

UNOLS COUNCIL MEETING
Minutes
UNOLS Council Meeting
Thursday, November 15th, 2001
The Brookings Institution
1775 Massachusetts Avenue NW
Washington, D.C.

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Welcome and Introductions: Bob Knox, UNOLS Chair, called the meeting to order and asked for a moment of silence in remembrance of those who have suffered in the attacks of September 11th. The meeting participants introduced themselves. The meeting agenda ([Appendix I](#)) was followed in the order as recorded in these minutes. A list of meeting participants is included as [Appendix II](#). Bob explained that the purpose of the meeting is for open discussion on important issues facing UNOLS.

[Accept the minutes of June 2001 Council Meeting.](#) A motion was made and passed to accept the minutes of the June 2001 meeting as written.

UNOLS Issues and Discussion Items:

Security Issues for Research Vessel Operations - In the wake of the September 11th terrorist attack on the United States and the attack on R/V EWING in the western Gulf of Aden on 31 August, the UNOLS Council and Federal Agency representatives considered the immediate and

long term implications of these events on Research Vessel operations. These incidents raise a number of questions about future UNOLS research vessel operations, not only in piracy- or terrorist-prone areas, but worldwide. A series of short presentations were made to help focus the discussion on issues such as threat assessment, training and operational procedures, and safety of crew and scientists. Bob Knox introduced the topic. A summary of these presentations and subsequent discussion follows.

Woods Hole Oceanographic Institution (WHOI) – “Piracy at Sea”– Joe Coburn provided a report on piracy at sea and began with the definition of “piracy”. His viewgraphs are included as [Appendix III](#). According to the International Marine Bureau (IMB), the definition of piracy is “An act of boarding or attempting to board any ship with the intent to commit theft or any other crime and with the intent or capability to use force in the furtherance of that act.” Joe showed maps of South America, South East Asia and the Far East, and Africa each with the locations of attacks that occurred in the year 2000. In the year 2000 469 piracy attacks were reported. Of these, 307 involved vessel boardings. There were 8 hijackings, 72 people were killed and 99 were injured. South East Asia has had many attacks last year.

Joe explained that present day pirate vessels may appear as fishing boats, but they are armed with guns and grenade launchers. He showed examples of the victimized vessels, which include ferries, cargo vessels, fishing boats and research vessels.

EWING was conducting operations for the REDSOX program in the Gulf of Aden when attacked. The program was a study the outflow of high salinity water into the Gulf and the Indian Ocean. KNORR also carried out operations in support of the REDSOX program earlier in the year (REDSOX I - 11 February to 15 March, 2001). The outflow and spreading had not been investigated since the 1960’s. The Red Sea outflow has unique characteristics that likely affect mixing and spreading into the Indian Ocean. The purpose of the research was to map out the water properties (salinity) of the outflow as it leaves Bab el Mandeb, descends across the continental slope and spreads through the Gulf of Aden. They planned to directly measure the currents associated with the outflow, and surrounding waters. They wanted to make the observations during maximum and minimum outflow (winter and summer) to identify any differences in how deep the outflow descends and which pathways the outflow follows.

WHOI took a number of security precautions in preparation for these operations. They refused to go into any ports in the region as they considered these high-risk ports. The operations embarked from Mobasa, Kenya and disembarked in the Seychelles. Consultants (former Special Forces, Presidential Security, Navy Seals) were hired for the cruise. They helped to organize operations, and train the crew and science party. There were two aboard during the cruise and they helped to serve as extra lookouts and key members of the crew response team. They advised on doing research stations smartly (in a security sense). They gave the crew and science a level of comfort so they could concentrate on their tasks. Joe showed the track chart for KNORR’s REDSOX I cruise.

EWING’s REDSOX II took place on 12 August to 12 September 2001. The attack on the ship took place on August 31st. Joe showed an actual video clip of the attack. A member of science party took the video. The attackers approached on a small boat and were armed with a rocket-

propelled grenade. They fired on the ship. EWING personnel immediately took emergency security measures. After the attack, the planned cruise track was modified to keep operations away from the shoreline. A comparison of the salinity/pressure data collected during REDSOX I and REDSOX II was presented.

What's ahead? WHOI has no ship with cruises to high threat areas through 2002. The ships are prepared for security measures in terms of organization, procedures and training. They are plugged into intelligence sources. The issue of security has moved to a number one priority for both the federal agencies and science community.

Discussion followed:

Question – What happened if the ship was boarded?

Answer – The mission of the consultant was to not let the ship to be boarded.

Question - Did the consultants have actual experience in anti-terrorism?

Answer – It is unclear.

Question - Were the consultants armed?

Answer – No comment

Question – Where was KNORR during the EWING attack?

Answer – On the way home.

Lamont-Doherty Earth Observatory (LDEO), EW0110 – Paul Ljunggren continued the discussion with information about EWING and the security precautions that had been taken. His viewgraphs are included as [Appendix IV](#). The ship's top speed is 13-14 knots. The ship's crew is 21 and the science party can include 29 people. On Cruise EW0110 there were 19 members of the science party aboard.

Paul reviewed the 2001 ship schedule for operations in the Red Sea and Gulf of Aden. Operations began on 4 August with a seven-day transit from Piraeus for a Navy program in the Red Sea. The REDSOX II program followed this.

In preparation for work in the Red Sea and Gulf of Aden, LDEO contacted other ship operators and agencies regarding their experiences, points of contact, and procedures when operating in this area or similar areas. This included contacting NOAA, WHOI, geophysical operators, foreign R/V operators and the Department of State-Regional Security Officer on the embassy staff. Follow up contacts/sources of information included:

- Maritime security firms
- Office of Naval Intelligence
- Piracy Center Kuala Lumpur http://www.iccwbo.org/ccs/menu_imb_piracy.asp
- Maritime Security Council <<http://www.maritimesecurity.org/>>
- MARAD <http://www.marad.dot.gov/>
- National Imagery and Mapping Agency (NIMA)
<<http://pollux.nss.nima.mil/index/index.html>>

Paul reviewed the measures that were taken prior to the REDSOX II operations to increase shipboard security:

- They added an additional bridge watch stander
- They employed a contractor to provide:
 - Training for the crew during the leg from Piraeus to Djibouti. Training was for piracy detection, deterrence, and response.
 - Assistance in developing a ship's security plan for in port and underway.

The incidence occurred 18 miles off the coast of Somalia at 10:48 a.m. in daylight. The crew observed a small boat approaching EWING. CTD operations were in progress. The small boat carried six people and was dropped from a fishing boat. The crew brought out the fire hoses and charged them. As the hoses were being filled and sprayed, the attackers brought out the grenade launcher. As soon as EWING came underway, the firing began. The ship began lock-down procedures. After 20 minutes the attackers gave up chase. There were no injuries and there was no damage to the ship. A mayday was made, but there was no U.S. war ship in area.

In response to the incident the following measures were taken:

- The LDEO Director, marine staff consulted with NSF, the PI and Chief Scientist as to the potential course of action.
- Science operations were limited to outside 50 nm of Yemen and Somalia.
- The public affairs office was alerted to prepare press release.
- Reports of the incident were made to other agencies.
- Discussions were initiated with the PI and NSF to revise the next scheduled EWING cruise (EW0111), a MARGINS program in the Gulf of Aden. The original cruise plan called for 80% of program operations within 50 nm of Yemen and Somalia.
- The Marine Superintendent and Marine Science Coordinator traveled to Djibouti for the ship's port call.

EWING arrived in Djibouti on 12 September and the science party departed the same day. The EW0111 cruise in the Gulf of Aden (and Arabian Sea option) was canceled. The ship sailed for the Seychelles on 13 September.

In 20/20 hindsight:

- There is usefulness of a shore side contingency plan.
- There is benefit of increased training in shipboard security both in port and underway.
- Practices/policies regarding use of force/small arms on research vessels an/or use of shipboard security teams should be reconsidered.
- There should be guidelines for assistance to operators and sponsoring agencies in evaluating risks to personnel and vessels in specific areas/regions of the world.
- Recognition of operational risks associated with piracy, political instability and acts of violence should be given consideration when programs are being funded.

This type of violence takes everyone back, we need to be prepared. Paul showed a map of the Red Sea/Gulf of Aden reported incidents from 1995 to present. It shows an increase in attacks in the area. The attacks are to any type of ship.

While the ship was in Djibouti, Paul and John Diebold had chance to talk to crew. There had been division among the crew. Some strongly felt that the ship should have been armed. Amy Bower, Chief Scientist, felt strongly that the consultants be kept aboard while underway. Arming the ship opens a whole new set of concerns, however.

Discussion followed:

Question - Were other ship operators in that area contacted.

Answer - Paul indicated that he looked over the U. Delaware site to find other operators.

Question – Was there any comment from the lawyers/insurers regarding operations in high-risk areas (pre-knowledge).

Answer – They did not contact lawyers in advance of the cruise. The insurers do get the schedules in advance.

Question – Are the agencies willing to pay for extra insurance coverage to work in high-risk areas?

Comments - There are areas that are uninsurable. The LDEO risk manager was notified immediately after the attack. Dennis Nixon indicated that there is a website listing uninsurable areas, “war risk special areas.” Access to the listing is restricted and Dennis is trying to get access. If operations are planned in any of these areas, your insurer carrier needs to be contacted to purchase war risk coverage. Lloyds of London meets weekly (every Thursday) to determine war risk areas. If operations are planned for a war risk area, coverage will need to be negotiated with your agent.

EW0110 Chief Scientist Report from Amy Bower – Prior to the meeting, Amy Bower (WHOI) provided a written report, “Security Operations and Piracy Attack and Their Impact on Scientific Operations.” It is included as [Appendix V](#). The purpose of this report was to: 1) describe the attack from the Chief Scientists perspective and its impact on the scientific accomplishments of the cruise; and 2) to describe how some of the specific security precautions on the EWING and on the R/V KNORR interfaced with scientific operations, and make some suggestions on how these procedures might work better in the future. Amy’s report summarized the operations accomplished prior to the attack, the attack itself and the revisions made to the science program following the attack.

After the attack, a restriction to remain 50 miles from Yemen and Somalia was agreed upon (with two exceptions). This had a major but not devastating impact on the research objectives of the cruise. There was an estimated 30% overall loss in terms of percentage of original objectives not met due to this incident. New cruise objectives were developed as a result of the revised operating area and Amy considers the cruise to be a success based on these new objectives.

From Amy’s perspective, she wishes that security professionals had been on board EWING during REDSOX-II. It would have provided a better sense of security for the scientists. Amy’s report comments on the REDSOX security procedures and their impact on science. She compared the KNORR’s procedures with those on EWING. Her report also provides some recommendations including those related to lock-down procedures, shipboard communications,

and portside sailing board postings. Assuming that US research vessels are going to continue to operate around the world, she feels strongly that UNOLS and the ship operators have to face the issue of unarmed and armed attacks and work together to develop a uniform approach to security on our vessels that would be standard across the board. In closing, Amy asks that the UNOLS reaction to the incident on the EWING not be to restrict our vessels only to the safest waters, but rather to develop a plan to reduce the risk of harm to crew and scientists throughout the oceans.

A Scientist's Perspective by Brian Taylor – Brian Taylor was on the EWING research cruise immediately following the REDSOX II cruise. He provided a report on security issues for research vessel operations. His viewgraph is included as [Appendix VI](#). Brian stated that there needs to be a change in the way scientists propose and plan science. The science community needs to be able to continue research operations in all areas of the world, however, the level of risk involved with work in particular areas needs to be carefully assessed during the initial planning period. This needs to be an issue for all parties: reviewers, agency program managers, ship operators, scientists, technicians and the crew. Ship schedules and science plans are publicly available long in advance of the operations.

The morale and performance of the crew and scientists needs to be considered when planning and carrying out research operations. Security issues need to be dealt with long in advance of the cruise, preferably with prior training in the U.S. Alternate plans and operational options need to be developed if work is planned in high-risk areas. Certain operational areas may be limited by clearances. Station locations must be planned accordingly and be able to be adapted to changing risk levels. Also, there should be consideration of the restrictions placed on ships by certain operations such as towing gear.

Brian showed a map of the Gulf of Aden. Over the years, the French, U.S. and Japan have conducted research in this region. Getting access to the area over the years has been difficult. The science parties are aware that this is high-risk area. Brian showed the area available for research if a 50-mile shoreline buffer was in place. He commented that they would have been able to carry out his EWING cruise logistically, however, the crew morale was so low that it was not practical. As a result, the decision was made to cancel the cruise.

In closing, Brian emphasized that security training at home is needed. Security training on a regular basis should be conducted for operators that have global operations. It needs to be routine training and planned as such. The crew should feel as comfortable as possible.

The floor was open to questions and comments. Dolly Dieter commented that in the early 1990s they tried to conduct this type of training. Its effectiveness was questionable, largely due to a poor selection in the company providing the training. Jeff Callahan suggested that there should be universal security training for intermediate vessels and larger. In 2002, ENDEAVOR is scheduled to go to Brazil. Paul Ljunggren commented that logistically executing the training is difficult; the ship and crew are at-sea for long periods. But we need to do this. Joe Coburn added that we would want the crew to be able to train the science party.

Charles Dragonette (Office of Naval Intelligence) – Charles opened his discussion by saying that he was glad to be able to meet everyone at the meeting. He indicated that he plans to

forward the weekly reports on “Worldwide Threat to Shipping” to UNOLS regularly. He said that it is very encouraging to hear that everyone at the meeting is on the right track. You must listen to the people who are actually on the water, along with their concerns. You also need to pass this information on to other people planning operations in similar areas. Charles reminded everyone that volunteers support the IMB organization, which collects and distributes the threat reports. The information that they provide is concerned with piracy.

Charles went on to talk about the nature of various piracy attacks. Off the coast of Somalia there is a lot of hostage taking for ransom. There had been no reports of attacks in the EWING area. The EWING vessel looks similar to fishing vessels and this may explain why it was a target. Fishing vessels can be relatively easy targets since they have a low freeboard. There is no established government in the area of the EWING attack. When fishing boats get attacked or taken, it doesn’t often get reported. Charles guessed that the attackers were looking for hostages for ransom when attacking EWING.

Charles indicated that EWING and KNORR did everything right in their operations in the Red Sea area. Their goal was to get out of harms way. How can ONI help? Security planning is necessary. In port risks are very high, higher than at sea. It is very important that once the crews are trained they continually run through attack scenarios. They must keep thinking of the security plans. If an attack is a dedicated terrorist act, it is probably too late to deter and time must be devoted to mitigate damage. Operators must listen to the crew and assess their comments.

The Worldwide Threat to Shipping weekly reports are issued on Wednesdays. The information is often two weeks old when it is received. There is no secret information on piracy in the reports. Everything that is known about attacks is included in the reports.

Shore managers need training as well as the shipboard personnel. There should be some level of identical training for everyone. Charles provided examples of training sites and offered to put UNOLS in touch with the right people. These would be classroom types of training. Paul Ljunggren commented that he appreciated the help that Charles has provided following the EWING incident. He recommended making effective use of the information.

Charles provided the web address of a private site that is run by an ONI employee, <http://www.downtothesea.com/>. It is comprehensive site containing information on security and attacks. Mike Prince commented that he would forward the weekly reports from Charles to RVOC and anyone else who is interested in the material. The UNOLS Office will also create a web page for security issues. It will contain links to pertinent sites. Charles added that information on attack incidents could be e-mailed to him.

<http://www.unols.org/rvoc/rvocsecurity.html> and <http://www.unols.org/rvoc/security.html>

The question was asked if use of guns would defer the pirates. Charles explained that it depends on the type of piracy. Simply shining a light on some of the smaller pirate operations can be effective. For acts of dedicated piracy it is best to lock-down. For the attacks made by Somalia in the daytime it is best to try to retreat. Virtually all attacks occur within site of land. Firing guns in coastal areas opens up a whole new area of problems.

United States Coast Guard (USCG) – CDR Michael Rand – CDR Rand reported that he is from a newly formed USCG office for Port and Waterways Security (**Waterways Management Security Division G-MWP-2**). The Office was established following the attacks of September 11th. The USCG has been training foreign countries on how to prevent attacks. He emphasized that planning is key. More lessons will be learned from actual events. Starting in 1996, the USCG required that all large passenger ships have security plans.

You must be aware of your surroundings and be prepared to react accordingly. Fire hoses can be used to prevent intruders from climbing up the ship. Research vessel operations can make this very difficult if equipment is in the water. You need to determine if the equipment can be released from the ship. A plan must be in place.

The USCG has three levels of security plans ranging from high to low risk. IMO Circular 443 explains how to prepare a plan. IMO Circular 623 explains how to prevent piracy. It includes lock-down and evasive measures. The International Maritime Organization (IMO) has an informative website <<http://www.imo.org/>>.

The USCG is deciding on whether additional security regulations are necessary. Will there be requirements for ships operating within U.S. waters to have a security plan in place? Many of the merchant ships have located their locks so that access is from the inside. Pilothouses may also have locks installed. However, if the pirates plan to take a ship, it will be very difficult to stop them. Much of the piracy that occurs is on ships of opportunity. When the vessels are in port, the crew should not discuss their operating areas and planned schedule.

Awareness is key. Preparedness is next and then execution. Weapons have not proven to be effective and are not being recommended. Use of weapons opens a whole new area of concern. It was suggested by one of the consultants to carry fake weapons. CDR Rand recommended not taking this measure. Tim Askew pointed out that if your ship carries arms you would need to declare them in foreign states. Sometimes the foreign state will lock them down. HBOI had a problem in South America carrying a weapon and in that case the captain was arrested. Arms are sometimes confiscated.

Peter Petrelis of MARAD was the next presenter. He began with a quick review of his background. He graduated from Maine Maritime in May 1981 and went to work with NEMA before coming to MARAD. He explained that MARAD provides shipping advisories <http://www.marad.dot.gov/>. He communicates with Charles Dragonette often. MSC Circular 117A is in regard to maritime security and provides points of contact. For marine security issues, Peter can be contacted.

Oceanography of the Navy – Richard Hayes – Richard began by explaining that the Navy is very sensitive to piracy and terrorism since the attack on the COLE. He indicated that his report echoes many of the earlier comments. His viewgraph on U.S. Flag research ships – anti-piracy/terrorism is included as [Appendix VII](#). He explained that the Navy's role in anti-piracy and terrorism. The U.S. Navy will come to the assistance of U.S. flag vessels experiencing unlawful attacks when and where assets are available. However, it is often unlikely that a Navy

ship will be in the immediate area of an attack. The U.S Navy does not provide U.S. flag research vessels with escorts or force protection assets. Ship scheduling should take into account the general security of the intended geographic areas of research. The ships' masters and crews should maintain a current situational awareness using the best available information. The Navy survey ships are not operating in the western SE Asia waters (high risk). Ships may submit cruise plans and regular position report to appropriate Fleet Commanders for improved situational awareness and to facilitate response when warranted. This is something that UNOLS may want to consider. Other U.S ships currently do this. Rich recommended that UNOLS take a proactive stance in this.

State Department - Liz Tirpak and Margaret Hayes – Liz Tirpak began the report and introduced Margaret Hayes. Their viewgraphs titled “Developments in Marine Science Research Policy” are included as [Appendix VIII](#). Margaret came to the State Department in July from NOAA where she had worked since 1976. She was in the General Council Office and later became the Assistant General Council for fisheries.

After arriving at the State department Margaret was informed that Tom Cocke was planning to retire. At one time there was a department within State dedicated to marine science. Over the years this department has gone away and they are now trying to rebuild it. Liz has been hired to work on the research vessel clearance program. There is still a vacancy within the department that should be advertised soon. There will also be a secretary hired for the office. There may be a Foreign Service agent position added. Suggestions on how the State Department can rebuild its marine science office are welcome.

Margaret listed some of the marine science programs that the Department of State are involved with. One area of involvement is with the United Nations Law of the Sea (LOS) Treaty. In the spring 2001 the Informal Consultative process began. The U.S. has not signed on. In the Summer 2001 the IOC Advisory Body of experts on the law of the sea met. In the fall 2001, the UN General Assembly will meet. Margaret commented that the Bush administration favors the ratification of the LOS treaty. This was announced at the Ocean Commission meeting. There are many things that the U.S. cannot do as a result of not signing the LOS Treaty. They cannot be an official member of the organization and they cannot participate in the IOC advisory body.

There are two LOS resolutions this year of interest to the Department of State and our community: marine science and piracy. The Department of State received the resolution draft and thought that the piracy issue was too weak. They asked that it be recognized that piracy impacts marine science. They do not know if their language will be accepted. Margaret has a copy of the second draft. The resolution needs to be adopted by the General Assembly by November 22nd. Liz continued with a discussion on vessel clearances. The LOS Article 245 indicates that there is Coastal State jurisdiction over marine science research conducted within the 200-mile Exclusive Economic Zone (EEZ).

Liz reviewed the post September 11th procedures regarding clearance requests. The lead-time requirements for requests must be met. Foreign collaboration is often necessary or helpful. There should be the ship operator's endorsement with a PI's clearance request. Electronic requests are recommended/encouraged, especially with the recent problems with the postal mail.

The Department of State will try to make a threat assessment available to operators. Threat considerations include incidences of piracy, armed robbery, illegal trafficking, and/or absence of diplomatic relations and/or governing authority. Liz sent the UN a message asking what should be done when there is no recognized government of a Coastal State. There appears to be no clear answer to this problem. There is some wording that indicates if there is no reply to a clearance request access is denied. However in contradiction, by the LOS Coastal States have the responsibility to respond. Therefore, there is no clear answer. It was noted that there is a paragraph in the LOS that indicates if no response is received – there is implied consent.

Bob Knox asked if there anything that UNOLS could do to encourage succession to the LOS Treaty? The Ocean commission passed a resolution unanimously to encourage succession.

DOS has travel warnings that are posted at http://travel.state.gov/warnings_list.html. There are also NIMA Maritime safety reports posted at <http://pollux.nss.nima.mil/index/index.html>.

RVOC Report – Steve Rabalais – Steve Rabalais, RVOC Chair, reported that before the EWING attack, the issues that we have been discussing today were relatively obscure. There was a general conception that this was a large ship issue. After September 11th it became a fleet wide issue. How should UNOLS vessels deal with port closures? What should be done about reports of bogus USCG vessels patrolling U.S. waters? At the RVOC meeting these sorts of issues were discussed with the U.S. ship operators, foreign operators and agency representatives. At the roundtable session a security committee was established and Dan Schwartz was appointed chair.

Charles Dragonette commented that a “Yellow Pages” for all ships and operators is under development. This is something that has been long needed. The pages will provide contact information for all foreign ports.

Dan Schwartz continued the report on the RVOC Security sub-committee. His viewgraphs are included as [Appendix IX](#). The initial members of the sub-committee include (besides Dan) Joe Coburn and Paul Ljunggren. Their purpose is to:

- Consider the spectrum of potential security threats confronted by academic fleet vessels.
- To establish contacts and an ongoing liaison – with the Navy, Coast Guard and law enforcement agencies for rapid access to information, advice and threat assessment...
- To participate in a dialogue with UNOLS Institutions and funding agencies while evaluating risks, missions, routing decisions, and options...
- To consider and recommend means by which the Fleet can enhance security & safety in response to a variety of threats.

Issues of concern include:

- Piracy and Research Vessels
 - Hotspots are fairly predictable
 - Warnings are distributed well after the fact
 - Incidents have occurred in the past (CALANUS 1981, etc, EWING 2001)

- What's changed since 9/11? We can't assume mere robbery is the sole motive in an attack.

In the 1981 attack on the CALANUS they were armed. Dan believes that they were able save the ship as a result of it being armed. Legally, there has been a case that defending the ship justified arming. Dan is not sure the passive approach (unarmed) is the right way to go. The worst-case situations must be recognized.

- Terrorism attack – these might include:
 - Direct attack by small boat (or when alongside a wharf, by boat, foot or vehicle)
 - Items/packages delivered to the ship may include explosives or bio/chemical agents.
 - Hostage situations.
- Alongside security in homeports. Some port agents are requiring checks. The UW ships are now being watched by campus police.
- Alongside security in foreign ports. Alongside security issues include:
 - Access control during science personnel change-outs, provisioning, bunkering. photo identification challenges at gangway.
 - Package receipt control/verification
 - Stowaway searches before departure
 - Eliminate “sailing board:” ship movements to be provided on a need-to-know basis.
- Underway security and threat recognition:
 - Utilization of professional security teams during operations or transits in tense areas (inventory and pre-screen firms offering this service)
 - Equipping and training for self-defense.
 - Threat recognition and rules-of-engagement.

Dan provided a list of resources that are available.

- Open-source intelligence (newsletter, list servers, etc) and the need to evaluate them as to quality and timeliness.
- Liaison with ONI, the State Department, USCG agents, port law enforcement, the Navy CiCs
- Host nations resources
- Secure communications

In conclusion the scourge of piracy has been with us a very long time. We are at war now and we must be prepared for any attempt by hostile individuals or groups to harass, attach, of board and seize our ships and harm the personnel whom we are responsible for protecting.

Council discussion followed. It was stated that UNOLS needs to think about science planning in respect to potential high-risk areas. Dennis Nixon added that ISM requires that security be addressed. In the past, security was addressed at relatively low levels; it will need to be

readdressed. Crew training in security should be added to operational requirements. It should be a routine part of the system.

It was commented that if security procedures are recorded, then the security itself is violated. Security of the plan is required. Dan Schwartz indicated that for ISM purposes, you would need to report that a security plan is in place. The actual plan can be kept confidential.

Brian Taylor stated that earlier in the meeting it was reported that there are no operations planned for high-risk areas in 2002, but Brian pointed out that operations in high-risk areas are being planned in 2003 and there are proposed research areas that are currently under review. The issue is now. Bob Knox agreed that the issue should be addressed now and that there are actions that can be taken now. The question was asked if there are programs that should not be carried out because they will take place in high-risk areas? If so, who will make the decision to not schedule the program? There is probably a stepped approach that can be implemented now. There may be some programs that need to be curtailed. WHOI spent an estimated \$66K for security on the REDSOX operation. The cost implications for added security need to be addressed. There are four parties involved in the security equation: the scientists, agencies, operators, and insurers.

LUNCH Break – During the lunch break Bob Knox provided a presentation, “UNOLS 101” to members of CORE and the Congressional staffers. His presentation is included as [Appendix X](#).

Security Discussion (continued) - After the Lunch break, the security topic was revisited. The discussion focused on actions that need to be taken in regard to piracy and terrorist activities. Some measures have already started. The RVOC established a security committee. It was recommended that scientists should be added as members to this committee. Security training and other security procedures need to be considered. Costs associated with required security measures needs to be identified. The question of how to deal with scheduling operations and clearances for high-risk areas needs to be addressed. It was suggested that when scientists submit a ship time request we ask the question of whether they consider their research area a high-risk; is the area classified as a “War Risk Area?” Threat levels should be assessed and high-risk programs will need to be considered. The community also needs to respect the ship captains’ decisions when they decide not to go into particular places.

NOAA pulled their ship schedules from the Web for a short while. The USCG also removed their ship schedules from the web. Should UNOLS remove their ship schedules from the Web? It was noted that pirates usually select targets of opportunity and ship schedules are likely not consulted. It was suggested that the ship schedules should still be posted on the Web. If necessary, port calls and any other information can be omitted.

What is the role of the Council and agencies in security? What resources are needed to adequately address this issue? It was recommended that there should be a basic course “Security 101” across the board. Bob Knox wrapped-up the discussion by saying that we will need to think about issue further and continue the dialog. A security web page will be established on the UNOLS website with the reference links to various security sites.

FEDERAL Agency Issues:

Office of Naval Research (ONR) - Tim Pfeiffer reported that agency budget news has not changed since his report at the RVOC/RVTEC in October. There is an overall decline in the ONR funding level from last year, somewhat due to the recent navy operations. Some large science projects have been declined. The proposals submitted for the DURIP funds were approximately three times as high as the available money. The agencies and operators continue working on zdrive issues with the AGORs. All of the Navy owned large UNOLS ships are due for their INSURV inspection this coming year. They are working with NSF to incorporate a science element for these inspections.

There are a number of personnel changes to report. Fred Saalfeld, ONR Technical Director, has announced his retirement. Steve Ramberg has been promoted to the Executive Director position. Frank Herr will move into Steve's position as Department Head for Ocean, Atmosphere, and Space. Tim announced that Sujata Millick has accepted a position at Department of Commerce and will be leaving ONR before the end of the year. UNOLS thanked Sujata for her service to the fleet and wished her well in her new venture.

National Science Foundation (NSF) – Dolly Dieter reported that the UNOLS ship inspections would resume in two weeks starting at the University of Delaware. Jamestown Marine Service has the contract to conduct the inspections. In other news, NSF is in the process of redrafting their cooperative agreements and charter party agreements with the UNOLS operators.

Long Range Planning for the UNOLS Fleet – Bob Knox reviewed the status of the revised draft of the FOFC Long Range Fleet Plan. The second draft of the FOFC Fleet Plan is ready to be presented to the FOFC at their meeting tomorrow (11/16). If the FOFC agrees with the plan it will be forwarded to the NORLC on 4 December. The revised plan incorporates many of the UNOLS community comments that were gathered during the survey. The plan provides the names of the ships that will be going off line and the numbers of vessels that are needed for replacement. The report does not identify a source for construction funds. This is an important issue that will need to be addressed. The need for fleet renewal requires that Science Mission Requirements and Conceptual Designs be developed. There is an urgency to keep the renewal process rolling as it takes many years to fund and construct ships. The floor was open to discussion.

(Q) - Is any agency interested in taking a lead in this renewal effort? (A) – ONR and NSF are taking steps to look into this.

(Q) Will funding for ship construction be pursued under the NSF Major Research Equipment budget? (A) Ship construction might not be handled under the MRE. There is no line item in the MRE at this time. Rita Colwell's report to the Ocean Commission highlighted the importance of fleet renewal. The Navy is also dedicated to this issue.

Facilities beyond Ships and the National Deep Submergence Facility, the UNOLS Role - Discussion on this item continues from the last meeting. What is the role of UNOLS and FIC with regards to new technology development for observatories and other emerging oceanographic facilities? Should new relationships be built between UNOLS and agencies such as NASA that are interested in developing similar tools for exploration and research? What are the implications of the Ocean Exploration Initiative?

Bob Knox wrote a letter to Ken Johnson asking if there should be a UNOLS representative/liaison to the Observatories Steering Committee. In response, Ken indicated that Larry Atkinson should serve in the role as liaison. Larry currently attends the Observatories Committee meetings representing the Ocean .US office.

The question was asked if there should be a UNOLS type organization to organize observatory equipment, such as equipment for the NEPTUNE project. These are the types of questions that need to be considered by UNOLS and the observatory programs. It was mentioned that the OBS program has a coordinating group that works with UNOLS in scheduling necessary fleet operations. There is an OBS steering committee for their pool of equipment. This may be a model to explore.

Quality of Service Initiative (QSI) - At the last Council meeting a subcommittee was identified to review the current on-line Post Cruise Assessment (PCA) form and recommend design improvements. Methods for increasing user feedback were to be explored as well. Mike Prince reviewed the status of the subcommittee's activities. His viewgraphs are included as [Appendix XI](#). The committee includes Wilf Gardner (TAMU), Tom Shipley (UT), Steve Rabalais (LUMCON), Tim Cowles (OSU), Dale Chayes (LDEO), Mike Prince (UNOLS office) and Laura Dippold (UNOLS Office). Mike showed a chart indicating the number of cruise assessment reports that have been received in 1999, 2000 and 2001 as well as the percent of reporting. The percent reporting is down in 2001, but many reports are usually submitted at the close of the year. The percentage of reports being submitted via e-mail is up in 2001. A second chart showed the percent of success being reported as well as days lost. The percent of cruise success reported by Chief Scientists over the three years is fairly level and above 90%. NSF uses "days lost" as a metric for performance in their Government Performance Reports. The chart shows a relatively low number of days lost due to ship problems.

Mike reviewed the areas of concern that were identified in the 2000 PCAs. Ship equipment and science equipment received the highest level of concern. Pre-cruise planning stands out as well. The 2001 PCAs mirrored the 2000 concerns with the addition of concern over data/computers.

Potential objectives for PCAs are:

- Safety and the inspection program.
- Shipboard scientific equipment program.
- Shipboard technician program.
- Science users for selecting best/most appropriate ships.
- Ship operators for unbiased kudos and recommendations for improvement.
- NSF for governmental performance review (days lost).
- UNOLS Council for gauging overall fleet support of science.

Some initial areas of focus that are being explored by the committee include:

- Concern about requiring that the form be submitted electronically. This would mean that the PI would most likely leave the ship before submitting form and submittal rate would likely go down.
- Improvements/redesign of the assessment form and questions, which may require professional assistance.
- Examination of the assessment form for the captain and marine technicians.
- The subcommittee will consider whether or not all PIs should be able to submit the form, or just the chief scientists.
- The NAVO and NOAA assessment forms will be reviewed.

Currently, there are two Post Cruise Assessment forms available for the Chief Scientists. The UNOLS online form <<http://www.gso.uri.edu/unols/pcarform.htm>> and the previous, but still used by the majority paper form. The paper form can be downloaded from the WHOI website at <http://www.marine.whoi.edu/planning/cruise_assess.pdf>. There is also a Captain's form which is a paper version created in the late eighties. This form can be downloaded from OSU's website at <http://www.oce.orst.edu/Vessels/martech/appendix_15.pdf>.

The first cut at a revised PCA form will attempt to:

- Combine everything into one form.
- Retain the best aspects of the online and original paper forms.
- Provide more focused feedback.
- Allow evaluation of the scheduling process and cruise planning in addition to the actual cruise.
- Be an **ONLINE FORM**

Sandy Shor pointed out that the cruise assessments are not sent automatically to the agencies, and most are never sent. This prompted discussion. The reports were originally developed by the RVOC. They decided to purposely not send them to the agencies. The reports don't always get completed or are often skimpy. This may be because the PIs do not know the objectives of the report. Linda Goad indicated that she would like the operators to send her the assessments. The reports could serve as a tool for identifying and correcting problems. Often the agencies are unaware of problems. Matt Hawkins reported that the University of Delaware has decided they would summarize the assessments and provide this report to the agencies. They also see it as a tool. Matt feels that the assessment as well as the operator response to the assessment report should be forwarded to the agencies.

Mike Reeve added that the agencies should see the PCA reports. Eventually he will need to go before the National Science Board and report on the quality of service measures that have been implemented for the UNOLS Fleet. Joe Coburn commented that this effort is worthwhile, but it is not a formal quality improvement program. The NSF Fleet Review recommended a formal quality program.

Linda Goad asked if there would be an objection by UNOLS to sending the agencies the assessment reports. The Quality committee will take this recommendation for consideration.

Dale commented that the information now provided by the PCA forms is subjective. It was suggested that the agencies send a written request for the PCA forms that could be circulated to operators and technicians for approval. Bob Knox offered that for the time being UNOLS send the assessments to the agencies unless there is an objection. It was recommended that Chief Scientists be notified that their reports are going to be sent to the agencies before they are actually sent. The UNOLS office will attempt to contact the 2001 Chief scientists and if successful begin forwarding the reports to the agencies. A comment will need to be added to the PCA form to inform Chief Scientists that their assessments will be automatically distributed to the agencies in the future.

Standards for services provided by UNOLS Operators: Dan Fornari has requested that the UNOLS Council address the issue of in-port service fees. Can or should UNOLS Operators adopt a standard policy with regards to what the operator covers and what are paid for by the Scientist's grant? Is this part of a broader issue including establishing levels of service that are standard for other areas such as technical services?

Bob Knox raised the broader issue of base levels of service. This issue has been discussed by RVTEC. Dale Chayes reported that a subcommittee of Barrie Walden, Marc Willis, and Woody Sutherland was formed by RVTEC to address the issue of base levels of service. The group met at the last RVTEC meeting and Dale and Annette attended their meeting. They concluded that developing procedures for the various technical systems/services is a complex task. They decided that the root of the problem comes down to pre-cruise planning. If there was an established protocol for pre-cruise planning, the dialog between the science party and operator, the science group could be greatly improved. Improved communications would result in better-prepared cruises with no unexpected surprises. Barrie, Woody and Marc will try to develop this protocol. Dale indicated that the group welcomes input.

Sandy Shor indicated that he would like to have a listing of the services and equipment that are available across a ship class. What should a user expect to find when he/she comes aboard a particular ship. Sandy would like a codification. An added benefit of this sort of listing is that it could be added justification for instrumentation if a particular class ship is expected to carry it aboard.

John Diebold commented that what the subcommittee is doing is good, but it is addressing a different problem from that identified in Dan Fornari's message. Dan's problem of unexpected costs needs to be addressed before a PI ever submits a proposal. The PI needs to know what costs to expect so that they can be included in the proposal. These costs should be irrelevant of which ship the PI eventually gets scheduled on. John recommended that the costs (port fees, etc.) be more standardized among the various operations. He was on a subcommittee some time back with Mike Prince and Linda Goad to identify items that were not covered by the day rate (port costs, cranes, overtime, etc). Perhaps this should be revisited.

Sandy commented that these are two different issues. From his program perspective, he is interested in the technical levels of service issue. Sandy would like to see an inventory of instruments and services. Much of this information can be obtained right from the annual

technical support proposals. Bob Knox requested that the subcommittee address this task. Creating an inventory is a good starting point.

UNOLS Standard Van Specifications – Matt Hawkins (U. of Delaware) reported on the effort to create UNOLS Standardized Van Designs. His viewgraphs are included as [Appendix XII](#). The effort was undertaken to:

- Enable economic transport by common carrier – “containerized cargo”
- Standardize design elements for benefit of the scientific user
- Facilitate group purchase – potential cost savings
- Make the vans interchangeable throughout fleet – not ship specific
- Improvements in safety through uniformity of design

Matt reviewed the features to make the vans interchangeable:

- Variable power inputs: 208-460Vac, single phase for lab vans
 Shore power connection
 3-phase for machinery and refrigerated lab vans only
- Two personnel doors and escape hatch – ensure two means of escape always available.
- Based on 20-foot ISO shipping container “foot print”

There are currently no international standards that dictate the construction requirements for scientific vans. SOLAS requirements are for ships. Classification Society standards do exist, but are not regulatory mandates. They were directed by international authorities to rely on the USCG for ruling on scientific vans on inspected vessels. The US Code of Federal Regulations, Subchapter U, 195.11 – “Portable Vans and Tanks” was used as a basis for design specifications and U.S. Coast Guard review. Other industry regulations were avoided. ABS and DNV standards were used for guidance. The goal was for clarification of existing regulations as opposed to creating new regulations.

Matt reviewed the results of the formal US Coast Guard review which were provided in a USCG letter dated May 24, 2001:

- Only power, chemical storage, and accommodations vans are required to be USCG inspected.
- Laboratory vans are NOT considered “accommodations”.
- ABS high-speed vessel rules/side and aft deckhouse design pressures (2.0 psi for plate, 1.5 psi for stiffeners) considered acceptable minimum standard for portable accommodations vans on sea-going vessels. Must be secured in a “Sheltered Location” (i.e. not encounter significant wave action as with a side or aft deckhouse)
- Most portable vans are NOT required to have specific “Fire Rating” themselves.
- Allowed to take into account the “van/ship system” when considering the overall fire rating of the boundary. Location and van type determine the required fire rating of the “boundary”.
- Accommodations vans must be of “incombustible materials” all around.

As a consequence of U.S. Coast Guard review, a standard 20-foot ISO container DOES NOT meet the bulkhead pressure requirements for an accommodations van. The container must be

stiffened with 1.5 x 1.5 x 1/8" angle on every inward corrugation (11" O/C). For structural fire protection the following will be required:

- Aluminum suitable incombustible material for most van types
- Standard container must have wooden deck removed and steel deck inserted or "belly plate" added and wooden deck treated with fire retardant coating.
- Worst case scenario for Sub-Chapter U vessel is "A-30" – accommodations space next to lab over 500 square feet.
- Flame testing undertaken through USCG certified lab.

Various Specifications, ratings and inspection requirement details are provided in the Appendix.

UNOLS/RVOC considered the adoption of the accommodation van structural standards for all vans "normally occupied by personnel" regardless of inspection requirement – i.e. lab vans. At the RVOC 2001 Round Table discussion it was voted on and passed that all new ship-owned vans to be built to the new standards.

Matt reported on the next steps in the process:

- Consolidate information into a "UNOLS Van Manual" – hard copy and web based.
- RVOC sub-committee established to:
 - Develop a centralized inventory of existing vans – ship and science owned.
 - Determine overall fleet need for various van types, based on current condition and types available.
 - Develop van loan agreements that will address rental fees, shipping, etc.
- Promote new standards from the top down – program managers/directors – this will get the science vans to be designed to these standards.
- Establish van "pool" for the UNOLS Fleet.

The question was asked on how this will get enforced? Matt indicated that the USCG letter would help as back up. The word about the new van standards has not been widely distributed and we will need to make a strong effort to do so. Dolly Dieter indicated there would need to be a transition period. The new vans aren't even available yet. An article about the new van standards can be included in the UNOLS newsletter. Tim Pfeiffer asked Matt to send him an explanation of the van problems and new standards so that he can distribute them to the ONR program officers.

UNOLS Goals, Priorities and Mission Statement –Mike Prince reviewed the goals, priorities and UNOLS Mission statement. His viewgraphs are included as [Appendix XIII](#). He first presented the UNOLS Mission statement:

- *The University-National Oceanographic Laboratory System (UNOLS) is an organization of academic oceanographic institutions working in cooperation with agencies of the U.S. Federal Government to ensure broad access to modern, well operated, state of the art research vessels, submersibles and facilities required to support a healthy and vigorous research and education program in the ocean sciences.*
- *UNOLS is an advisory body that provides the mechanisms for coordinated scheduling and access to research vessels and facilities, co-operation and innovation by facility operators*

and broad community input to operators and federal agencies regarding current and future facility requirements for the ocean sciences.

There was a question of whether the statement should mention foreign collaboration. It was recommended that the statement be posted on the UNOLS website for community comment.

Mike continued by reviewing UNOLS goals and in summary these are:

- Broad, coordinated access to oceanographic research facilities.
- Continuous quality improvement.
- Plan for and foster support for the oceanographic facilities of the future.

The objectives and priorities for 2002 were reviewed and fall under the three major headings of:

- Access and scheduling
- Continuous quality improvement
- Plan for future facilities

Specific 2002 objectives include:

- Create schedules by September
- Improve ship time and scheduling system
- Quality of Service improvement
- ISM implementation
- Arctic icebreaker science operations
- Fleet renewal process
- Monitor and stay engaged with the development of "Ocean Observatories" and other new uses of research vessels.
- Development of new facilities

Lastly Mike reviewed the 2000/2001 accomplishments and activities:

Access and scheduling:

- Completed scheduling of all UNOLS vessels by early October ensuring that scientific objectives were used as the primary consideration in making decisions whenever possible. Some projects were deferred to 2003 in order to provide the appropriate platform and facilities.

Continuous quality improvement:

- Planning for implementation of ISM Compliance on large UNOLS vessels.
- HEALY science systems testing was conducted and the ship is now operating in the Arctic.
- Started work on improvements to the Post Cruise Assessment system and considered other methods for implementing formal continuous quality improvement programs.

Plan for future facilities:

- The community was alerted to the need for fleet renewal.
- UNOLS provided a community response to the draft FOFC Long-range Fleet plan.
- New vessels are under construction or in the planning process: KILO MOANA, SAVANNAH, ALPHA HELIX replacement and CAPE HENLOPEN replacement.
- Upgrade and overhaul of the National Deep Submergence Facility: ALVIN overhaul, DSL120A, and Jason II.
- Development of standard specifications for shipboard vans including U.S. Coast Guard approved specifications.

Mike concluded by stating that this is a living document and will be posted on the UNOLS website. Community input is welcome.

Winch and Wire Follow-on Activities – Mike reported on plans to develop Science Mission Requirements (SMRs) for oceanographic wires, cables and ropes. A web form to gather input on wire and cable needs is posted on the UNOLS website at <<http://www.unols.org/wire/wirespec.html>>. Community input is needed! A subcommittee to address this issue has been formed to develop the wire and cable SMRs and includes: Fred Spiess/SIO, Albert J. (Sandy) Williams/WHOI, Andy Bowen/WHOI, Dan Fornari/WHOI, James Broda/WHOI, Roy Wilkens/UH, Craig Lee/UW, Stewart Lamerdin/MLML, Steve Rabalais/LUMCON, Dale Chayes/LDEO, Jon Alberts/WHOI, Tom Althouse/SIO, Mark Willis/OSU, Rich Findley/RSMAS, Theo Moniz/WHOI and Mike Prince/UNOLS. The goals for the committee are:

- To identify the scientific uses for current UNOLS wire/cables and develop Science Mission Requirements for a new generation of wire & cables.
- Create specifications for UNOLS Standard wires and cables to meet these requirements.
- Develop recommendations for introducing new standard wires and cables into the UNOLS fleet.

There will be meetings to review the feedback received from the web form.

UNOLS Vessel Status:

R/V SAVANNAH - Skidaway Institute of Oceanography submitted a letter requesting UNOLS vessel for their new R/V SAVANNAH. [Appendix XIV](#) contains a summary sheet of their NSF inspection that was conducted on 4-5 October 2001. The vessel was found to be in compliance with the Research Vessel Safety Standards. A Council motion was made and passed to accept SAVANNAH as a UNOLS vessel.

R/V KILO MOANA – The University of Hawaii has submitted a letter requesting UNOLS vessel status for their new vessel, KILO MOANA, subject to the successful completion of their ship inspection. The Council approved this request. Brian Taylor showed a few pictures of the ship. The ship specifications are contained on the web at <http://www.soest.hawaii.edu/apor26/>. The vessel launch is scheduled for Saturday, November 17, 2001.

Committee Activities: Each UNOLS Committee Chair submitted a written report prior to the meeting that included activities, issues or plans that have occurred since the June Council meeting. These reports are contained in [Appendix XV](#). Bob Knox briefly summarized each of the reports. Each Chair had the opportunity to raise additional issues:

Arctic Icebreaker Coordinating Committee (AICC) - Lisa Clough reported that the committee would devote a significant effort for post cruise assessment of HEALY's initial science operations in 2001. A debrief period for the HEALY AMORE cruise is scheduled for November 28th in Washington, DC. On Dec 10th, an evening session is planned at the fall AGU meeting in San Francisco. The PIs from the two 2001 HEALY cruises have been invited to report on their respective cruises.

DEep Submergence Science Committee (DESSC) – Patty Fryer could not attend the Council meeting. Annette DeSilva provided a report on issues of DESSC concern and upcoming activities.

NOAA/NURP Funding of the National Deep Submergence Facility: Patty Fryer requests that the UNOLS Council take this issue for consideration – This year NURP funding decisions may potentially result in major scheduling changes for the National Deep Submergence Facility. The alteration in planned and scheduled cruises impacts day rates for use of the assets and vessel. Additionally, these late decisions jeopardize the execution of already scheduled programs. This is true also of any other vessels impacted by these types of changes in funding of field programs. The problem is a recurring one. The timing of decisions regarding funding and scheduling of field programs should be altered so as to ensure that decisions do not need to be altered. We request the Council to consider ways that such a change in timing of decisions could be affected.

Bob Knox concurred with Patty's report, indicating that it is a recurring issue that impacts the UNOLS Fleet. The Council had no recommendations for ways to improve the situation but recognized that it is a real problem.

DESSC Planning Meeting: Planning for the annual DESSC meeting at the Fall AGU conference in San Francisco is well underway. The meeting will be held on December 9th. The format will be similar to previous meetings:

- 2001 Science Reports from users of ALVIN, ROVs, and other facility assets. (There will be time to hear from others since there are fewer ALVIN users as a result of its downtime for overhaul).
- NDSF Operators' report:
 - Work plans for 2002-3
 - ATLANTIS improvements – status
 - ALVIN Overhaul report
 - ROV Upgrade and field trial status
- 6500m Sub (proposal status) and a New ALVIN Construction Advisory Committee
- Agency and UNOLS Reports
- NOAA Ocean Exploration Initiative

- Shallow-water Submergence Science Ad Hoc Committee – the DESSC will hold an executive session during the lunch break to address shallow-water submergence science issues – science/technology needs, access, and funding. Shirley Pomponi will present approaches for meeting this groups needs. Mandate, membership and support for an ad hoc committee will be discussed.
- DESCEND technology follow-up plans (more below)
- Announce future meetings that will address submergence science and facilities:
 - Archeology Meeting at MIT (Dave Mindell)
 - AGU/ASLO meeting (see below)
- Public Outreach Activities
- Issues related to access to submergence science assets and funding.

AGU/ASLO Special Session:

A focus of the DESSC this year has been to more fully involve the biology community in standard DESSC interactions. Over the years the committee has done a good job at reaching the MG&G community, but has missed to some degree the biology community. In order to ramp up involvement of the biology community with DESSC discussions, DESSC will convene a special session at the AGU/ASLO conference in February 2002. The request for the special session has been granted. Patty, Shirley and Anna-Louise are the conveners. The session will follow a format similar to the December DESSC meetings, with science user reports, operator reports and an agency report. Along with biology and geochemistry, the session will also address shallow water submergence facilities. Users of the national facility as well as HBOI and MBARI assets have been contacted to submit abstracts. Submissions for a poster session have also being encouraged and response so far has been good. The session has been broadly announced through UNOLS and RIDGE, and others.

DESCEND technology follow-up plans:

- Compile and inventory of past workshop findings.
- Submit an EOS article.
- Technology workshop – options for carrying out an effective workshop are being explored.

Fleet Improvement Committee (FIC) – Larry Atkinson remarked that efforts would be made to initiate fleet renewal in the Gulf of Mexico region. Fleet renewal efforts in other areas are already underway to varying degrees. A community symposium for the Gulf region may be planned.

Research Vessel Operators' Committee (RVOC) – Steve Rabalais reported that UNOLS ship operators are facing a crisis to retain crew. The RVOC put together a crew retention committee during their 2000 meeting in Oregon. The committee came to the URI meeting with recommendations. This is an industry wide issue. New ideas on how to recruit and retain crew are needed. There is concern that ships will not be able to sail if there is not enough crew to fill

ships. RVOC will continue to address this problem and attempt to develop more specific recommendations.

Ship Scheduling Committee (SSC) – Joe Ustach commented that with only six weeks until the end of the calendar year, about one third of the scheduled cruises are still listed as pending funds.

Council Elections and Membership Votes: Bob Knox reported on the results of the Council Elections and the Membership votes. Voting this year was conducted by mail ballot.

- The proposed Charter revisions were accepted.
- Three member applications were all accepted.
- Charlie Flagg was re-elected to the Council.
- Bruce Corliss was elected to the Council.

Meetings Dates – The date and location for the Council next meeting will be arranged via e-mail. A tour of KILO MOANA is being considered for a winter meeting in Jacksonville, FL.

Bob Knox closed the meeting and thanked the staff of CORE for all of their efforts in arranging the meeting.

The meeting was adjourned at 4:51pm.