

DRAFT

UNOLS FLEET IMPROVEMENT COMMITTEE MEETING
Campus of San Jose State University
Student Union Building, 3rd Floor - Almaden Room
1 Washington Square, San Jose, CA 95172
March 13-14, 2006

Meeting Minutes

Executive Summary:

The UNOLS Fleet Improvement Committee (FIC) met at San Jose State University, Almaden Room, on March 13-14, 2006. Day one of the meeting was devoted mostly to the review of the draft 2006 Fleet Improvement Plan. The Committee will work to complete the draft for review at the fall meeting. FIC reviewed the Committee Membership and discussed nomination suggestions. Day two of the meeting was a joint session with the UNOLS Council. Discussion included reports and updates on Fleet renewal plans and implementation.

Action Items:

Task Description	Action
Ocean Class Planning – Provide input when requested	FIC
Global Class: Update SMRs (ongoing)	Global Class SMR Committee
KILO MOANA Actions:	
<ul style="list-style-type: none">• Contact Brian Taylor to keep abreast of Handling System details.	Dave H.
<ul style="list-style-type: none">• Draft EOS or other appropriate article	Dave and Brian Taylor
Design and Constructions Efforts - Stay engaged in ongoing design and construction efforts (ARRV, <i>Langseth</i> Conversion, etc.)	FIC
2005 Fleet Improvement Plan: <ul style="list-style-type: none">• Complete all writing assignments and have next draft available for review prior to the next meeting.	FIC
Ocean Observatories – Stay in contact with ORION Office.	Dave Hebert
FIC Membership – A replacement is needed for Ron Benner. Seek nominations and provide a membership recommendation to Peter Wiebe.	FIC
ADA Guidelines: <ul style="list-style-type: none">• Provide preliminary recommendations to NSF for Regional Class Construction effort• Provide draft UNOLS Fleet guidelines (structural and procedural) in Fall 2005	ADA committee.
Definition of UNOLS Ship Classes – Re-examine the UNOLS ship class definitions and determine the appropriate classification for each ship in the fleet. This will need to be carried out in conjunction with FOFC, so that the Fleet Improvement Plan and the FOFC Plan are consistent.	FIC

Appendices:

- I. [Agenda](#)
- II. [Meeting Attendees](#)
- III. [UNOLS Office Slides for FIC Meeting](#)
- IV. [NSF Report](#)
- V. [UNOLS Fleet Scheduling Report](#)
- VI. [American's with Disabilities Act \(ADA\) Committee Report](#)
- VII. [Marcus Langseth Conversion Status Report](#)
- VIII. [Marcus Langseth Science Oversight Committee](#)
- IX. [UNOLS Office Slides for FIC / Council Meeting](#)

Meeting Summary Report

Day 1 – March 13, 2006

Call the Meeting - Dave Hebert, FIC Chair, called the meeting to order and provided an opportunity for introductions. The meeting agenda is included as *Appendix I* and the participant list is included in *Appendix II*.

Accept the minutes of the October 2005 FIC Meeting – Clare Reimers provided corrections to the minutes from the October 2005 meeting:

- Executive Summary, page one:
 - Remove date for continuing resolution
 - Spell out acronym FOFC
 - Third paragraph - remove “update.”
 - Last paragraph, include Clare's last name.
- Page 4
 - Fifth paragraph, missing "were."
 - Bottom of page write out SCN.
- Page 5
 - Take out “until Nov. 18th” for continuing resolution.
 - Spell out NORLC.

The October FIC minutes were approved with the inclusion of the corrections as noted.

Review FIC Action/Task List from October meeting - Dave reviewed the action item list from the last meeting. These are included in *Appendix III*.

Regional Class – Dave and Marc Willis, along with representatives from the Research Vessel Technical Enhancement Committee (RVTEC) participated in the review of the scientific outfitting specifications for the Regional Class to ensure specifications and the type of procurement are appropriate for the science systems. Recommendations will be provided to NSF.

Kilo Moana Debriefs and Article – It had been recommended that FIC should write an article about the capabilities of *Kilo Moana* to put to rest any rumors that have been circulating. Dave explained that we are waiting to hear more about the new CTD handling system before moving forward with an article. Once the system is installed and operational, University of Hawaii can be contacted to learn more about it. John Freitag reported that the new Caley handling system for *Kilo Moana* might not be ready until September 2006.

Federal Oceanographic Facilities Committee (FOFC) Fleet Plan update – Dave explained that he, Peter Wiebe, and the UNOLS Office have provided the FOFC working group with input for their plan. FOFC provided a draft copy of their plan to Peter Wiebe, Dave Hebert, Annette DeSilva and Mike Prince for review. FOFC would still like community input regarding the science imperatives for research vessels.

Bob Houtman provided the status of the FOFC Fleet Plan. FOFC provided their draft plan to Office of Management and Budget (OMB) for their review. OMB indicated that the only way a "planned vessel" could be included in the renewal plan was if it was authorized or was in a submitted public budget. As a result, acquisition of the four Ocean Class ships by the Navy could not be included in the plan. The FOFC working group is revising the plan accordingly and will send it to the FOFC principals when ready for review. When the draft is finalized it would be circulated for approval within each agency. No formal public comment period is planned.

Ocean Class Planning - There is a new Chief of Naval Research (CNR), RADM Landay, and a new Assistant Secretary of the Navy for Research, Development and Acquisition, Dr. Etter. They have decided to conduct a study to determine the Navy's requirement for oceanographic research ships. A Naval Research Advisory Committee (NRAC) has been formed to provide advice on whether or not the Navy should invest in infrastructure for oceanographic research (academic). Their first meeting is in late March 2006 (next week). The study is on a fast track so that ONR/Navy can report to Congress in June/July on what their plan is for Ocean Class vessels. ONR will not make any movement on spending the \$4M for design of Ocean Class ships until NAVY decides what to do based on the NRAC advice. The first decision is whether or not the Navy will build new research vessels. Then, if the decision is to build ships, CNR/ONR will decide how they will acquire the ships. If the decision is to not to acquire the Ocean Class ships, the \$4M design money would be turned back.

Global Class – A community on-line survey will be available to assist in the development of Science Mission Requirements (SMR). Global Class SMRs are important because they represent what the community needs for research vessel requirements. This information is useful as plans for Global ship mid life improvements as considered.

Fleet Improvement Plan (FIP) – Review and discussion on the draft FIP will be a focus of this meeting.

Ocean Observatories - ORION has formed subcommittees for engineering, science, infrastructure, etc. They have requested proposals for providing infrastructure for Global, Regional and Coastal observatories. The advisory committees met at the end of January and selected proposals for cost estimates. They have been asked to define their requirements for ship

time. Budgets will constrain where and what they can do. There are a lot of unanswered questions about what the scale of the observatory installation because even with the scaled down structure they are still over the projected budget.

FIC Membership – A call for nominations has been announced.

ADA Guidelines – A committee has been formed with Terry Whitledge as chair. They are hoping to be able to send preliminary recommendations to NSF for the Regional Class design effort. Any major revisions that would impact design are needed now. A full report is planned later in the meeting.

Review status of Fleet Improvement Plan (FIP) Update - The focus of day-1 of the FIC meeting was to review the draft Fleet Improvement Plan. Annette projected the working draft on the screen and each section was discussed. Comments were annotated in the draft document and will be posted following the meeting. Discussion included the following:

Cover – Any artistic improvements are welcome.

Executive Summary – The summary should be written after the full report is drafted. The Executive Summary should be capable of being a stand-alone document. Peter showed the Executive Summary of the NAS study called "*Rising about the coming storm*" on U.S. competitiveness.

Future Science Initiatives:

- An introduction is needed. It should emphasize the need for ships.
- Jim Cochran commented that the section on Geophysics does not include anything on solid earth. It needs to be broader in its approach.
- Annette said that specific examples of discoveries for each discipline are needed. She showed a few examples. Blue boxes are locations for discoveries.
- Terry Whitlock mentioned that the text about eco-system management on page twelve should be kept in the biology section because it is a major area.
- Ocean acidification is not mentioned in the biology section and should be mentioned. It could also be mentioned as a discovery in the chemical oceanography section.
- Summaries will be combined at the end of the science initiative section (instead of in each research discipline), emphasizing cross cutting issues and discoveries.
- McGillicuddy might be able to provide a figure for biological oceanography.
- Figure 1 was discussed. It shows the different data collecting paradigms and how ships fit into it. The Committee decided to rework this figure and make the need for ships clearer.

- In the education section, TEAA is no longer active, TREC replaces it.
- It was suggested to keep the large programs in the report, but consider combining with crosscutting programs.
- It was suggested to contact Dave Karl about HOTS discoveries and Dennis Hansell, Maureen Conte, and Tony Knap about BATS discoveries. Check Bermuda and UH history on their time series.
- Dave and Terry offered to draft the science initiatives summary.

UNOLS Current Facilities Composition:

- Ship Classification – There was discussion on the classification of vessels and where the *Hugh R. Sharp* fits into the scheme. One suggestion was to classify ships as Regional Class (federally owned) and Regional Class (institutionally owned). Then include the *Sharp* in the Regional Class and modify the utilization tables accordingly. The FIC recommended that FOFC be contacted and encouraged to include *Sharp* in their Fleet Plan. It was also recommended that we work closely with FOFC in reclassifying the vessels so that both Plans are consistent.
- A section is needed on aircraft facilities from John Bane. Mike Prince indicated that he could find appropriate text from SCOAR articles in EOS and Oceanography.
- Input is needed on the icebreakers facilities. Mike Prince indicated that he could find text from existing material.
- Rob Pinkel volunteered to provide text on *FLIP*.
- Ship scheduling section - Mike Prince can provide text.

Utilization Trends:

- Carefully define terms such as optimal operating year, under-utilization, over capitalization, etc.
- Show the utilization targets for the older vessels using the optimal days that had actually been established for those classes, not the optimal days designed for the new vessels. In other words the full optimal year (FOY) for the intermediate ships of 250 days should be used instead of the FOY=275 for Ocean Class ships.
- Check the number of requests on the world chart.
- Cost Chart - Use day rates or average day rates versus CPI for cost changes. Remove the CPI lines.

Projections

- Update the projections, but include observatory projections based on latest data.
- Show the dip in utilization in 2006, but show utilization rising back based on projected need, which was based on utilization when funds were available.
- Show the projections with the ships that were identified in the FOFC 2001 plan, but still need to show the projections without the Ocean Class and Local Class vessels construction. Put back the dashed lines showing no replacement.
- Do we want to include sections on aircraft, icebreakers, etc? Perhaps just indicate the need to evaluate the requirements, maybe include some preliminary thoughts.

Shortfalls

- This section needs to be drafted. It should explain the differences between the FOFC and UNOLS plans. It should also explain the consequences for not carrying out Fleet Renewal or SLEPs
- The tradeoffs section will need to be drafted. Peter Wiebe indicated that he might need help with this section.

Lunch Break

Review Fleet Improvement Plan (FIP) Update – Discussion on the FIP draft was continued from the morning. Time was spent reviewing and editing the chart that Peter, Clare and others generated during the lunch period.

It was recommended that a section be added to the report that would address emerging capabilities. This could include:

- ADA requirements
- Over-the-side handling
- Broadband communications
- 3-D seismic
- Diversity – attracting a more diverse set of the population to become ocean scientists

Timeline - Annette will post the revised document on the Project web page and provide a list of specific action items. FIC and others were asked to provide response to the action list by six weeks. [Note: The current draft text of the FIP is available on the project website at <http://www.unols.org/committees/fic/Fip05/FIP2005_Outline.html>. All sections can be downloaded as a PDF. Annotations that were made during this 3/13/05 FIC meeting are included in yellow comment boxes. <[FIP2006_032406.pdf](#)>. Word documents for each draft section can also be downloaded.]

Break

Global Science Mission Requirements (SMRs) Update - Dave Hebert reviewed the slides (see *Appendix III*). A community on-line survey has been drafted and is under committee review <http://www.unols.org/committees/fic/global/GCSMR_Survey_Form.asp>. Additional information about the project can be found on the website at <http://www.unols.org/committees/fic/global/global_smr.html>.

Kilo Moana Update - Dave Hebert reported that he would contact Brian Taylor about the status of the acquisition of the new Load Handling System for *Kilo Moana*. The Committee decided to hold off on conducting any further debrief interviews.

FIC Membership – A call for FIC nominations was announced to fill Ron Benner’s position. The committee decided to allow a couple of weeks for additional nominations. Some nominees have been suggested and were reviewed:

- William M. Balch (Bigelow Labs) - Remote sensing, phytoplankton production, physiology, bio-optics
- Patty Matrai (Bigelow Labs) - Phytoplankton physiology, dimethyl sulfide and cloud formation
- Samantha Joye and Brian Binder (University of Georgia) – note UG is not a UNOLS member.
- Peter Jumars (Maine)

Volunteer Needed for ADA Steering Committee - A UNOLS representative to David Chapman’s ADA Steering Committee is needed. Responsibilities would include:

- Provide oversight and evaluation
- Review and provide comments on survey documents and accessibility guide prepared by PI.
- Quarterly teleconferences over 18 month period.
- Review and comment on other documents.
- Time commitment – 10-12 hours total.

Adjourn Day 1

Day 2 – March 14, 2006: Joint Session of the UNOLS Council and FIC

Call the Meeting, Day 2: The UNOLS Council and FIC met for a joint session on March 14, 2006. Peter Wiebe, Chair, opened the meeting at 0830. Meeting participants introduced themselves. Dolly Dieter, Linda Goad, Larry Clark, and Holly Smith joined the meeting via phone conference.

Dr. Vida Kenk, Interim Dean, College of Science, SJSU, provided a welcome address. She has been at SJSU since 1969. CalState University system has 23 campuses and provides degrees up to the Master’s degree level. SJSU recently built a new library. She encouraged the Council to visit the 8th floor of the library for a view of the area.

Accept the minutes of the October 2005 Council Meeting – Marcia McNutt noted a typo in the fourth line on the first page of the draft minutes. A motion was made to accept the Council minutes with incorporation of the noted correction. The motion passed.

Agency Reports, Budget Projections, Future Fleet Utilization, and Fleet Renewal Activities

National Science Foundation (NSF) – Mike Reeve provided the NSF report. His slides are included as *Appendix III*. After several years of a flat budget, there is hope that there will be some improvements. Overall NSF annual growth is projected at ~7% for the next decade. There are exciting opportunities in GEO this year and beyond in terms of research and infrastructure

Major facility investments include:

- HIAPER (jet) - Construction is complete and initial operations began in 2005.
- EarthScope - Construction continues on time & on budget. \$27.4 million is requested in FY 2007 to complete construction.
- Scientific Ocean Drilling Vessel – There is an FY 2007 request of \$42.88 million to complete construction.
- Ocean Observatories Initiative – The FY 2007 request includes \$13.5 million to begin construction.
- Alaska Region Research Vessel (ARRV) - The FY 2007 request includes \$56 million to begin construction.

NSF's Ocean Sciences Division (OCE) provides about 70% of federal funding for Academic Ocean Research. OCE also provides about 65% of funding for the Academic Research Fleet operations to support NSF-sponsored sea-going research and education projects.

The Ocean Observatories Initiative (OOI) will have three elements: deep-sea buoys, a regional electro-optical cabled network, and a network of coastal observatories. The construction phase is requested to begin in FY 2007 with funding from NSF's MREFC Account. Mike's slides provide the annual budget request to support OOI installation.

The Scientific Ocean Drilling Vessel conversion is scheduled to begin in late 2006 with scientific operations to begin in late 2007. The total MREFC budget request to support the conversion is ~\$115M.

The Alaska Region Research Vessel has been included in the FY 2007 President's Budget to Congress.

Mike reviewed the Regional Class Research Vessel acquisition timeline. They expect to select the two design teams in April 2006. In mid 2007, they expect to select the winning ship design and proceed with detailed design & construction, Phase II. Construction schedules for the three ships are:

- Ship 1 – 2007-2008
- Ship 2 – 2009-2010
- Ship 3 – 2011-2012

R/V *Maurice Ewing* was sold in September 2005. The *Ewing* Replacement Oversight Conversion Committee (EROCC) has been active in modification of designs. Shipyard bids for conversion are currently under review. The seismic science equipment is currently being purchased. The vessel is anticipated to be ready for service in late 2006.

The human occupied vehicle (HOV) replacement acquisition is following a phased development approach. Phase I is in progress. A contract has been finalized (October 2005) between Woods Hole Oceanographic Institution (WHOI) and Southwest Research Institute (SwRI) for the design of the personnel sphere. The solicitation for the actual vehicle is being prepared. Phase II (dependent on successful execution of Phase I) will consist of the vehicle construction with an anticipated completion in 2009.

Sea trials are scheduled in early 2007 for the Hybrid Remotely Operated Vehicle (HROV). The HROV will be capable of operating in ROV (tethered) and AUV (untethered) mode. It is a multi-agency developmental program (NSF, NOAA, Navy).

There have been quite a few OCE Staff changes:

- Marine Geology and Geophysics Program - Howard Spero, Associate Program Director
- Biological Oceanography Program - Mary-Elena Carr, Associate Program Director
- Physical Oceanography Program - Elise Ralph, Associate Program Director
- Sea Grant Fellow - Li Zhang
- Division Director - Julie Morris, (starting April, 2006)
- Environmental Officer – Bill Lang

The National Science and Technology Council's Joint Subcommittee on Ocean Science and Technology (JSOST) is developing an Ocean Research Priorities Plan. It will be a National Plan and present science and technology vision, challenges, needs and benefits. It will identify areas of highest priority and opportunity. There will be a public comment period. A public workshop is scheduled for 18-20 April 2006 in Denver and is open to all interested parties.

For more information, visit <<http://ocean.ceq.gov>>.

Marcia McNutt asked a question about whether or not there is a draft Research Priorities Plan. Larry Clark replied that the draft priorities plan is in the clearance process with the White House. Once cleared it will be posted.

National Oceanic and Atmospheric Administration (NOAA) - Beth White provided the report for NOAA. NOAA plans a DART array in the Pacific, Caribbean, and Atlantic consisting of 49 moorings to be operational by July 2007, but there have been some delays due to funding and manufacturing delays. There is a small amount of support from NOAA for ships to deploy the buoys, as well as some cruises of opportunity on UNOLS vessels. They are soliciting proposals for charter work for the remainder of the installation. The ship support estimate is 380 days to install the array and 300 days per year to maintain the array. Bob Houtman asked about the vessel size requirements. Reply - Global Class vessels could support the work. *Seward Johnson* will be used in 2006 and three buoys can be held on its deck. *Wecoma* has been used for a single buoy. The ultimate goal is to deploy the array worldwide, but for now they are focusing on tsunami hazards that threaten the US.

The NOAA National Underwater Research Program (NURP) and Ocean Exploration (OE) took a big budget reduction in the 2006 appropriation. There were plans to use OE funds to pay for operation and maintenance of their new vessel, *Okeanus Explorer*. They are not sure that there will be funds to operate and maintain the OE vessel in the 2007 budget. NOAA is trying to get the budget for the vessel re-instated. There was a question regarding the rumor of combining NURP and OE in the same budget line. Reply – This has been recommended, and NOAA is looking into it.

Next, Beth reported on NOAA ship construction. Some problems have been experienced with the new Fishery Survey Vessel (FSV) *Oscar Dyson*. They include water making, a shaft noise problem, a short in a motor, and a "bottom strike" in the Alaska Inside Passage. This resulted in the need for a shipyard haul out. The FSV *Bigelow* has been towed to Pascagoula for sea trials. The ship will be delivered soon and operational by the end of FY06. The ship's homeport will be Woods Hole, MA. FSV3 is being built at Halter Marine, and there is money in the budget for FSV4 construction. NOAA is trying to get money in the budget for construction of FSV5 and FSV6. These would be shallow draft vessels and would be located in Hawaii and one in Mississippi. They are in the planning and programming phase. They are also considering a general-purpose vessel to replace the *Rainer*. A SWATH vessel is planned and funds are available. They are working to finalize the design.

NOAA plans to refurbish a Navy P3 aircraft to be operational in 2008. This third P3 would free up the other two for hurricane reconnaissance. This new P3 will not be reinforced for hurricane eye-wall penetration. NOAA is selling all of their helicopters. They are trying to acquire a 4th and 5th Twin Otter for marine mammal operations, air quality and air chemistry, LIDAR, etc.

Navy – John Freitag provided the report for the Office of Naval Research (ONR). The budget for 2006 is essentially level and the Navy should be able to support the planned UNOLS operations. They have two large operations, a 3-ship operation in the Atlantic and a 5-ship operation off Monterey, CA with FLIP and an aircraft. This made fleet scheduling a bit challenging.

The plus-up funds for UNOLS FY06 support were approved and will be released to ONR in the next few weeks. There are some constraints on how the funds can be spent. They cannot commingle Congressional money to pay ship time for support of ONR funded science. Other forms of support for the UNOLS fleet will be used. The plus-up will likely be divided between the Navy ship operators for infrastructure improvements. The total plus-up funds available will be about \$4M and will likely be obligated by June.

John announced that this might well be his last UNOLS Council meeting. His ONR position will end in June and cannot be renewed. Bob Houtman will be his replacement.

With regard to the Ocean Class there are a couple of announcements. First, the CNR is now RADM Landey and Dr. Etter is now the Assistant Sec. of the Navy for Research, Development and Acquisition. She has commissioned a Naval Research Advisory Committee (NRAC) to determine whether or not the Navy should provide continued infrastructure support for Academic ocean science research through the Ocean Class renewal program. The Navy is obligated to report to Congress within six months of the appropriation to update their plans for renewal of the

Ocean Class vessels. The NRAC recommendations will be used as background material for response to Congress. The Navy has invited a panel of speakers to provide information to the NRAC panel. Speakers will include Bob Knox, Peter Wiebe, Dick Pittenger, SEC Nav Chairs, and others. Bob Detrick asked how UNOLS could provide input. Bob Houtman replied that there are speakers from the UNOLS Community that will present to the NRAC and that these individuals could be contacted.

2006 UNOLS Fleet schedules, estimated operation costs, and 2007 ship scheduling - Liz Benner, Ship Scheduling Committee Co-Chair provided a report. Her slides are included as *Appendix IV*. Liz began with a review of the scheduling process for finalizing 2006 operating schedules. In December 2005, schedulers were advised of NOAA budget cuts based on Congressional appropriations. A January 2006 scheduling meeting was held to reassess large ship schedules and intermediate ships impacted by NOAA budget cuts. They also took a preliminary look at 2007 operations. Linda indicated that the 2007 NSF budget for ship operations would likely be level with the 2006 budget.

Most of the NSF ship-ops funds for 2007 are already obligated and very few if any days will be funded out of the May 2006 panel. Also, a decision has been made to move a CLIVAR cruise in the Indian Ocean to an earlier than planned year to take advantage of a ship being in the same area for another funded project. They also looked at the OBS schedules and R/V *Langseth* requests.

Liz explained the plan for 2007 scheduling. There are a lot of double-bookings, which will need to be resolved. There are not a lot of Letters of Intent (LOIs) posted, and they are light in work. Scheduling meetings via phone/web conferences to sort out double bookings and resolve potential problems will begin in late spring and continue throughout the summer. The Ship Scheduling meeting normally held in July at NSF in Arlington, VA will be deferred to September. With the prospect of continued light schedules, the Scheduling Committee requests that the UNOLS Council provide recommendations for a rotating lay-up schedule. Planning for this possibility should start immediately.

Liz reviewed the slides that included charts showing the data from schedules and requests. The charts illustrate the budget shortfall problems. From 2002 to 2006 there was an upward trend in operation costs with a downward trend in the total number of ship days.

Linda Goad suggested that choosing ships for lay-up could be done by pulling names out of a hat to determine the order of lay-ups. All Global ships (excluding *Langseth* and *Atlantis*) and the East and West coast intermediate vessel names should be placed in the hat.

Discussion followed:

Marcia McNutt said that her ad hoc committee had not considered pulling names from a hat as a method for determining lay-ups, but it could be part of a thoughtful process. The ad hoc committee did point out that full lay-ups were more cost effective than partials. They also recommended considering early ship retirements. Ships that were close to retirement with weak schedules could be laid up and retired early, especially if a replacement was identified for that ship. The subcommittee also thought some relief should be given to single ship operators, as

multi-ship operations have more opportunities for retaining crew.

There was discussion about whether costs would continue to rise at a rate equal to or greater than the increases in the OCE ship-ops budget. Fuel is a big factor and the trends for fuel costs are somewhat unknown. Discussion then ensued about the use of alternative technologies to help mitigate the costs of fuel. The realities of trying new technologies were discussed. This is something that is examined with new ship construction but will probably only be tried when it is proven. There is concern that if an innovative ship is built, and it does not work, there would not be funds available for a replacement. Dan Rolland pointed out that research ships are unique in the way they operate, spending much time on station. Many of the innovative propulsion designs are optimized for ships that cruise most of the time. Fuel cell technology can be applied to ships, but the initial investment will be very high, and it will take many years for return on the initial investment.

There was discussion about how many ships are needed. For 2007, it seems clear that lay-ups should include a Global ship, one east coast intermediate and one west coast intermediate, according to Linda. Also, *Alpha Helix* should be laid up with the current demand. If one Global ship and two Intermediate ships were laid up, approximately \$12M would be saved (Global = \$7M annually, Intermediate = \$2.5M).

Linda and Dolly believe that serious consideration should be given to retirements in order to free up a significant amount of money for other ship operations.

Bob Detrick suggested that UNOLS formally request from ORION an estimate of what their ship use projections would be. ORION should have these projections by August 2006. Questions asked included: Do long-term project needs warrant maintaining excess Fleet capacity? Is the cost of the excess capacity affordable? Jim Cochran asked where the money would come from to support the ocean observatories. Reply – This is not totally clear, but it would probably be from a mix of OCE funds.

Curt Collins asked who should make the decision regarding ship lay ups. Peter Wiebe replied that the Council should make recommendations to the agencies. There is an ad-hoc committee that can be resurrected if the members are willing, or a new ad hoc committee could be formed.

Some of the long-term considerations include:

- The Fleet scheduling process in future years
- Methods for reducing the time between proposal award and project scheduling
- Review long-term recommendations from Marcia McNutt's ad-hoc committee. Determine if further action is required.
- Global Class Mid-Life Refits? What are the needs and possibilities?

Linda Goad asked if OE would only use their ship when it comes into service. Beth White replied that NOAA will use *Okeanus Explorer*, but will also use other ships. Linda indicated that this would likely have an impact on UNOLS ships. OE would still probably use *Alvin* and HBOI assets.

Rob Pinkel commented that a confusing message is being sent to the community. There is the opinion that one should not submit proposals for ship time because no time is available in 2007 and work is being deferred. At the same time we are being told that fewer ships are needed to meet future demand.

Alvin Replacement Status – Bob Detrick reported on the status of the *Alvin* replacement effort. Woods Hole Oceanographic Institution (WHOI) signed a contract with South West Research Industries (SWRI) to be the prime contractor for the sphere construction. SWRI visited several possible vendors for the titanium sphere fabrication. Vehicle design and fabrication will be handled through a separate contractor. A Request for Information (RFI) will be issued in the next couple of months and a Request for Proposals (RFP) is expected in the fall. The oversight committee has reviewed the specifications. Work on the battery design and finding vendors for the buoyancy foam have also proceeded in parallel. The long delivery time and skyrocketing prices of titanium are the biggest problems they are facing. The lead-time for titanium is about 52 weeks for delivery.

FOFC Fleet Renewal Plan Update – Beth White provided an update on the Federal Fleet Renewal plan, which started as an update to the FOFC Academic fleet renewal plan. It now covers the academic fleet, NOAA fleet, Coast Guard Icebreakers, Navy survey vessels, EPA and other vessels. They had a draft ready in September 2005, but there were concerns about OMB's role in review of the renewal plan. FOFC consulted with OMB and the feedback they received was that the only things that should be in the renewal plan were those that were in a submitted or approved/appropriated public budget. This required FOFC to reconsider those ships that were not yet in a submitted budget, such as the Ocean Class vessels. FOFC hired a new technical writer and then submitted a new draft to the FOFC principals in January 2006. Kathy Olsen, the deputy director of NSF, will meet with the head of CEQ to discuss what the process should be with writing these plans based on the OMB review. In the meantime, Holly Smith and Bob Houtman are working to incorporate some of the suggested changes. When ready, the draft would be distributed for agencies review. It may also go out for public comment, but this hasn't been confirmed. The report would be a five-year report with a review every year.

FIC Meeting Summary and Fleet Improvement Plan Update - Dave Hebert, FIC Chair, reported on the development of the Fleet Improvement Plan (FIP). The FIP is not constrained by length and will include a more thorough discussion (than the FOFC Plan) of the science imperatives needing facility support in the future. The FIP would include the planned Ocean Class vessels. Including the facility requirements for the ocean observatories is planned, but is moving slowly while we wait for those to be better defined. The FIP will also provide information on what UNOLS is. The FIP will provide detail on some of the background behind utilization numbers, peak demand and other factors. One of the sections that FIC has not drafted yet is what should be the future fleet composition. As a starting point, the FOFC plan will be used as the blueprint for fleet renewal. The FIC would like to have the next draft of the document by July.

Open Discussion on Ship Lay-Ups or Retirements - Peter Wiebe opened the discussion by stating that we need a process to think about lay-ups and retirements, but not until we have a lot more information. We should have more information by July. The schedulers will have a better idea on ship operations for 2007. The NRAC recommendations should be available. Agency

budgets for 2007 will hopefully be better known. The following questions and comments were raised during the discussion:

The question was raised - How would we go about recommending lay-ups or retirements in a fair and informed way? Reply - A process should be developed that shows how the decision will be made.

The community values must be defined. Some values include:

- Maximizing the number of science days for science within the available dollars.
- Maintaining fleet capacity for future requirements.
- Maintain or maximize the diversity of the facility providers
- Maintain a geographic distribution of ship support.

Question - How will the values be ranked that would be used for deciding the lay-up and retirement recommendations?

Ideas:

- Put schedulers for each class/region in a room and have them develop schedules that are cost effective and a recommendation for lay-ups.
- Build four reasonable schedules and then assign them to ships based on cost effectiveness.
- Have the directors and operators make recommendations.

Recommendations regarding lay-ups are needed by late summer at the latest, but earlier is better. The question was asked if there are any other incentives for laying up your institution's ship. It was noted that "hot" lay-ups do not save money.

There was discussion on state support for ship time and the concern that lay-ups would jeopardize the chances of securing future funds.

Rob Pinkel commented that he feels that it is very odd that we are talking about retirements. The impact of having fewer ships to support ocean observatories should be considered.

Developing recommendations for lay-ups should be done in a multi-faceted way:

- Schedulers will optimize the schedules. They need additional information regarding NOAA time, Navy time, and State time.
- Council should define the values and establish the criteria.
- Provide some criteria for rotating lay-ups.

There is a concern that retiring ships would signal a lack of need for new ships. This is not the case we should be making. Al Suchy asked if this process would send a mixed message to those that are making decisions about Ocean Class acquisition. Mike Prince replied that this could be seen as consistent with the Fleet Renewal Plan. Older ships are being retired so that the new, more capable ships of the Fleet Plan can come on line. Dolly added this is similar to what took place when the old R/V *Thompson* and R/V *Washington* were retired before their replacements came into service.

Peter Wiebe, Curt Collins, Peter Ortner, Marcia McNutt and Wilf Gardner volunteered to draft a charge for dealing with lay-up and retirement criteria. They will present the draft during Day 2 of the meeting.

To support the effort:

- Beth White will find out about NOAA ship time request (STR) allocation and submission.
- John Freitag will ask for Navy STRs
- Schedulers will be asked to define "other" ship time.
- Shannon McArthur will be contacted about the possibility of providing a UNOLS ship or two for the DART work in 2007. Could two six-month periods on two different ships be accommodated? Could there be any cost guarantees negotiated if work is delayed or cancelled?

Break

American's with Disabilities Act (ADA) Guidelines – Terry Whitledge reported on the status of efforts to develop guidelines for research vessels to accommodate researchers with disabilities. His slides are included as ***Appendix V***. Members include:

- Terry Whitledge (UAF) – Chair, FIC Member
- Amy Bower (WHOI) – Sea-going Scientist
- Eric Buck (SIO) - Ship Master
- David Chapman (UDel)
- Jim Cochran (LDEO) - Langseth Conversion Rep, FIC Member
- Matt Hawkins (UDel) - Safety Committee Rep, New Vessel Operator
- Dennis Nixon (URI) - Risk Manager
- Al Suchy (WHOI) - Marine Superintendent
- Joe Ustach (Duke) – RVTEC Rep
- David Glover (WHOI) – Disabled Scientist (corresponding member)

Their tasking is to:

- Draft preliminary ADA Guidelines for the Regional Class acquisition effort.
- Convene a 2-day community workshop to define shipboard and procedural guidelines required to accommodate sea-going scientists with disabilities.
- Establish general ADA Guidelines for new ship construction/conversion.
- Draft procedural guidelines for at-sea research operations by seagoing scientists with disabilities.

They hope to have draft ADA guidelines for the Regional Class acquisition effort by April 2006. These would be sent to NSF and PEOShips. For the Regional Class guidelines, they will look at the *Hugh R. Sharp*, *Langseth* and *ARRV* efforts to see what can be done. They will also look at Terry's draft paper on guidelines and at the Passenger Vessel guidelines.

Once the Regional Class guidelines are drafted, the committee will work to establish general ADA Guidelines for new ship construction/conversion. They will define the UNOLS philosophy for accommodating persons with disabilities at sea. ADA guidelines for UNOLS vessels would

be established to take into consideration the various vessel classes/sizes, the nature of the disability (hearing, vision, and mobility), and the levels of compliance that should be recommended. Estimated costs associated with the various design modifications necessary to accommodate ADA requirements would be evaluated and defined.

The committee is considering holding a workshop, possibly at an operating institution with part of the meeting on a vessel. They might bring in guest speakers such as from the Coast Guard, Naval Architects, ABS, etc. For the ADA procedural guidelines they would look at egress, shipboard mobility, access areas and emergency procedures.

Terry reviewed the project timeline. They hope to have a draft document for review in the fall 2006. Lastly, Terry shared information on the Jubilee Sailing Trust, which has square-rigged sailing vessels and makes them working vessels for people with disabilities.

Ship Design, Construction, Conversion, Transfers, and UNOLS Vessel Designations

Marcus Langseth Conversion Status - Jim Cochran reported on the *Langseth* conversion effort. The conversion was awarded to Shelburne Yard in Nova Scotia. During transit to the yard from Rhode Island, there was a noise analysis test conducted and they expect a report in the next few weeks. LDEO has pre-purchased several items to avoid tax, mark-ups, and delays in delivery. These include an A-Frame and crane. The plan is to finish the yard work in early July 2006 and then start the integration period and installation of equipment. The calibration and shakedown period will take place after the integration period. There are proposals in to conduct these tests. There is a hope that they can collect some 3-D data sets during the trials. Pictures of the ship conversion are included in ***Appendix VI***.

Question – Will there be a multibeam? Jim replied – Yes, there would be a multibeam installed on a pod. It is modeled after the French system.

New Standing Committee for the National Oceanographic Facility (Seismic Vessel) – Mike Prince reported on the Marcus Langseth Science Oversight Committee (MLSOC). His slides are included as ***Appendix VII***. Steve Holbrook is the Committee Chair. The current oversight committee, EROCC, includes Peter Littlewood and Tom Shipley, who are also on the MLSOC to provide continuity. LDEO is now sharing information with both groups so that they can come up to speed. The first real meeting of the MLSOC is probably no earlier than Fall AGU 2006.

Mike Prince commented that *Langseth* scheduling in the out years is going to be an issue as the requests are all over the globe. The dayrate is estimated at \$29k plus, but will be variable depending on the type operation. There is an issue on what should be provided as an output.

R/V *Seward Johnson II* Update – Annette DeSilva reported that R/V *Seward Johnson II* (*SJII*) would arrive in Bermuda on March 17th. Slides are included as ***Appendix VIII***. *SJII* began a 4.5 month modification and maintenance period at Lyon's Shipyard in Norfolk, VA on 23 October 2005. In December 2005 *Weatherbird II* arrived at Lyon's shipyard for cross decking. *SJII* inclining tests, and ABS and Coast Guard inspections are complete. The christening / naming ceremony is planned on 20 March in Hamilton, Bermuda. The ship inspection is scheduled for April 10 & 11, 2006. *SJII* begins operations from BBSR and support of BATS in April 2006.

Weatherbird II is for sale. The R/V *Seward Johnson II* major modifications are listed in Appendix VIII.

R/V *Hugh R. Sharp* Update – Next Annette provided an update on R/V *Hugh R. Sharp*. The ship arrived at U. Delaware, Lewis, DE, on Jan 11, 2006. The winter months were spent outfitting and cross decking. There were weekly underway trials to test various systems, experiment with maneuvering, deployment of gear, and to run drills. The JMS inspection is scheduled for March 21-22 and the first cruise is on March 26-28. The new Caley CTD handling system is scheduled for installation in May 2006. A small Markey CTD winch has been borrowed from *SJII* for the meantime. On May 7th there will be a commissioning ceremony at U. Delaware. *Cape Henlopen* has been sold to a private party.

This concludes the joint meeting of the FIC and Council.