

DRAFT
UNOLS COUNCIL MEETING
Scripps Institution of Oceanography
La Jolla, CA 92037
Wednesday and Thursday, March 6-7, 2013

Meeting Minutes

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Wednesday, March 6, 2013, Scripps Seaside Forum - Ted Scripps Room: Joint session of the Council and FIC

Call the Meeting - Peter Ortner, UNOLS 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 as **Appendix II**.

Accept the Minutes of the October 2012 Council Meeting – The meeting minutes of the October 2012 were accepted as written: <http://www.unols.org/meetings/2012/201210cnc/201210cncmi.html> (Schwartz/Morrison).

Agency Reports:

National Science Foundation (NSF) – Bob Houtman provided the NSF report. NSF is facing federal budget sequestration issues. As a minimum, the anticipated budget reduction could be about 5.1%, but it could be more at the division level. If the Continuing Resolution were extended for the remainder of the year, the budget level would be 80% of the FY2012 level. So far, NSF has been informed that furloughs are not considered.

STEM will be a high NSF priority as stated in Dr. Suresh's letter. Fewer awards can be expected with the reduced budget. Rose Dufour has been awarding partial budgets for ship operations.

Dr. Suresh will leave NSF and is taking on a new position as the president of Carnegie Mellon University. There will be acting director in his place.

Dr Roger Wakamoto is the new head of the Geosciences Directorate. He was previously the Director of NCAR. He has expressed interest in learning all about GEO programs before making any adjustments.

Discussion:

- Bruce Appelgate - When decisions are made about funding, how do we preserve access to the sea? Bob Houtman - He doesn't see any huge impacts to fleet operations. There is some flexibility. Operators are already doing the things that need to be done. When the NSF AD or David Conover visit your institution, express the importance of infrastructure and efficiency of operations.
- Debbie Smith – David Conover referenced plans for a Decadal Planning process. Bob - David has been entertaining the idea of a Decadal Review. Other disciplines do this. The question is going to be whether the cost of another study will be feasible.

Navy – Mike Prince provided the ONR report. His slides are included as **Appendix III**.

The Navy is considering furloughs and personnel won't be allowed to work those days. For NAVSEA, furloughs are an issue because of their involvement with the *Alvin* certification and the ship projects. The furloughs would not apply to Mike Prince's position and to government contractors.

There are 540 days of Navy research funded in CY13. The days are spread among 12 UNOLS vessels and the cost for ship time is \$14M. Navy supported 30 days on FLIP for \$700K.

Navy has faced major bills for repairs on *Thompson's* Z-Drive and *Kilo Moana's* Engine Control Software. Tom Althouse is doing an in depth study on the z-drives. He is trying to develop a predictor method for failures. Al Suchy said that it could be very valuable and it might inform them on actions that they should not be doing.

Other costs to Navy included:

- Two *Alvin* engineering dives \$120K
- Ship Layup Costs - \$350K
- Fleet Broadband - \$448K
- Ship Improvements - \$250K

The Navy owned vessel usage this year totals 1376 days.

Mike reviewed the major ONR sponsored projects at sea. Geographic research areas include Columbia Bar, South China Sea, Bay of Bengal, and the Arctic

The Navy funded a variety of ship capability improvements in FY13/14. The list is included in the slides.

The Navy process for retirement and disposal of *Knorr* and *Melville* has begun. SENAV and CNO offices have been notified. *Knorr* is scheduled to retire in early 2014 and *Melville* is scheduled to retire at the end of 2014. However the controlling factors will be the UNOLS schedule needs and the construction schedule for AGOR 27 and 28.

There are various options for *Knorr* and *Melville* after retirement:

- Retention by Navy in the mothball fleet (not likely)
- Transfer to another Federal agency
- Transfer to a State agency
- Foreign Military Sale/Transfer (NIPO interest)
- Scrapping (not likely)

Glosten has completed a scoping study for an AGOR 23 "Mid-Life" refit and possible Service Life Extension Program (SLEP). Options include "must-do" and "nice to have" paths. Areas considered include:

- New/replacement systems for environmental compliance
- New/replacement systems to overcome obsolescence
- New/replacement systems for improved ship performance

Funds to support the mid life refit were in the FY15 budget request presented to CNR in December. The "high option" was recommended which would SLEP the vessel to 45 years. ONR is awaiting final word, but they are not optimistic it will be funded.

In December 2012, the Navy got approval to remove the ITAR and munitions list designation from the AGORs.

Interagency Working Group on Facilities and Infrastructure (IWG-FI) – Bob Houtman provided the IWG-FI report. His slides are included as **Appendix IV**.

Robert Winokur and RADM Devany are the IWG-FI Co-chairs. The IWG-FI is responsible for drafting an updated Fleet Status Report (FSR). The document has been drafted. The UNOLS Office has provided input and has reviewed drafts. OMB was briefed on the FSR in December 2012. The OMB comments are being assessed. In January 2013, the SOST clearance process was initiated for the report.

The major message items for the report are:

- There has been success on procurements/acquisitions of vessels that were planned in the previous FSR. Federal agencies are adjusting to increased fuel costs. There has been a 400% increase in price/gallon (2003 vs. 2012).
- There have been decreasing utilization trend across all ship classes.
- There is a change in Fleet composition.

A chart showing the Federal Oceanographic Fleet modernization was presented and is included in the FSR.

A chart showing the total federal fleet operating costs shows an increase in costs. Increases to fuel, operating costs, non-mission requirements result in decreased operating days with neutral or decreasing budget.

A chart with the projected composition of the Federal Fleet shows a much smaller fleet by 2035.

A ship scheduling portal will be hosted on the UNOLS server to allow for more efficient collaborative opportunities between principle investigators. The portal will include oceanographic cruise information for UNOLS, NOAA, EPA, USAP, and USCG ships. This portal satisfies a milestone in the National Ocean Policy Implementation Plan.

In summary:

- A robust Federal fleet is a fundamental tool needed to advance our knowledge of the ocean and to support operational requirements.
- Fleet capacity to support the NOP priorities and the NOP Implementation Plan is determined by individual agency requirements.
- IWG-FI will continue to assess opportunities to increase efficiency and effectiveness of the Federal fleet through initiatives such as the fleet scheduling portal.
- Emerging technologies provide both new opportunities and new challenges to balancing ocean infrastructure and research.
- Challenges and barriers exist and include budget
- IWG-FI is addressing the current status of the fleet and identifying key issues for sustainment and replacement. It must be a needs driven process for ship

replacement and construction.

- Long time lines for ship construction make funding difficult.

Discussion:

- Wilf Gardner – What is the TAGS-66? Bob - This was a congressional add-on for a Navy survey ship. This is totally separate from the academic research fleet.
- Annette DeSilva - Will it be a problem if the UNOLS chart doesn't match the FSR? UNOLS has the *Sikuliaq* and AGORS 27 & 28 one year later. Bob - it shouldn't be a problem.

UNOLS 2013 Fleet schedules and science operations, estimated operation costs, and 2014 ship scheduling – Liz Brenner and Stewart Lamerdin provided a summary of 2013 operations and the 2014 scheduling process. The Committee Chair is Stewart Lamerdin and the Committee Vice Chair is Liz Brenner. Their slides are included as **Appendix V** and include charts showing multi-year Fleet utilization. Charts showing utilization by ship for 2012 and 2013 were presented. The 2013 schedule chart is about a week old and it already has changed. The Alvin Upgrade Science Verification Cruise (SVC) was cancelled. Al Suchy explained that the vehicle certification process has been more time consuming than initially envisioned. Although the SVC was cancelled, the agencies, WHOI, and DESSC are still committed to verifying the systems and are exploring options.

Some other schedule changes include:

- There was a Craig Lee cruise that didn't get its Vietnam clearance and now they are looking at a work area off Taiwan as an alternate.
- *Revelle* also lost a cruise for PI Constable.
- *Oceanus* lost a cruise just hours before it was to leave the dock.
- *Langseth* lost the PG&E cruise.
- Cruises were taken off *Sproul* and put on *New Horizon*.

For 2014, there are currently 2990 estimated operational ship days. This is a very preliminary estimate. A chart with the multi-year ship time demand data shows that 2014 demand is lower than past years, but it is still a bit early and additional requests are likely.

Discussion:

- David Checkley – There should be a footnote on the slide to indicate that a new ship time request system was implemented in 2008 and might be partially responsible for the decline in demand.
- Annette DeSilva reported that she tried to correct the old ship time request data and removed duplicate requests in the system. She probably didn't catch all of the duplicates and other non-realistic requests, but regardless there was clearly a drop in request demand.
- Joan Bernhard – The 2007 time period was about the time when NSF announced that they would not fund ship time and as a result many PIs did not submit proposals.

- Rose Dufour commented that the red line on the Fleet funding chart represents about 60% of the ship time. Three of the Global ships take up 45% of the NSF ship ops budget.

Break

Summary of Fleet Improvement Committee Meeting and Action Items that require Council Attention - Clare Reimers, FIC Chair, provided the report. Her slides are included as **Appendix VI**. Clare reported on the FIC action items that the committee is taking on.

FIC plans to draft a letter of support for mid-life refit plans for *Thompson*, *Revelle* and *Atlantis*. The letter will stress the importance of this \$15-30M/vessel investment for science missions (e.g., OOI and GEOTRACES) requiring Global Class vessels over next 15-20 years.

A Council motion was made to approve the FIC pending recommendation supportive of mid-life refits for *Thompson*, *Revelle* and *Atlantis* (Appelgate/Morrison). The motion passed. FIC will draft a letter to Tim Schnoor and Frank Herr and send it to the Council. The Council will review and endorse the letter for delivery to ONR.

During the FIC meeting, the committee voted unanimously against recommending continued NSF support for further evaluations of Long Corer repositioning on the *Marcus Langseth*. The MG&G community is encouraged to continue looking at other alternatives for Long Corer (LC) and to increase proposal pressure

Discussion:

- Sean Higgins - How will the long core system be stored for long periods? Sandy Shor - NSF funded WHOI for a storage facility that is enclosed. Also, the Long Core winch is in the winch pool.
- Bob Houtman - Related to this, agencies would want to know how UNOLS feels about the continued funding of the LC support facility.
- Sandy Shor – Is the maintenance of the winch now in the winch pool? David Fisichella - The overboarding system of the LC is in the winch pool.
- Clare Reimers - The MG&G community highly values the LC system and they are looking at the options for maintaining a capability.
- Bob Houtman - It would be good if UNOLS could take action on the issue of LC maintenance.
- Dale Sawyers - What has been the LC usage? What would it take for a ramp up if the LC system were put into long-term storage? Jon - There have been six LC science cruises, with the last one in 2010. Proposal pressure has been down.
- Peter Ortner – There are two FIC actions. One action is the recommendation to not fund the LC repositioning study on the *Langseth*. The other activity is to complete the LC community webinar report and formulate the recommendations.

A Council motion was made recommending NSF does not further pursue study of *Langseth* as a support platform for Long Corer System (Morrison/Schwartz). The motion passed unanimously.

FIC is drafting a new web-based *Fleet Improvement Plan* (FIP) that considers elements of a Decadal Ocean Science plan and a matrix of future Fleet-wide Science Mission Requirements. Developing the matrix will be challenging.

FIC and the UNOLS Office will develop a more specific survey for operator feedback to arrive at ranges for Full Optimal Year (FOY) estimates for UNOLS vessels. The old FOY definitions are not realistic. Geographic demands and constraints should be considered (e.g. R/V *Blue Heron* has a short year due to the Great lakes icing. The survey will request data on maintenance days and port days. The FOY should be a range of days as opposed to a single number.

Discussion:

- Mike Prince – This could be a joint RVOC/FIC effort. RVOC needs to have ownership in the FOY definition.
- Clare – Ship operators need to know why this is important.
- Sandy Shor – Data on the non-operation days should be considered.
- Mike Prince - There was a document from the 1980s that took these things into consideration with developing the FOY definitions.
- Al Suchy – He has seen the non-operational time requirements change since he has been on board. More ship inspections that have been added over the years. In the past, operators were able to reduce the crew size when in non-operational periods. Now the non-op times have crew requirements - ABS, NAVSEA process, etc. The demands of the non-op periods are increasing.
- Clare Reimers - The mobilization time for complicated cruises takes a lot of effort.

FIC discussion of the recommendations for replacement of the aging Coastal/Local class will continue.

Early Career Investigator Oceanographic Research Cruise Training Opportunity - Clare Reimers provided the report. Her slides are included as **Appendix VII**.

In 2011 there were two training cruises and in 2012 there was one cruise. The 2013 cruise will be in mid-October on R/V *Endeavor*. The deadline for application is March 30, 2013.

Clare presented the post-cruise questionnaire results from the training cruise participants (see slides).

There are some immediate impacts that have been observed from the training cruises. For the February 2013 NSF proposal cycle, ship time three participants submitted requests.

Some plans for the future include:

- Development of a Chief Scientist Manual
- Post-cruise engagement in UNOLS meetings
- Future training cruises

Discussion:

- Lee Cooper - What are the criteria used for selection of the participants? Clare - How well the applicant articulated the cruise plan.
- David Checkley complimented Clare for her leadership. The chief scientist participants learned a lot. They learned how to deal with the unexpected. The two co-chief scientists learned the most. But each of the others benefited. He feels this project is a good investment. He learned a lot about the other science disciplines. David highly recommends that the program continue. It is good for UNOLS.
- Clare had high compliments to Meagan, the marine technician at SIO.
- Mike Prince - Should MS students be considered for the cruise? Clare gears the program to Post Docs and Early Career Scientists (ECS).
- Sean Higgins - A lessons learned document would really help. Clare - A chief scientist manual is something that they would like to draft.
- Wilf Gardner - Some of the ships have cruise manuals and these are good references. Rose Dufour added that the ship inspection looks for these manuals.
- Rose Dufour - NSF funded this pilot program. Perhaps ONR could contribute to the program in the future.
- Annette DeSilva - Opportunities on larger ships and in different regions could be useful.
- Bruce Appelgate - Are there other programs within NSF that could support this effort?
- Clare - Lisa Rom's education programs had requirements that weren't consistent with the chief scientist training objectives.
- Lee Cooper - He often takes students on board his cruises. What was unique about this opportunity is that the ECS have responsibilities.

Academic Fleet Modernization Activities

Ocean Class Acquisition Status - Mike Prince provided the report. His slides are included as **Appendix VIII**. The slides provide details about the ship key characteristics and construction events and acquisition schedule. WHOI will operate AGOR 27 (R/V *Neil Armstrong*) and SIO will operate AGOR 28 (yet to be named).

Mike reviewed the Operator Phase II efforts. PMS325 is very happy with the extent and quality of review and input provided by the Operator Representatives at the shipyard. Operator Phase II efforts to date have included:

- Production Surveillance
- Technical Reviews
- Integrated Logistics Support
- Mission Equipment ("Phase III") planning
- Post Delivery Test & Trials planning

Dakota Creek Industries (DCI) continues to capitalize on production efficiencies by moving crews immediately from AGOR 27 to AGOR 28 assemblies. Lessons learned are being incorporated into AGOR 28 in terms of more efficient assemblies, or cleaner runs of distributive systems. AGOR 27 is on schedule and AGOR 28 is about eight weeks ahead of schedule.

Factory Acceptance Testing and Delivery of Major Equipment includes the diesel generators, propulsion drives, start air receivers, galley exhaust hood, exhaust silencers, bow thruster motor, water mist FF system, etc. The Functional Design was complete in July 2012 and 3-D modeling is nearing completion.

Spare parts, tech manuals, and training are all on track and far ahead of other comparable projects and of excellent quality.

Planning for tests and trials are well under way.

Mike showed images of AGOR 27 and AGOR 28 (see slides).

SCOAR Report - Dan Schwartz, SCOAR Chair, provided the report. His slides are included as **Appendix IX**. The slides were prepared by Dr. Phil McGillivray (USCG PACAREA and Icebreaker Science Liaison).

Unmanned Aircraft Systems (UAS) inclusion into ship operations was discussed. Luc Lenain (SCOAR member) provided a report at the FIC meeting on UAS operations that were conducted off *Revelle* in the fall. Other US groups have operated off foreign RVs and in foreign airspace due to FAA restrictions. MBARI and WHOI have operated UAS in recent months from ships; they have done this as 'hobbyists.' MBARI used UAS to locate fronts and direct AUVs to them, saving batteries. WHOI is still developing UAS use scenarios, but is keenly interested in using UAS for Coastal (i.e. <12mi) operations, not just >12mi ops. SIO ops and WHOI ops to date have been mostly coordinated with DoD/NAVY management.

There are a couple upcoming UAS ops off ships including:

- *Sikuliaq*, UAF Quadrotor UAS ops, March 2014 ops in ice, for ice recon
- *Healy* dedicated 6-day UAS cruise, Aug. 15-21, 2013 (assuming no cruise cancellation due to sequestration) involving NOAA PUMA and USCG R&D Center personnel off N. Slope

Key issues for UAS ops off UNOLS vessels are threefold:

- Launch and Recovery
- UAS Video data ingestion, geo-referencing, archiving, and computer and bridge integration, and 'search-ability': including issue of computer systems to accomplish this.

- Technology development and integration with OOS and other research (e.g. Ocean Acidification, marine mammal studies, ocean color studies, air-sea flux, i.e. integration with AUVs and ASVs and OOS)

Three current methods of UAS Launch and Recovery Systems (LARS) are:

- Shipboard LARS: e.g. ScanEagle UAS: compressed air hydraulic launch, 'tetherball' aka SkyHook recovery
- PUMA UAS: air hydraulic launch, small boat/water recovery
- Hand launch, net or hand recovery 'on deck' e.g. RAVEN, Quadrotor UAS, or 'transition' UAS

The slides include a lot of information on the UAS technology and the status of the way forward.

- Key point: UAS Technology is still very rapidly evolving.
- New battery technologies in existence will increase endurance/range when applied to UAS
- UAS sensor systems are rapidly shrinking, also increasing range/endurance
- Ability to beam energy to battery powered UAS from ship/ground to keep them aloft indefinitely without landing exists now, but has not been tested off ships yet. A goal will be to keep UAS aloft without deck landings. This is achievable in near future.
- High-altitude persistent UAS are being tested now; will interface with ship-based or shore-based UAS.

An UAS issue that will need to be addressed is the computer systems on ship. This is a non-trivial and key issue for *Sikuliaq* and the new Navy vessels. Ships must have computers that can ingest video from both AUVs/ROVs and UAS. UNOLS ships handle video separately from ship science computer systems. Phil recommends that there be a workshop convened to address UAS issues with SIO, WHOI, R2R, and UAF representatives.

Dan concluded the report by stating that SCOAR will work to create a safety guideline for using UAS from research vessels.

Polar Research Vessel Acquisition Status – Bob Houtman reported that UNOLS provided NSF with a Polar Research Vessel SMR refresh in 2012 and the document is working its way through NSF. There has nothing significant to report at this point.

- Clare Reimers - Would acquisition be a process similar to the RCRV and *Sikuliaq*?
Bob Houtman – Yes, it would be an MRE-FC process.

***Sikuliaq* Update** – Bob Houtman provided an update. His slides are included as **Appendix X**.

The construction timeline is as follows:

- Dock and Builders Sea Trials – May 2013
- Preliminary Acceptance by UAF – August 2, 2013 (1 week delay)
- Science Trials/Transit (Phase IV) – Sept 2013 – Jan 2014
- Alongside Seward, AK – February – March, 2014

- Ice Trials – April 2014 (MREFC)
- Warranty Shipyard – May/June 2014 (MREFC)
- Begin Science Operations – June 2014 (Ship Ops Program)

Regional Class Research Vessel - Bob Houtman provided the update. His slides are included as *Appendix XI*.

OSU has been selected as the Lead Institution for the RCRV project. Funds were awarded to perform the Conceptual Design Review (CDR) only. The CDR is scheduled for December 3-5, 2013 at NSF. The project will advance to Preliminary Design Review (PDR) contingent upon successful CDR and availability of funding. Three vessels are currently planned. The actual number of vessels will be based on projected science utilization and availability of funding.

Operator selection is to take place once the number of vessels is known. The solicitation is expected in early CY 2017. There will be an open design refresh process through the RCRV Science Oversight Committee (SOC) and OSU. They will provide reports to UNOLS. There is regional representation on the SOC during the design refresh. The MREFC Funding Request for FY17 will be submitted in March 2015. If all proceeds as scheduled, the first RCRV will be operational in ~CY 2020.

Additional details about the project plans and off-ramps are included in the slides.

Ocean Observatories Initiative (OOI) - Bob Houtman provided the report. His slides are included as *Appendix XII*.

OOI will consist of four Global Sites, two Coastal arrays and one cabled array. The project installation schedule is included in the slides. The installation is scheduled to be complete in 2015. OOI is in Year 4 of a 66-month construction schedule. There have been some delays in the program.

OOI Accomplishments in 2012 include:

- Seven nodes were installed onto the cable
- Instrumented Coastal gliders were tested and delivered.
- 37 moorings were designed.

COL plans to conduct webinars for each array in the pre and post deployment phases. The goals will be to communicate sampling rate strategies, power budget utilization, and governance and logistics (post deployment webinar). The first pre-deployment webinar is scheduled to discuss July 2013 Station Papa deployment in March 2013. The Cabled Array and Pioneer Array will conduct webinars in Summer/Fall 2013. There is an Irminger Sea Logistics Meeting in Southampton, UK on March 25, 2013.

NSF User Workshops will be conducted by the Ocean Observatory Science Committee (UNOLS Committee) in winter 2014. The first workshop will focus on Regional Science (Papa, Cabled Array, and Endurance).

NSF also plans to have Science Workshops. Members of the community can contact their Program Officer at NSF to discuss ideas and implementation.

The OOI proposal process will be the same as other NSF observatories. Proposals enter the core programs and utilize costs and information from observatory websites.

All governance and operations procedures are currently in development and will undergo external review in late 2013.

This concludes the joint session of the UNOLS FIC/Council Meeting.

Lunch Break

Roundtable Discussion Period:

Future of Tele-presence - i.e. as a means to bridge the gap of “limited” bunk capacity, as outreach, etc. Does the community want to see this capability?

- Dwight Coleman began the discussion with a quick update on the effort to provide a tele-presence capability on a few UNOLS cruises. Over the past few months he has had discussions planning potential tele-presence cruises on UNOLS vessels. Now they are planning to expand the bandwidth on UNOLS vessels to accommodate the tele-presence. HiSeasNet is the status quo on UNOLS vessels. These antennas were never designed to handle telepresence. We need to think about this for the new ships and spec it out. It is really time to have these discussions. Dwight has met with David Fisichella, Mike Prince, and others.
- Woody Sutherland - HiSeasNet has been fabulous. Internet and bandwidth are the biggest issues on ships today. Users expect the same internet access as when on land. The crew’s use of bandwidth is required so that operators can retain them. The crew wants to use Facebook, banking, entertainment, and Skype with friends and family. Also there are more devices on ships that use microprocessors. At SIO they have been using some sort of telepresence for support of equipment. Ship maintenance protocols are on-line. The science party often goes to sea with equipment that hasn’t been fully tested. They download manuals, etc. The junior technicians communicate back to shore for support. If it is a real problem, the shoreside tech will actually take over control from shore. This issue of the need to optimize bandwidth has been discussed at RVTEC. Program officers at NSF have indicated not to request more bandwidth. Woody feels that this needs to be addressed.
- David Fisichella - We can improve the available bandwidth to some degree, but not to the level that Dwight needs.
- Dwight – Tele-presence requires a different type of antennae. Tele-presence antennas have greater capacity in upload. The power of the amplifiers on all UNOLS ships except *Thompson* is poor.
- Woody - SIO ships have their amplifiers turned down. They could increase this.

- David Fisichella - He asked Steve Foley for the long term plans for bandwidth. At RVTEC it was decided to put together a small group to identify the needs and the cost of the bandwidth. The group needs to grow to include RVOC, Dwight, etc.
- Woody - Unless you put the antenna on the top of the mast, you will have blockage.
- Clare – OSU has been tasked to address this on the RVRC project to plan for an education and telepresence component. It seems like extra tech support will be required. We need to plan for this.
- Woody - Can a scientist tell us what amount of bandwidth they will need.
- Sandy Shor - On the *Kilo Moana* they are using 250MB a day with FBB. They have capped the use of it.
- David Fisichella - The bandwidth management falls on the tech shoulders and it is daunting.
- Mike Prince - He has Dwight's document on how to upgrade the *Revelle* system. The increase in bandwidth was huge.
- Peter Ortner – Cindy Van Dover's *Sentry* cruise was a huge success. It is the way of the future. What does RVTEC want? Woody – To hire an outsider to assess the bandwidth. At SIO and WHOI they have come up with usage policies. It takes some management.

NSF's New Timeline for Submission of Proposals with Significant Ship Usage

- Peter Ortner - People took this to be a negative thing.
- Rose Dufour - This is not an NSF requirement. It allows additional time for cruise planning and would be very useful for complex cruises.
- This could help alleviate some the logistical constraints.
- Lee Cooper - He sees the advantage of posing it this way. There are issues of funding and how it gets distributed. It changes the complexion of the panel reviews.
- Sandy Shor – It was a poorly worded letter. Early Career Investigators got discouraged because they wouldnt get to sea for another two years.

Use of non-UNOLS ships for NSF Funded Research and the Need to Support these Cruises with NSF Funded Facilities and Equipment – Discussion:

- Rose Dufour - There was an NSF science funded cruise on R/V *Falkor*. The ship is required to conform to UNOLS Safety Standards. She was taken by surprise with a request for technical and equipment support for the cruise.
- David Fisichella - There are often last minute requests for equipment for use on non-UNOLS vessels. There was a request this year for using *Jason* on *Falkor* while it was also needed on *Thompson*.
- Bruce Appelgate - The idea of submitting a UNOLS STRS for a non-UNOLS ship, is unrealistic. At a time when there is an under-subscribed UNOLS fleet, it is hard to understand why NSF would fund work on a non-unols ship. There is also an issue of scheduling the tech support for the work on non-UNOLS vessels.
- Sandy Shor - Does this happen for programs besides deep submergence science?
David Fisichella - Yes.
- David Fisichella – There should be priorities established for using UNOLS assets and technician support.

- Woody Sutherland – For UNOLS cruises, the ship operating institution goes to the science party and organizes a cruise planning meeting. The science party doesn't request cruise-planning meetings. There is no advance planning when using non-UNOLS ships.
- David Fisichella - It seems fair for a UNOLS technical support group to respond a scientist who plans to use a non-UNOLS vessel that the extra technical support for the non-UNOLS work has not been included in the budget.

Green Ship Initiative – Bruce Corliss joined the meeting by telecon and reported on activities related to the UNOLS Greening the Research Fleet initiative. His slides are included as **Appendix XIII**. Bruce provided examples of greening activities at UNOLS institutions that included:

- Greening Shore Facilities at UCSD Nimitz
- University of Delaware: R/V *Sharp*
- University of Alaska - R/V *Sikuliaq*
- Graduate School of Oceanography - University of Rhode Island - R/V *Endeavor*

Full details of the greening activities at these institutions are included in Appendix XIII.

Discussion:

- Bruce Corliss suggested that we there be a site on the UNOLS website for information about Fleet greening initiatives.
- Peter Ortnier commented that he has met with Arup and is working with others to investigate sail/wind options.
- Annette DeSilva - The idea of the website would be good. UNOLS activities as well as from greening activities from other fleets could be posted.
- Bruce Corliss – There could also be a blog.
- Annette and Bruce will work on this.

In other activities, Bruce reported that he met with EPA representatives to discuss their research vessel, *Bold*. EPA plans to sell the vessel. They have funds for survey work and possibly funds for UNOLS work. Ken Potts is the EPA representative and he is a member of the IWG-FI.

Stewart Lamerdin commented that *Point Sur* has been doing ACOE operations with EPA funds for about a decade.

Update on R/V *Point Sur* operations in Antarctica - Stewart Lamerdin provided a report on the *Point Sur* operations on the Antarctic Peninsula. His slides are included as **Appendix XIV**. Similar non-UNOLS ships have operated in the area in the past and there was a need from the science community.

Stewart reported on the planning process that was necessary to prepare the vessel for operation in the Antarctica. Pre-cruise organization and logistics were extensive. It was necessary to add equipment to the vessel including: GMDSS, MSD, OWS, FLS, thermal imaging camera, water purification system, and ice gear. A Risk Management Plan was

required. Surveys were conducted and included an NSF inspection, ABS (5 year Special Insp.), and independent surveys. MLML needed to have insurance approval in place. Weather/ice forecasts were also needed.

R/V *Point Sur* science operations on the Antarctic Peninsula included the following types of work:

- Geology
- Marine Mammals
- Krill and Zooplankton
- Physical Oceanography
- Penguins
- Sub-Tidal
- Sea Ice imagery for Dodgers
- Tagged over 50 whales – (Minke, Humpback, and Orca. First confirmed Minke tagged and first confirmed male Orca tagged)

There was an outreach and education component to the *Point Sur* operations. Public interactions included:

- Daisy Ingraham Elementary School (Westbrook, CT)
- Leesburg Elementary School (Leesburg, FL)
- Toro Park Elementary School (Salinas, CA)
- Numerous other science specific blogs. The blog stats included over 14,000 hits since the ship departed and over 29,000 page views.

The cruise was not without challenge. Fueling while at Palmer Station is a challenge. Other factors included weather, environmental, and ice.

Stewart reported that the *Point Sur* remains a viable option for supporting future research on the Antarctic Peninsula. The benefits of using a Regional-Class vessel on the Antarctic Peninsula and beyond include:

- Lower cost
- “Unique” project specific science opportunity
- Operate in shallow waters
- Available throughout the Eastern Pacific.

UNOLS Speaker Series: Progress Report – Peter Ortner provided the report. His slides are included as **Appendix XV**. The approach for implementing the speaker series is to divide membership into eight regions. Minority undergraduate programs were identified: (<http://g.co/maps/wvax5>). A coordinator in each region was selected to recruit speakers and coordinate the speaker series.

The Regional Coordinators include:

- Great Lakes: Doug Ricketts (Univ. of Minn.)
- Northwest: Bob Collier/Kipp Shearman (OSU)
- Southwest: Bruce Applegate (SIO)
- Northeast: Mary Jane Perry (Univ. of Maine)

- Southeast: Peter Ortner (RSMAS)
- Gulf Coast: Vernon Asper (Univ. of Southern Miss.)
- Hawaii: Marcie Grabowski (Univ. of Hawaii)
- Alaska: Terry Whitley (Univ. of Alaska)

Recent activities and tasks include:

- Phone Meeting with Regional Coordinators: Feb 7, 2013
- Established an email list serve for the Coordinators
- Created a Speaker Series DropBox.
- Will create a UNOLS Flyer that can be used to recruit host institutions.
- Posted the UNOLS Marine Tech 3-fold flyer in the DropBox
- Created a spreadsheet for tracking the Speaker Series Activities.
- Hold quarterly phone meetings
- Recruited first non-coordinator “speaker”

Presentations to date include:

- Peter Ortner gave a lecture at a Florida school, Barry University.
- Bob Collier has recruited Kipp Shearman at OSU to be the regional contact. They have targeted community colleges in the region.
- Bruce Appelgate has given lectures at community colleges in the Southern California area.
- Doug has scheduled talks in the Twin Cities.

In other related activities, Tom Wilson, a marine technician at Stony Brook, has provided a talk, "Science at Sea: Life Aboard an Oceanographic Research Vessel." His talk includes a PowerPoint presentation and show-n-tell marine items. Tom gives other annual talks:

- Suffolk County Community College, -150 undergrads.
- US Merchant Marine Academy, Classroom presentation with visit to Stony Brook for facility and R/V tour. 25 undergrads.
- Center for Talented Youth Program, Stony Brook University. Ages 11-15 sponsored by Johns Hopkins University. Facility tour and "hands on" exhibit of oceanographic gear. Audience 30.
- Stony Brook Marine Science Club. Audience about 20 undergrads

Break

UNOLS Office Review – In accordance with the UNOLS Charter, the UNOLS Chair, with the UNOLS Council, shall review UNOLS Office performance and activities prior to the completion of the first five-year term. The first 5-year term of the UNOLS Office at URI will end on April 30, 2014. Dan Schwartz, Debbie Steinberg, and Wilf Gardner volunteered to conduct the office review. Jon Alberts and Annette DeSilva left the room for this discussion.

UNOLS Vessel Usage Survey – Debbie Smith provided a report on the vessel usage survey data and community responses. Her slides are included as **Appendix XVI**. The

slides include the survey questions with their respective chart showing the survey results. Most of those who completed the survey were large ship users and most have been a PI in the last 5 years. 83% of those who completed the survey indicated that they would submit a proposal with ship time.

Debbie reviewed all of the comments that were submitted as part of the survey and placed them into categories. There were 227 written responses.

As for next steps, Debbie posed the following questions for discussion:

- Can we (or how should we) draw conclusions from the survey?
- Should the results be posted on the UNOLS web site and announced?
- Is there a need for an article in EOS?
- Is there a need for a UNOLS and/or NSF response?

Discussion:

- Peter Ortner - As a minimum the results can be posted on the website.
- Mike Prince - What did you learn from the survey? Debbie Smith - When reviewing all of the comments, concerns over proposal funding becomes obvious.
- John Morrison - When he was a junior scientist, there were large tech programs for support of science operations. These don't exist now. Early Career Scientists have to go to sea and find their own tech support for their cruise.

In summary, it was decided to:

- 1) Post the survey results.
- 2) When ready, the final evaluation will also be posted.

Nominating Committee – Peter Ortner called for volunteers to serve on the Nominating Committee to prepare the 2013 Slate of Council candidates. One position will open in 2013 (a non-operator position). The Nominating Committee responsibilities are included as **Appendix XVII**. Craig Lee, Bruce Appelgate, and Lee Cooper volunteered to serve on the Committee.

1700 Adjourn Day 1 of the Council Meeting

Thursday, March 7, 2013 - Martin Johnson House

0830 Call the Meeting: Peter Ortner, UNOLS Chair, called Day-2 of the meeting to order.

The Status of UNOLS On-Going Activities, Issues, and Items of Council Interest:

Maritime Labor Convention, US-flag Vessel Compliance - Dennis Nixon joined the meeting by telecon. His slides are included as **Appendix XVIII**.

Dennis reviewed the Maritime Labour Convention of 2006. The 94th Maritime Session of the International Labour Convention (ILC), in Geneva on Feb 2006 adopted the Maritime Labor Convention and it enters into force on 20 August 2013. It establishes comprehensive minimum requirements for working conditions for seafarers. It requires certain ships engaged on international voyages to maintain a valid Maritime Labour Convention certificate. The United States has not ratified the Maritime Labour Convention and the US Coast Guard will not mandate enforcement on US vessels or upon foreign vessels while navigating within US waters. The Coast Guard intends to issue a Statement of Voluntary Compliance (SOVC) to vessels which comply with the Maritime Labor Convention.

In accordance with the USCG Navigation and Vessel Inspection Circular (NVIC) No. NEW-13, "US Commercial Vessels over 500 GT ITC on international voyages, also US Commercial vessels under 500 GT ITC, including uninspected commercial vessels, may be "certified" and demonstrate compliance through possession of a SOVC-MLC in keeping with Regulations 5.1.3 of the MLC, 2006." In accordance with Article II- (4) Maritime Labour Convention, "Except as expressly provided otherwise, this Convention applies to all ships, whether publicly or privately owned, ordinarily engaged in commercial activities, other than ships engaged in fishing or in similar pursuits and ships of traditional build such as dhows and junks. This Convention does not apply to warships or naval auxiliaries."

This raises an item of concern: Will all foreign port states consider all UNOLS vessels as non-commercial? Some UNOLS institutions have contacted the USCG for a ruling. In an email from United States Coast Guard to Scripps on January 31, 2013, "Though the U.S. has not ratified the MLC, we would consider nautical school vessels, as defined by 46 USC 2101(17), and oceanographic research vessels, as defined in 46 USC 2110(18), as being excluded from the MLC." The correspondence was signed by LCDR Chris Gagnon, HQ Office of Commercial Vessel Compliance, Domestic Vessels Division (CG-CVC-1).

Dennis Nixon explained that there are a number of challenges:

- If the US doesn't sign the Law of the Sea (LOS), then the Maritime Labor Convention probably will not be ratified.
- This is supposed to be enforced by flag states and by ports
- Our ships could look like exploration vessels (such as for gas).
- Foreign countries might inspect our vessels and in which case it would be necessary to prove that the vessels are research vessels.
- Foreign countries might hold our vessels to be sure the ships are compliant (they might already be compliant).
- We may need to hire a Naval Architect to look at this to determine how expensive it would be to comply.

Discussion:

- Dan Schwartz - Are existing ships grandfathered? Can we insure that the RCRVs will be built to be compliant?

- Dennis Nixon - He feels that the new ships should consider this. All vessels should comply. It is about accommodation standards and communication paths. The Act is really designed to address the flag of convenience ships.
- Sean Higgins - This came up during union negotiations with the crew.
- Jon Alberts - Glosten is looking for guidance.
- Peter Ortner - Can someone look through the document and make a crib sheet.
- Question to NSF - Should UNOLS pursue this? Bob Houtman suggested that OSU look into this matter as they move forward with the RCRV design.

ITAR Regulations –Dennis Nixon has communicated with the Dept of State regarding ITAR and EAR exports as it relates to permanently fixed equipment on UNOLS Vessels. UNOLS seeks determination by the Departments of State and Commerce that scientific equipment fixed to U.S. flagships engaged in federally sponsored fundamental research is not an export and is exempt from the licensing requirements of ITAR and EAR. Slides on this topic are included as **Appendix XIX**.

The Directorate of Defense Trade Controls, Dept of State, administers International Traffic in Arms Regulations (ITAR). It contains a list of defense articles, (U.S. munitions lists) which is controlled for export and import. The Department of Commerce, Bureau of Industry and Security (BIS) administer export Administration Regulations, (EAR). BIS controls the export and import of items on the Commerce Control List.

Timeline of activities:

- In May/June 2012 concern was raised by WHOI, LDEO, UAF, and others on the impact to operations regarding instrumentation on the ITAR/EAR export control list, i.e. the gravimeter.
- On June 7, 2012, the UNOLS Council approved that Dennis Nixon/UNOLS prepare an opinion paper of ITAR/EAR. NSF and ONR approved the use of available funds to hire a Rhode Island Sea Grant law fellow to work with Dennis on this researching topic. UNOLS hired Tracy Harper, a law student to assist.
- In September 2012, a document titled “UNOLS Vessels and U.S. Exports Regulations: Seeking a Coherent Solution” was submitted by Dennis Nixon and Tracy Harper.
- In October 2012 at the UNOLS Council Meeting, the Council approved Dennis Nixon to: “seek determination by the Department of State and Commerce that scientific equipment fixed to a U.S. flagship engaged in federally sponsored fundamental research is not an export and is exempt from licensing requirements of ITAR and EAR.”
- On October 24, 2012 the document prepared by Dennis Nixon and Tracy Harper: “UNOLS vessels and U.S. Exports Regulations: Seeking a Coherent Solution” was sent to Liz Tirpak at U.S. State Department.
- Concurrently, Bob Houtman (NSF) was asked to brief the Director of NSF to prepare a letter to the Secretary of State requesting a blanket exemption for UNOLS vessels conducting government sponsored research.

- On November 20, 2012, Liz Tirpak responded with feedback from Sarah Heidema, Policy Division Chief, State Dept. Directorate of Defense Trade Controls.
- On January 25, 2013, Dennis Nixon submitted to a letter to Kevin Maloney, Director of Licensing/ Dept. of State, requesting an advisory opinion. Request was for an exemption under Section 123.11 (b) that specifically exempts vessels like UNOLS, from the requirements for an export license. No feedback was received from Kevin Maloney/State Dept, as of 26 February 2013.

When Dennis spoke to State, they don't see any major problems, but indicated that it could take a while to get the exemption.

Discussion:

- Rose Dufour - What do you tell the ship operators? Dennis – The matter is with the Dept. of State.
- Dennis will continue to pursue this issue.
- Sean Higgins - A fleet-wide policy on fixed equipment would be a big help.

Discussion on the Minimum age for UNOLS ship participants – Jon Alberts reported that there is no fleet wide policy regarding the minimum age for UNOLS ship participants.

Discussion:

- Dennis Nixon - URI maintains a 60' trawler. It is a research vessel and certified as sub-chapter T. When they take children below the age of highschool, they change out the lifelines for added security. He has enforced a rule at GSO that high school is the minimum age for participation. High school students can do college level work in high school. The documentation indicates college level work as criteria.
- Wilf Gardner - Can you provide a definition of "high school." In some states high school begins in 9th grade and in other places 10th grade is the entry grade.
- Dennis Nixon - If a student is on the vessel just for a ride, he/she would be considered a passenger and violates the R/V designation.
- Rose Dufour - Do the high school students have to be in AP tests? Dennis - If there is an arbitrary age, he would say 16. This age person would be capable of doing lab work.

Jon and Dennis will present this topic at the spring RVOC meeting.

Gender Climate at Sea – Jon Alberts provided an update on the Gender Climate Training Videos. His slides are included as **Appendix XX**.

Jon met with a film producer at Maritime Training Services (MTS) in Seattle on January 18, 2013 <<http://www.maritimetraining.com/Home>>. MTS has agreed to produce, create, and distribute a film on "Sexual Harassment Prevention" in the maritime world. Jon will assist with the film script. They expect to complete the project in three months by June 2013. The expected cost per copy is in the \$250 range. The length of the

video will be about 15 to 20 minutes. The video won't be on-line; it would be a physical video.

Jon said that the video group is looking for a ship operator who has experience with actual cases. They would be referenced anonymously.

Mike Prince suggested that the gender climate survey that WHOI conducted might be a useful resource.

Research Vessel Safety Orientation Video – Jon Alberts provided an update on development to procure a new up-to-date safety orientation video. His slides are included as **Appendix XXI**.

A funding supplement request for about \$30K was submitted to the federal agencies to support the video production. We are awaiting funds. A film company headed by John Sabella has been selected to write, produce, film and distribute copies to each UNOLS operator institution through the UNOLS Office. Input from the UNOLS RVOC, Safety Committee, and RVTEC have been received for the video content. The video will be about 20 to 30 minutes long and will be shown at Orientation and Fire & Boat drills.

Annette DeSilva commented that we still get requests for the current safety video and sent one out just last week.

Heightened Security - Password Protected Ship Schedules - Jon Alberts reported that recent incidents have prompted UNOLS to take some additional steps to protect the security of Navy research vessels. His slides are included as **Appendix XXII**. We are trying to make the ship scheduling information less accessible to those with untoward motives.

Changes have been made to the public versions of the published Navy ship schedules. The ship schedules that are affected include *Atlantis*, *Knorr*, *Revelle*, *Melville*, *Thompson*, and *Kilo Moana*.

Full detail schedules are still published for internal use and the scheduled PIs. The full schedules are password protected. The public, "Secure" version posted on the UNOLS website does not include specific cruise dates. UNOLS is working with each scheduler to try to limit free access to ship schedules. There are on-going discussions with our federal partners regarding the next steps to be taken. The process has come with some challenges that we are still resolving.

Discussion:

- Mike Prince – The added security was required because the ships operate in sensitive areas.
- Craig Lee suggested that there be a sunset clause on the password.
- Miles Sundermeyer suggested that there be a statement on the secure schedules that if additional detail is needed, contact the UNOLS Office.

- Bob Houtman - NSF will soon require this added security for their vessels.
- John Morrison suggested that the additional security features be applied across the fleet.
- Craig Lee remarked that cruise blogs are extremely important for outreach and education.
- Mike Prince - If you have concerns regarding the schedules you can contact Jon Alberts and Tim Schnoor. Working out the details is challenging and conflicts with other priorities.

Update on UNOLS meetings with NOAA, NSF, and Navy - Peter Ortner reported that the group hasn't had a meeting in a long while. He has asked Jon to set up a meeting at the end of the RVOC meeting.

NSF Decadal Review – UNOLS requested that NSF initiate a Decadal Review and that UNOLS be engaged in the study. Peter Ortner reported that on behalf of the Council, he and Bruce Corliss drafted and sent a letter to David Conover. There is a draft plan by David Conover to move forward with the Review. Bob Houtman added that David is very optimistic about it and it is in front of OMB. The Decadal study will be carried out over a two-year period and cost about \$700K. The funding would be from OCE.

Break

UNOLS Charter Review – As stated in the UNOLS Charter, “This Charter shall remain in effect for a period of three years after which time it shall be dissolved unless modified or readopted by vote of the UNOLS institutions.” The Charter was last revised, amended (added Annex X) and adopted on October 15, 2010, Arlington, VA. <http://www.unols.org/info/ucharter.html>. See **Appendix XXIII**.

A subcommittee was formed to review the Charter and includes Peter Ortner, Dan Schwartz, and Dennis Nixon. Annette will work with the subcommittee to review and update the Charter. Each Committee Chair will be asked to review their respective Annex.

UNOLS Membership Application Form – During the last Council meeting, it was suggested that the UNOLS Membership Application Form be updated to request additional information from applicants. The old form is included as **Appendix XXV**. Peter Ortner requested that the UNOLS Office update the form and circulate the draft to the Council for comment.

UNOLS 2012/2013 Goals – The 2012/2013 Goals are included in **Appendix XXIV**.

Goals:

- To develop and implement a systematic and transparent process (or processes) to facilitate our agency sponsors in responding to the changing realities both in ocean science and the U.S. economy/federal budgets specifically addressing the difficult tradeoffs that almost certainly will need to be made.

- To nurture the next generation of seagoing oceanographic scientists.

The Council focused their discussion on insurance for over-the-side equipment:

- Is there a benefit in getting a fleet-wide insurance policy on over-the-side equipment? Peter Ortner - He found out that Dennis and Dolly looked into this many years ago.
- Mike Prince - In some cases there would be savings and in some cases there would not be. Some facilities are part of their state or institution insurance policies and they get very good rates.
- The idea of looking for insurance for pooled over-the-side equipment is good.
- Peter Ortner - Should we ask David Fisichella to poll the tech support groups to determine interest and which equipment should be in the insurance pool?
- Wilf Gardner - This becomes a whole management issue of who would implement the policy.
- When Dennis looked at this it was for the ships and it was about a decade ago.
- Peter Ortner - This is an RVOG and RVTEC topic.
- David Fisichella said that he could bring it up at the next RVTEC meeting. There might only be one or two candidate items.
- Wilf Gardner – This does not address PI equipment.
- Al Suchy - PIs with gliders etc. are the problem. He has had a lot of discussion with Dennis Nixon on this topic. What equipment should be on the list? For moorings, what do we want to assume the risk on? The WHOI risk manager met with all of the WHOI PIs.
- Miles Sundermeyer - He has a very difficult time getting insurance on equipment through his own institution.
- Clare Reimers - Does NSF have a policy? Does NSF want to see \$5K for insurance included in science proposals? Bob Houtman – If equipment is lost, a PI can request more funds for replacement. NSF won't be willing to fund the insurance.
- Craig Lee - ONR asked PIs to include insurance in their proposals. Another form of over-the-side insurance would be helpful.
- There was a lot discussion on the policy.
- It would need to be a university that administrated the policy, not UNOLS.

Annual Meeting Dates: Annette DeSilva reviewed the results from the Doodle poll (see **Appendix XXVI**). None of the dates were optimal. It was suggested that a second Doodle poll be carried out and include the first week of November, which could potentially coincide with *Sikuliaq's* port stop in the DC area.

It was suggested that the new NSF Assistant Director, Dr. Roger Wakimoto, be invited to the meeting.

Committee Reports and Issues requiring Council Attention:

Ocean Observing Science Committee (OOSC) – Annette DeSilva reported that Larry Atkinson (OOSC Chair) is at Consortium for Ocean Leadership this week. There has been no OOSC activity since October 2012 with the exception of an OOI construction

review. A webinar is planned for March 19th. Bob Houtman reported that there would be a construction review at UW on 21-23 May.

Research Vessel Operators' Committee (RVOC) – Jon Alberts provided the report. The slides are included as *Appendix XXVII*. Damien Bailey relinquished his RVOC Chair-elect position due to his support of OSU's RCRV Project. Another election for RVOC Chair-elect will be conducted at the April RVOC Meeting.

The RVOC has three group purchases for SSSE:

- Maximum Capability Document Group purchase led by Fred Jones
- Bridge Navigational Watch Alarm System by Al Suchy
- Future purchase of Wheelhouse Technologies maintenance software.

The RVOC 2013 meeting will be held on April 22-26 and will be hosted by University of Maryland Center for Environmental Science Chesapeake Biological Laboratory in Solomons, Maryland.

Research Vessel Technical Enhancement Committee (RVTEC) – Dave Fisichella, RVTEC Chair, provided the report. The 2012 RVTEC meeting was held at LDEO in February 2013 due to Hurricane Sandy. It was a very productive meeting. Peter Ortnier participated. There were 94 participants and a lot of young, new faces. There were special technical sessions, hands-on sessions, and poster displays.

Daryl Swensen, RVTEC Chair-Elect stepped down to sail around the world. David will put together a nominating committee to find candidates for the Chair and Chair elect positions.

The 2013 RVTEC meeting will be held at TAMU.

Discussion:

- Sean Higgins commented that it was great working with everyone at the RVTEC meeting in LDEO. Many in the group were very young and the training was important.
- David Fisichella - It was very hands on meeting.
- Bob Houtman – He heard rave reviews about the meeting.
- Rose Dufour - Was there any discussion about rotating techs from ship to ship.
- Sean Higgins - Alice has worked with LDEO to help fill out their support team.
- David Fisichella - Jim Holik has funded the tech pool at WHOI.
- Annette DeSilva - INMARTECH 2014 will be held at OSU in Corvallis, OR. The venue and logistics are still being explored. Bob Houtman encouraged us to engage with NOAA on the planning for INMARTECH.

Marcus Langseth Science Oversight Committee (MLSOC) – Dale Sawyer, MLSOC Chair, provided the report. His slides are included as *Appendix XXVIII*.

The winter MLSOC Meeting (held the day before AGU) had a new format. They held a business meeting in the morning and the afternoon was dedicated to science presentations from the recent two years of *R/V Marcus Langseth* cruises. An emphasis was placed on having a mix of students and PIs to present their initial research findings. (4 students and 7 PIs). The meeting closed with interesting presentations by Steve Holbrook (Cascadia: Community cruise) and Nathan Bangs (Costa Rica: 3D data).

MLSOC activities include:

- Expanding the *Langseth* listserv
- Initiating a bi-monthly newsletter to keep the community aware
- Continue the science focus for the winter meeting
- Try again to solicit “Letters of Interest/Intent” from the community
- Encourage Community Cruises
- Encourage 3D seismic PIs to produce short videos of their datasets. This can capture the magic.

In 2013 the science schedule includes ~187 operating days with work at the Mid-Atlantic Ridge, Galicia Basin, and the S. Reykjavik Ridge.

Arctic Icebreaker Coordinating Committee (AICC) – Lee Cooper, AICC Chair, gave the report. His slides are included as **Appendix XXIX**.

Lee reviewed the AICC membership and noted that they will need to recruit new people to replace those who are rotating off.

Lately communications between AICC and the USCG appear to have deteriorated. As an example a berthing policy proposal was sent by USCG to NSF with no interaction with AICC. The proposal places restrictions on use of the science berths. Mobilization/de-mob has been challenging during the 2012 Field Season. There are perceptions of USCG unresponsiveness to science needs. About \$65M has been spent on *Polar Star*. The USCG would like to bring the vessel to the Antarctic. The science outfitting has been stripped off of the *Star*. There is no science capability. If the science community needs the equipment, NSF would have to pay for it.

Poor communications are apparent.

Scientific Committee for Oceanographic Aircraft Research (SCOAR) – Dan Schwartz, SCOAR Chair, provided the report.

One of SCOAR’s action items includes drafting an unmanned aircraft chapter for the *Research Vessel Safety Standards*. The committee will also put out a call to fill the open position on SCOAR.

Deep Submergence Science Committee (DeSSC) – Annette DeSilva provided the report for Pete Girguis, DeSSC Chair. Slides are included in **Appendix XXX**.

Topics that are included in the report include:

- Data management and archiving – A DeSSC ad hoc committee is examining the issue.
- Enhanced Internet access on board global ships – enhanced Internet may be a cost-effective means of data analyses while at sea. Telepresence offers education and outreach opportunities.
- Outreach – DeSSC continues their early career program. Activities have included partnering with FIC, holding a DESSC webinar, and holding ECS Workshops at Large Science conferences.
- DESSC coordination with OOSC – DeSSC would like to liaison with OOSC.

In other activities, the *Alvin* Upgrade program is progressing. The certification is underway. There have been A-frame modifications to the ship. HOV *Alvin* is slated for sea trials in spring 2013. A Science Verification Cruise (SVC) is planned for *Alvin*. The objectives of the SVS are to:

- Provide assessment of vehicle capabilities before resuming regular operations (24 PI applications)
- Engage early career scientists in this activity (over 60 applications!)
- Use the SVC as a catalyst for engaging the broadest possible community in HOV *Alvin* use (e.g. proposal requests)

Meeting Adjourns – Bruce Appelgate was thanked for hosting the FIC and Council meetings. A motion was made and passed to adjourn the meeting (Cooper/Gardner). The meeting adjourned at 12:23 pm.