# UNOLS Fleet Improvement Committee

University of Alaska
Seward Marine Center
Seward, AK

**20-21 July, 1995**

***Appendices***



**Opening Remarks from FIC Chair:** The UNOLS Fleet Improvement Committee met in the Seward Marine Center at the University of Alaska in Seward, Alaska on 20 and 21 July 1995. The meeting was called to order by the Chair, Chris Mooers, at 8:30 am. A list of meeting participants is included as ***Appendix II***. After introductions of the committee and participants, Chris reviewed the meeting agenda, ***Appendix I***. A tour of the ALPHA HELIX and Seward Marine Facilities will be provided by Tom Smith during a lunch break on the second day.

**1. Approval of Minutes** - The minutes of the 12-13 January 1995 FIC meeting were approved as written. Jack Bash pointed out that UNOLS meeting minutes are now being posted to the World Wide Web (WWW) and to Gopher. The minutes from this meeting will be mailed to each committee member in addition to being available electronically.

**2. Progress and Information Reports:**

**2.a. News from the UNOLS Council Meeting** - Ken Johnson reported on the events of the previous UNOLS meeting held in April. The highlight of the meeting was Don Heinrich's presentation which portrayed a rather gloomy outlook for future years. The Fleet Improvement Plan predicts fleet operation costs in 1997 to grow to approximately $60M. ONR's funding is expected to remain level in the out years. Other agencies are experiencing reductions in their budgets. Additionally, NSF does not expect to see increases above their present funding levels. As a result, by 1997 it appears that there will not be adequate funding to support the UNOLS fleet. In an effort to help lower the operating costs of the fleet, Don

Heinrichs presented NSF's "modest proposal." The proposal calls for the retirement of six ships and realignments of two others. Additionally, NSF and ONR are investigating the feasibility of making AGOR 25 the support ship for ALVIN as opposed to KNORR as originally planned. This could provide the deep submergence community with a support ship with a life of 30 years as opposed to 15 years.

Jack Bash gave a review of the UNOLS Ship Scheduling meeting held in June. In 1996, all of the large ships will be working their way home from the southern oceans. Most of the schedules are healthy, considering that some of the ship's could use downtime for maintenance deferred over the past year. Operations for the large ships are almost 100% supported by NSF.

With the exception of SEWARD JOHNSON, the intermediate ship schedules are all modest to poor for 1996. WECOMA has a light schedule. POINT SUR and NEW HORIZON both have modest schedules and each are requesting mid-life refits. GYRE's schedule is poor. EDWIN LINK's schedule will depend on funding of NURP work. CAPE HATTERAS' schedule is very light and may result in a lay-up for the year. CAPE HENLOPEN's schedule is healthy. ENDEAVOR and OCEANUS each have approximately a half year of operations.

ONR's ship use in 1996 is down. One reason may be that program managers are not encouraging ship use. Jim Andrews pointed out that recent events may begin to turn this trend around.

**2.b. Approval by UNOLS Council of the FIC Three-year agenda** - Chris Mooers reported that the Council approved FIC's three-year agenda. FIC will continue to march along to the guidance of this agenda, see ***Appendix III***.

**2.c. Whither UNOLS?**: Vision for UNOLS in an Era of Downsizing - Peter Betzer began this discussion by asking "What can FIC do to support the fleet?" In the years 1990 to 1997, 30% of the Fleet's ships will either be new or refit. There will be three new Class I ships and two refit Class I ships. This will be a very capable fleet. In 1968, ONR provided approximately 38% of the fleet support. In 1995, ONR's support is less than 15%. During this same period, NSF provided approximately 50% support in 1968, growing to approximately 75% in 1995. Peter has been polling the agencies to obtain a feel for their level of future support. He and Jack Bash met with Admiral Stubblefield last week to determine NOAA's future contribution to the fleet. The future of NOAA is very unclear, and it was concluded that at present predictions cannot be made.

Peter continued by reporting that Dick Pittenger has been asked to contact both ONR and NRL to determine their future UNOLS ship needs and see if any increases in use might be possible. The USGS has provided the R/V WORTHY to the Army. The ship will operate in the Marshall Islands. USGS anticipates a 700-person RIF on 1 August. Next year, after things settle out, they expect to interact with UNOLS. Ship use will likely be approximately 35 days for either a Class III ship or EWING. USGS has the potential to become a steady UNOLS contributor. EPA's research vessel, ANDERSON, is aging and may go out of service soon. The UNOLS ships should be ready to accommodate any EPA field work.

Jim Andrews reported that changes are being made to encourage ship use within ONR. In 1996, the ONR science programs will be asked to contribute 20% for ship time with the ONR Research Facilities Program paying the remaining 80%. The science programs had been providing 45% of the ONR ship time costs. This reduction in contribution would be advertised to the ONR program managers. Additionally, ONR has added "DRI" programs. The top two DRI programs selected for funding must be field programs.

Jack Bash pointed out that a number of years ago UNOLS suggested developing a White Paper to address what is special and unique about UNOLS. Perhaps this should be revisited. A White Paper could help in attempts to increase support from other agencies. Dick Pittenger's MTS Journal Article, "The Academic Research Fleet," provides a good framework for such a White Paper (see ***Appendix IV***). It was also recommended to read Will Connelly's MTS Journal Article titled, "Commercial Ships Serving Science and Technology," see ***Appendix V***.

**2. d. & e. Primer and Inventory of small R/Vs** - Jack Bash reported on the status of the Primer and Inventory projects for small research vessels. Bob Dinsmore is working on the Primer which will compile

science mission requirements for small R/Vs. It is expected to be complete in late fall. The inventory of small R/Vs is being compiled regionally and is posted on the WWW and Gopher. There are ten regions, with each region having a point of contact responsible for collecting the inventories for their respective region. To date, three of the ten regions are posted: the Gulf of Mexico, the Northwest and the Great Lakes. Hopefully by the end of August all regions will be posted.

FIC Nomination - FIC voted unanimously recommending to the UNOLS Council Larry Atkinson's appointment to FIC. Larry will be filling Don Wright's position on the Committee.

**2.f. "Customer Satisfaction" Questionnaire** - Jack Bash reported that over 300 questionnaires were sent to recent users of UNOLS ships, see ***Appendix VI***. 58 responded to the survey. Each questionnaire was signed by the individual responding, so if additional information or clarification is needed the individual can be contacted. On the whole, comments were skewed to the "very satisfied" side of the scale. Crew support on UNOLS vessels received many complimentary comments. Most negative comments were in regard to the post cruise assessment process. It was noted that this area will need further attention. Chris requested that everyone look over the survey carefully and be prepared to discuss it tomorrow.

**2.g. Safety Training/Orientation** - Suzanne Storm reviewed her point paper titled, "Chief Scientists' Responsibility for Safety Orientation, etc." see ***Appendix VII***. She started by indicating that in preparing the paper she had received input from the ad-hoc committee members Jack Bash, Peter Betzer, Joe Coburn and Rich Findley. The paper first addresses responsibility and liability for safety at sea. Currently the captain and his/her institution have been held 100% responsible for safe vessel operations, including the safe conduct of scientific operations. Suzanne asks if it fair and proper to hold the captain completely liable for scientific operations. It is difficult for the captain to be on top of all safety issues and operations along with his/her regular duties. It was decided to discuss this issue later in the meeting.

The paper addresses whether safety problems are actual or potential. Information suggests that the UNOLS fleet is quite safe relative to other fleets. Joe Coburn indicated however, that accident rates are difficult if not impossible to calculate. Organizations know the number of accidents which occur, but they do not know the exposure rates. Shipyard rates are much higher than those of UNOLS. Suzanne listed some considerations which might help improve safety awareness: pre-cruise training and distribution of safety information, using diving operations as a model. It was pointed out that the safety inspections conducted by NSF are rather thorough.

Crew stability was addressed relative to safety. A major strength of the UNOLS fleet is the experience and dedication of the ships' crew. UNOLS, however, has no way of enforcing crew stability as a desirable feature. This topic will be returned to tomorrow.

**2.h. Quantitative Analysis of Ten Years of R/V Use** - Annette DeSilva reviewed the geographic distribution of the UNOLS fleet operations over the past ten years with projections for 1996 and 1997. The information was summarized using tables and charts, see ***Appendix VIII***. Before reviewing the summary, a number of conditions were pointed out:

1. Only Class I/II and Class III ship operations were examined.
2. For the years 1986 through 1993, statistics were generated using cruise reports.
3. For years 1994 through 1996, the latest ship schedules available to UNOLS were used.
4. 1997 statistics were generated using ship time request forms. A good deal of the ship time indicated may still be in a pending status.
5. Non-science days were not included in the statistics (transit cruises, ship ops, inspections, etc.)

The summaries were split into regions: North and South Atlantic, North and South Pacific, Indian Ocean, Great Lakes, Arctic and Antarctic. Large ship operations in both the Atlantic and Pacific show a dip in the years 1989 to 1992. This is most likely due to KNORR and MELVILLE being off line for their mid-life refits. Correspondingly we see a peak during these same years in intermediate ship use. Most likely this is due to these ships accommodating the work that would have normally been conducted off large ships. The North Atlantic shows a general decline in large ship operations over recent years. The Indian Ocean

sees a peak in large ship operations during 1995 as a result of the WOCE and JGOFs operations currently being conducted. The Pacific will see increased operations in 1996 as the large ships return home from the southern oceans. Intermediate ship use in the Indian Ocean, Great Lakes, Arctic and Antarctic has been minimal over the years.

This same information was presented to the UNOLS Council in April. A few suggestions included: (1) evaluate using a smaller grid size, and (2) include Class IV in the statistics. Annette pointed out that it should be no problem including statistics for Class IV vessels. However, refining the grid size will present difficulties. Many of the cruise reports from the earlier years did not provide sufficient information to allow us to refine the grid size further.

FIC recommends modifications to the statistical presentation of the data included providing bar graphs for the following regions: East and West Pacific, East and West Atlantic, Alaska (NP2/5/6) and the Gulf of Mexico. Additionally, FIC suggested presenting the information on a world map, four maps total. Each map would have an overlay of the UNOLS grid. Three of the maps will provide an average over ten years of ship use for Class I/II, Class III, and Class IV (a separate map for each Class). The fourth map will provide a five-year average of ship use.

**2.i. ARV Oversight** - Tom Royer provided the status of activities relating to the ARV. GAO conducted and completed a study for NSF titled, "Need for Additional Icebreaking Research Vessel Not Demonstrated," see ***Appendix IX***. Additionally, the National Academy of Sciences (NAS) conducted a study and it is now under review. In support of the study, Ken Johnson was requested to provide UNOLS' position, regarding the ARV for the NAS study, see ***Appendix X***.

NSF has funded the University of Alaska for support of Glosten Associates continued work and efforts involving the NAS study. Additionally, Alaska Science and Technology has contributed $20K to continue ARV design work. The 1997 NSF budget process includes a line for Research Facilities. To compete for these funds, the proposed facility must be reviewed by a Blue Ribbon Panel. The NAS study will qualify as a Blue Ribbon Panel.

**2.j. Organization of HEALY committee for USCG** - Chris Mooers reported that he requested the Coast Guard to provide terms of references for the HEALY advisory committee. CDR Rooth of the Coast Guard responded by indicating that although they cannot support the travel expenses for such a committee, they see the need for a subcommittee of 15 members, see ***Appendix XI***. Chris has not responded to CDR Rooth's request. The discussion was tabled until later in the meeting.

**2.k. Nuclear Submarine Meeting Report** - Jack Bash reported that the nuclear submarine workshop report is not out yet. Lloyd Keigwin is having difficulty getting input from the other people involved. The objective of the workshop had been to explore the possibility and potential applications of using a nuclear submarine to conduct science. It was conceived that a Sturgeon Class submarine could be utilized. All weapon systems would be removed and the ship's mission would be dedicated to science. FIC indicated that the report should be published as soon as possible. Ken Johnson will call Lloyd to see if any assistance is needed.

**2.l. Status of NSF Inspection Reports**: Do they have enough teeth? - Jack Bash had contacted Dick West regarding the NSF inspections. Dick feels that the inspections are complete and very effective. Also, they require a quick response by the operator. It was concluded that additional action is not needed.

**2.m. Goals and Objectives for Post Cruise Assessment Reports** - Chris Mooers requested that this topic be addressed later in the meeting. We need to determine how we wish to use the assessments so that they can be modified to be effective. It was pointed out that Chief Scientists should have a means for obtaining feedback from the operator on assessments they submit.

**2.n. Report on ALVIN Support Ship Conversion** - Jim Andrews reported on the status of activities related to the ALVIN support ship conversion. In February, WHOI presented plans for the KNORR conversion to NSF, NOAA and ONR. The proposed cost was high and none of the agencies had budgeted for these expenses. The agencies decided to explore other options such as outfitting AGOR 25 for ALVIN

handling. ONR requested a special study from NAVSEA to explore the feasibility of such an option. The study indicated that the option is feasible. Additionally, Halter Marine (the shipyard constructing AGOR 25) has expressed an interest in the project. Halter is being tasked to perform a special study to identify the cost and time schedule for implementing the ALVIN handling modifications on AGOR 25. They have been asked to complete the study by late September.

DESSC has endorsed the concept of modifying AGOR 25 for ALVIN handling. However, they have expressed concern of a potentially long down time in ALVIN operations while the ship is being outfitted. It was pointed out that the option of converting KNORR is not yet dead. A final decision of which ship to convert will be made after completion of the special study by Halter. Jim Andrews said that by considering AGOR 25 as the support ship for ALVIN, the agencies are expressing their long-term commitment to deep submergence science.

AGOR 24/25 Construction Schedule - Annette DeSilva reported on the construction schedule of REVELLE and ATLANTIS. REVELLE was launched in April of this year and delivery is scheduled for 8 June 1996. The ship is 69% complete. In 1996, limited science operations on REVELLE are planned. The ship construction funds will expire in August 1997. Launch of ATLANTIS is scheduled for 21 February 1996 with delivery planned for 15 April 1997. The ship is 41% complete with all modules integrated. The construction and test schedule for each ship is included as ***Appendix XII***.

**2.o. Van Study Report** - The FIC was asked to review the van study report prepared by Suzanne Storm, see ***Appendix XIII***. The report will be revisited later in the meeting.

**3. Agency Reports:**

**3.a. National Oceanographic and Atmospheric Administration (NOAA)** - The NOAA report was presented by Captain Martin Mulhern. Present NOAA fleet modernization activities include several recently approved contracts, including conversion of a surplus Navy T-AGOS vessel at MCI, Bellingham, WA to support oceanographic programs, and repairs-to-extend the life (RTE) of the DELAWARE II, a fisheries vessel, by Detyens Shipyard, Charleston, SC. In addition, progress is on or ahead of schedule for construction of the "NOAA AGOR", named the NOAA Ship RESEARCHER, with launch expected in June 1996.

The Federal Oceanographic Fleet Coordination Council has been revitalized, with participating federal agencies expressing strong interest in this organization. Rear Admiral Stubblefield of NOAA is presently Chair of the Council.

NOAA is downsizing, and employees of the Office of NOAA Corps Operations have been notified of Reduction in Force affecting about 30 employees at headquarters and the Marine Centers. This is in addition to reductions in the number of Wage Marine and NOAA Commissioned Corps personnel.

A brief overview of the FRAM plan was presented. The initial NOAA plan was dated March 1991. In November 1993, the plan was submitted to Congress. There have been a number of other studies affecting the plan, including the Department of Commerce (DOC) Ocean and Atmosphere Management Advisory Committee (OAMAC) report, the National Academy of Engineering Marine Board study, DOC Office of Inspector General reviews, and the Vice President's Reinventing Government program. A common theme has been for NOAA to consider other sources, and the reviews and other applicable law require cost comparisons of the alternatives. A revised FRAM plan is being prepared that updates the program requirements, reduces overall plan cost, and addresses academic and private sector partnerships. The revised plan is still administratively restricted while being reviewed at higher levels in the Administration.

The NOAA Ships FAIRWEATHER, DAVIDSON, and OCEANOGRAPHER are presently inactive, and the process for disposition is being explored. Several of these ships are inactive due to programmatic decisions and not because of physical condition or age of the vessels. Three more ships, the SURVEYOR, MT MITCHELL and HECK, will become inactive at the end of this fiscal year.

Among a number of bright spots is the condition of the NOAA Ship MALCOLM BALDRIGE, which is in the Indian Ocean along with a number of the academic vessels. A nagging problem with shaft alignment was cured several years ago, recently new evaporators and new ship service generators were installed, and her performance and overall condition are excellent.

NOAA use of the academic research vessel fleet this year includes GLOBEC program support by the R/V SEWARD JOHNSON in the vicinity of Georges Bank, and Marine Mammals program support provided by the R/V PELICAN.

**3.b. Office of Naval Research (ONR)** - Jim Andrews gave the report for ONR. In July, the CNO held an Executive Board Meeting (CEB). The last CEB meeting on Naval Oceanography was ten years ago. That CEB led to the development of large computer facilities for ocean modeling at Stennis, MS and Monterey, CA. It also led to the purchasing of the large Navy research ships.

The principle outcome of this CEB is the determination that Naval oceanography is vital to the Navy and critical to national security. Many of the CEB findings and recommendations will be presented at the next Ocean Studies Board meeting. As a result of the CEB, attempts to protect the ocean sciences budget for 1996 is a high priority. The goal will be to obtain new funding as opposed to dipping into other programs.

Jim reported that he has presented a ten-year study of ONR ship use to Fred Saalfeld. The use has been rather cyclic over the years. ONR will attempt to turn this around. One method to be implemented is reducing the amount of ship time support to be paid by the science programs. The Research Facilities Program in turn will make up the difference. ONR plans to continue subsidizing NRL ship time at approximately $0.5M per year. NRL is encouraging programs funded by 6.2 money to use UNOLS ships.

**3.c. Oceanographer of the Navy** - Pat Dennis gave the report for the Oceanographer. They are still holding to their plan to reduce from 12 ships to eight ships. All of their old ships are being replaced. Two ships are being delivered this year. PATHFINDER, a TAGS 60 Class ship, has been delivered and has experienced transformer problems. This is a class problem and possible fixes are being explored.

The Oceanographer of the Navy's program has become stronger and eight ships may not be sufficient to meet all of their needs. This may result in future opportunities for use of UNOLS ships, provided funding can be obtained.

**3.d. United States Coast Guard (USCG)** - A representative from the Coast Guard could not be present due to budgetary restraints. However, Captain Alan Summy sent FIC the latest information on the HEALY project, see ***Appendix XIV***.

**3.e. Commander, Naval Meteorological and Oceanography Command (CNMOC)** - Captain Dieter Rudolph, CO/NAVOCEANO reported on their data collection requirements and their ship use. Presently, they receive $60 million dollars for operating their ships. Of this, 15% goes to MSC. He indicated that CNMOC was interested in exploring the possibility of using UNOLS ships for NAVOCEANO data collection when these ships are in areas of interest to the Navy. His interest is encouraging and could potentially result in adding to the overall Navy contribution to the UNOLS Fleet. He distributed a matrix indicating their data collection requirements along with their operating locations, see ***Appendix XV***.

**4. Role of Regional Consortia-White Paper** - Before the meeting Chris Mooers distributed for review a draft White Paper on the Role of Regional Consortia, see ***Appendix XVI***. Chris started the discussion by first reading a letter he sent to NSF which asked that the FIC review all major overhauls and mid-life refits of UNOLS ships and that these reviews would be made with a view toward regional or consortium interests, see ***Appendix XVII***. Letters were also sent to Larry Atkinson and Otis Brown in regard to their respective consortia efforts, see ***Appendix XVIII***. Chris further reported that the RSMAS/TAMU and UT (Austin) consortium agreement for SECOR had been re-visited and the three institutions were discussing ways to make it work. Doug Biggs provided an outline of the TAMU-UM Joint Marine Operations Program, see ***Appendix XIX***. Considerable discussion followed. Several committee members were hesitant to set guidelines for consortia believing that they are formed for the self-interest of the institutions and are viable so long as the issues are relevant. To try to impose consortia was thought to be

counter-productive. It was suggested that UNOLS should (1) encourage consortia where they fit, and (2) review proposals when appropriate. After more discussion later in the meeting it was decided that Chris should contact the existing consortia and solicit from them those elements that work and those that don't. After review of this additional information, the Committee felt it would be able to respond to the White Paper.

**5. UNOLS R/Vs as Continuous Data Collection Platforms for GOOS, etc** - Chris Mooers opened the discussion by reminding the committee that technology now allows the collection of data on a real-time basis and efficient communication permits this data to be transmitted where it can be put to use. Chris then introduced Chris Noe of NOAA's National Ocean Service.

**5.a. NOS representative** - Chris Noe presented several view graphs, ***Appendix XX***. The first view graph depicted the Shipboard Environmental Data Acquisition System (SEAS) program. Chris explained how this program is maturing with automatic data collection on NOAA, UNOLS and commercial ships. Meteorological data, XBT data, and sea surface temperature are all being collected and transmitted via Inmarsat Standard "C". The system is integrated with the Automatic Mutual-assistance Vessel Rescue System (AMVER). The program is into its fourth revision which includes increased quality control, modified equipment design, and AMVER. NOS is involved in a joint venture with COMSAT and the USCG.

To be able to accommodate SEAS IV, a ship must have Standard "C" on the bridge, connection to a PC and permission from the ship management. Presently five UNOLS ships are participating in the program. These are MOANA WAVE, WECOMA, THOMPSON, GYRE and CALANUS. ENDEAVOR is starting up. The program would welcome other UNOLS vessels that qualify. Ship position reports can be made available to the ship's institution through SEAS. RVTEC was tasked to further investigate implementation. Rich Findley invited Chris to the next UNOLS RVTEC meeting.

**5.b. CNMOC Representative** - Capt. Rudolph provided his report as part of the agency reports. Chris indicated that UNOLS is interested in 1) NAVO's data processing, 2) whether or not there is a role for UNOLS, 3) deploying drifter's, etc. from NAVO vessels, 4) receiving synoptic ocean information products from NAVO and FNMOC.

Rich Findley introduced a discussion on NET-CDF. RVTEC recommended NET-CDF as UNOLS Data Information Format (UDIF), but has had little backing from other UNOLS Committees. FIC moved to support the availability of UDIF on UNOLS ships. It was recommended that a letter be sent to NSF encouraging them to move in this direction.

**6. Status of FIC/CZRV Plan Development** - Chris Mooers lead the discussion on the FIC Coastal Zone Research Vessel Plans.

**6.a. CZRV Science Mission Requirements** - Don Wright has passed the task of drafting science mission requirements to Larry Atkinson. Larry will take this action item for the next meeting. Chris advised that the summary of responses from the federal agencies on coastal science will be passed to Larry to provide input for the regional SMRs. The possibility of using Class I and II ships should be considered too.

**6.b. Regional SMRs** - Chris explained that we should start with one region then build the SMRs for the various regions.

**6.c. Synopsis of Williamsburg, VA meeting** - No synopsis of the Williamsburg meeting was given. (NOTE: Chris Mooers will prepare and circulate it.)

**6.d. MARCO/Duke Proposals** - Larry Atkinson explained that a proposal has been submitted to NSF requesting funds to evaluate the need and the conceptual design for a coastal research vessel for the Mid-Atlantic Region. The proposal calls for a meeting of scientists and ship operators from the region along with a naval architect. Several FIC members will be included. The workshop, if funded, would be conducted this fall with the results out by the end of the year.

Joe Ustach summarized a letter requesting funds from NSF for a feasibility study that will evaluate the possibility of a 20 to 24 foot stretch for CAPE HATTERAS. Berthing would be increased form 20 to 24 berths. Considerable discussion followed concerning both of these proposals. The potential admeasurement problem for the CAPE HATTERAS stretch was a major concern. With the new admeasurement rules, there is a probability that the ship will measure over 500 gross tons which would require the ship to fall under the USCG inspection rules. If this were the case, the stretch would not be feasible. The committee concluded that they should recommend that the feasibility study go forward and that the admeasurement aspect be dealt with first. This would provide a go/no-go decision point. If the admeasurement is not a problem, the study could be helpful, MARCO as a possible alternative to their needs.

Because the two studies are linked the committee felt the studies could be compatible and should both be funded. The committee had no illusions about the availability of new money for new construction but suggested to Larry that the MARCO effort should evaluate existing platforms that could satisfy their needs. It was also suggested that potential funding sources should be investigated to determine if "new" money could be used for this project.

Chris Mooers and the UNOLS Office were tasked to write a letter to NSF recommending that both of these proposals be funded and that the Duke/UNC feasibility first investigate the admeasurement problem before proceeding further. FIC wishes to review the results of both proposal efforts.

**6.e. Regional inventory of Assets and Capabilities** - No action taken.

**6.f. Regional science plans and requirements** - No action taken.

**6.g. Analysis of assets/capabilities vs. plans/recommendations** - No action taken.

**7. Report on Agency Plans for Coastal Ocean Research** - Chris briefly reviewed the responses he received from USGS, NRL, NSF, NOAA, MMS and DOE. Responses are included as ***Appendix XXI***. Much uncertainty exists in the science planning because of funding considerations. Chris did get an indication that Class I/II ships should be considered for coastal work. Jim Andrews said that he will prepare a response from ONR in August. ONR has been in some flux, but things are becoming clearer since the CEB.

**8. POA for FIC/CZRV Plan Development** - No action taken, other than to conduct a series of regional workshops following the MARCO workshop. A FIC subcommittee will be formed to follow-up.

**9. Presentation by Seward Association for Advancement of Marine Science (SAMS)** - The University of Alaska's Seward Association for Advancement of Marine Science provided a tour of their excellent facilities. In addition, the Committee had the pleasure of visiting ALPHA HELIX. These excursions added to the excellent venue provided at Seward.

**10. Long Range Science Plan POA** - Action on this item was postponed until the winter meeting.

A number of discussions which began on the first day of the meeting were revisited during Day 2:

**Van Study** - Suzanne reviewed the study conducted on the vans, see ***Appendix XIII***. Suzanne received information from RVTEC, RVOC, Jack Bash, Peter Betzer, Ken Robertson (NERC) and Tony Robertson (Thomas International) in compiling the study. The paper provides an overview of van design considerations for those desiring to develop vans for their own use. It addresses size constraints, access, heating and cooling, and power. Suzanne will collect additional information and comments and incorporate them into the paper.

**Safety Training/Orientation** - Suzanne Strom indicated that additional information is being forwarded to her regarding safety issues. She will incorporate these comments. The question was asked "What is FIC's role making safety awareness more effective?" It was suggested that letters should be sent to the principle investigators addressing safety responsibilities.

**"Customer Satisfaction" Questionnaire** - It was suggested that letters indicating the outcome of the survey should be sent to those ship users who responded to the questionnaire. Also it was suggested to include the results in the UNOLS newsletter. Follow-up to items receiving lower ratings would be addressed prior to the UNOLS Council meeting.

**Organization of HEALY Committee for USCG** - Chris Mooers will draft a response to CDR Rooth's letter indicating that the final decision of whether or not UNOLS can support a HEALY Committee rests with the UNOLS Council, which is considering formation of a standing Polar Research Vessel (PRV) committee.

**Goals and Objectives for Post Cruise Assessment Reports** - Chris Mooers provided draft goals and objectives for post-cruise assessment reports, see ***Appendix XXII***. Many times, PIs are hesitant to submit negative comments. The word needs to get out that these comments can help to correct problems. It was suggested that operators need to respond to any less than satisfactory reports. RVTEC and RVOC will be tasked to examine the assessments and review the goals and objectives. Ken Johnson offered to help design a new form.

**Whither UNOLS?** - Peter Betzer will examine various scenarios for support of fleet operations into the out years:

1. Doom and gloom scenario - NSF is level funded, other agencies continue level to downward funding trends.
2. Middle of the road scenario - NSF receives moderate funding increases. Some new funding is introduced from other agencies.
3. Optimistic outlook - NSF's support continues to grow. Other agency support grows consistently.

It was noted that dialogues between ONR, NRL and NAVOCEANO should continue, since these organizations may hold the greatest potential for increased use of the UNOLS fleet.

**11. FIC Membership** - The term of Tom Royer expires and both Ken Johnson and Don Wright are resigning as members. Ken, as UNOLS Chair, can not serve on the committee as a regular member but is an ex-officio member. Don Wright has been assigned as Acting Director, Virginia Institute for Marine Science necessitating his resignation. Larry Atkinson has been named as a replacement for Don. He will need confirmation at the UNOLS Council meeting in September. Several scientists were suggested for the two remaining positions. Because both Tom and Ken are from the Pacific area, it was suggested that their replacements also come from this area. Chris Mooers will present candidates for approval of the Council at the September Council meeting.

**12. Other** - Captain Rudolph invited the committee to hold its winter meeting at the Stennis Center in Mississippi. This would permit a tour of the Navy center and is also near Halter Marine at Moss Point, MS, the construction site of the new AGORs, REVELLE and ATLANTIS. It was decided that this location would also be an opportunity for the UNOLS Council to see NAVOCEANO. If it can be arranged, the plan is to have the meeting in mid-January with the FIC meeting Monday and Tuesday, Wednesday being a tour day and would include the UNOLS Council. Then, the Council would meet on Thursday and Friday. The UNOLS Office will coordinate this plan.

Tasking - The following Committee tasking was assigned:

- Chris Mooers (with UNOLS Office assistance):
    1. Letter to NSF recommending approval of the MARCO and Duke/UNC proposals.
    2. Letter to survey respondents thanking them for participation and explaining that a follow-up will be forthcoming.
    3. Letter to RVOC and RVTEC requesting revised assessment forms.
    4. Letter to existing consortia requesting the pros and cons, limitations and advantages of a consortium.
    5. Letter to RVTEC on the need to work toward data standards, copy to NSF.
    6. Present new FIC member candidates to the UNOLS Council.

- Larry Atkinson:

  Draft of coastal RV science mission requirements.

- Peter Betzer:

  Continue work on "Whither UNOLS".

- Joe Coburn:

  Keep RVOC informed of FIC activities.

- Bob Detrick:
  1. Will follow the Navy dual use data collection where there is a good fit.
  2. Investigate continuous operations of multi-beam systems.
- Rich Findley:
  1. Work on data standards with RVTEC.
  2. Keep RVTEC informed of FIC activities.
  3. Communicate with NOS/GOOS on data collection from UNOLS vessels.
- Eric Firing:

  Will work with RVTEC on data standards.

- Tom Royer:

  Off going member

- Suzanne Strom:
  1. Complete the Van Study.
  2. Complete the Safety Study.
- UNOLS Office:
  1. Incorporate additional charts/maps for UNOLS geographic operations summary.
  2. Follow up on UNOLS White Paper being drafted by Paul Ljunggren, Jack Bash and Mike Prince.
  3. Provide support for FIC members on their action items.
  4. Provide FIC with Master's thesis paper on UNOLS.
  5. Coordinate with NAVO for winter FIC & UNOLS meetings.
- Ken Johnson:

  Contact Lloyd Keigwin regarding the Nuclear Sub report.

**The meeting was adjourned at 1630 hrs. 21 July 1995.**