

**2013 UNOLS Research Vessel Operators Committee (RVOC)
April 23-25 2013**

Executive Summary

The 2013 RVOC Meeting was held at the University of Maryland Center for Environmental Science- Chesapeake Biological Laboratory, in Solomon's Island. The RVOC Safety Committee met on Monday, 22 April and the RVOC meeting was held from Tuesday to Thursday April 23-25, 2013.

The meeting was well attended with 62 participants from the U.S. oceanographic community which included representatives from NSF, ONR, NAVSEA, NOAA, EPA, U.S. State Department, UNOLS marine superintendents and port office staff, European and Canadian ship operators, and several oceanographic equipment manufacturer representatives.

During the meeting an election was held for the next RVOC Chair. Joe Malbrough/LUMCON term expires in September 2013. Doug Russell/UW was elected next RVOC Chair by majority vote.

Minutes

Welcoming Remarks

Joe Malbrough/ LUMCON and RVOC Chair called the meeting to order at 0830 and introductions around the room were made. Welcome remarks were provided by our host, Bruce Cornwall- CBL Marine Superintendent.

Dr. Thomas Miller, Director Chesapeake Biological Laboratory provided a welcome address. With a brief history of the CBL which was founded in 1925, the Chesapeake Biological Laboratory has long been a national leader in fisheries, environmental chemistry and toxicology, and ecosystem science and restoration ecology. The breadth of expertise among our faculty opens the door for research that cuts across the boundaries of traditional scientific disciplines and fosters collaboration with leading researchers within the CBL community and beyond.

Old Business

The minutes from the April 2012 meeting were approved. The committee was reminded that for Appendix A compliance dates were on 1 June 2011 and 1 June 2015 for winch rollers. For Appendix B, the compliance date is July 15, 2014.

Group Purchases

Development of Maximum Capability Document – Fred Jones/OSU

Fred provided an overview of the MCD project that he has been working on with Rebecca Smith/Duke over the past year.

MCD RFP

- Purpose to develop MCDs for frames on several ships,

- Want to develop a format and method of analysis that can be used by others. Economies of scale
- Started with Rebecca, then John then Fred as Tech asst.
- Project History given
- Contract has 1st and 2nd priority vessels
 - There is some concern about the material condition of the AE aluminum A-frame
 - Waiting on Pelican feedback
 - SIO ships leading the pack
- Behind where anticipated but seem to be doing well
- Current MCDs look good.

Fred showed a status report on MCD Development for major equipment, winches, cranes, dock sockets, and A & J Frames.

- Shows how the fleet is doing on MCD completion.
- A lot more work still to be done
- Does not include KNORR, MELVILLE and PT SUR
- Fred fielded questions regarding testing-
 - Glosten is developing some
 - How are you going to side-load an A-Frame?
 - 2yr testing is not very convenient and should be changed to when the dry-docks are scheduled (even 5yrs?)

Bridge Watch Alarms – Al Suchy/WHOI

Al provided an updates on the group purchase of bridge watch alarms.

- This has been a phased implementation based on vessel tonnage. Al only made purchases for first tier of vessels. He suggests folks of other vessels purchasing themselves or someone proposing a group purchase.
- 2 timer reset, 2 alarms, 2 motion sensor and 1 flash beacon
- Bill Byam/ UDEL purchased one for the R/V Hugh Sharp for \$2800, plus installation. Strongly suggests motion sensor. It is linked to radars and an acknowledge button at the bridge. It is a functional system and worth installing. Also have acknowledgment button in Captain's area, general area and aft steering area.

ECDIS- Al updated us on this effort.

- Tasked to submit to ONR but have not done so.
- Doug Russell tasked to assist
- Tasked to get 1 type of system for all but there are enough differences in bridge equipment that this is difficult.
- Sikuliaq went for MT XXX as part of their contract
- WHOI interested in Simrad
- Once unit is settled on, it will be quick to get the purchases going.
- Is not a requirement for a smaller tonnage vessel.

Dxsh 5 Winch Update-

Doug Russell/UW gave a Power Point on the new winch upgrades which will eliminate back pending of wire, add heave compensation, render/recover features and extend the

life of the winches. While it is expensive, it is less expensive than getting a new winch and you basically get a new winch.

Rich Findley/RSMAS asked if there were any COM 7 in the fleet and yes, Miami, Lumcon, and Univ. of MN have COM 7's.

Josh Eaton/WHOI asked for a cost estimate for this upgrade. For a single winch the cost is ~ \$425K, of which \$310K for winch, \$105K for Heave Comp, and \$25K for ship visit & grooming.

New winch installed on ATLANTIS

Glosten Ship Stability Program

Zoltan Keley/ SIO gave the update on this SIO has proposed in NSF/ SSSE a group purchase for the fleet. The proposal is in at NSF and Matt Hawkins, it reviewed very well and is expected to be funded. Demian Bailey/ OSU described some software compatibility issues they were having and that they installed the old system on a new computer with a free emulator and it is working well.

Committee and Liaison Reports

Safety Committee and RVSS

Dan Oliver/UAK provided the report from the Safety Committee meeting. The current membership was reviewed and two new members were added, Michael Hulme/CBL and Richard Behn/RSMAS.

The Committee reviewed all the safety reports and publications and decisions were made on which reports should be updated and some that need to be removed and archived.

The RVSS, edition #9, needs to be reviewed and will then be re-issued. Each chapter of the RVSS has been assigned to a safety committee member for a review to make sure all content is still correct. This is not a re-write, but a review for accuracy as written.

The RVOC was asked to decide if the RVOC Training Manual Chapter 1, which is in the stateroom on each UNOLS vessel could be replaced with a more vessel specific document or online Power Point. The RVOC approved of this approach. The Safety Committee will create a list of topics which must be covered.

Scheduling Committee

Stewart Lamerdin/ MLML and Chair of the UNOLS/SSC gave the fleet report, schedule details for 2013 and the outlook for 2014 fleet schedules.

- Fleet Utilization – slight uptick in days from 2012 to 2013, mostly coming from extra Navy funding
- 2013 very challenging year as far as scheduling.
- 2014 also looks to be challenging
- The NSF has changed the prime target date for submitting proposals which require ship time from February to August. This will allow approximately 16

months to review, have funding decisions made and schedules developed. There will still be some programs in the February proposals that are funded and scheduled in the following year.

- Rose – 2014 Challenges will be the retirement of the KNORR and MELVILLE but Stewart said it is better to talk about this another time.

UNOLS Arctic Icebreaker Coordinating Committee (AICC) Report

Lee Cooper/CBL and Chair of the (AICC) provided a Power Point on recent activities, membership of the AICC, and challenges the AICC is working on.

UNOLS Fleet Improvement Committee (FIC) Report

Al Suchy/WHOI and member of the FIC updated us on recent activities. FIC recently wrote a letter of support for the midlife refit of the AGORs, starting with R/V Thompson. FIC also provided input on the future of the WHOI Long Core System in light of the upcoming retirement of the R/V Knorr. FIC has also asked members of the RVOC to provide data on the full optimal year for each UNOLS ship. The UNOLS Marine Superintendents need to submit this to Clare Reimers/ FIC Chair. FIC is working to update the Fleet Improvement plan which was written in 2009.

Replacement Human Occupied Vehicle

Al Suchy/WHOI gave an update on the Alvin replacement project. There have been some delays which have adversely impacted the project as well as the R/V Atlantis schedule. The current schedule has the ship departing Woods Hole in late May 2013 and then engineering trials for Alvin are planned for the U.S west coast during the summer of 2013. The science verification cruise also had to be postponed and WHOI is working to fit it back into the ship schedule for the summer 2013. Al explained the joint NAVSEA and ABS certification process. The Atlantis A-frame which handles the Alvin has been a challenging certification to acquire and this is ongoing.

RVOC Election

Joe Malbrough/ RVOC Chair announced the election results for the new RVOC Chair. Joe's term is finished in September 2013. The UNOLS Office submitted a call for nominations in Feb 2013. We received 3 nominees. The majority vote went to Capt. Doug Russell at University of Washington. He is now Chair-elect and will become Chair in September. The previous chair-elect was Demian Bailey/OSU, however with his new appointment as Regional Class Research Vessel project manager, he had to step down. Doug will need to appoint a Chair-elect when he becomes Chair.

RVTEC Meeting

Josh Eaton/WHOI provided the update on the recent activities of the RVTEC group for David Fisichella who was unable to attend. The RVTEC annual meeting was held in February 2013 and hosted by Lamont-Doherty. The meeting was well attended

UNOLS Report- SCOAR, DESSC, MLSOC

Jon Alberts/UNOLS provided the UNOLS report on Power Point
The UNOLS staff remains the same and we are finishing our 4th year with Year 5 starting May 1, 2013. The UNOLS Office performance was recently evaluated by a Council subcommittee and the Council has recommended the UNOLS Office should remain at the University of Rhode Island for a second five year term. The office has been actively engaged in many efforts, especially outreach and engaging the "next generation of seagoing scientists and early career students.

And update on the membership of the SCOAR, DESSC, and MLSOC and recent activities of each committee was presented in the Power Point slides.

ONR Agency Reports

Tim Schnoor/ONR gave the ONR report on the global/ocean class UNOLS ships. In 2013 the global/ocean class of ships have strong schedules with 1670 days on the (5) global and (1) ocean class ships. ONR is supporting 560 days operating days in 2013 in the UNOLS fleet. Tim also described details on ONR projects, the INSURV inspection program, and ship improvement projects. With planned retirements of the Melville in late 2014 and the Knorr in spring 2014, the disposal process is underway. ONR is working on securing funding for an either a service life extension program (SLEP) or a mid-life refit of the AGORS. The Thompson is being considered first. Rose Dufour/NSF stated that if SLEP goes ahead, there will be 3 globals off-line in early 2015, but Tim mentioned that the retirement dates are nominal and could be flexible. For the Arctic, ONR is considering programs in 2015.

NOAA Agency Report

Ralph Rogers- see ppt

Fleet is averaging about 180 days, due to funding limitations; this is about 75% capacity. Hard decisions to keep days at acceptable levels.

The FSV Rueben Lasker, FSV-6 built in Marinette, Wisc, will operate in FY 2013. currently in Colonna Shipyard in Norfolk to be completed. Ship will be home-ported in San Diego at Southwest Fisheries Center.

NOAA will have 222 operating days on UNOLS ships in 2013. This is 7% of the UNOLS days. NOAA continues to work with UNOLS and over the past year they made environmental compliance training and UNOLS tech training available.

NSF Agency Report

Rose Dufour/NSF gave the NSF report on ship operations. The NSF ship operations budget is level funded for ship operations at 80% of the FY 2012 levels. Working to determine how to bridge this gap in CY 2013. May need to borrow from FY 2014 to cover costs in CY 2013., but Rose reported they will cover their commitments in CY 2013, but there will need to be some reductions. She provided a detailed presentation Power Point on current 2013 cost statistics for the fleet, breaking it down by costs per ship class, and the percentage of the NSF budget by ship class. An analysis of the day rate and breakdown on fuel, crew, travel, MOSA, etc was given. Other highlights included:

- Switching to a fiscal year operating costs.
- Sequestration has cut NSF by XX %, then there was another

- Overall 3% reduction but it is unclear who will get how much of that 3%
- FY13 – there will be reductions and we should expect them for FY14 too (expect level funding at best).
- FY14 – President’s budget asks for 8% increase in NSF budget, but OCE does not expect that to happen.

U.S. State Department

Kelly Cohun from the State Department Office of Ocean Affairs reported out on the research clearance process and challenges in recent years. She explained the role of the State Department serves facilitating the process for conducting marine research within another countries exclusive economic zone. It is important that the appropriate channels be followed. They process an average of 400 applications each year. The “RATS” system is being updated Diplomatic outreach is an important component of this in sharing research as well as coastal state participation. There are a number of post cruise obligations and reports which are delinquent. These late reports can adversely impact the ability to obtain research clearance in the future from countries. There is a growing trend in which countries are requiring the applications be translated into their respective language. Also on cruise track maps, the lands forms should not be labeled. We are still having issues processing clearances for Brazil, Mexico, and Indonesia. For testing equipment within an EEZ, but outside the territorial seas, you don’t require a clearance but should notify that country.

Special Reports

UNOLS Wire Pool, Cable Lubrication, Use of Synthetics

Rick Trask/ WHOI program director for the UNOLS Wire Pool gave a detailed Power Point on various aspects of oceanographic cables in use. This past year they dealt with a significant issue on cable twisting. After considerable testing and research, including sending the cable back to the manufacturer, it was determined that the corrosion on the cable was so severe the cable strands could not move properly in the lay of the cable and caused the wire to twist. It is probably too rusted to save it.

Some key points to remember:

- Wire is a piece of machinery and it should be treated/maintained as such.
- There is still concern over scientific sample contamination that lubrication would cause. The funding agency feels strongly that this issue must be addressed as a fleet and that the scientists should not be able to dictate that the wire/cable cannot be lubricated. Lubes have come a long way and there should be a fleet wide policy that should be followed regardless.
- Question asked how long a wire should last. To which Rick – there are too many variables to really give a number. It was agreed that the wire at the pools should be covered.
- WHOI making Sheave Groove Gauges for all the Marine Superintendents
- Freshwater wash-downs help a lot at preventing corrosions.

Winch Pool, Synthetics, Maximum Capability Documents

Joshua Eaton/WHOI, heading up the East Coast UNOLS winch pool provided a status report on the current winches in the pool, the capabilities of each winch and the new web site. <http://winchpool.whoi.edu/>

Joshua has developed Maximum Capability Documents for these winches and is available to assist others. Contact: winchpool@whoi.edu

Aaron Davis- PE/ SIO, has recently joined SIO as lead for the West Coast Winch Pool. He will be creating a winch pool website. He and Joshua at WHOI will work closely on this. Contact: aed001@ucsd.edu

Medical Services Update

Dr. Michael Braida and William Pack from International SOS presented on the medical advisory service with are provided to the UNOLS fleet through a contract administered by UNOLS. A little history on the service is MAS was purchased by MedAire which was then purchased by International SOS. Dr. Braida reviewed the UNOLS cases last year and the message was that we had a relatively quiet year. They handled 147 cases for all research vessels, and the activity for the UNOLS fleet was down in 2012.

Question regarding the Tempest units – whether they are worthwhile and Dr. Braida highly recommends. Price is in excess of \$30K. There is a new system coming out that is designed more for the paramedic that is cheaper.

REVELLE Render-Recovery

Zoltan Kelety/ SIO provided an update on the new CTD winch handling system recently installed on the R/V Revelle.

Many videos were shown that highlighted some of the issues.

- Issue with the winch hocking the wire because winch went to speeds too fast (100+m/min) so they tried to hard-stop the winch speed at 60m/min.
- Still a bit of a kinking issue which they think is due to very quick acceleration of the winch from 0-60m/min
- System is also designed to tow, should be able to handle 0.5 issues
- Issue with chaffing on the docking head but we think it was due to wire angle
- There is an automatic mode where you can program it to stop automatically but they found it best to use it in semi-automatic mode.
- Maximum load? 12K lbs side pull and 18K lbs for vertical

Ocean Class Update

Mike Prince and Chris MacDonald presented a Power Point discussion on the ONR ships AGOR 27 & 28 which are currently under construction at Dakota Creek Shipyard in Anacortes, WA. Both ships are coming along very well and on schedule for AGOR 27 and slightly ahead of schedule for AGOR 28. AGOR 27 has been named the R/V Neil Armstrong and will replace the R/V Knorr at Woods Hole Oceanographic Institution. AGOR 28, recently named the R/V Sally Ride will replace the R/V Melville at Scripps Institution of Oceanography. AGOR 27 has a projected launch date of January/February of 2014 and a delivery date of November 2014. AGOR 28 has a launch date of July/August 2014 and a delivery date of April 2015.

Handling System Updates

Bill Byam provided an update on the upgrades recently completed on the Caley Handling system. Due to a lack of support from original manufacturer and with NSF funding, Markey Machinery

was chosen to evaluate and repair the entire system. This was successful in troubleshooting problems and upgrades were made to system.

Phase I: SHARP

Phase II: Kilo Moana with Crane

Phase III: Wrap-up

- Also has the ability to tow. Tested it in a shallow cast but weather prevented them from doing a deep cast. Have not been able to put the system through the paces. In the future will compare the output of the Active Heave compensation with the data from the altimeter.
- They have set up the system to where Markey can get online and troubleshoot the system.

Side Crane Design and Upgrade- R/V Hugh Sharp

Bill Byam/UDEL described a recent effort, with NSF funding to replace the side frame. This was awarded to Hydropro, a division of Rapp Hydema and was designed as a bolt-down frame that you could use on either side of the vessel. It has become a lot bigger than what they expected and is an articulated frame, with a new standard bolting pattern on head. The frame will be very capable of handling over the side packages.

UNOLS East Coast Van Pool

Bill Byam updated us on the current inventory and usage. Noted that there are still occasions when the vans are returned in less than perfect condition and they are still getting last minute requests which impact the budget and availability.

Fleet Broadband

Al Suchy/WHOI presented on the Fleet Broadband usage, current costs, and future satellite communication systems and other issues. See Power point slides

National Oceanography Centre

Robin Plumley presented an update on the marine operations at NERC. They are responsible for operations on the RRS Discovery and the RRS James Cook. The RRS Discovery made 7 cruises in 2012 and was retired and disposed in February 2013. The RRS James Cook also had 7 cruises last year. Highlights from both operating years were given. Details on the new RRS Discovery were reviewed.

Nederlands Instituut voor Zeeonderzoek

Erica Koning provided an update and slides on NIOZ and their current operations and vessels. The R/V Luctor is a 32 meter vessel and works mainly in the Southern Delta of the Netherlands. The R/V Navicula is a 26 meter vessel and works primarily in the Wadden Sea. The R/V Pelagia is a 66 meter operates globally and does both research and commercial work. A question was asked if they had troubles chartering their ship commercially and they have not. There was a question about hull insurance and they use a standard BIMCO charter.

Erica reported out on the Inmartech 2013 meeting held in the Netherlands. She also briefed us on the Ocean Facilities Exchange Group, OFEG.

Defence Research and Development Canada

Yves Perron from DRDC gave an overview of their organizational structure and current status. They operate the CFAV Quest which is a 77 meter, acoustically quiet research vessel for technical development. A request for \$580M over 12 years for a new vessel which included construction was proposed, but this failed in discussions. See slides.

Special Reports continued...

R/V Sikuliaq Update

Dan Oliver, Project Manager/ University of Alaska-Fairbanks provided a Power point update on the current build of the R/V Sikuliaq. This ship is being built in Marinette, Wisconsin and is nearing completion. It will be ice-classed PC 5 with Z-drives. However, there has recently been a delay due to a ground fault in the #1 propulsion transformers. The current projection has the ship to begin science operations on 1 August 2014. Delivery is scheduled for September 2013.

Regional Class Research Vessel

Demian Bailey/ OSU and project manager for the RCRV presented the update. Oregon State University was selected as the lead institution to design and build. Current design has the vessel in the 175-180 ft. range. They are planning to build three ships, which is dependent on funding as well as several milestones which need to be met. OSU has set up a Science Oversight Committee and they met in March. Several decisions were decided one of which being that vessel will be over 300 gross tons and will be DP 1+. For the winches, synthetics are being considered. A key date in the timeline is the concept design review set for December 2013.

Matt Hawkins/NSF program manager for the RCRV described funding plans and various off ramps which have been put in place as part of this MREFC process.

Schmidt Ocean Institute

Eric King/ Director of Marine Operations brought us up to date on their organization and in particular the R/V Falkor. See Power Point

SOI is organized to accelerate how Ocean Science is being conducted. They solicit proposals which are then peer reviewed. SOI then provides free ship time, with the scientists responsible for seeking their own support for salaries and pre-post cruise expenses.

The Falkor was an existing hull which then under-went an extensive refit. It has been a year since coming out of the yard and during that time they have partnered with the community to conduct various shake-down cruises. These included working with subject matter experts on hull noise, vibration, mapping, sonars, and helicopter training.

The first cruise was Dr. Cabell Davis/WHOI. They were able to successfully tow the video plankton recorder across the Atlantic Ocean. From August 2012 to December 2012 they worked in the Gulf of Mexico on 5 cruises.

They recently decided to work Jamestown Naval Architects (JMS) to make sure that their safety standards are on par with UNOLS' RVSS.

On data, their policies are to make the data accessible immediately and are working with R2R, NGDC and SAMOS to get the data out there. Scientist data is fully open as per their

For 2015, they are now soliciting proposal which are 2 page proposals, peer reviewed, paired down to 12, and then another peer review down to ~5.

Other UNOLS Reports Cruise Personnel Manifest/Radioisotope Awareness/Cruise Planning Module & Science Equipment Inventory

Alice Doyle/UNOLS Technical Services Manager reported on four new UNOLS efforts currently underway. Please see Power points.

The Cruise Personnel Manifest is a new template for submitting the science personnel manifest which will go into the Rolling Deck to Repository (R2R). R2R will then supply the UNOLS Office with this data. This new system will eliminate the UNOLS Ship Utilization Report and is an easier method for submissions as well as tracking the user of UNOLS ships.

The Radioisotope Awareness program resulted from an NSF funded workshop organized by Alice Doyle in 2011. The natural abundance science community is concerned with very low levels of radioactive contamination, much below levels of concern to human safety. Any contamination of ship board spaces can negatively impact their science. Alice is working on educational materials to raise the awareness of this issue.

The Cruise Planning Module is an online cruise questionnaire template which will assist cruise planners gather, track, and distribute cruises information. There has been strong interest from several operators who would like to use this software program once it is completed.

The Science Equipment Inventory is an online inventory developed by Alice Doyle and provides an extensive list of all science equipment in one central location. The link is: http://strs.unols.org/Public/Search/diu_equipment.aspx

Guest Speakers

Ship Happens- Admiralty Law & Insurance Update

Dennis Nixon provided his annual RVOC presentation and an extensive Power Point on the world insurance market, UNOLS fleet insurance market, vessel casualty case studies, legal decisions relevant to UNOLS, and various safety items.

Dennis also led a discussion on the minimum age issue which was recently raised. There is not a UNOLS wide policy to guide what the minimum age on UNOLS ships should be. It is at the discretion of each operator. It is important to consider the definition of an oceanographic research vessel under Subchapter U is “a vessel that the Secretary finds employed only in instruction in oceanography or limnology “. This is intended to be college level course work, or could be considered college preparatory work. There high

school students could be considered old enough to receive this instruction. It is difficult to put a definite number of this, perhaps a minimum age of 16, or even could go as low as 13 years old. In any regards, operator must have a permission slip from their parents if they are under 18 which must mention if they have health insurance. Also if there are children onboard there must be child-size life vests

Ship Inspection Program Update- Jamestown Naval Architects

Blake Powell/JMS provided the update on the NSF Ship Inspection program and an overview of the past year. Blake covered many areas in his Power point slides. They have been assisting with Appendix A & B worksheet to help the operators. Also covered are lithium batteries, hull plating, crew fatigue, ADA compliance, newer vessels are doing a better job. Science safety, continue to make information available, hydraulic hoses, system diagrams

Guest Speaker

Dr. Carlos Comperatore/ U.S. Coast Guard Office of Safety and Environmental Health, Washington DC.

Dr. Comperatore's talk titled: "Managing the Effects of Crew Endurance Degradation on Operational Hazard Exposure" was presented to the RVOC and was very informative and pertinent to the UNOLS ships. Managing fatigue is an important aspect of our operations and this talk highlighted many topics related to work hours, fatigue, hazards and job related stress. Dr. Comperatore explained in detail a system used in the Coast Guard called the Crew Endurance Management Model, CEM. This model can be tailored to cutters, aircraft, search and rescue, and looks at the operational tempo of the activity. The importance of setting up organizational practices and policies was discussed to protect crew member endurance. Various risk factors such as sleep patterns, the effects of changing watch schedules, personal body clocks were all discussed. Situational awareness, measuring physiological brain activity, health issues, and circadian rhythms were explained. Please see Power point in the appendices for more details.

Business Meeting and Round Table Discussion

The RVOC meeting concluded with a discussion on Appendix B, secure schedules, cable lubrication.

The location for the 2014 RVOC meeting was considered and we have had a request from the federal agencies to have it close to Washington DC. Due to recent travel restrictions, it would be helpful to have it close to DC.

On the RVOC web site, there were no suggestions.

On the RVOC Chair elect- Now that Doug Russell will become the new RVOC Chair in September 2013, he will then appoint an interim Chair Elect which will fill this role until the 2014 RVOC meeting when an election will be held.

Level of Support- No comments from committee members.

Meeting Adjourned- 12 noon 25 April 2013