

UNOLS COUNCIL MEETING
21 & 22 June, 2000
National Science Foundation
Arlington, VA

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Wednesday, June 21, 2000

NSF, room 1235

8:30 am

The meeting was called to order by Bob Knox, Chair. Introductions were made around the table. A list of attendees is attached as [Appendix I](#).

Accept Minutes - A motion was made, seconded and passed to accept the minutes of the February 2000 Council meeting with some minor corrections.

The agenda ([Appendix II](#)) was slightly modified to accommodate a conflict for NSF program managers by moving the afternoon break to 3:00 pm.

COMMITTEE REPORTS: Bob Knox provided summaries of the written reports submitted by Committee Chairs prior to the meeting. ([Appendix III](#))

Deep Submergence Science Committee (DESSC) - Bob provided a summary of the DESSC Report. There was no discussion or questions.

Fleet Improvement Committee (FIC) Report. -There was a question from Dennis Hansell regarding the workshop on future science needs. Tim Cowles and Mike Reeve explained how Tim is putting together a workshop of around 20 scientists who will be looking at the long range need for facilities to support the science discussed in the Futures reports. FIC and Tim's efforts are being coordinated. Larry Atkinson pointed out that doing this with a workshop is necessary because it has been difficult to extract what facilities are needed from the Futures reports. The workshop is tentatively scheduled for Aug. 10 & 11 or the week after.

Research Vessel Operators' Committee (RVOC) - The RVOC report was summarized and there were no comments or questions.

Research Vessel Technical Enhancement Committee (RVTEC) - The RVTEC report was summarized. John Freitag was asked for a summary of experiences on the HEALY. He reported that the US Coast Guard (USCG) crew was enthusiastic and cooperative. Testing is going well. John was asked what the rotation plan was for the USCG Marine Science Techs. Some billets on HEALY are being stretched out to longer periods to maintain continuity. Some discussion has been taking place about a UNOLS institution or institutions supporting HEALY operations on a continuous basis.

HEALY's Sea Beam system is operating "as well as any system in the Fleet." The system has returned 119 to 120 beams consistently in water as deep as 4,000 meters.

There was a question from Bob about where we stand with regards to establishing uniform standards for safe working loads on the various UNOLS cables. RVOC and RVTEC will put two members each on a working committee to draft some consensus standards for maximum working load (MWL) on standard UNOLS wires. With regards to conducting cable, longevity of conductors is one goal and safety of operations, breaking of the cable is the other criteria.

Ship Scheduling Committee (SSC) report was reviewed. Will be discussed further in agenda.

Arctic Icebreaker Coordinating Committee (AICC) – The AICC report was summarized with Bob giving a report on HEALY's visit to Baltimore in March.

Larry Atkinson, FIC Chair, reported additionally that FIC was publishing a letter in EOS that will draw the communities attention to the need for UNOLS fleet replacement planning. In addition a more complete report which will be the bulk of the FIC Biennial Review of the UNOLS fleet is available on the UNOLS web site: <http://archive.unols.org/committees/fic/planning/fltplan.htm>

Federal Agency Reports:

Representatives of the Federal Agencies were given an opportunity to report on activities of interest to the Council or to bring any issues before the council requiring their input or action.

National Science Foundation (NSF):

Mike Reeve, Oceanographic Centers and Facilities Section (OCFS) section head reported that the NSF budget was being considered on the hill. The House is taking up the HUD and Independent Agencies funding bill with lots of amendments in the works. He thought that they might have some indications in the next few days. The potential budget increase for NSF could be anywhere from 0% to 22%.

There are a couple of staff actions pending in Ocean Sciences. They have interviewed seven people for Research Section Head. The Ship Operations Manager position, which will work with Dolly Dieter has been closed and NSF will now screen applicants for interview candidates.

The National Ocean Research Leadership Council (NORLC) of NOPP met about one month ago and approved the adoption of FOFC (Federal Oceanographic Facilities Committee) as an advisory committee reporting to them. FOFC was formerly the Federal Oceanographic Fleet Coordinating Committee (FOFCC) and it includes senior managers in the various Federal Agencies concerned with the facilities (ships, aircraft, submersibles and other facilities) that support the ocean sciences. FOFCC held a meeting on Thursday afternoon to officially form itself as FOFC and elect Margaret Leinen (NSF) as Chair.

As a subcommittee of FOFC NSF, ONR and NOAA are moving forward on the development of a long range national oceanographic fleet plan. They hope to have a draft report for the community by the end of the year. They are planning a two day retreat-like meeting to get started in July. Over the next few months they will be seeking input from the UNOLS FIC and the workshop being put together by Tim Cowles.

This past year the huge success of Biocomplexity proposals required a large component of ship time the magnitude of which was a surprise and a drain on Ship Operations funds. They have an agreement for the current panel that up to \$1 million of the Biocomplexity program money can be used for shiptime costs. Trying to get this as a normal method of funding ships for programs outside of Ocean Sciences is being considered, especially in cases where there is a large sea going field program. Biocomplexity funding decisions were made late in the year and the amount of shiptime/costs was far greater than expected. It amounted to four 30 day cruises for Intermediate to Large ships. OCE ship operations normally pays for any ship needs for NSF regardless of program.

Dolly reported that the Ship operations program had difficulty making the budget for 2000, but was able to get it done with help from the operators and by keeping the Shipboard Scientific Support Equipment (SSSE) budget smaller than normal. Now there is funding available for training and for some special equipment purchases such as immersion suits through Lamont-Doherty Earth Observatory (LDEO) and for vans through University of Delaware (UDel). UDel is beginning the process by standardizing the van design and is getting bids. The specifications and designs will be posted on the Web for everyone's review.

Tom Royer asked about the Major Research Equipment (MRE) line item in the NSF budget, which was eliminated from the budget in congress. CORE says that these were specific items that were eliminated without "prejudice," that it is possible to put them back in again and that it is not an indication of future plans for the budget.

Office of Naval Research (ONR):

Sujata Millick reported that Admiral Gaffney has been nominated for a third star and will be relieved as Chief of Naval Research by RADM Jay Cohen. RADM Cohen's background is as a submariner and he has completed postgraduate work at Woods Hole Oceanographic Institution (WHOI) and Massachusetts Institute of Technology (MIT).

In 2000, the Navy has funded about \$14 million in ship time including \$3m for NAVO operations of UNOLS vessels. A larger and larger portion of ONR funding is 6.2 money for applied research. These programs are impacted by permits for acoustic research. Also, interacting with other Navy vessels may impact the status of UNOLS vessels with regards to clearances, etc.

Construction of AGOR 26 is on schedule. Lockheed Martin is the overall contractor doing the design and engineering. Atlantic Marine Inc. (AMI) is doing the construction with an architect in Seattle doing the detailed design. The team is working very well. Minor changes to the hull form were made to facilitate construction, which is one example of how the team is working together. The ship will be built modularly. AMI plans to start construction in August or September, and be complete by May 2001. Model tests were conducted recently in San Diego.

Oceanographer of the Navy:

Pat Dennis reported that Capt. Gunderson will be deputy to the Oceanographer relieving Capt. Donaldson who will become CNMOC. USNS BRUCE C. HEEZEN will call in the DC area and will be open to the public. The ship will then go to Rhode Island where the students that named the vessel will be invited to visit. HEEZEN will be in Providence around 26 July and will then go to New York City where LDEO will host the visit.

The Navy's newest TAGS survey ship, USNS MARY SEARS, will be commissioned in the near future.

Spare parts from Sea Cliff will be transferred to WHOI in the next few months and are valued between seven and eight million dollars.

Naval Oceanographic Office (NAVO):

Gordon Wilkes gave the report with view graphs that are included as [Appendix IV](#). In 2000, NAVO has used about 200 days on six ships with a budget of about \$3 million. They have more needs but are accomplishing the higher priority work items based on the available funding. A view graph showed that work accomplished so far has amounted to about five ship years of work that would not normally have been accomplished because NAVO's ships are deployed away from the continental US. Since the program started, UNOLS has provided 1,454 days on 15 different ships. Gordon reviewed the work scheduled in 2000 that does not include any large ship operations and showed a view graph of planned 2001 work. Hawaiian Island work probably will not be needed and would be scheduled if there is sufficient funding and a ship was available with out a lot of transit. Ship time Requests (STR's) have been submitted for plans based on \$5 million of funding, but they have a 3 million dollar plan if needed. One large ship cruise on the East Coast is included but it would go away with \$3m funding level. The consensus seems to be that 5 million dollars is the right number for NAVO funding, but it can't come out of Navy's existing budget. Support for adding this as additional funding to the Navy's budget on the hill

is always needed.

US COAST GUARD:

The Coast Guard's written report was reviewed and is included as [Appendix V](#). It was noted that the date of HEALY's Commissioning is uncertain and this could impact the dates of the next AICC meeting.

National Oceanographic and Atmospheric Administration (NOAA):

Beth White reported for NOAA. Their Hurricane Hunter P3 aircraft was damaged when hit by small airplanes which broke free from their tie downs during a strong windstorm (microburst) while tied to the tarmac in Galveston, TX. They are looking for used parts to fix the P3 due to the difficulty of getting new parts.

Beth reported on RON BROWN's grounding incident. RON BROWN glanced off a rock ledge in Hiekish Narrows which is in Canadian inside waters. There was no hull penetration, no injuries, and no environmental damages. The port bilge keel took the brunt of the damage. They could not get into Alaska Dry Dock in Ketchikan, so went to Todd shipyard in Seattle and were repaired and back in service in two weeks.

NOAA is impacted by fuel costs and is trying to recover some of the added costs from the programs. NOS funding took a cut in the House and the hope is that it will be put back by the Senate. NOAA is working on training and compliance with ISM and STCW. They have started publishing an ISM newsletter.

Conducting the Sustainable Seas program has been a difficult process because of the efforts needed to keep the program within safe bounds. Operations have been resumed from the NOAA ship McARTHUR in Monterey Bay and Channel Islands National Marine Sanctuaries. The program will continue with better guidelines for emergency procedures, sub pilot training and launch/recovery procedures. NOAA has been enforcing the use of emergency drills and pilot training. Procedures and rigging for launch and recovery need to be improved for the vehicles being used. A lot of pressure to "just do it" versus doing it safely has made the program a difficult one.

NOAA/National Marine Fisheries Service (NOAA/NMFS):

Jim Meehan reported that the bid package for the Fisheries Research Vessels (FRV) went out last week and will be open for 60 days. After receiving bids, there will be a review which will take about six weeks. They hope to have a contract out by October 2000. It should then take three years to build and outfit the six vessels.

NMFS will be working with UDel on the CAPE HENLOPEN replacement so that it will be capable of conducting fisheries research. NMFS also sent a letter endorsing the Univ. of Alaska's plans to design a fisheries capable research vessel as a replacement for ALPHA HELIX.

In the process of getting approval for the Memorandum of Understanding (MOU) between UNOLS and NMFS, Dr. Baker indicated that he would like one MOU between UNOLS and NOAA rather than separate MOU's for OAR and NMFS. The UNOLS office will work with Beth and Jim Meehan to make the necessary changes.

Beth has let line officers know about the FOFC long range plan process which Dr. Baker has said everyone should take seriously. Beth will provide their feedback to the FOFC subcommittee working on the Fleet Plan.

The web site with information on the NOAA FRV is at: <http://www.sao.noaa.gov/frv>

Consortium for Oceanographic Research and Education (CORE):

The CORE report was given by Bob Winokur. There was a joint hearing on Ocean Observatories with six congressmen present from the Saxton and Taylor committees. Congressman Taylor wanted to know about lack of coordination between Navy and Army Corp. More important was interest in a program called OCEAN.US which is an integrated national approach to ocean observing.

On June 13th Bob gave a briefing to the Ocean Caucus on Governance. He addressed the issue of how the US currently manages the oceans and coastal zones that make up our large EEZ and how a more coordinated approach for the 21st century should be on the agenda of the Oceans Caucus. Congressional staff were encouraged by representatives Farr and Saxon to take the oceans seriously. There are encouraging signs that the Oceans act may pass this year. <http://core.cast.msstate.edu/oceansact.html>

On July 17th, 2000, the American Association for the Advancement of Science (AAAS) will host an International Ocean Science Day, a special one-day exploration of the science of three key ocean issues: fisheries, gas hydrates, and ocean born diseases. The purpose in bringing together leading authorities is to provide all those concerned with ocean issues a close look at the important scientific findings that define these topics.

On July 18th, 2000, the American Geophysical Union (AGU) and the AAAS will host a conference and reception entitled, Oceans for the New Millennium: Developing and Implementing Ocean Policy. The event has been organized in consultation with the House Oceans Caucus, a bi-partisan caucus formed earlier this year to foster awareness and develop policy on ocean issues. The Caucus is co-chaired by Representatives Tom Allen (D-ME), Sam Farr (D-CA), Jim Greenwood (R-PA), and Curt Weldon (R-PA) and includes approximately 50 members. <http://www.house.gov/curtweldon/oceans/>

This will be a daylong forum to assist the House Oceans Caucus in developing a policy framework on the following four topics: Biology, Pollution, National Security, and Governance. Panels will be composed of Caucus Members, representatives from federal agencies, and experts from the private sector, academia, and the non-governmental organization community. Keynote speakers include Dr. Sylvia Earle; Dr. Robert Ballard; and Jean-Michel Cousteau. There will also be a reception on USNS BRUCE C. HEEZEN (T-AGS 64) which will be organized along with the Oceanographer of the Navy to honor the House Oceans Caucus and provide a showcase for the Navy's new, state-of-the-art survey vessel. A keynote speech will be delivered by Admiral Donald L. Pilling, Vice Chief of Naval Operations. <http://www.aaas.org/spp/cstc/oceans/>

A CORE project: Census of Marine Life is proceeding. The steering committee is putting together a strategy. The Sloan Foundation is partnering with NOPP to provide about 4.5 million dollars of funding. Initially the Ocean Biographic Information System (OBIS) is where most of the funding is going. In the future there may be a greater need for facilities such as ships. <http://core.cast.msstate.edu/censhome.html>

A White House Millennium evening event, with Marcia McNutt as the Oceans Speaker went well. During the evening President Clinton endorsed some important existing NOAA led exploration programs and stated his support for increased funding for science and technology. Marcia was able to make the point in answering a question that Ocean Science received about one tenth the money for research than the space programs. Text of Dr. McNutt's and the Presidents remarks can be read at: <http://www.pub.whitehouse.gov/uri-res/I2R?urn:pdi://oma.eop.gov.us/2000/6/13/4.text.1>

State Department: Tom Cocke introduced his boss Ray Arnaudo, Acting Director of the Ocean Affairs Office, who gave a brief overview of the State Department from Tom Cocke to Madeleine Albright. There are Regional Bureaus and Function Bureaus. Oceans, Environments and Science (OES) is a functional office and works on administrative aspects of clearances first but must interact with Regional Bureaus in obtaining the clearances. Within OES the Oceans Affairs office deals with Ocean Science. Bill Erb was the head of the Ocean Affairs office. Tucker Scully is the Acting Deputy Secretary for OES. Their office handles all aspects of oceans except fisheries which is in conservation. Tom has vessel clearances as his primary duty and Ray gets involved when there are problems related to access. The office continues to ask for a position to support Tom's work so that Liz Maruschak can be funded by the State Department. Ray thanked those that have been funding her position. He also mentioned the computer software upgrade that will help with the program.

Ray emphasized that working with Tom and OES in obtaining permits is important because it fosters a uniform method for dealing with the Foreign Countries. Although Mexico continues to be difficult, the key person in Mexico City, Larry Kerr has been promoted to deputy chief of mission, which will help to ensure that top levels at the embassy are aware first hand of the problems. His replacement has not yet

been identified.

Ray brought up the issue of whether or not Navy owned vessels are public vessels or private. State Dept. maintains that vessels operated on charter doing research under grants to private institutions are in fact private vessels. Public vessels have to go through diplomatic channels to arrange port calls. ATLANTIS was viewed by Mexico as a public vessel and because only three US Navy vessels could call in Mexico at any one time, they were not allowed to enter port during a recent cruise.

Is the issue of public versus private vessel still an open question? At the moment the long-standing policy that these (UNOLS vessels) are private vessels is reaffirmed and it should be consistently applied. The meeting that was held with Navy, NSF and State confirmed that the status of the Navy and NSF owned vessels remains private. It still remains to be determined if it makes more sense to treat these vessels as public or private, however all factors such as regulations, clearances, insurance, crewing, etc. should be considered before any actions are taken that would result in a change of status. Mexico, Brazil and Spain require that port calls for research vessels must be requested through diplomatic channels even though they may be private vessels. Mexican Port Call clearance requirements nominally need two weeks notice. It remains to be seen if Mexico accepts the status of Navy (or NSF) owned research vessels operated under charter as private vessels.

Tom Lee asked about clearances in Cuba. They are requiring at least six months notice for the request in Cuba, which means a much greater lead time to State Department in order to make sure they are submitted on time. There are some pending approval, so we might find out how well they fare in the near future.

UNOLS ISSUES: Improvement of the Quality of Service

Tim Cowles is the chair of the ad hoc committee appointed at the last Council meeting to examine how UNOLS accomplishes the recommendations regarding quality of service in the NSF Academic Fleet Review (AFR) report. He introduced the session, which will focus on the goals and strategies for instituting a Quality of Service Improvement program within the UNOLS fleet.

Tim Cowles started the session by reading the sections from the NSF AFR regarding continuous improvement and formal quality control in the UNOLS fleet. Getting a handle on the scope of the problem and how to define quality control for the UNOLS fleet has been the hardest thing. It was compared to pushing a marshmallow. Tim began by passing around a draft report and reviewing the recommendations from the AFR. He also pointed out that the UNOLS office had established a web site to facilitate the discussion of the committee and that it included links to a good deal of information on quality in organizations. The web site is located at http://archive.unols.org/issues/quality/Quality_of_Service.html and it includes a link to a program at NSF called Innovation and Organizational Change (IOC).

Tim introduced Dr Marianne (Sam) Jelinek, the IOC program manager, who gave an overview and history of the program. The program exists because there were people who in the past knew how to accomplish quality results but they had been displaced and nobody knew a lot about the methods they used to achieve quality. Since the program started, the research has developed a pool of knowledge on how organizations can achieve quality. Most of that research is focused on single organizations such as a corporation or government agency with some work being done on cross-organizational relationships such as those between manufacturers and suppliers. She found the challenge of establishing a formal quality program for UNOLS to be a very interesting and complex challenge due to the multi-varied relationships between the independent operators, funding agencies and scientific users. She thought that designing a workable quality management structure for UNOLS would be of interest to researchers in her field. To date she knows of no research on a highly collaborative organization such as UNOLS.

In developing a formal quality control or improvement program Dr. Jelinek warned of some common dangers that need to be avoided:

- “Premature Closure” on something that’s true and useful, but may only be partial, and, in absence of a broader view, could be dysfunctional (if only by creating the illusion that “we’ve solved the quality problem)
- “Formalized but Useless” rigor, documentation or procedures. It’s easy to count some things, but these may not be especially useful to really address the quality issues of concern.
- “Cultural Misfit” a real danger, given academic researchers and mariners, if an overly bureaucratic method is chosen.

Next she outlined some potential targets for our attention:

- The need to collect real data about quality; surveys may not be enough. Interviews with research vessel users might generate a clearer picture.
- Means to access real data? The issue is perceived risk to a complainer. If we use an outsider to assess quality issues, their credibility is an issue; we should use technology as a bridge for on-going assessment (e.g., chat space inviting complaints/criticisms, which can be monitored)
- “Ownership” issues – how to include clients? staff? funding agencies?
- Cross-organizational culture is a key element in a co-operative formal program of quality improvement.

Lastly she outlined important issues to consider when formalizing a program:

- Means to tie “quality” into performance assessment across organizations: Quality measured as research achievement, safety and cost savings. Quality is free because it pays for itself by getting the job done right the first time.
- Means to create “UNOLS culture” across organizations: use technology for creating “custom service” (e.g., where Mexican waters research is proposed, send back information reflecting the six month timeline, diplomatic channels, etc.)
- Data-driven problem identification & response:
- Researcher expectations
- Formalized resource descriptions, choice
- Trade-offs made explicit?
- You’re a RESEARCH organization, so sponsor some research! There are some researchers that would be qualified and may be interested in tackling this problem such as a researcher at UC Berkeley who specialized in Aircraft Carrier operations. The IOC program looks for researchers who come in with a partner organization that lets them in to the process of the organization.

Sandy Shor indicated that working on the quality of service issue is important to the Technical Services program and that he would contact Dr. Jelenick to determine what the possibilities were for collaborating on research in this area.

Tom Shipley asked about the time frame for completing a “research project” on quality for the UNOLS organization. His concern was that normally research projects take 3 to 5 years from conception to completion. Dr. Jelenick pointed out that we would not be starting at square one, that there is a lot of applicable research that has already been done. Also we have already made a head start on defining the problems with the work of the committee and the online discussion.

Mike Reeve talked about the efforts of National Environment Research Council (NERC) and their quality control efforts. The consulting firm, Europort, specializing in quality improvement programs in the maritime industry has worked with Paul Stone on quality issues at NERC. The council decided to invite Jeff Ford of this company to address the fall meeting.

Tim Cowles ended the morning session by listing the outcomes that he would like to see from the

discussion in the afternoon.

12:00 pm Lunch Break

Quality of Service Improvement: Continued Discussion

The areas outlined by Tim Cowles for discussion were as follows:

How do we (users, operators, agencies) define the type and level of services that are subject to a quality of service assessment? It is clear that users must participate with operators in this process. What is the appropriate forum for this? Workshops? Special sessions at national meetings? Questionnaires and surveys? How does this process overlap with the ongoing efforts to establish consistent service levels within the fleet?

How do we assess how well we are doing? What new assessment approaches should we employ? Users and operators should agree on appropriate metrics for assessment, particularly from the standpoint of compliance to standards versus excellence in performance. Do we need professional assistance to establish these assessment approaches?

Who should oversee a 'quality of service' program within the academic fleet? Is UNOLS the appropriate supervising body?

What criteria should we use to evaluate when we are ready to implement or suggest specific quality strategies? The 'quality' literature warns against premature implementation of strategies before the quality problem has been defined well.

It was pointed out that open sessions at national meetings don't always work. Patty suggested that perhaps having workshops and inviting speakers like Sam to educate the community would help generate meaningful input.

It was also suggested that users and providers need to agree on key elements of any quality program. In order to get real responses a person needs to call and speak directly with users and operators. Surveys alone will not get the job done thoroughly.

Dennis Hansell asked how we improve the input to the committees that exist. RVOC and RVTEC are examples. Perhaps there should be scientists on RVTEC and RVOC. Tom Shipley agreed that this would put the user and provider in the same room.

It doesn't seem that the assessments we now use are effective. Just figuring out what things need to be assessed is a project. One of the issues that was addressed in the discussion was the nature of feedback, or lack thereof, that we have regarding the level of service. The current methods of collecting input through post cruise assessments are not uniform in getting the feedback necessary to correctly evaluate where improvements are needed.

We need to convince the scientists that the post cruise assessments are used in a meaningful way. We need to let them know that the cruise assessments are used to get new improved equipment, modify procedures and correct safety problems.

Tom Lee discussed ways of getting information. Are we asking the right questions?

Mike Prince displayed the current assessment form and showed the questions that are currently being asked. Tom Royer asked how the user gets the form. Perhaps it needs to be sent directly to the PI. It was noted that in some cases this is done by email and in other cases a paper version is given to the PI before they leave the ship.

Sandy Shor suggested that we ask "What problems did you encounter in your cruise to prevent it from being 100% successful?" This is similar to a question that is asked on the current form.

Dolly reinforced the need to talk one on one with the PIs. Patty suggested that perhaps it should be a requirement that a scientist at each operator institution survey the PIs. He/she would be responsible for providing feedback.

Annette recommended that we add a statement up front on the assessment form letting everyone know how the assessment form is used and whom it goes to. We need to improve the communications between the operator and the chief scientists. We should also add this to the assessment form.

Dolly cited the DESSC model. It is a committee that includes technicians, operator, scientists and agencies. The model works well. It is also a community that is very vocal. They never hold back in their criticisms. It was pointed out that many of the ALVIN users are experts.

There was discussion on how we need to educate the new, young PIs. Patty noted that the Web and Fastlane are helping the process. The Ship Time Request form could be used for educating users and operators about expectations and how they are met.

Beth asks if UNOLS has a cruise planning guideline. NOAA has a very detailed guideline that is step-by-step and month-by-month. Their criteria are very detailed. UNOLS pre-cruise plans exist, but are not uniform throughout the fleet and use of them is not uniform among scientists.

Sandy asked whether the pre-cruise plan is ever compared to the post cruise assessment. Annette remarked that UNOLS Office does not do this since the office does not normally see the pre-cruise plans. Operators and PI's would be in a position to compare pre-cruise specifications with actual cruise products. It is unknown if scientists are clearly making known the specifications of what is needed or if they are getting what they ask for.

Mike showed the elements that are examined as part of the Baldrige Quality Awards process. The first areas that are examined are leadership and strategic planning which could easily be the responsibility of the Council.

Tim brought up the issue that there is a perception that UNOLS is an operator driven institution. Bob suggested that we start with a White Paper or article for EOS and other more direct means of communication to the UNOLS science community that addresses the need for this Quality of Service Initiative and seeks community input. Sandy recommended a series of EOS articles. Bob indicated that the first article should let the community know that we are working towards quality and that it is a work in process.

Mike Reeve said that he would pursue inviting the NERC consultant, Jeff Ford of Europort in the UK for the September meeting.

There was some discussion on the standardization of technician services and equipment on the various research vessels. It appears that this is an issue for some PI's that move from one vessel to another. Many of these scientists are expecting to find standardized processes, equipment and services. A formal program for standard services does not really exist per se. Conforming to program criteria specified in proposal guidelines for Technical Services and Ship Operations programs creates some level of uniformity. There is probably a certain level of misunderstanding about what is expected. We still need to work on establishing clear and realistic expectations among science users and funding/methods for uniformly fulfilling those expectations.

It was agreed that the Quality committee and Sandy Shor would pursue the possibilities for research and assistance with our Quality of Service Initiative that might be afforded through NSF's Innovation and Organizational Change program.

Emerging Issues in Acoustic Research - Frank Herr (ONR) discussed recent issues regarding field programs in ocean acoustics, the potential impacts on marine mammals and the need to get permits.

Marine Mammals and acoustics is not a new issue. Walter Munk and ATOC brought a lot of this to the

fore. The marine mammal activists have focused on low frequency acoustics, but we don't know if this is the right focus. ONR is funding a lot of research on acoustics. A March stranding incident in the Bahamas was coincident with an LWAD experiment in the Caribbean and near the location of a Navy exercise. An ongoing investigation includes necropsies of some mammals that show acoustic caused damage to the animals. The Navy does not know whether or not the damage was a result of their activities or some other acoustic event or explosion. The operational Navy is interested in being good stewards of the oceans and do not want to be considered as a harmful agent to the ocean environment even though operational limitations may prevent them from going through the normal permitting processes. The Research and Development arm of the Navy does consider it necessary to ensure compliance with the various rules and regulations which Frank listed in his presentation. These include the National Environmental Protection Act (NEPA), the Marine Mammals Protection Act (MMPA) and the Endangered Species Act (ESA). See Frank's view graphs in [Appendix VI](#).

The Navy has specific policies that are a part of their acquisition rules and operational policy.

The Navy's policies are include in the following documents:

Secnavinst 5000.1, 5000.2
Opnavinst 5090.1b
ONR interm policy 01 Oct 99

ONR policy follows funding and they must obtain certification from delegated project management (PI's) that they have complied with all applicable laws and instructions. The Navy determines if action has potential to disturb then works with the NMFS if there are incidental takes (as defined by the MMPA "take" is harass, hunt, capture, kill or attempt to injure or disturb.) Principal investigators are responsible for making the determinations, but ONR retains responsibility for supporting the costs of any EIS or other determination process.

Coastal Zone Management Act:

Long lead times are usually needed for all permits and actions that are necessary to carry out a project, i.e. 90 days or more. ONR is taking the stance that it is an unrecoverable and probably illegal expenditure to carry out acoustic work without proper permits. Reviews conducted as part of Environmental Assessments (EA) or an Overseas Environmental Assessment (OEA) must result in a "finding of no significant impact" (FONSI) and it must be documented. In some cases planned worked can be granted a "categorical exclusion." If a "FONSI" statement cannot be made as a result of the EA or OEA then a full Environmental Impact Statement must be prepared. This would be the most lengthy and costly process with mandatory public input periods and hearings. This would be called an Environmental Review overseas. In all cases, ONR policy would not allow funding of projects where harm is likely. The problem is that the data is not as complete as it should be to make a clear determination about the likely harm to mammals or the environment. Some of the fundamental information is not well documented. NMFS is increasingly demanding good data to support findings of no significant impact. The permitting process will increase the overhead of the Acoustic programs.

UNOLS and the UNOLS Office will need to continue the process of making the information available to scientists that are planning experiments that may require permits. It may soon be necessary to obtain permits for additional types of research operations involving acoustic techniques.

Future Fleet and Facility Planning Session

[Long Range Planning for the UNOLS Fleet](#): Larry Atkinson reviewed FIC's activities related to fleet planning, such as the FIC report, UNOLS Biennial Review of Sea Going Oceanographic Facilities and FIC's effort to engage the ocean science community in the planning process for the replacement of research vessels. Larry reviewed the document on Fleet replacement planning that is referred to in FIC's article to the community that will be published in the next few weeks in EOS. He showed the various graphs from the report and discussed the conclusions from the report for each class of ship. [Appendix VII](#) contains the full report from FIC which will become the main part of the FIC Biennial Review of Sea Going Oceanographic Facilities.

A discussion of optimum utilization of ships is needed, so that we do not have two different numbers. The 300 day operating year for large ships is what the operators currently view as appropriate. This number was arrived at through discussions between Dolly Dieter and the large ship operators. The lower RVOC number was developed in the late 1980's prior to the arrival of the new, larger AGOR's. The number takes into account some variation between operators. For example, some ships operate mostly from home port, where busy port call days do not count as operating days, while other ships of similar capability operate mostly in out-ports, where similar port days do count. The UNOLS fleet is not a one size fits all enterprise and we therefore end up with some amount of excess capacity (by these standards) of ships or available bunk space.

Larry presented data on bunk utilization which was thought to be a little misleading because it shows total bunk space used or an average of bunks used. The reality is that on many cruises the bunk space may be totally occupied and on some cruises just a few bunks are used. NSF and others involved in future fleet planning need to know what number of bunks are needed for future ships. Council asked that the UNOLS office present data on percentage of cruises where bunks are maxed out by type of science and size of ship. This information and data on how many bunks were available, will determine if the number of bunks available currently is adequate or if more are needed on future ships.

A particularly dramatic chart from the FIC report is a graph that shows how the total ship days available drops as ships retire if they are not replaced. Pat Dennis asked what UNOLS will be doing with regards to the planning process. Are we endorsing the replacement of specific vessels or are we merely recommending numbers and types of ships needed in the various regions? Who will be replacing ships? Pat also thought that it would be important to develop a plan that shows the total number of ships needed in the future and use that as a benchmark or goal for all agencies or institutions that would be considering the acquisition of new ships.

As a way of ensuring community input into the types of vessels planned for the future several people thought that renewing the Science Mission Requirements (SMR) and making them living documents would be useful. Charlie Flagg and others also thought that developing preliminary designs would ensure that future ships would be built to community standards. We will need to decide at what point to do this. Discussion centered on whether we need conceptual designs or SMR's to make sure that new ships meet the community needs. This was done in the mid to late 1980's and it makes sense to update those efforts in the light of the number of ships that will need replacing or overhauling in the next 10 to 15 years. Planning for the replacement of seven small or regional ships might be done as a group, but the final stages would probably be done individually because of different requirements. FIC and UNOLS have a role, how does it fit with FOFC? These efforts need to be part of a National Plan for the National Research Vessel Fleet.

UNOLS and FIC will do what ever they can to assist the agencies in creating a meaningful National Fleet Plan by providing data on trends regarding the exciting science that has been and can be accomplished and by providing a vehicle for community input.

Thursday, June 22, 2000
NSF, room 375

Session on ship scheduling and related issues

Bob Knox gave a brief summary of scheduling issues and problems for 2000 that had been provided by Joe Ustach and Dan Schwartz as follows:

Reported by Dan Schwartz – Scheduling Vice Chair and West Coast Representative:

There have been some major scheduling problems on the West Coast of which PROD only played a small part. The largest challenge is the "traffic jam" on Juan de Fuca Ridge: ATLANTIS, THOMPSON, REVELLE, WECOMA, and especially the German R/V SONNE. The latter ship, whose schedulers we were never able to make contact with, ended up driving the schedule of four UNOLS vessels and at least a dozen PIs. Our role was completely reactive as their schedule (and the needs of U.S. PIs who had been given ship time on SONNE) determined the sequence and timing of a number of our ships' cruises. If this

is going to be a regular occurrence we need to work on bringing SONNE and her operators into at least some sort of liaison/communications with our community at the time her schedules are prepared.

The other major West Coast problem, also associated with the work at Juan-de-Fuca, is related to the utilization of incompatible submersible assets at the same sites during the short acceptable weather window off the Pacific NW Coast. This has caused major scheduling headaches for Jon Alberts at WHOI, and nearly the same level of complication in satisfying the THOMPSON users. The repeated negotiations that have been required among a dozen or more PIs (users of ROPOS, Jason, Alvin, ABE, seismic systems, etc.) have occupied a disproportionate chunk of Jon's and Dan's time this year.

Reported by Joe Ustach – Scheduling Chair and East/Gulf Coast Representative

One other problem in 2000 on the East Coast happened with ENDEAVOR and OCEANUS and is related to the discussion on permits, etc. Those cruises were curtailed because the PI didn't get permits for acoustic source use from NOAA/NMFS. Joe talked with URI and WHOI and both schedulers feel that it was a time problem - the request didn't get in early enough for NOAA/NMFS to review it properly. Duke also ran into similar problems for HATTERAS with the NAVO sound propagation loss cruise. It was resolved at the last minute with quite a lot of back and forth discussions between the Navy and NMFS lawyers. Part of the problem was a stiffening by NMFS because of the Bahamas mammal beaching being in the news and minds of the public; this sort of attention will probably not go away. The memo and web page on permitting requirements will help, but this will have to become part of the PI's burden since they are the ones who can explain the work to the regulating agencies.

2001 Scheduling: There was a brief discussion on the initial outlook for 2001 schedules and the status of the current scheduling process. JGOFS is uncertain and Biocomplexity panel is not completed yet. Globec/NOS House mark is zero and it is not certain how that will be resolved. The letters of intent from schedulers are coming in with most ships showing at least a first draft. There are quite a few double bookings at this point and quite a few funding decisions still to be made so it is difficult to determine how strong the demand is for next year. The Ship Scheduling Committee will meet on July 13th at NSF.

Report on the Ship Scheduling System - Joe Ustach and Mike Prince reported on recent changes, the transit bank and a uniform definition of transit days. Primarily, minor changes have been made to the existing system to allow it to be more useful for putting schedule information into data base format. The Letter of Intent system was designed to mirror the scheduling format and is working well for most schedulers. It too, allows for input to data bases that facilitate tracking double bookings, number of days per agency and other data. Definition of transit days is almost done. We will need to educate schedulers about this and the transit bank. Need to disseminate transit bank info appropriately when it is used so that the information can be used by scientists and educators that might have a need fulfilled by a transiting vessel.

Dolly asked that the PIs provide the grant numbers with their STRs so that it can be linked to the proposals. This will help the agency program managers keep track of all requests.

Status of UNOLS Office Transfer.

The UNOLS office staff have settled into their permanent space in the brand new Moss Landing Marine Laboratories building. Staff have been hired and include, Kate Sawyers as the Administrative Assistant and Laura Dippold and Sara Anderson as webmasters/student assistants. Annette DeSilva, continues to serve UNOLS as the Assistant Executive Assistant with a remote office in Rhode Island. The phone number for the new office is 831-632-4410. The domain name UNOLS.ORG has been registered allowing the UNOLS website to remain <http://archive.unols.org> no matter where the UNOLS office goes in the future.

Nomination Committee Report - The first Council terms of Bob Knox (Chair), Tim Cowles, Barbara Prezelin, and Tom Shipley are expiring in 2000 as well as the second term of Tom Royer (Vice Chair). The nominating committee presented their proposed slate of candidates to the Council and discussed the difficulties they have had in obtaining a second candidate for the Chair position. A call for nominations was broadly advertised and 14 nominations were received for the five open slots. Barbara Prezelin will

not stand for re-election and Tom Royer is not eligible for re-election. The current version of the proposed slate has three candidates for each of the regular Council positions and two for the Vice Chair slot. There are no candidates to run against Bob Knox for chair. Another e-mail to the membership calling for Chair nominations will be made.

10:00 am Morning Break

Meetings and Travel - A discussion of the need to reduce the travel budget, how to conduct business with fewer meetings and how UNOLS and the UNOLS office should best utilize their resources was held. Who should contribute to the UNOLS office was discussed as this impacts the total budget for travel and meetings. Some of the agencies do not use UNOLS vessels as much as they used to, but it is felt that they still have a stake in the health of the UNOLS fleet. It was determined that each UNOLS committee and the Council would review their needs for meetings in order to conduct their business and that this information would be used to instruct the Executive Secretary with regards to the level of support to request in the proposal for next year's travel budget.

Another recommendation is to set the UNOLS meeting calendar a year in advance. Council members were requested to send the Office their 2001 schedules/obligations. The Office will attempt to draft a calendar around any conflicts.

UNOLS Charter Clarification - Recommended [changes to the charter](#) were discussed. These changes would clarify the procedure for replacing members of the council that leave before the end of their term and modify the provisions for the number of meetings that would allow UNOLS to operate within budget limitations without violating the charter. A motion was made, seconded and approved to present the charter changes to the membership at the annual meeting.

Other UNOLS Issues

Seismic Acquisition Issues and UNOLS Fleet Capabilities – This discussion is a follow up from the last Council meeting to determine if there is a need for any UNOLS action in this area. Tom Shipley presented the recommendations from the Seismic Acquisitions workshop he co-chaired, see [Appendix VIII](#). The future looks very promising. About 50 scientists attended the workshop. There are several new or renewed programs that need seismic data. Japanese are building a riser drilling ship and there needs to be more than two million dollars in seismic data collection to support this effort. There may be enough work to keep a dedicated MCS ship busy for more than just a part of a year as is true now. Tom provided a table of projected seismic acquisition needs for the next decade which totals around 276 months of ship time needed. Currently there is about six months of seismic work being done per year. The actual work load will be between six and 27 months of survey work per year, some of this is commercial. There will most likely be a major ramp up in the next three to five years. The Integrated Ocean Drilling Program (IODP) is not funded yet, but they are working towards operating in 2003 and will need new site surveys unlike any done previously.

In order to meet the increased needs, especially for those scientists that do not have their own trained technicians and equipment there will be a large increase in the need for facilities support. This leads to a perceived need for facilities development. Currently, EWING is the major facility, but there are other operators as well. A model would be to create a user oversight group similar to DESSC that would interact with the EWING/LDEO operation and others. This group could meet in conjunction with AGU and at the facility. High performance users currently bring their own technicians, equipment and software to add to the eight or so technicians that EWING contributes.

There was some discussion about whether or not a need for a long term standing committee or a short-term ad hoc committee is needed. Who would fund this? How much would it cost? There is not currently a ship operations committee at LDEO and their operations seem to be controlled by LDEO PI's.

It was recommended that between now and the next council meeting the Council take the time to review the relationship with LDEO and the community and the need for a committee at the LDEO level or UNOLS level.

RECAP on the Quality of Service issue:

Tim Cowles reviewed the next steps that should be taken to improve quality:

- UNOLS will submit news/info items to the ocean community (email, newsletter, EOS) about the quality improvement initiative.
 - A feedback mechanism for quality of service will be developed – what is it? How to measure it?
 - Jeff Ford will be asked to make presentation to the Council in September.
 - Council members are encourage to participate in Quality discussion via web page
 - Sandy Shor & Sam Jelinek will discuss mechanisms for research funding about quality within the fleet.
- The question was asked as to what the deliverables will be. Tim indicated that we first need to define the problem then come up with an implementation plan. The deliverable is to provide a more improved quality program and this has to be an ongoing process within the entire fleet.

ADCP Improvements — Charlie Flagg gave a report on plans to hold a workshop to improve the quality and availability of hull mounted ADCP's in the UNOLS fleet. In the winter a small group got together at The Ocean Sciences (TOS) meeting to address the ADCP issues. They put out a call to users about the need for a workshop or further work on defining ADCP needs and received very little response. There are new phased array equipment and new data acquisition programs coming on line from manufacturers and individual scientists. This to some extent addresses the needs. The idea of a user group and workshop is on hold.

The need for repair, maintenance and upkeep of the older narrow band equipment is still an issue. There still may be a need for a pool of parts and equipment/transducers. A group (probably within RVTEC) should work together on maintaining the older equipment. The only proposals received recently have been for phased array ADCP's and there are no more requests for broadband ADCP units. Self contained narrow band units which are much more plentiful can supply parts for narrow band units. It is still uncertain as to whether or not the phased array units will be accepted as an alternative to the narrow band. The data acquisition program now uses more updated computer equipment.

New Ship Construction - Updates since the February Council meeting:

R/V SAVANNAH - Skidaway's plans for construction of R/V SAVANNAH have not changed. A contract may be let in near future.

F. G. WALTON SMITH - Tom Lee reported on F. G. WALTON SMITH's initial operations and inspection, see [Appendix IX](#). Ship was delivered on 2 February and has completed eight cruises so far. It has a shallow draft and cruising speed is 10.5 knots at full load. Performance is better than design criteria. They have been able to do Swath Bathymetry at six to seven knots if the proper window of rpm is adhered to. The ship is very stable and operated well in fifteen feet seas. Miami is very happy with the vessel. When the Council receives the Ship Inspection report, it will consider the vessel for UNOLS vessel status.

CAPE HENLOPEN Replacement – Matt Hawkins briefly reviewed replacement plans for CAPE HENLOPEN, see [Appendix X](#). UDel presented FIC with a status report at their March meeting. They are on schedule for their process.

Regional Ship Replacement Activities It was reported that a meeting was held in Baltimore in March at which methods for moving forward on improving SMRs and getting community input for developing plans for replacing or upgrading regional ships were discussed. Regional ship operators attended as well as agency and FIC representatives.

ALPHA HELIX Replacement plans -The University of Alaska is submitting a proposal to NSF and has received an endorsement from FIC and NMFS.

WHOI SWATH - WHOI's plans to build a SWATH vessel are going forward. They received a large funding donation. Their plans can be seen on the web at:

<http://www.marine.who.edu/ships/swath/index.html>

AGOR 26 construction - The report was given earlier in meeting.

NOAA FRV: Competition for acquisition of the FRVs will be open to all shipbuilders. Details were reported earlier in the meeting.

SeaNet Update - An update on the status of SeaNet was provided. The initial proposal that funded the development and installation on the five UNOLS ships has run out. The SeaNet partners have submitted a 3-year proposal to NSF for on-going operations, continued development, and support for new and existing systems. There is a website, www.seanet.edu that gives an education on SeaNet and seeks input from the users and potential users. A question was asked about the cost of the satellite connection. There has not been as much progress in reducing that cost of the transmission as had originally been hoped. MSAT is the only possible alternative but it is coastal in nature. Sujata indicated that the Navy may be making progress in this area and encouraged RVTEC to inquire at ONR.

SEA CLIFF and ATV Report:

SEA CLIFF - The results of WHOI's DSV SEA CLIFF engineering study were reported. Patty Fryer presented the highlights of the engineering study, see [Appendix XI](#). The Navy transferred SEACLIFF to WHOI. WHOI in turn studied various options to improve the capabilities of the National Deep Submergence Facility. The option included:

- Use of SEACLIFF without modification
- modification of SEACLIFF
- modification of ALVIN
- construction of a new sub
- survey of international sub operations to see if any might be available for purchase.

The study was somewhat driven by the communities need for improved, greater access to the abyss in terms of depth, viewport location, vehicle size, etc. Patty presented WHOI's chart which provides a comparison of the various options along with the costs associated with each option. Their conclusion was that construction of a new 6,000m vehicle would offer the best capabilities to the community. The cost of a new vehicle is estimated at \$15 million. The report needs to go to the funding agencies and the deep submergence community. The full report is available at:

<http://www.marine.who.edu/ships/seacliff/report.htm>

Advanced Tethered Vehicle (ATV): Future plans for ATV were reported. A MOU is being drafted between the Navy, Scripps Institution of Oceanography (SIO) and University of Hawaii (UH) that would transfer the vehicle from the Navy to these institutions. At present, it appears that ATV will be operated by SIO 75% of the time and UH 25%. SIO is ok with this arrangement but UH does not agree. The issue needs to be resolved by the Navy.

HEALY Public Relations Visit in Baltimore - A brief report on this successful event was made by Bob Knox. The ship was well attended during its visit to Baltimore.

Winch and Wire Symposium: A report on plans to implement recommendations from the symposium was provided. Maximum working load for wires is an RVTEC/RVOC work. The beginning stages of draft specifications for newer wire that may replace .322 are underway but this will wait for the maximum working load project to be further down the road. Dolly needs the inventory of winches, cranes etc. that were part of the report. Jack is receiving material/chapters that will update the Winch and Wire manual.

DESCEND Workshop: Patty Fryer provided an update on the report from the DEveloping Submergence SCience into the Next Decade, DESCEND workshop along with follow-on plans.

The workshop proceedings are now written up and formatted and are being edited down. They will be published on the website. A four-page brochure highlighting the recommendations will be published in

hard copy for distribution.. One of the recommendations of DESCEND was to have a closer relationship with the shallow water community. They have different assets that are needed. Much of the shallow work is done by NOAA. As a result of this, Shirley Pompani (HBOI) who works in the shallow waters has been asked to participate with DESSC as a liaison.

UNOLS/NMFS Memorandum of Understanding (MOU) and the NOAA/OAR and UNOLS MOU - The UNOLS office will work with Beth White to draft a combined MOU for NOAA.

UNOLS Brochure: The UNOLS brochure update will be published by July and will be distributed. Mystic Seaport Display: Interactions with the Mystic Seaport display is currently one on one with operators. The SeaNet partners are sharing their technology with the people at Mystic.

2000 Annual meeting – The keynote speaker and discussion of action items for this meeting were discussed. Margaret Leinen will not be available as keynote speaker. Other ideas for keynote speaker included Sam Farr or other congressmen or the new Director of Naval Research, RADM Jay Cohen. Agenda items for the fall meeting include the quality issue, Fleet planning and outreach activities.

The meeting was adjourned at 12:00 pm.

| 2000 Calendar for UNOLS Meetings | | |
|----------------------------------|-------------------------|---------------------------------------|
| Meeting | Location | Dates |
| Ship Scheduling Committee | NSF, Arlington, VA | July 13, 2000 (Thur) |
| HEALY Commissioning AICC | Seattle, WA | August 26, 2000 August 27-28, 2000 |
| Schedule Review | NSF, Arlington, VA | September 20, 2000 (Wed) |
| FIC | NSF, Arlington, VA | September 20, 20000 (Wed) |
| UNOLS Council | NSF, Arlington, VA | September 21, 2000 (Thurs) |
| UNOLS Annual | NSF, Arlington, VA | September 22, 2000 (Fri) |
| RVTEC | Palisades, NY (LDEO) | October 18 - 20, 2000 (W-F) |
| RVOC | Newport, OR (OSU) | October 24 - 26, 2000 (T-Th) |
| DESSC | San Francisco, CA (AGU) | December 14, 2000 (Thur) |

| 2001 Calendar for UNOLS Meetings | | |
|----------------------------------|--------------------|-----------|
| Meeting | Location | Dates |
| AICC | NSF, Arlington, VA | Jan - Feb |
| Council | ??? | Jan - Feb |
| FIC | ??? | Feb - Mar |
| | | |

| | | |
|---------------------------|-------------------------|---------------------|
| DESSC | WHOI, MA | June |
| Council | ??? | June or July |
| Ship Scheduling Committee | NSF, Arlington, VA | July |
| AICC | Seattle, WA | August or September |
| Schedule Review | NSF, Arlington, VA | September |
| FIC | NSF, Arlington, VA | September |
| UNOLS Council | NSF, Arlington, VA | September |
| UNOLS Annual | NSF, Arlington, VA | September |
| RVTEC | URI | October |
| RVOC | URI | October |
| DESSC | San Francisco, CA (AGU) | December |

| 2001: Major Oceanographic Conferences and Federal Agency Meetings | | |
|---|--------------------|---------------------|
| NOAA - Office of Marine and Aviation Operations Annual Conference | To be Announced | Jan 7-12, 2001 |
| Oceanology | TBD | April 3-5, 2001 |
| NSF OCE/Panels | NSF, Arlington, VA | May 21-25, 2001 |
| AGU Spring Meeting | Boston, MA | May 29-June 2, 2001 |
| MTS - Oceans 2001 | Honolulu, HI | Nov 4-7, 2001 |
| NSF OCE/Panels | NSF, Arlington, VA | Nov 12-16, 2001 |
| AGU Fall Meeting | San Francisco, CA | Dec 10-14, 2001 |

**Appendix I
Attendees at UNOLS Council Meeting
June 21 & 22, 2000**

| NAME | ORGANIZATION/INSTITUTION | PHONE | FAX | E-MAIL |
|-----------------|--------------------------|----------------|----------------|-------------------|
| Arnaldo, R. | STATE DEPT. | (202) 647-3262 | (202) 647-1106 | |
| Atkinson, Larry | ODU | (757) 683-4926 | (757) 683-5550 | atkinson@ccpo.edu |

| | | | | |
|-----------------|---------------|---------------------|----------------|-------------------------|
| Cocke, Tom | STATE DEPT. | (202) 647-0240 | (202) 647-1106 | cockewt@state.gov |
| Cowles, Tim | OSU | (541) 737-3966 | (541) 737-2064 | tjc@oce.orst.edu |
| Dennis, Patrick | 096/ONR | (703) 696-2161 | (703) 696-2716 | |
| Dieter,Dolly | NSF | (703) 306-1577 | (703) 306-0390 | edieter@nsf.gov |
| Flagg, Charles | BNL | (631) 344-3128 | (631) 344-2060 | flagg@bnl.gov |
| Freitag,John | URI/RVTEC | (401) 874-6579 | (401) 874-6578 | jfreitag@gso.uri.edu |
| Fryer,Patty | AIGP/U.Hawaii | (808) 956-3146 | (808) 956-3188 | pfryer@soest.edu |
| Hansell, Dennis | BBSR | (441) 297-1880 X210 | (441) 297-8143 | dennis@bbsr.edu |
| Hotrling, John | NOAA/NMFS | (301) 713-2363 | (301) 713-4057 | john.hotrling@noaa.gov |
| Knox, Bob | SIO/UCSD | (858) 534-4729 | (858) 535-1817 | rknox@ucsd.edu |
| Lee, Tom | U.Miami | (305) 361-4046 | (305) 361-4696 | tlee@rsmas.miami.edu |
| Ljunggren, Paul | LDEO/RVOC | (914) 365-8845 | (914) 359-6817 | pwl@ldeo.columbia.edu |
| Meehan, Jim | NMFS | (301) 713-2363 | (301) 713-1875 | james.m.meehan@noaa.gov |
| Millick,Sujata | ONR | (703) 696-4530 | (703) 696-2710 | millics@onr.navy.mil |
| O'Clock, Bill | NOAA/PMAO | (301) 713-3435 X146 | | |
| Reeve,Mike | NSF | (703) 306-1582 | (703) 306-0390 | mreeve@nsf.gov |
| Rossmann, Fred | NOAA/OAR | (301) 713-2465 X184 | | |
| Royer,Tom | ODU | (757) 683-5547 | (757) 683-5550 | royer@ccpo.odu.edu |
| | | (512) 471- | | |

| | | | | |
|----------------------|--------------|--------------------|-----------------------|--------------------------|
| Shiple, Tom | UTIG/U.Texas | 0430 | | tom@utig.ig.utexas.edu |
| Shor, Alexander | NSF | (703) 306- 1580 | (703) 306- 0390 | ashor@nsf.gov |
| Taylor, Paul | NAVOCEANO | (228) 688- 5843 | (228) 688- 5602 | taylorp@navo.navy.mil |
| Ustach, Joe | Duke/UNC | (252) 504- 7579 | (252) 504- 7651 | joeu@duke.edu |
| Wiesenburg, Denis | USM | (228) 688- 3177 | (228) 688- 1121 | denis.wiesenburg@usm.edu |
| Wilkes, Gordon | NAVOCEANO | (228) 688- 4376 | | wilkesg@navo.navy.mil |
| Winokur, Robert | CORS | (202) 232- 2900 | (202) 332- 9751 | rwinokur@brook.edu |

Appendix V

UNOLS COUNCIL MEETING Coast Guard Agency Report 21 June 2000

USCGC HEALY Update

After delivery on 9 November 99 by Litton-Avondale Industries, HEALY underwent a period of fitting-out availability and repairs, and then departed New Orleans on 26 January 2000 to conduct Machinery/hull and science suite testing. Initial warm water trials were completed in March and then ice trials were conducted from April to June in an area near Baffin Island in the eastern Arctic. HEALY performed well, with icebreaking performance exceeding design requirements of 3.0 kts through 4.5 ft of ice. The maximum thickness of unbroken level ice encountered was 5.5 ft, which HEALY transited at a continuous speed of 2.6 kts. Ice ridges of 45 ft were broken through in 3 rams. At the time of this meeting, the warm water science trial and three legs of the science trials in ice have been completed and the final fourth science leg has just begun. Dr. James Swift reports that "Science systems are mostly working well. Problems are the same in general as those faced by each of the new large UNOLS vessels as they came on line." Members of the AICC and RVTEC have been major players in the planning of these tests and the Coast Guard is highly appreciative of their efforts.

After completion of the last science trial and a port call, HEALY will return to Seattle by transiting the Northwest Passage and then formal commissioning will take place in late August or early September. The first unrestricted science cruise is scheduled for spring of 2001.

POLAR Class Update

POLAR SEA started Operation Deep Freeze 1999 in the Antarctic in early November 1998. Upon completion of that 5-month deployment, the ship transited to the Arctic for a spring mission near St. Lawrence Island in April 99. POLAR SEA is now undergoing a "Reliability Improvement Project" yard availability in Todd Shipyards, Seattle. It is anticipated that this work will be completed in August 2000 and that the ship will be departing for Operation Deep Freeze 2001 in November 2000.

POLAR STAR completed major repairs to the centerline shaft and then deployed for Antarctic in mid-November 1999, completed Operation Deep Freeze 2000, and returned to Seattle in April 2000. Following an in-port period for voyage repairs, it will sail on an Arctic mission from late July to mid September.

Science Mission Planning

The first planning meeting for HEALY's 2001 missions was held at the National Science Foundation (NSF) on 13 June. The meeting was attended by representatives of the Coast Guard and NSF. The group began work on drafting a preliminary schedule that NSF program managers can use to refine requirements with Principal Investigators. It is anticipated that the schedule will be released in August after final funding decisions have been made.

The Coast Guard Pacific Area Office has added a position to its Icebreaker Science Liaison staff to handle coordination of science logistics for HEALY cruises. The position has been filled with the hiring of Mr. Dave Forcucci, who comes to the Coast Guard from NOAA's Atlantic Oceanographic & Meteorological Laboratory.