program** – John Freitag gave the history of the MATE program. It has been predicted that the need for marine technicians in the coming years will greatly increase. Most of these marine technicians will not enter the academic marine tech field. There are needs in private industry and marine recreation. MATE has used the academic marine technicians as a resource in developing their program. MATE has requested to use the UNOLS logo on their literature. RVTEC has worked with MATE in developing job qualifications for the sea-going academic portion of the MATE program. However, this is only a small part of the overall MATE program. The Council came to the consensus that MATE could acknowledge UNOLS' involvement but not use the logo.

**Nominating committee** – Bob Knox appointed a nominating committee of Charlie Flagg (Chair), Clare Reimers, and Paul Ljunggren to develop a slate for the Council elections in September.

**Charter Clarification** – Bob Knox reported that the Charter, as it relates to partial terms of Council and Committee members, is not clear. He will draft a change to the Charter to clarify this shortcoming and pass it to the Council by e-mail for comment.

**HEALY Visit to Baltimore** – HEALY is scheduled to depart Norfolk, VA in the early morning on 21 March and will arrive in Baltimore, MD that evening. The Fleet Improvement Committee will ride the ship and hold a meeting during the transit. The Shelf-Basin Interaction (SBI) Committee will meet on board the ship the following day. The ship will be available for tours on the 22-24. Thursday will be a day for VIP visitors and formal presentations. AICC will be on hand to discuss Arctic science and display posters. The Coast Guard will provide tours. Jim Swift indicated that the response has been overwhelming regarding science poster contributions.

The AICC has been suggesting that the USCG get assistance from the academic community in regard to marine technicians. The Coast Guard Marine Science Technicians (MST) will serve as the marine technicians aboard HEALY. To train, the MSTs have been sailing on UNOLS vessels and have attended RVTEC meetings over the past couple of years. One UNOLS institution has submitted a proposal to provide technical support for the HEALY.

The USCG has been very receptive to working with the science community. Capt. Garrett, HEALY's Commanding Officer, is very willing to accommodate scientists.

### ***Break***

**Winch and Wire Symposium** – Jack Bash reported on the winch and wire symposium held at Tulane 30 November and 1 December 1999. It was attended by operators, technicians, scientists, and manufacturers. Scientists representing the four oceanographic disciplines, one operator, and one engineer made up a panel that opened the meeting with a presentation of their respective disciplinary needs. The symposium ended with each of the panelists recapping the symposium with a summary from their respective discipline. Symposium speakers from industry addressed the items identified by the panel. Approximately

80 people attended over two days. If there was any down side, it was attendance by the science community. Those scientists that did attend felt that it was a very useful process.

A draft letter report is being circulated. One of the major discussions had to do with the .322 wire and the safety factors involved. The community varies greatly in how they use this wire with conflicting standards. It was recommended that UNOLS determine an acceptable operating profile and establish a standard across the fleet. Another recommendation of the symposium was to design a new .322 wire with greater strength and more bandwidth. The .680 wire also needs redesign. The symposium recommendations will ask for more UNOLS training in maintenance of wire and operation of winches. A recommendation for better record keeping of wire and winch operations will be made. A final recommendation is for similar meetings every five years. An outcome of the workshop will be an update of the winch and wire manual. This is in progress and should be ready by the end of the year.

A question was asked about the effectiveness of lubrication systems. Today's lubricating systems work well and dramatically increase the life of the wire. Chemical oceanographers, however, will not use the wires that have been lubricated.

**DESCEND Workshop** – Patty Fryer elaborated on her written report. There is a big issue of access to the sea by submergence scientists. Some scientists must wait many years before having access to a vehicle. It was suggested to use the ROVs and AUVs for work when feasible, such as with time series operations. It was also recognized that there are remote areas that have been very well surveyed and need a deep submarine. One controversial suggestion was to include the HBOI submersible in the national facility so that scientists could have access to these vehicles for the shallow work and free up ALVIN for deep-water work. This issue will be further discussed by DESSC at their summer meeting. The question, "what would be the negative aspects of bringing the HBOI vehicles into the national facility?" was asked. It was indicated that without the addition of funds, adding HBOI vehicles to the national facility would dilute the funds now available for deep submergence operations. Technical problems may be encountered in designating it a national facility. There are six cruises using HBOI vehicles this year.

Patty presented a draft revision to the DESSC Terms of Reference and asked that the Council consider the proposed revision which is intended to better reflect the current activity of that committee. A motion was passed to accept the revised Terms of Reference with the inclusion of some editorial changes.

**UNOLS/NOAA-NMFS MOA** – The UNOLS/NMFS MOA has been approved by both UNOLS and NOAA and awaits signatures.

**UNOLS/NOAA-OAR MOA** – The renewal of the UNOLS/OAR MOA has been approved by both organizations and will be signed by Dr. James Baker.

**UNOLS Brochure** – The UNOLS brochure is in the final stages of completion and should be out this spring.

**Meeting Calendar** – The Council discussed the dates and places for the next meeting. Arrangements will be coordinated by email.

**Annual Meeting** – The Council discussed the dates for the Annual meeting. It was suggested that Margaret Leinen be asked to be the keynote speaker. The UNOLS office will poll the community for the best dates.

*The meeting was adjourned at 12:00 noon.*