UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS Council Meeting

Summary Report

June 21-22, 2001

Moss Landing Marine Laboratories
Moss Landing, California

UNOLS COUNCIL MEETING
Thursday-Friday, June 21 & 22, 2001
Moss Landing Marine Laboratories
Moss Landing, California

DRAFT - Meeting Minutes

Appendices

I. Meeting Agenda
II. Attendance List
III. Ocean Exploration Viewgraphs
IV. Letter of Intent Graphs
V. Sample ISM Procedures
VI. Ship Construction Reports
VII. DESSC Terms of Reference

Call the Meeting - Bob Knox, UNOLS Chair, called the meeting to order at 8:30 AM on Thursday, June 21, 2001. Meeting participants introduced themselves. Bob explained that this meeting would provide the Council with an opportunity for open discussion on important issues facing the fleet. The meeting is to provide a forum to begin development of UNOLS goals and priorities for the upcoming year. The items of the agenda (***Appendix I***) were addressed in the order as presented in these minutes. The meeting attendance list is included as ***Appendix II***.

Kenneth Coale, Acting Director of Moss Landing Marine Laboratories (MLML) welcomed UNOLS to Moss Landing. He said that MLML is very pleased to have two facilities: R/V POINT SUR and their new building. MLML's mission is to put their faculty, staff and students at forefront of research. To do this means providing facilities that are capable of supporting their science needs. MLML, like UNOLS, strives to provide access to the facilities needed. Ken stated that MLML is very pleased to be able to host the UNOLS Council.

Facilities beyond Ships and the National Deep Submergence Facility, the UNOLS Role - Bob Knox opened the discussion on facilities. It was suggested by John Delaney at the February 2001 Council meeting that UNOLS consider its role with regard to developing, coordinating the use of, and providing oversight for facilities such as observatory systems (such as NEPTUNE). Should UNOLS have a role in coordinating the scheduling and access to such facilities? How will observatories impact utilization and scheduling of traditional research vessel and submersible facilities? What is the role of UNOLS and FIC with regard 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 tools for exploration and research? What are the implications of the Ocean Exploration Initiative?

Bob introduced **Marcia McNutt**, Director of Monterey Bay Aquarium Research Institute (MBARI). Marcia was invited to the Council meeting to report on the Ocean Exploration

Initiative and to discuss how programs such as these might impact ship demand. Marcia served as the Chair of the Ocean Exploration (OcEx) Panel. Her viewgraphs are included as ***Appendix III***. Former President Clinton convened the panel during his last six months in office. The panel met in August and by October they had developed their recommendations. The report can be downloaded from the web at: http://oceanpanel.nos.noaa.gov/. The Ocean Exploration initiative was conceived as today's Lewis and Clark Expedition. The panel included representatives from industry, agencies, and academia. Over the years, it has been difficult for scientists to get funding for exploration projects. As a result, they return to the traditional geographic research areas year after year. Through the OcEx program, scientists would be given an opportunity to reach out to some of the more remote locations.

The OcEx Panel recommended that the initiative be supported by multiple agencies (it is now being led by NOAA). In order to have a strong education element, the program needs involvement by agencies more in tune with education, as well as engineering and technology. The program should be coordinated through a NOPP-type mechanism. The funding requirements are likely to be high compared to some of the more traditional oceanographic programs. The panel also recommended that a variety of different assets (UNOLS ships, Navy/NOAA ships, private contract ships, etc.) be used as platforms in the OcEx program.

A key recommendation of the panel was that OcEx include a "Signature Mission." The mission envisioned would be a pole-to-pole circumnavigation of the globe, with concentration in U.S. waters. Since the project would be U.S. funded, our country should benefit by the discoveries. A flagship for the signature mission is proposed. Public outreach would be facilitated by a flagship. Reconnaissance studies would be conducted in advance of flagship, e.g. mapping operations. Observatories would be established in the wake of the flagship operations (4-D exploration).

A major feature of the flagship is that it would be equipped for public outreach. It would likely include deep submergence assets (ROV's and possibly an HOV). The flagship could be UNOLS operated (converted existing or new asset) or a private leased vessel using an ODP-type structure. The reconnaissance work would set the stage for where the flagship goes. Much of the flagship work would be visual in nature; designed for public appeal. Public outreach would be a major factor in the operational planning.

Marcia continued by discussing ocean observatories. The community is considering three general categories of observatories:

- Cabled,
- "Permanent", and
- Movable.

It is estimated that the moored observatories will require approximately two weeks each of UNOLS ship time for servicing. This will have a huge impact on demand for UNOLS ship time. It is likely that ROVs will be needed on at least some of the service vessels. Additional submergence assets will likely be required to meet this need. Marcia showed a

sketch of the MBARI Ocean Observing Systems (MOOS) mooring system. The system is being designed for servicing by AUVs.

Lastly, Marcia addressed NEPTUNE and MBARI related activities. MBARI is partnering with the NEPTUNE project. They are focusing currently on the Monterey proof-of-concept (MARS). The first two nodes of the NEPTUNE observatory will be installed in Monterey Bay. MBARI will operate the Monterey test nodes, establish the ROV protocols for installing and servicing instruments, integrate AUVs in the cabled observatory infrastructure, and initiate an education program in conjunction with the Monterey Bay Aquarium. The Packard Foundation will provide initial funding for the test bed. Marcia indicated that it is important to get other ROVs involved in the observatory operations, such as, Jason, ROPOS, etc. In other activities, MBARI would like to make ROV VENTANA available to non-MBARI investigators. This could be arranged via NURP. Marcia concluded by stating that plans call for NEPTUNE to be on line by 2004.

The floor was open for questions:

Question: What is the future of OcEx now that a new administration is in office.
Answer: The National Academy of Sciences has been tasked to form a committee to pick up where the OcEx panel left off. There should be significant overlap between the committee's activities and those of the panel.

Question: Does NOAA have an Ocean Exploratory Office that is pursuing related initiatives?
Answer: There is some fear that NOAA is doing what they originally planned to do, regardless of the Panel's recommendations. Fortunately NOAA has a science advisory group and they are keeping track of the agency's activities. The advisory group is very supportive of the committee report. President Bush's transition team would like to keep OcEx within NOAA. They see it as a way to give NOAA a useful mission.

Question: What is the time frame for OcEx?
Answer: ten years.

Question: Would it be possible to do Arctic research under the OcEx initiative by 2002?
Answer: It is certainly possible and this is an important geographic research area of the Ocean Exploration effort.

Question: Was exploration of the lake and rivers considered as part of OcEx?
Answer: The Great Lakes were considered but not much else. However, it is important to consider the impacts of land use on the ocean.

Accept minutes of February 2001 - Corrections to the minutes were identified. The corrections will be made and the revised minutes will be circulated for approval.

Facilities beyond Ships and the National Deep Submergence Facility, the UNOLS Role – The discussion was continued with a report from Larry Atkinson on the recent ocean observatories meeting. The meeting was held to begin coordination of the various observatories that have been established, as well as those proposed and under development. The committee is having a challenging time determining priorities and

vision. The needs of ocean observatories often differ in scope and have specific regional requirements. Larry reported that facility support needs will continue to get a lot of attention. Marcia commented that there would likely be a committee appointed by NSF to develop a vision for observatories. Larry plans to attend the Observatories Committee meetings and can provide a liaison to FIC.

Bob Knox asked if there was something more that FIC should be doing in regard to this effort. There was a discussion on the UNOLS role in observatory planning and support. Dale Chayes questioned whether UNOLS is a "talking" group or an "action" group. It was agreed that UNOLS does a bit of both. As an example, the Ship Scheduling Committee and the Research Vessel Operator Committee are action groups that make products.

How should UNOLS change its role to meet the needs of observatories? UNOLS has an important role in scheduling ships and this could perhaps be expanded to also schedule observatory operations. What role does UNOLS want to play in maintaining observatories and scheduling new initiatives for the observatories? UNOLS can play a proactive role. What are the actually maintenance requirements for maintaining observatories? Various groups are establishing observatories. We may need to develop a new UNOLS structure that relies more on information being provided by other groups.

However, it was pointed out that observatories are a reality and FIC needs to start developing science mission requirements for the facilities needed to meet the observatory support requirements. This process needs to start now. These observatories are being developed and we will need to respond to them. Observatories will likely increase the need for facilities to support event response activities. With the increase in observatories, events will be more easily identified.

It was suggested that at the appropriate time UNOLS prepare a policy paper on observatory support. Tim Cowles suggested that we keep the dialog flowing with the ocean observatory representatives. Activities can still be informal at this stage.

Coffee Break

Facilities Discussion Continued – To wrap-up the discussion, Bob Knox suggested that UNOLS take a mid-way stance. Observatory efforts are still developing. UNOLS should keep abreast of observatory development and continue to address fleet issues. The observatory efforts are very important and there are focused groups that are addressing these issues. We will keep abreast of emerging efforts in terms of facilities and future efforts.

It was suggested that UNOLS have a liaison on the observatories steering committee. We have good links now, but a more formal relationship could be beneficial. As an action item, Bob Knox will write a letter to Ken Johnson to request the addition of a formal UNOLS liaison on the observatories committee.

Long Range Planning for the UNOLS Fleet – Bob Knox reviewed the status of the FOFC draft Long Range Fleet Plan. A UNOLS response to the draft plan was sent to Margaret Leinen, FOFC Chair. Margaret sent a letter thanking UNOLS for the response. The FOFC working group is drafting a revised plan. It is unclear at this time what the plan will include. The agencies have indicated that they will try to incorporate UNOLS' suggestion to make the plan more upbeat. Additionally, the revised plan would likely present a range from a fiscally conservative plan to a plan that can meet more of the future research needs identified by the community. Bob suggested that the Council write to FOFC and offer UNOLS assistance in preparing the revised fleet plan.

Funding to support fleet renewal efforts is very unclear. If funds do not become available soon, fleet renewal efforts may encounter a large funding backlog problem and the need for a fiscally impossible crash program of ship construction. FOFC is wrestling with the question of best approaches within the government for getting the funds for renewal.

NSF has not been involved in ship building efforts in recent years. Within NSF, there are 20-30 Major Research Equipment (MRE) proposals that are all competing for the same pot of money. Individual ships that are needed by UNOLS are relatively small-scale efforts compared to the other MRE proposals. Within NSF Ocean Sciences there are three MREs, the ODP ship, observatories, and UNOLS ships. Ship construction is rated third in this group. Another problem is that a committee to develop a ship MRE has not been identified. Ship construction projects fall between MREs and Major Research Instrument MRI) proposals in terms of scope and cost. There may be an effort within NSF to find a new area between MREs and MRIs for supporting ship construction.

The question was asked whether the Fleet Improvement Committee (FIC) should submit proposals for conceptual design development. Tim Cowles reported that a URI/OSU proposal for conceptual design of an Oceans Class vessel was viewed unfavorably by NSF six months ago. It is unclear whether this would have been viewed more favorably if it had been submitted by FIC. The question was asked whether FIC should develop Science Mission Requirements (SMRs) for the new Ocean class of vessels that is advocated in the fleet plan. Should conceptual designs be done by FIC or by individual institutions?

Action - Bob Knox will write to Margaret Leinen. The letter will indicate that FIC is ready to initiate development of SMRs for the new vessels (Oceans Class) being identified in the plan. The letter will additionally request guidance on how to proceed with the conceptual design process. Should institutions propose for this type of work or should it be carried out by FIC?

The discussion continued with questions on how NSF would manage a new ship building process. NSF has no in-house shipbuilding organization analogous to NAVSEA for Navy construction. The OCEANUS class construction was a good model, but that was many years ago.

Bob Knox recommended that, a group of scientists, NSF representatives, naval architects and shipyard personnel be assembled to cooperatively discuss the construction process.

How can the ship building process be streamlined and optimized? The group would be asked to specifically address shipbuilding management.

To summarize, Bob Knox will prepare a letter to Margaret Leinen that will indicate:
- UNOLS is willing to assist in revising the fleet plan.
- FIC will begin development of SMRs for the new classes of vessels identified in the fleet plan.
- The letter will request guidance in how to proceed with conceptual design development.
- Shipbuilding management issues need to be addressed.

Curt Collins suggested that the UNOLS Council write an article for EOS or a soapbox. Bob Knox indicated that Jack Bash is writing a Soapbox article for the next issue of *Sea Technology*. The article will focus on the need to begin the renewal process immediately. The timing for a UNOLS article was discussed. The article should raise the awareness of the community and excite them about the urgent need for renewal with a fleet that can meet projected future research directions. It was suggested that the initial paragraphs of the UNOLS response to the FOFC plan would be a good start to the article. Bob asked for volunteers to help draft the article. Mike Prince volunteered to prepare a first draft.

Quality of Service Initiative (QSI): UNOLS will need to consider how to proceed with the QSI initiative. Bob Knox began the discussion and reported that the proposal submitted by Drs. Grabowski and Roberts to the NSF Innovation and Organizational Change Program to conduct research on improving quality and reliability in the UNOLS system will not be funded in its current version. Whether or not the researchers will resubmit remains to be seen. The proposal was peer reviewed and their summary statement was that it was a good consultant process for UNOLS, but not a strong research project. The proposal did not clearly define the methodology.

UNOLS should still address QSI as recommended by the Academic Fleet Review (AFR). Various efforts are underway. Linda Goad, who recently began working at NSF, is taking Six Sigma training. Dolly Dieter and Sandy Shor have been funding fleet improvements and training efforts. One way to address QSI is through user feedback. UNOLS should strive for increased feedback as well as improved constructive criticism from the users.

Mike pointed out that there is one measurement of fleet performance that is currently in place. Annually, Annette DeSilva prepares an NSF report as required by the Government Performance Reporting Act (GPRA). The GPRA measures the NSF ship days lost to non-natural factors during the fiscal year. Only NSF ship time is considered.

Ways to improve feedback were discussed. Should the assessment process be revised? We need to develop a methodology so that we can assess our assessment process. Are the right questions being asked on the assessment form?

Mike introduced Laura Dippold of the UNOLS Office. Laura has been compiling the data from the cruise assessment reports. The reports are submitted electronically and in hardcopy. Some PIs provide their input directly to the operator. Laura is entering the

information from the forms into a database. Distribution of cruise assessments is to the UNOLS office and the operator. Additionally, some PIs send them to the agencies.

Mike reviewed the cruise assessment statistics for 1999 and 2000. There are two issues with the assessment reports:

1. Increasing the number of forms submitted, and
2. Improving the quality of data submitted.

It was recognized that PIs don't always send in the form because they feel that the forms are not used or that they feel that the process is working. We need to make it clear that the forms are used to improve the fleet. Mike presented some of the comments from the cruise reports. The crew is generally given high praise.

A question was asked regarding the status of the ship inspection program. Mike reported that NSF went out to bid for the program and proposals have been submitted. NSF contracting is processing the proposals.

Mike reviewed the current on-line cruise assessment form. There is concern about requiring that the form be submitted electronically. This would mean that the PI would most likely leave the ship before submitting form. Submittal rate would likely go down. It was recommended that we try to improve/redesign the assessment form and questions. This may require that we hire professionals. A subcommittee was identified to oversee this effort. The subcommittee includes Mike Prince, Wilf Gardner, Tom Shipley, and Steve Rabalais. The agencies will be notified that the assessment form is being revised. The assessment form for the captain and marine technicians will also be examined. 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.

It was suggested that an annual report be made that summarizes some of the problems that were identified in the post cruise assessments. The fleet improvements that were made based on the post cruise assessments should also be identified.

In a related topic, Dale reported that RVTEC has started to draft common standards for levels of technical support that should be provided during a cruise.

Nominating Committee: The first terms of Tom Lee and Charlie Flagg are expiring in 2001. The Nominating committee is Denis Wiesenburg (Chair), Dennis Hansell, and Curt Collins. Denis reviewed the status of nominations. The committee will work to maintain a balance of regions and disciplines. They would like to make sure that the New England area is represented.

Committee Activities: Committee Chairs were invited to discuss issues or planned activities that have not already been covered.

- **Arctic Icebreaking Coordinating Committee (AICC)** - Lisa Clough reported that some AICC member terms are ending and the committee is looking for volunteers to fill these vacancies.

- **Research Vessel Operators' Committee (RVOC)** – Steve Rabalais reported that ISM compliance is a major focus of the RVOC. At the fall RVOC meeting reports from the operators that have had to already comply with ISM are planned. This includes U.S. operators as well as international.

- **DEep Submergence Science Committee** – Annette DeSilva reported on DESSC activities. The committee has been involved with a number of activates including DESCEND follow-up, outreach, and long-range planning. A variety of outreach activities are underway. Outreach activities are planned to reach the biology and shallow water submergence communities. For the first time DESSC is planning to hold a session at the February 2002 AGU/ASLO meeting. Biologists normally attend this meeting. The biologists often do not attend the Fall AGU meetings where DESSC normally holds its annual planning meeting. Another outreach program under consideration by DESSC is a Lecture Series Program. The program would be modeled after the Ocean Drilling Program (ODP) JOI-USSAC Lectureships and be designed to reach potential new submergence facility users. Lastly, there is an outreach effort to liaison with the archaeology community. DESSC will try to have a presence at an archaeology conference in April 2002 at MIT. The goal would be to introduce the archaeologists to the facilities available for their research. The DESSC will continue their efforts to encourage planning for long-range operations and well as technology upgrades.

- **Ship Scheduling Committee** – Joe Ustach reported that most of the scheduling Letters of Intents (LOIs) have been posted by the operators. There are some program double-bookings to resolve. Additionally a ship to support HOTS operations needs to be identified. The summer scheduling meeting is scheduled for July 19th. Phone and e-mail conferences will likely take place prior to the meeting to address any major issues. Charts showing the total days by agency represented on the LOIs was presented (***Appendix IV***). A chart showing pending and funded days by agency was also presented. NSF calculates the funded work to be approximately 2600 days plus transits in 2002. This is approximately 1000 days less than in 2001. It is unclear whether there will be any additional Biocomplexity work. Navy 2002 ship days are approximately level with the 2001 total days. Once PIs are notified of funding decisions, more realistic schedules can be prepared. Some of the smaller ships will likely have light schedules. In general, some weak schedules are likely.

NASA Workshop on Life in the Extreme's –Mike Prince and Dan Fornari will be among the presenters at this workshop on July 24 & 25 at NASA/AMES in Mountain View, CA. The workshop is designed to present the types of research that can be accomplished right here on earth in the area of Life in Extreme Environments. Mike will present information on the UNOLS fleet and other Ocean Research Vessels, such as HEALY, and how to utilize those assets. Dan will present information on the Deep Submergence Facility Assets and the technology available on those submersibles. The agenda and workshop information is available on the web at: <http://web-x.arc.nasa.gov/extreme/>.

Setting goals and priorities for the coming year, plans for the annual meeting: In preparation for the annual meeting, it was agreed that we should review major UNOLS accomplishments and activities of the past year and set goals and priorities for the coming year. In addition we need to finalize a choice for the Keynote Speaker, review and make recommendations regarding applications for UNOLS membership, finalize charter changes and review the status of nominations for Council positions.

The Council identified the following accomplishments and activities:

- The community was alerted to the need for fleet renewal.
- HEALY science systems testing was conducted and the ship is coming on line.
- UNOLS provided a community response to the draft FOFC Long-range Fleet plan.
- Planning for implementation of ISM Compliance on large UNOLS Vessels.
- 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, DSL12A, and Jason II.
- Development of standard specifications for shipboard vans including US Coast Guard approved specifications.

The Goals and Priorities identified for the upcoming year include:

- Fleet Renewal Process
- Monitor and stay engaged with the development of "Ocean Observatories"
- Quality of Service
- ISM implementation
- AICC will shift focus to oversight of Arctic Icebreaker Operations.
- Development of new facilities.

More specific goals for these items were discussed:

Fleet Renewal Process

- Stay engaged with the FOFC "Fleet Plan" process.
- Promote the budgeting of ship design and construction funds.
- Begin work on updating SMRs for Oceans, Regional and Global Class vessels.
- Promote concept design development for new vessels.

Monitor and stay engaged with the development of "Ocean Observatories"

- Formally request UNOLS representation on the Observatories Steering Committee or other appropriate bodies as they are formed.
- Examine the long term impacts that Ocean Observatories will have on the scheduling process, consider a new scheduling paradigm.
- Assess the impact of Observatories on research vessel requirements.

Quality of Service

- Update the Post Cruise Assessment process and forms (formed working group).
- RVTEC to develop standards of service.
- Improve the scheduling system and process.

ISM implementation

- Class I ship compliance required by July, 2002
- Create procedures that continue to enable flexible science operations within the constraints of ISM regulations.
- Ensure that scientists are aware of any new procedures and requirements.
- Develop plans for voluntary compliance or other enhancement of R/V safety standards for smaller vessels.

Arctic Icebreaker Operations

- AICC will shift focus to operation and outfitting of Arctic Icebreakers.

Development of new facilities

- Develop Science Mission Requirements and specifications for oceanographic wires, cables and ropes for the future.
- Provide community input on the development of new submersible assets and instrumentation.
- Improve shipboard scientific equipment utilizing group purchases and standard specifications to increase cost savings.

Winch and Wire Follow on: Mike Prince reported that Jack Bash would be publishing a revised Winch and Wire Handbook in the next month or two. A working group of Tom Althouse, Theo Moniz, Rich Findley and Marc Willis is in the process of developing procedures and justification of safe working loads on standard UNOLS wires and cables.

Jon Alberts, Steve Rabalais, Mike Prince, Tom Althouse and Dale Chayes comprise a working group to develop "Science Mission Requirements" for the oceanographic wires, cables and ropes of the future. This will start by obtaining solid science community input on requirements for weight, payload, size, speed, power, data and type of operation. Working with engineers and wire manufacturers these requirements will be developed into specifications for new wires where necessary. Existing cables may well handle some requirements and wires and this will be documented as justification for maintaining existing wires in the inventory.

Annual Meeting Keynote Speaker – Several suggestions involving agency leaders and the new Oceans Commission were voiced. Specific steps to invite and confirm the speaker will be pursued during the summer.

UNOLS Membership – San Francisco State University has not yet applied for applied for UNOLS membership. They may still do so in the near future.

The Caribbean Marine Research Center (CMRC) membership application was discussed. There was concern from some of the Council that the CMRC is a facility not an academic program. There was discussion on whether or not they meet UNOLS membership qualifications. Additional information about CRMC will be made available and the topic will be revisited later in the meeting.

CHARTER Revision – The Council reviewed the Charter revision. A correction is needed regarding the number of members on the Council. Addition of an Immediate Past-Chair to the Council would increase the membership from 15 to 16 members. It was decided that at the 2002 election the Chair and Chair-Elect would be elected by procedures in effect prior to that time, but in each case for a single term of two years. A clarification regarding term lengths (two years each for Immediate Past Chair, Chair, and Chair-Elect) will be added. The Council endorsed the Charter revisions as amended and moved to present them to the membership for vote at the Annual meeting.

Mission Statement - Mike Prince suggested that the Council begin to consider the adoption of a UNOLS mission statement. The first paragraphs of the charter are basically our current mission statement. Is this what we would like to use? The Council will consider this further.

Other Issues:

Naval Oceanographic Office (NAVO) – Paul Taylor (NAVO) and Gordon Wilkes were present at the meeting. Paul reported that they have enjoyed the NAVO partnership with UNOLS. They have learned a lot through attendance at RVTEC meetings and by having their personnel work on UNOLS vessels. NAVO has plenty of fieldwork planned for UNOLS vessels provided the funding is available. Their ship time requests for 2002 have been submitted.

ISM Status of Compliance - Bob Knox made a brief presentation on the status of ISM procedure development at Scripps. He provided examples of their procedures for general shipboard scientific operations as well as Over-the-Side Operations. These are included as ***Appendix V***. The procedures are quite simple. The over-the-side operations procedure is two pages long and seven steps. The procedure for shipboard scientific operations is one page. If these are accepted, the community will be reassured to know that the procedures need not be too inflexible toward the changing circumstances of scientific operations at sea

Adjourn day one – 5:00 pm

Friday, June 22, 2001

DESCEND Follow-on Activities – Annette DeSilva reported on follow-on activities for DESCEND. The Executive Summary of the original DESCEND workshop has been

published as an 8-page brochure. The brochure has been distributed to various mailing lists including: UNOLS lists, the NURP West Coast and Mid Atlantic lists, RIDGE, Margins, and congressional lists. Thousands of the brochures have been sent, but the agencies feel that we still need to do a better job of getting the word out about the DESCEND findings. In response, DESSC members are drafting EOS and Journal articles.

An evening Submergence Technology session was held at the Oceanology conference on April 4th. Annette DeSilva, Jim Bellingham and Dan Schwartz coordinated the session. The meeting consisted of an introduction and free flowing exchange on submergence facility needs and issues. Submergence technology needs and problems were identified. These are listed in the meeting report posted on the UNOLS website at http://www.unols.org/dessc/descend/followon/april04.htm. Access and funding of assets were also discussed at the meeting. This continues to be concern in the community.

At the DESSC meeting plans for a summer 2001 follow-on technology workshop were presented. The DESSC and agencies both felt that additional time for planning and advertising was needed. A steering committee needs to be formed to define the goals of the workshop. The committee should include scientists as well as engineers and technology experts. Additionally it was felt that there are quite a few similar efforts/workshops being held or planned. We need to keep abreast of these other technology workshops as they apply to submergence technology needs. DESSC plans to form a steering committee in the near future to plan for a follow-on workshop.

Tim Cowles raised the issue that DESSC needs to keep abreast of coastal submergence initiatives and their facility needs. Will the role of DESSC change to address the needs of this community? The shallow water community is growing exponentially. Observatory development in coastal zones will increase interest in these areas. Although there is no formal action for DESSC at this time, the Council requested they keep abreast of the coastal community submergence needs.

WINCH & WIRE Follow-on Activities – As Mike Prince reported earlier, there are plans to develop "Science Mission Requirements" for oceanographic wires, cables and ropes. They plan to establish science needs for the next generation cable. A steering committee will be formed to lead this effort. Safe working loads for wires are being investigated. The NERC in the UK has been sharing their information on wires including their Lloyds of London insurance policy. There was a general Council discussion on the working loads, ISM, and insurance. It was pointed out that changes to the wire design could significantly impact many systems; winches, frames, deck support, etc.

Mike encouraged the Council to recommend people for the wire steering committee. Specifically they are looking for individuals who push the limits on wires. Recommendations should be sent to the UNOLS Office.

Long Coring – Mike Prince reported that a workshop was held at NSF on June 5th with coring experts from WHOI, OSU, TAMU, SIO and UNH, as well as operations personnel from WHOI, SIO and UW and NSF program managers. The findings from the workshop

indicate that a long coring capability on Class I ships in the UNOLS fleet is feasible and desirable. Engineering analysis of core pull out forces has been conducted along with an examination of ship stability and structural strength issues. Long coring was nominally defined as a 50-meter core with approximately 40 meters of sediments at 5.25" or 6.75" diameter. The pull out is estimated to be on the order of 45,000 to 55,000 lbs. at the seabed. Synthetic fiber cables with breaking strengths of around 200,000 lbs. will be considered. The next step would be to complete detailed engineering and design work to develop this capability. Funding for this design and engineering effort will most likely be supported by NSF. The exact configuration and design of this long coring system is yet to be determined. There will probably be a need to have this capability in the Atlantic and in the Pacific Oceans.

CORE/UNOLS - Bob Knox reported that Admiral Lautenbacher (CORE) provided testimony to Congress, which included words in support of NAVO's use of UNOLS ships. Tim Cowles commented on CORE's April meeting. Budgeting for fleet renewal was discussed at considerable length during the CORE meeting. They decided that they need to wait for the final approved FOFC long-range fleet plan before taking action. Until there is a specific plan in place, they cannot go forward to Congress with recommendations. CORE needs to be able to point to the plan and say that these are the ships that are needed and where.

Review Charter Changes - Mike will circulate by e-mail the minor changes to the charter revision that were discussed earlier in the meeting.

Seismic Capabilities in the UNOLS Fleet - Tom Shipley recapped the Seismic Workshop recommendations. There is an emphasis on the need for increased access to seismic data and old data sets. There has been a fair amount of activity since the workshop. Lamont-Doherty Earth Observatory (LDEO) has submitted a proposal for ship/seismic upgrades and has been funded. A MG&G data management workshop was held in April. There is an effort to make seismic data available shortly after a cruise is completed. They would like this to be a routine effort. Seismic improvements have emphasized the addition of new systems and have not focused on improved quality. This is still an issue. Tom reported that generally things have been positive. He thinks that in the coming years there will be improvements to the facility and to data access.

NASA Technology workshop – Mike reported on the NASA's workshop, *Life in the Extreme's* earlier in the meeting.

New Ship Construction and planning – Mike Prince summarized the status of new construction projects. Written status reports are included in ***Appendix VI***. Reports are provided for SAVANNAH, the WHOI SWATH and ASTERIAS replacement, AGOR 26, the Alaska vessel, and the CAPE HENLOPEN Replacement.

New Deep Submergence Vehicles & ALVIN Overhaul – Annette DeSilva reported on improvements to the National Deep Submergence Facility vehicles. ALVIN received an overhaul and all of the ROV and tethered vehicles are being upgraded.

The DSL120A vehicle field trials are planned to begin today (June 22nd). The system will be evaluated at night during ALVIN off hours. Some of the items that will be evaluated include tow dynamics, control and telemetry, the fiber optic north seeking gyro and attitude reference, the bottom lock Doppler sonar, the HMRG sonar system and the bathymetry data products.

The Jason II upgrade is making progress. WHOI held science design review meetings over the past year. The new power system design for the vehicle is well underway. The vehicle will use a 0.68-inch cable. WHOI spent a lot of time modeling the Jason II design. Once the system is operational, the model can be used as a cruise-planning tool. The vehicle has some unique capabilities mostly in manipulation and sampling capabilities. The subsea control components for Jason II are complete and are presently being evaluated on the DSL120A vehicle. WHOI is conducting high voltage testing of the main umbilical. The main penetrators are on order for all the vehicles. Evaluation of the neutral tether is underway on the DSL120A vehicle. The initial round of the thruster tests is complete. Various options for Jason II field trials are being considered. The weight of Jason II will be about 6100 lbs and the size is approximately the same as TIBURON. The Jason vehicle will not be kept on-line after Jason II is operational. Jason uses 10-year old telemetry and it would not be feasible to maintain it much longer. The straw man test schedule for Jason II starts nominally around March 15, 2002 and runs for about 2 and 1/2 months before it would be ready for science operations. This puts the first science operations around June 2002 for Jason II.

ALVIN's dive certification process is currently underway. When the ALVIN goes into a major overhaul it loses certification and needs to be recertified before the end of the overhaul. ALVIN tethered and harbor dives were conducted on 18 and 19 June respectively. Dive testing will continue up to the depth rating of 4500m. The ship and ALVIN are on schedule to resume science operations 26 June. During ALVIN's overhaul many science improvements were made including new cameras/imaging systems, monitors and computers, a new laser gyro, and replacement of the data logger. Improvements were made to panel lighting and illumination. The science rack was re-organized. Legroom was increased. A Kraft manipulator replaces the Schilling manipulator.

While ALVIN was in overhaul ATLANTIS spent time in dry-dock to meet USCG/ABS haul out requirements. Since Atlantis was delivered in March 1997 the ship has spent 1009 days at sea. ALVIN has made 557 dives during this time with a success rate of 96%. Improvements were made to ATLANTIS while ALVIN was in overhaul. These included bow thruster sound deadening in the three forward staterooms, improved HVAC on the 01 deck, limited drainage improvements and revised remote control of port ROV traction winch.

Advanced Tethered Vehicle (ATV) - Annette reported that the Navy transferred ATV to SIO and the University of Hawaii. There will be a MOU between the Navy, SIO, and SOEST for operation of the vehicle.

Human Occupied Submersible with a 6000+ meter dive capability - A WHOI proposal has been submitted to the funding agencies for conceptual design of a new human occupied submersible with a 6000+ meter dive capability. The proposal is currently out for review.

The project is being organized into two phases. Phase I work includes: community input, certification, view port location and sizing, submarine systems specifications, formal assessment of an available 6000 meter hull and engineering support. The proposal is for funds to support this phase. Phase II will include system design, construction, and trials. The entire process if funded is estimated to take about 4 years. The tangible products of Phase I would be SMRs fully integrated into a conceptual design, the feasibility of specifications would be explored, the cost estimate would be updated, and a Request for Proposals for design and construction would be ready.

The WHOI proposal indicates that a new submersible will offer:

- Increased bottom time
- Increased battery capacity
- Improved fields of view
- Increased access to the sea floor
- Improved interior ergonomics
- Increase interior electronics and science payload
- Reduced physical and chemical impact to study area (water ballast)

Operational improvements include:

- Improved battery access
- Reduced cabling
- Reduced hazards.

Community support for a new deep diving submersible is needed. The need for a new deeper diving submersible must be justified. Some scientific justification was provided by the DESSC Sea Cliff Study and by the DESCEND Workshop. A letter from DESSC was sent to NSF supporting the WHOI proposal. Input from some members of the community was included in the letter.

DESSC Terms of Reference – The DESSC have proposed revisions to their Terms of Reference to better reflect their role. The revised Terms are included as ***Appendix VII***. The Council endorsed the revision with correction of one typo.

CMRC Membership Application (revisited) – A letter from John Marr (CMRC) to Bob Knox requesting UNOLS membership was reviewed. Larry Atkinson pointed out that many researchers in the community are now using the CMRC facility. After a brief discussion the Council recommended that the CMRC membership application be presented for vote at the Annual Meeting.

Shipboard Vans – Steve Rabalais reported that Matt Hawkins has finalized the standard van design and that the USCG has approved it.

Other Business:

Curt Collins reported that there is an effort by DOE for work that could require a significant amount of UNOLS ship time. Stay tuned.

Dale Chayes reported that he attended an ONR/NSF workshop a couple weeks ago. As a result of this workshop, RVTEC may take on an effort to set standards for metadata.

The meeting was adjourned at 10:10 am

Appendix I

Agenda

UNOLS COUNCIL MEETING

Thursday-Friday, June 21 & 22, 2001, 8:30 am

Moss Landing Marine Laboratories

Moss Landing, California

Call the Meeting: Bob Knox, UNOLS Chair, will call the meeting to order and provide an opportunity for introductions. The concept for this meeting will be to hold open discussions leading to the setting of goals and priorities for UNOLS. Most of the agenda should be covered on Thursday leaving Friday morning to wrap up and finalize these goals, priorities and any action items. Some people will need to leave by mid morning on Friday and it is anticipated that the meeting will conclude by noon.

Accept minutes of February 2001.

Nominating Committee : The first terms of Tom Lee and Charlie Flagg are expiring in 2001. The Nominating committee is Denis Wiesenburg (chair), Dennis Hansell, and Curt Collins. Denis will review the status of nominations. **(This discussion needs to take place on Thursday)**

Long Range Planning for the UNOLS Fleet - FOFC Long Range Fleet Plan: Report on status and discussion on future UNOLS action with regards to Fleet Planning. This could include, but is not limited to such things as formal UNOLS review of the next draft version; formal endorsement or comment on final version; development of a FIC fleet renewal plan with the UNOLS vision; updating Science Mission Requirements (SMR) and the creation of Concept Designs in response to the long range plan; the competitive process for assigning ships to operators; funding requirements for fleet renewal.

Facilities beyond Ships and the National Deep Submergence Facility, the UNOLS Role: It was suggested by John Delaney at our last Council meeting that UNOLS consider what their role might be with regards to developing, coordinating the use of and providing oversight for facilities such as observatory systems like NEPTUNE. Should UNOLS have a role in coordinating the scheduling and access to such facilities? What are the implications for utilization and scheduling of traditional Research Vessel and submersible facilities. 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.

Quality of Service Initiative (QSI): It appears as if the proposal to the NSF Innovation and Organizational Change Program to conduct research on improving quality and reliability in the UNOLS system will not be funded in its current version. Whether or not the researchers will resubmit remains to be seen. UNOLS will need to decide how to proceed with regards to this issue in the future. Discussion on this subject would follow a review of the issues involved and a review of post cruise assessments for the last couple of years (the UNOLS

office will prepare a summary of 1999 and 2000 post cruise assessments).

Committee Activities: Committee Chairs will discuss issues or planned activities that have not already been covered. A preliminary status on 2002 scheduling will be presented along with a review of any 2001 scheduling issues.

Setting goals and priorities for the coming year, plans for the annual meeting: In preparation for the annual meeting we should review the major accomplishments and activities of the past year and set goals and priorities for the coming year. In addition we need to finalize a choice for the Keynote Speaker, review and make recommendations regarding applications for UNOLS membership, finalize charter changes and review the status of nominations for Council positions.

Other Issues:

- ISM status of compliance - Any news on crew, shore support and science community implications.
- DESCEND Follow-on Activities - Technology Workshop
- WINCH & WIRE Follow-on Activities: Plan to develop "Science Mission Requirements" for oceanographic wires, cables and ropes.
- CORE/UNOLS - letter regarding NAVO ship use
- Review Charter Changes
- Seismic Capabilities in the UNOLS Fleet.
- ADCP developments.
- Long Coring.
- NASA Technology workshop.
- New Ship Construction and planning.
- New Deep Submergence Vehicles & ALVIN Overhaul.
- "DESSC Terms of Reference" need Council endorsement.

Please provide input on the above agenda items and on any issues that you would like to have included.

Appendix II

LAST	FIRST	UNIVERSITY	Phone	Fax	Email
Anderson	Sara	UNOLS Office - MLML	(831) 632-4411	(831) 632-4413	office@unols.org
Atkinson	Larry P.	Old Dominion University	(757) 683-4926	(757) 683-5550	atkinson@ccpo.odu.edu
Chayes	Dale	Columbia University	(845)365-8434	(845) 359-6940	dale@ldeo.columbia.edu
Clough	Lisa M.	East Carolina University	(252) 328-1834	(252) 328-4178	cloughl@mail.ecu.edu
Coale	Kenneth	Moss Landing Marine Laboratories	(831) 632-4406	(831) 632-4403	coale@mlml.calstate.edu
Collins	Curtis A.	Naval Postgraduate School	(831) 656-3271	(831) 656-2712	collins@nps.navy.mil
Cowles	Timothy J.	Oregon State University	(541) Â 737-3966	(541) 737-2064	tjc@oce.orst.edu
DeSilva	Annette	UNOLS Office - MLML	(401) 874-6827	(401) 874-6167	Annette@unols.org
Dippold	Laura	Moss Landing Marine Laboratories	(831) 632-4411	(831) 632-4413	office@unols.org
Gardner	Wilford D.	Texas A & M University	(979) 845-7211	(979) 845-6331	wgardner@ocean.tamu.edu
Knox	Robert A.	University of California at San Diego	(858) 534-4729	(858) 822-5811	rknox@ucsd.edu
Lamerdin	Stewart	Moss Landing Marine Labs	(831) 633-3534	(831) 633-4580	lamerdin@mlml.calstate.edu
McNutt	Marcia	Monterey Bay Aquarium Research Institute	(831) 775-1814	(831) 775-1647	marcia@mbari.org
Muller	Richard	Moss Landing Marine Laboratories	(831) 633-3534	(831) 633-4580	rmuller@mlml.calstate.edu
Prince	Mike	UNOLS Office - MLML	(831) 632-4410	(831) 632-4413	office@unols.org
Rabalais	Steve	UNOLS Office - MLML	(504) 851-2808	(504) 851-2865	srabalais@lumcon.edu
Sawyers	Kate	Moss Landing Marine Laboratories	(831) 632-4409	(831) 523-4413	ksawyers@mlml.calstate.edu
Shipley	Thomas	University of Texas at Austin	(512) 471-0430	(512) 475-6338	tom@utig.ig.utexas.edu
Taylor	Paul H.	NAVOCEANO	(228) 688-5843	(228) 688-5602	taylorp@navo.navy.mil
Ustach	Joseph	Duke/UNC Marine Laboratory	(252) 504-7579	(252) 504-7651	joeu@duke.edu
Wiesenburg	Denis A.	The University of So Mississippi	(228) 688-3177	(228) 688-1121	denis.wiesenburg@usm.edu

Wilkes	Gordon	NAVOCEANO	(228) 688-4376	(228) 688-4639	wilkesg@navo.navy.mil

Appendix III

UNOLS and New Initiatives

- Ocean Exploration
- Ocean Observatories (in general)
- NEPTUNE (in particular)

OcEx Panel's View

- Initiative should be multi-agency
- Coordinated through some NOPP-type mechanism
- Use a variety of public and private assets (UNOLS ships, Navy/NOAA vessels, private contract ships, etc.)

Signature Mission

- Pole-to-pole circumnavigation of globe
- Public outreach facilitated by a flagship
- Reconnaissance studies conducted in advance of flagship (e.g., mapping)
- Observatories established in wake of flagship (4-D explorations)

Flagship

- Flagship equipped for public outreach
- Likely to include deep submergence assets (ROVs, possibly HOV)
- Flagship could be UNOLS operated (converted existing or new asset) or a private leased vessel using an ODP-type structure

Ocean Observatories

- Community considering 3 general categories: cabled, "permanent", movable
- Moored observatories will require approximately 2 weeks each of UNOLS ship time for servicing
- Likely that ROVs will be needed on at least some of the service vessels

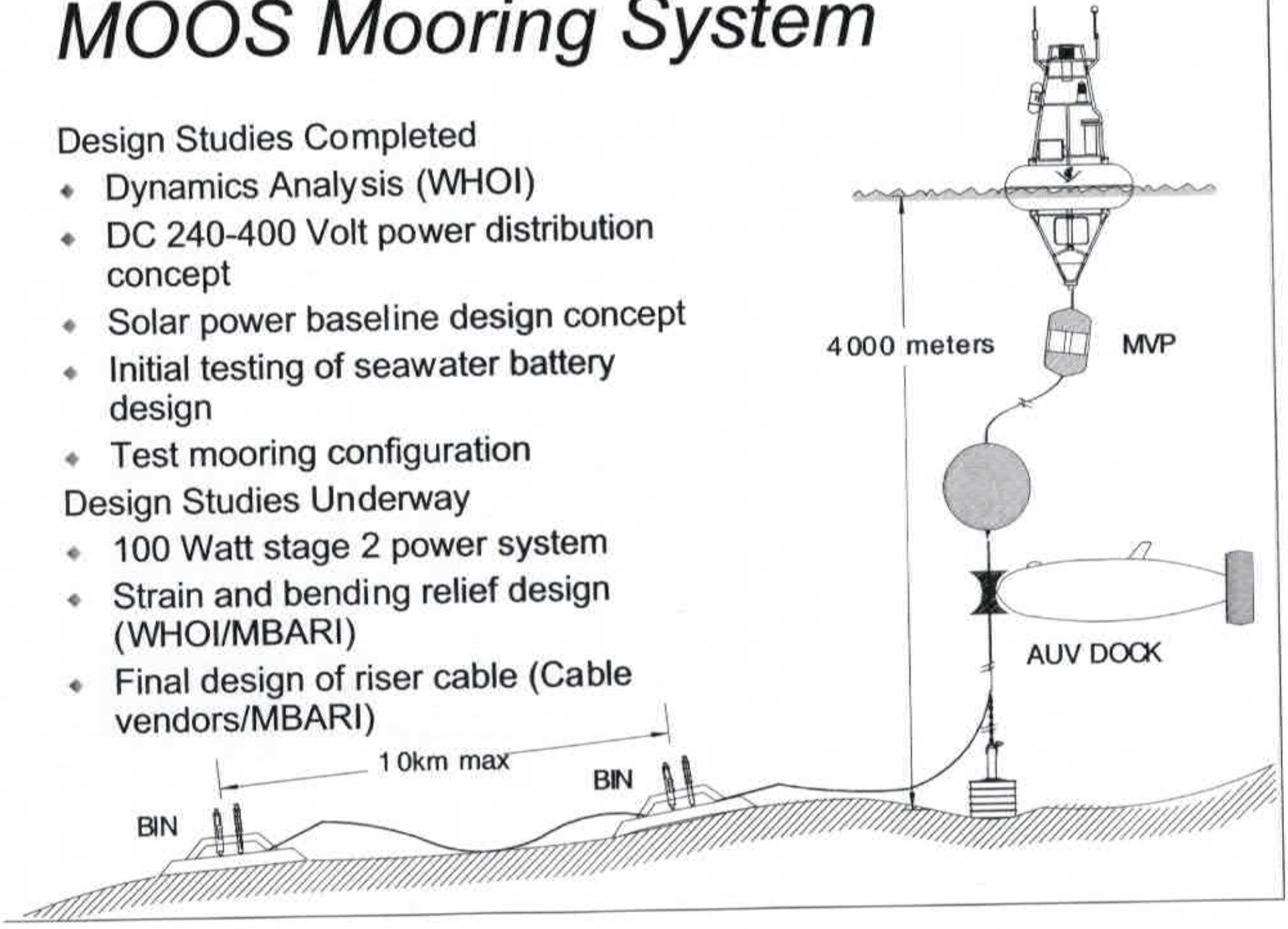
MOOS Mooring System

Design Studies Completed

- Dynamics Analysis (WHOI)
- DC 240-400 Volt power distribution concept
- Solar power baseline design concept
- Initial testing of seawater battery design
- Test mooring configuration

Design Studies Underway

- 100 Watt stage 2 power system
- Strain and bending relief design (WHOI/MBARI)
- Final design of riser cable (Cable vendors/MBARI)



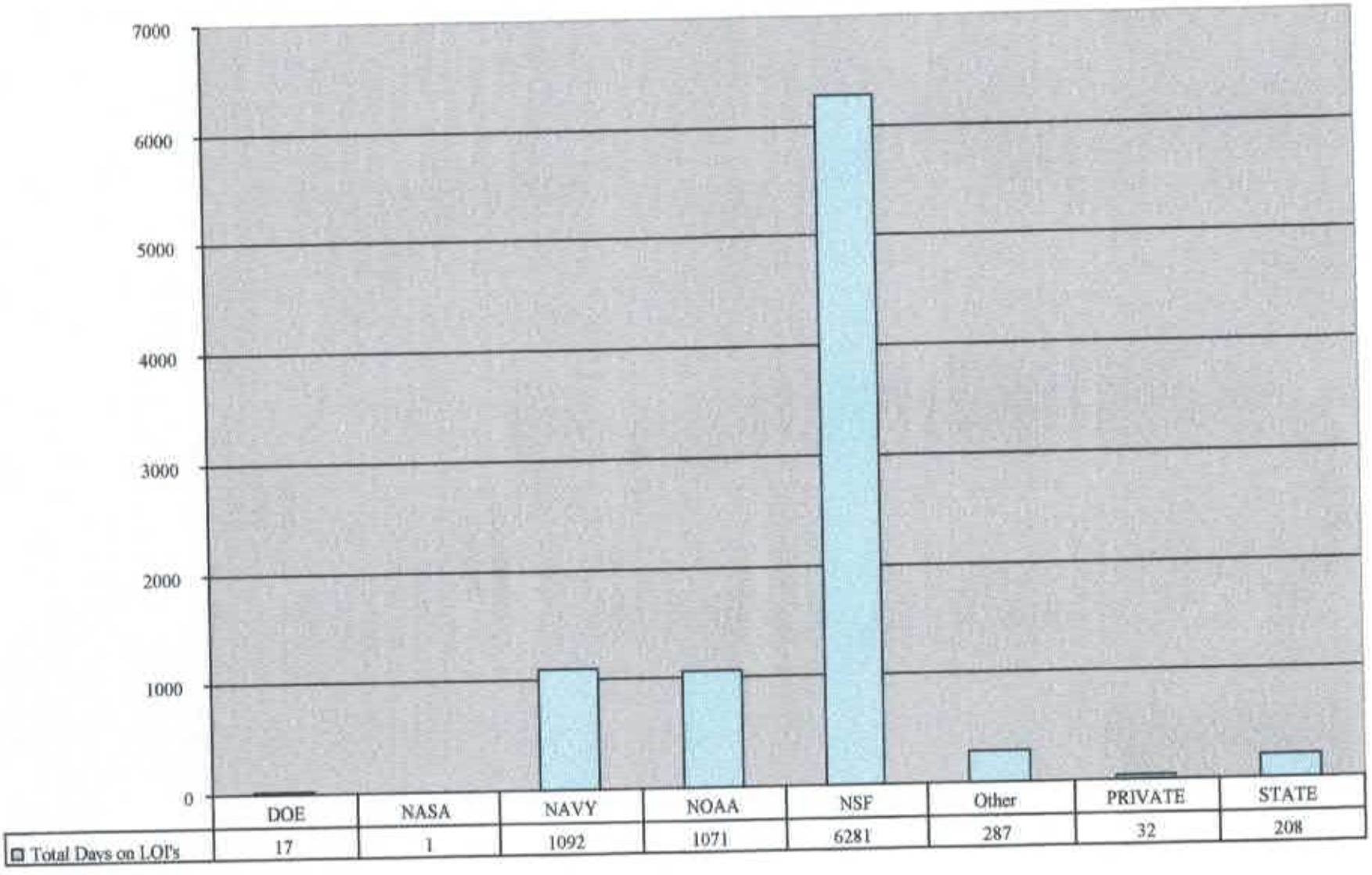
NEPTUNE

- Focusing currently on Monterey proof-of-concept (MARS)
- MBARI wants to make *Ventana* ROV time available to non-MBARI investigators (e.g., via NURP?)
- Also important to get other ROVs involved in operations (Jason, ROPOS, etc.)

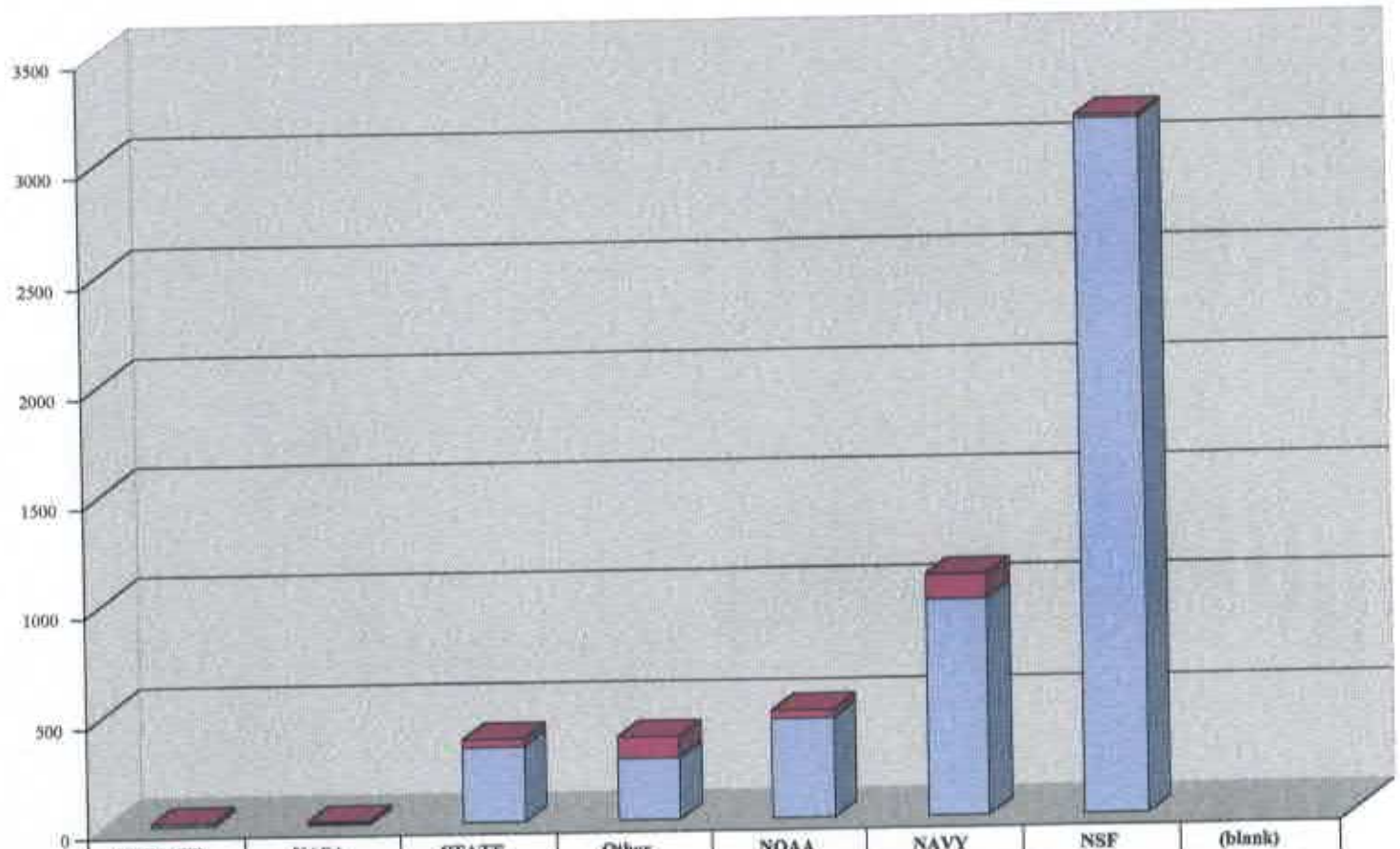
Appendix IV

2002 Ship Scheduling

Total Days on LOI's



	DOE	NASA	NAVY	NOAA	NSF	Other	PRIVATE	STATE
Total Days on LOI's	17	1	1092	1071	6281	287	32	208



	PRIVATE	NASA	STATE	Other	NOAA	NAVY	NSF	(blank)
Pending	4	6	43	93	38	110	12	
Funded	8	3	335	280	452.5	980	3156	

Key Points

NSF calculates potentially funded work to be around 2600 days plus transits, which is about 1000 less than 2001.

NAVY days on LOI's minus around 100 days for double bookings equal about the same level as last year (~1000 days)

Waiting for PI's to be notified of funding decisions so that more realistic schedules can be prepared.

Scheduling meeting will be held at NSF on Thursday,July 19.

Appendix V

Title:	Prepared By:	Revision No:	Section:
Over-the-Side Operations	E. Buck/R. Wilson	0	210
	Approved By: T. Althouse	Effective: 6/1/01	Page: 1 of 2

1.0 PURPOSE

1.1 This section provides a generic checklist of items to consider regarding over-the-side operations.

2.0 POLICY

2.1 Before beginning over-the-side operations on a cruise (whether deploying, recovering or otherwise working with equipment over the side), the Master ensures that a meeting takes place as described in SMM 205: General Policy on Shipboard Scientific Operations. During this meeting, the scientific requirements are reviewed and a plan is developed to accomplish the work at hand.

3.0 ITEMS TO CONSIDER PRIOR TO COMMENCING OVER-THE-SIDE OPERATIONS

3.1 The person in charge of scientific deck operations (usually the Resident Technician) shall check on the following:

- Inspect involved ship's equipment and science support items for suitability and safety.
- Inspect rigging and attachment points (whether supplied by the science party or the ship) for suitability and safety.
- Hold additional planning sessions if necessary.
- Brief Chief Engineer on winch, crane, A-frame and other equipment requirements. Consider lead times necessary for crew to get certain pieces of equipment on-line.
- Tour the work area with personnel involved in the operations. If necessary, hold practice sessions or rehearsals of the operation.
- Remove (to the extent possible) unnecessary equipment and obstructions from the work area.
- Lay out or pre-position equipment for efficient use during the operation.

4.0 BEFORE EACH OCEANOGRAPHIC STATION

4.1 Before each oceanographic station, review the requirements for the station with the Mate on watch. Provide ample notice for winch or other equipment requirements.

5.0 ON STATION

5.1 Prior to commencing work on station:

- Hold a final briefing between involved personnel. Ensure all hands know their specific tasks and know who is in charge. Review safety items.
- Verify communications with the Bridge watch officer, winch operator, etc.
- Check rigging and handling equipment one last time.
- Ensure all involved personnel are wearing appropriate Personal Protective Equipment (PPE) including a workvest.
- Direct nonessential or unassigned personnel away from the work area.
- DO NOT put anything over the side without permission from the Bridge.

6.0 COMMENCING THE OPERATION

6.1 Upon verifying that all hands and equipment are ready to go, notify the mate on watch that you are ready to begin. Upon receiving permission to begin from the Mate, lower lifelines and commence the operation.

6.2 During the course of the operation, keep the Mate well informed of developments on deck.

6.3 Replace lifelines and bulwarks or otherwise secure openings in the rail as soon as possible.

Title:	Prepared By:	Revision No:	Section:
Over-the-Side Operations	E. Buck/R. Wilson	0	210
	Approved By: T. Althouse	Effective: 6/1/01	Page: 2 of 2

7.0 SECURING THE OPERATION

- Ensure that equipment is secured, put away or otherwise prevented from coming adrift.
- Ensure that lifelines and bulwarks are replaced or that openings in the rail are secured.
- Account for all personnel.
- The ship may not get underway for the next station until the person in charge of the deck operation is satisfied that involved equipment and the work area are secure.
- Advise the Mate on watch that the person in charge of the deck operation is ready to get underway to the next station, etc.

Title:	Prepared By:	Revision No:	Section:
General Policy on Shipboard Scientific Operations	E. Buck	0	205
	Approved By: T. Althouse	Effective: 6/1/01	Page: 1 of 1

1.0 PURPOSE

1.1 This section describes MarFac policy on shipboard scientific operations.

2.0 BACKGROUND

2.1 A wide variety of scientific operations take place aboard SIO ships; from one cruise to the next there can be a great variance in the kinds of data collected and the methods for collecting same. Some operations are fairly standardized while others are unique; some are simple, some are complex. Recognizing this and the experimental nature of much of the equipment deployed from the ships, it becomes impractical to have a uniform set of established procedures for every conceivable scientific operation. However, common safety precautions can be applied to most operations.

2.2 In keeping with SIO's declared policy for accomplishing cruise objectives (MSP 760), the Master and crew of each ship must make all reasonable efforts within the bounds of safety and regulatory constraints to facilitate the scientific work at hand.

3.0 POLICY

3.1 Prior to commencement of scientific work, the Master ensures that a formal exchange of information takes place between himself, the Chief Scientist, the Chief Engineer (as necessary), technicians and other personnel who will be involved in the operation(s). The exchange of information may take place at the *Scientific Party Vessel Orientation and Safety* meeting (SMM 55) or at a separate meeting. This meeting may be brief or very detailed depending on the nature and complexity of the work to be performed. The main goals of the meeting are to ensure that all persons involved in a particular operation share a common understanding of the planned activities, to address safety concerns and to resolve any conflicts regarding scheduling, procedures, etc. During the course of the meeting, the following points may need to be considered:

- Complexity of the operation(s)
- Hazards
- Development of checklists and procedures (if necessary)
- Designation of person in charge on deck
- Designation of the "team"
- Clear assignment of tasks
- Communications
- Qualifications of personnel involved in critical areas of the operation(s)
- Limitations of personnel and equipment
- Coordination with ship's crew
- Environmental conditions (wind, weather, sea state, etc.)
- Contingency plans

3.2 Handling and use of hazardous materials (HazMat) shall be in accordance with applicable federal, state and/or University regulations.

Appendix VI

Date: Fri, 15 Jun 2001 15:42:44 -0400
From: Braxton Tesh <braxton@skio.peachnet.edu>
To: Mike Prince <office@unols.org>
Subject: R/V Savannah

Mike,

The R/V Savannah was successfully launched at the Washburn & Doughty Yard in East Booth Bay, Maine on May 25, 2001. On the 31st of May the wheel house was set in place by a crane (the house was too tall for the building shed and could not be set until after the launch). The Yard is busy finishing out the wheel house, setting electronics and wiring systems. Sea trials and stability tests will be conducted in August with the Savannah being turned over to us in Booth Bay August 24, 2001. A gala celebration is being planned for the R/V Savannah on September 5th at the Skidaway campus with the Savannah Symphony playing as well as a military band. All are welcome to attend.

Cheers, Braxton

Date: Fri, 15 Jun 2001 14:59:03 -0400
From: Joe Coburn <jcoburn@whoi.edu>
To: Mike Prince <office@unols.org>
Subject: Re: Ship Construction and Planning updates

Mike,

You have seen Dick's phase-out dates. Keep in mind that no dates are in a drop dead category - we can always extend a ship in service or shut it down early. We and the entire community will not want to see long gaps between shut-down and bring replacements on line as was done at Scripps and Washington during the last cycle of replacements. (WHOI dodged that bullet to some degree - only 6 months between A-II's sale and Atlantis' delivery.)

WHOI is now developing a design for a 55' replacement for our old 47' Asterias. The current intention is that it will be bought with WHOI funds. There has been a series of meetings with the user science community here and with a Naval Architect, Roger Long. No contract discussions yet. Roger Long is the designer of ODU's Fay Slover, currently being built at the local Gladding Hearn yard. They also built UNH's Gulf Challenger, also by Roger Long and very similar. I don't know what the timing on that will be.

I believe you are aware of the status of WHOI's Coastal SWATH - We are in the process of re-bidding it because the previously negotiated price would have been more than WHOI could (really wanted to) afford. - By 50%.

The current re-bid effort is a proper "due diligence" step, reflecting the amount of money and time we have invested in the project to date as well as our belief that it is the right craft for the job. I

personally am not optimistic that we will find it for an acceptable price, but it may be that some foreign yard will be able to keep the price down due to government help or subsidy. That is what we are hoping for.

Regards, Joe

From: "Robert Hinton" <rmhinton@bellsouth.net>
Subject: AGOR-26 status ending 6-16-01
Date: Sun, 17 Jun 2001 20:59:37 -0400

1. Back at the end of April (status report 4/29/01), because of the concern for the progress towards the posted schedule, four interim milestones were established. The first of these milestones was scheduled to complete 5/29. The landing of module 12-14 actually completed 6/14. I expect that we will get an assessment of progress and a realistic delivery date by the contractor early in July.
2. AMI flipped module 12-14 on 6/12/01 in order to complete down-hand welding.
3. Module 12-14 was landed on 6/14/01.
4. Module 23 was turned over to complete welding and the fitting of the main gen-sets on the foundation plates. After the plates are marked the gen-sets will be removed and then reinstalled after the module is landed.
5. The following equipment arrived in the yard this week: gen-sets and the boat davits.
6. Pictures of the following modules have been added to the web site this week: 12-14, 23, and an updated current view.

Regards, Robert

Date: Fri, 15 Jun 2001 12:01:27 -0800
To: Mike Prince <office@unols.org>
From: fnts@aurora.uaf.edu
Subject: Re: Ship Construction and Planning updates

Mike: ... We still are shooting for the same dates discussed at the last Glosten meeting that you were at. Until a definite funding decision is known, I doubt those dates will change. We are very close to finalizing the initial design. Looks like 226 feet with an 18-foot draft. Endurance is a big question because of its effect on draft, size, etc. We are still going around on that. Discussions are for 45 or 60 days. I suspect the later will be the end product. We, Alaska, want the larger endurance, WHOI seems to lean toward the 45 days. Glosten has been very conservative in estimating fuel consumption, i.e. using high figures. I believe we will end up with the 60-day endurance with both parties being happy. I think the design will produce a really good, capable ship whose ops are very flexible.

Cheers. Tom

Date: Mon, 18 Jun 2001 13:21:14 -0400
From: Matthew Hawkins <hawkins@UDel.Edu>
To: Mike Prince <office@unols.org>
Subject: Re: Ship Construction and Planning updates

Mike-

Our DRAFT "Concept" design has been updated based on comments from our committee (Delaware Research Vessel Committee or DRVC). The design review meeting was held here in Lewes on April 18th. The drawings will be forward to FIC in the next week for their review and comment. The target date for completion of the "concept" design is September 1, 2001 at which time the following will be available:

Lines
General Arrangement - all decks
Outboard profile
Typical Midships section
Preliminary Deck Machinery/frames/towing
Outline Specification
Preliminary Cost Estimates
Preliminary Tonnage
Preliminary Stability/Trim/Weights
Preliminary Speed/Powering
Preliminary Power Requirements
Ship's Motion Estimates

Right now the vessel is 138' LOA, 33 feet in beam, with a 9-0" draft. Tonnage is approximately 490 tons (International) with two portable vans on deck.

Matt

Appendix VII

Terms of Reference

DEEP SUBMERGENCE SCIENCE COMMITTEE

Revised and Accepted: June 2001

INTRODUCTION:

The Terms of Reference for the DEep Submergence Science Committee (DESSC) are herein revised to reflect the evolving role of this committee. The Committee retains its oversight responsibilities in the use of ALVIN and includes oversight of the use of the ROV assets of the National Deep Submergence Facility. Incumbent in this is fulfilling an ombudsman role for the deep submergence community, insuring maximum participation in the utilization of these deep submergence assets. It is also the responsibility of the DESSC to promote new technology for ALVIN and the ROVs to maintain cutting edge capability for the National Facility.

The DESSC will continue to work with the user community, federal sponsors and the operator of the deep submergence national facility to encourage deep submergence research in traditional areas and expeditions to remote geographic regions. Additionally, DESSC will also encourage the advancement of cooperative international programs for the enhancement of multidisciplinary submersible science throughout the academic community.

SPECIFIC TASKS FOR THE DEEP SUBMERGENCE SCIENCE COMMITTEE ARE AS FOLLOWS:

1. The UNOLS DEep Submergence Science Committee shall operate pursuant to appointment by UNOLS and in accordance with Annex II to the UNOLS Charter. In addition, each funding agency will be invited to designate an official observer to the Committee.

2. Advise Regarding Proposals for Use of National Facility Assets: Proposals for the use of the National Facility deep submergence assets are regularly submitted for peer review through the three principal funding agencies NSF, ONR and NOAA. DESSC no longer reviews proposals. DESSC will however provide advice regarding optimum use of the assets to maximize operational strategy for the deployment of these assets. Deliberations will consider whether the proposed research might be enhanced by the use of ROVs, AUVs and/or other undersea research tools, or be better accomplished using other manned or unmanned submersibles. The committee will work with agency representatives and staff from the operating institution to develop schedules that will most effectively utilize deep submergence assets.

3. Deep Submergence Assets Planning:

   A. Annual Scheduling. Ship scheduling is based on funded projects and is done in part in consultation with the DESSC at the summer DESSC meeting. A preliminary scheduling discussion is conducted in an open forum for the user community at the winter (Dec. AGU) meeting. At that time the community is provided with an indication of the potential areas in which deep submergence assets could feasibly operate well in advance of proposal submission deadlines.

   B. Global Expeditions: The DESSC will work with the user community, federal sponsors and the operator to determine the feasibility of organizing deep submergence science expeditions to remote geographic regions. DESSC will work with the federal funding agencies to provide timely

information regarding funded projects so as to enable potential users to better evaluate the appropriateness of submission of proposals for work in remote areas.

4. Deep Submergence Science Tools: The DESSC will, on a continuing basis, maintain awareness of new scientific tools and the needs of the users for new sensors and equipment to address important scientific questions and provide this information to the NDSF Operator, UNOLS, and the federal agencies. The technical capabilities of the deep submergence research assets will be formally reviewed by the DESSC, with the assistance of selected outside experts, at least once every two (2) years and the results of the review will be provided to the NDSF operator, UNOLS and the federal funding agencies. DESSC should encourage development and promote acquisition of new deep submergence sensors and tools as warranted by the scientific needs of the user communities. Some of this new equipment may have multidisciplinary use and could be considered, with appropriate resources, for inclusion into the standard suite of scientific equipment provided with NDSF vehicles. Other types of sensors may be task- or research-specific and should be considered Third Party Tools. DESSC has formulated guidelines for Third Party Tool development, which have been approved by the federal agencies and UNOLS. The UNOLS Third Party Tool Guidelines can be found at the following URL: http://www.unols.org/dessc/tool.html.

5. User Concerns: On a yearly basis, the committee will review and assess comments from scientific users of deep submergence assets and identify key areas that warrant attention by the operator and recommend remedial actions as appropriate.

6. Undersea Technology: With regard to undersea technology in the broader sense, the DESSC should monitor and promote the development and application of appropriate new submersible technologies, both manned and unmanned, shallow and deep, for use in undersea scientific research. The DESSC should coordinate their efforts with the science user community, technology developers and facility operators. The DESSC shall advise NSF, ONR, NOAA and other federal agencies on submersible technology, its evolution and applications. Additionally, the committee shall include a representative(s) with expertise in the areas of undersea engineering and technology.

In carrying out this task the DESSC will need to coordinate its efforts with the Academy of Engineering Marine Board and may need to organize special workshops.

7. Membership/Nomination of DESSC: The DESSC membership shall be comprised of individuals who can represent the various oceanographic disciplines required to advise on the effective use of submersible assets. Nominations to the DESSC and for the DESSC Chair will be open to the research community. Vacancies will be announced in various weekly journals and other venues as appropriate, and candidates will be asked to submit their vitae and letters of interest. Applications for membership to the DESSC and the DESSC Chair will be reviewed by the standing DESSC and voted on by the membership. The UNOLS Chair shall appoint the DESSC members and the Chair from the nominations made by DESSC. Members of the DESSC will be appointed for three-year terms, staggered so that two or three terms begin each year. Individuals may serve not more than two consecutive terms. The operating institution may designate an ex-officio member(s) in addition to those members appointed by the UNOLS Chair. With the Council's concurrence, standing committees of UNOLS may also designate ex-officio members as appropriate to DESSC.

8. Reports of activities shall be made to UNOLS.