

**2015 Research Vessel Operators Committee Meeting- (RVOC)  
University of Washington/School of Oceanography, Seattle, Washington  
Alder Hall  
Safety Committee Meeting-Alder Hall-Room 103  
Mon. 27 April 2015-**

**RVOC Marine Superintendents Round Table- Closed Session-Alder Hall- Room 106  
Tues. April 28, 2015 -**

**RVOC General Meeting Opens with lunch at 1200.-Alder Hall- Room 106  
Tues. 28 April 2015 to Thurs. April 30, 2015**

### **Executive Summary**

The 2015 RVOC Meeting was held at the University of Washington in Seattle, Washington and was hosted by Capt. Doug Russell as current RVOC Chair. The Safety Committee met on Monday of that week, prior to the start of the regular RVOC meeting. We also used a new format this year by having the marine superintendents meet in a round table session on the first morning of the RVOC meeting. The consensus was that the group preferred this new format as it provides an opportunity to get some of the issues out early and allows time during the week to discuss both in session as well as during side-line conversations.

### **Draft Minutes**

Doug Russell/UW & UNOLS-RVOC Chair called the meeting to order at 1300 with introductions. Dr. Ginger Armbrust/Director- UW School of Oceanography provided the welcome remarks. She thanked all the marine superintendents for providing safe, efficient, well-staffed research vessels for researchers to conduct their work at sea.

#### **Old Business:**

The minutes from the 2014 RVOC meeting were approved without any changes. Also of note was that the compliance date for Appendix B of the RVSS was delayed until July 15, 2016 to enable the operators to become fully compliant.

#### **Group Purchases:**

They have recently been three items purchased for the fleet as group purchases. These include DESH-5 winch upgrades, Electronic Chart Display and Information System (ECDIS), and the Tempus Tele-medicine units.

Doug Russell provided an update on the DESH-5 winch upgrades. The work is funded by NSF and is being completed by Markey Machinery Company. The work has been completed on the *Atlantis*, *Langseth*, and the winch upgrades for the *Revelle* are ready for installation. The contract for the *Thompson* winches is in place and it is expected the *Atlantic Explorer* winches will be completed in 2016.

Al Suchy/WHOI reported on the ECDIS (Electronic Chart Display and Information System) purchase. The JRC model- JAN 901 B have been purchased with funding from ONR for the *Revelle*, *Atlantis*, *Thompson*, *Marcus Langseth*, and the *Kilo Moana*. The installation on the *Revelle* and the *Langseth* are completed, and the others will be installed during upcoming shipyard periods. The grant has now closed.

The Tempus IC Tele-Medicine Unit group purchase was managed by Paul Ljunggren/LDEO. With funding support from ONR, (5) Tempus units have been purchased and have been delivered to *Atlantis*, *Kilo Moana*, *Langseth*, *Revelle*, and *Thompson*. Training will begin in May 2015 and all units will be up and running by the summer of 2015.

Discussion Point- The distribution of controlled substances to resupply the global ship's medical chest has been an issue causing great concern in 2014-2015 and continues to present challenges. Jon Alberts/UNOLS has been working with the UNOLS' medical advisory provider to find a workable solution.

## **New Business**

### **Research Vessel Safety Standards-**

Jon Alberts gave an update and the progress in the re-issuing of the UNOLS Research Vessel Safety Standards. (RVSS), 10 th. edition. The Safety Committee continues to make edits to the document. JMS Naval Architects recently reviewed the draft RVSS and provided 14 pages of recommended edits.

### **Safety Committee Chair-**

Capt. Dan Oliver recently resigned from the Seward Marine Center and has stepped down as Safety Committee Chair. Rear Admiral Jeff Garrett, (USCG retired) has agreed to serve in this important role and we welcome him to the group.

### **International Workboat Show-**

The International Workboat Show will be held in New Orleans on Dec 1-3, 2015. UNOLS will have a booth and UNOLS marine superintendents are encouraged to attend.

## **Agency Reports**

### **NSF**

Rose Dufour provided the report from NSF. She outlined the main points of the Decadal Survey Sea Change Report. The report recommended a rebalancing of the budget for infrastructure and science funding. Some recommendations included lay-up of the R/V *Marcus Langseth*, consolidation of the Atlantic and Pacific intermediate vessels, and a reduction in budgets.

### **Other Points:**

- At present NSF is funding 1344 days in 2015 and in 2014 NSF funded 1953 days.
- Geosciences budget was cut 8 % for FY 2016-2017.
- Operators need to remember to use the NSF logo to let the public know NSF is funding which projects.
- NSF is working on a barter program with NOAA for ship days for cruises on the *Revelle*, *Thompson* and *Ron Brown*.

### **ONR**

Tim Schnoor presented the report for ONR. ONR is still supporting (6) ships in the academic research fleet, plus the *Flip* platform in San Diego. ONR retired *Knorr* and *Melville*, but will take on *Neil Armstrong* and *Sally Ride* in 2016 to keep the total number of ships the same.

Tim reviewed the science and technology focus for ONR in the near future. ONR will be supporting 505 days in 2015 at ~ 14,000 million in ship time. This includes (2) Arctic cruises. The funding levels remain flat. There is a new Navy financial system that they are bringing online.

On the ship inspection front, they are working on an MOA between the Coast Guard and the Navy to further clarify the understanding and procedures for having another agency inspect an ONR owned vessel. ONR ships continue to participate in the NSF ship inspection program, with a focus on the scientific sampling gear.

Mike Prince provided an update status report on the *Armstrong* and the *Ride*.

ONR continues with plans for the refit of the AGOR 23 class and the *Thompson* refit will begin in June 2016.

## **NOAA**

Tracy Miller shared the news from NOAA. NOAA currently has (16) active ships. Recent changes within marine operations were discussed as well as fleet status. Currently they have 3135 days at sea planned for 2015. *Ron Brown* will do a CLIVAR leg and *Okeanos Explorer* will be working in the Pacific and the NW Hawaiian Islands.

Other topic covered included:

- NOAA Fleet Scheduling
- Fleet Safety, CFR Subchapter U and Certificate of Inspection (COI's)
- Safety Management Systems (SMS) and Safety Standowns.
- Training (Crane Rigging, Fall Protection, Safety Culture)
- Workplace Improvement Cards & Lessons Learned Portfolios.
- Environmental Management Systems

Stewart Lamerdin/OSU asked if the lessons learned information could be shared with UNOLS. Jon will work with NOAA to make this available to UNOLS operators.

## **USCG**

John Reeves/USCG covered news from the *USCGC Healy* with a summary of cruises including the Pickart/WHOI cruise and the Oil Spill Technology Development cruise and the outlook for 2015 with 128 days planned for an NSF Geotraces leg, another research development cruise and a DOD program.

## **Committee and Liaison Reports**

### **UNOLS**

Jon Alberts highlighted recent activity within UNOLS. This included:

- Karen Besson- new administrative assistant
- Chris Measures/UH- new UNOLS Chair
- Debbie Steinberg/VIMS is the new Council chair-elect
- Coring Workshop planned for May of 2015
- DESSC Meeting at WHOI in June 2015
- IRSO Meeting at Scripps in Oct 2015
- Vessel changes with *Point Sur* departing Moss Landing and moving to Univ. of Southern Mississippi and the retirement of the *Melville* and the *Knorr*.
- Sea Change Decadal Report and the UNOLS recommendations to the major issues.

### **Safety Committee Report**

Jeff Garrett/Chair of the UNOLS Safety Committee reported out on the meeting that was held prior to RVOC 2015 on Monday 27 April 2015.

The Safety Committee presented a new set of terms of reference for the committee. This included membership to be limited to 10 members. Meetings would be held twice a year. Appendix B compliance was discussed and the upcoming compliance date of July 15, 2016.

Waivers were discussed with a review of those previously granted for items such as winch level wind rollers. The Safety Committee has recently established a procedure whereby waiver requests are sent in writing to the Safety Committee which will then assign the task of reviewing the request to at least (3) members of the committee and/or subject matter experts from the community. Upon a thorough review, a decision will be reached and a written response will be sent back to the group requesting the waiver.

RVSS Re-issue Update-

JMS Naval Architect reviewed the draft and submitted comments and suggested edits. These were incorporated by Jon Alberts with the Safety Committee review and approval.

### **Ship Scheduling Committee**

Doug Ricketts/UMN and SSC Chair presented the report on the ship schedule utilization slides. The committee met in La Jolla on Feb. 24 and 25, 2015 to begin work on the 2016 schedules. The current trend is the number of requested days is up, while the number of funded days is reduced. This is due to flat budgets with rising costs and subsequent day rates.

### **Fleet Improvement Committee**

Al Suchy/WHOI and a member of the FIC reported on recent activities. The FIC is finishing up the new Fleet Improvement Plan which will be published in mid-2015.

The FIC provided input to the Council on the Sea Change Report. Other topics discussed included:

- Growing need for electronic technicians as part of the ship's crews, especially the new ships coming online
- Wire Winding on renovated winches
- Preparations for post cruise debrief on the *Sikuliaq* and then the *Armstrong* and the *Ride*

### **Day Two- Wed. 29 April 2015**

#### **Special Reports**

##### **UNOLS Wire Pool**

Rick Trask/WHOI reported on recent work completed as part of the wire pool grant funded by NSF. Rick has completed a study on the actual wire breaking strength versus the nominal breaking strength of a CTD cable (.322 EM) purchased in 2009 and distributed in 2011. The E-kink test had 30 % failure of strands. Need to do both E-kink and breaking strength test to determine wire condition. Terminations are not consistent with wire breaking strength. Tested Breaking Load versus Nominal Breaking Load showed the NBL was 10-20 % higher.

Moving forward requires more break tests results compared to NBL and then break tests for new cables.

Synthetic Line Evaluation- Rick continues to evaluate synthetic line options by doing break tests, rotation tests, tension and tension cyclic tests, and cyclic bend over sheave tests.

The lines tested are from the manufacturer of “Phillystran”- They tested two types of synthetic lines. The PSTB-T and the PST.

The PSTB (1/2 inch) had a break test of 29,300 lbs. The PST (9/16<sup>th</sup> inch) had a break test of 36,000 lbs. In the rotation test, the PSTB has better rotational characteristics than the 9/16<sup>th</sup> inch wire. The PST has not yet been tested.

The tension and tension cycle tests (50,000 cycles) showed the both the PSTB and the PST performed better than the 9/16<sup>th</sup> wire.

On the cyclic bend over sheave tests after 50,000 cycles, the PSTB broke ~ 5 % lower than the BS. The PST broke ~ 5 % higher than the BS.

Initial Results show the PST appears to be a better line for UNOLS vessels. It is used by the Navy for salvage. However it is ~ 2 times more expensive than 9/16<sup>th</sup> wire rope and not as simple to terminate as 9/16ths.

Other Activities-Wire reel covers were procured to protect wire reels and they are performing well.

#### **East Coast Winch Pool-**

Brian Guest/WHOI manager of the East Coast Winch pool provided an update. This pool was established in 2009 and maintains a web page at: <http://winchpool.who.edu/>

Brian reviewed the current list of assets and capabilities of each winch. See web site for details.

The pool is supported by these WHOI facilities:

- Machine Shop
- Welding and Fabrication Shop
- Electricians and Carpenters
- Storage, Warehouse and Stockroom
- Forklifts and Cranes
- 5-Ton Overhead Gantry Crane

#### **West Coast Winch Pool-**

Aaron Davis/SIO provided the update on the West Coast Winch pool. The new web site is:

<https://scripps.ucsd.edu/ships/national-science-foundation-west-coast-winch-pool>

See web site for assets which are available to support cruises.

#### **Motion Compensated Winches**

Josh Eaton/WHOI presented an overview of the services he can provide the UNOLS community. This includes assisting operators with procurement of heavy and medium lift winches, reviewing and formulating specifications and guidelines for use of winches. A Hydro-static wire cutter, developed at WHOI, is also available.

Josh provided an active heave compensation presentation. The basic principle is to reduce package movement, removes slack wire conditions and snap loading, as well as lesson package “kiting”.

In active heave compensation there are electric and hydraulic systems. The motion reference unit (MRU) are highly accurate but expensive (~ 30K). A ship survey is required for installation to determine center of gravity which is programmed into the MRU. This allows multiple overboarding points.

There is also a new Heave Sensor that is small, no survey is required and can be placed on any sheave.

## **Special Reports cont.'**

**Pacific Maritime Institute & Maritime Institute of Technology and Graduate Studies-** Marja Van Pietersom updated us on the various programs in maritime training for seafarers their institute provides. They have an Objective Assessment Tool that is a program to assess mariner's knowledge level of experiences and abilities.

In January 2017 there will be some changes for renewing merchant mariner documents. Leadership and Management skill training as well as an ECDIS endorsement will be required.

Note: They have cadets who are available for UNOLS vessels.

## **Ship Operations Cooperative Program (SOCP)**

Greg Dronkert of HMS Ferries provided an overview of the SOCP. This organization promotes collaboration and communication with vessel operators in areas of safety videos and research for the Maritime Administration.

## **Medical Service Update- International SOS/MedAire**

Dr. Daniel Oscislowski from International SOS presented this report. Highpoints:

- Call Volume goes up in the summer months
- Injuries are the greatest number of cases
- Global ships usually have the highest number of cases by percent
- Ninety percent of all calls are when ships are underway.

## **Tempus Medical Units-**

These units provide remote medical analysis for lay person and are able to measure vital signs, EKG diagnostics, blood pressure, and heart rates. The units provide video clips/pictures and are user-friendly although they do not replace AED's.

Rose Dufour/NSF asked a question on the response time of calls. Dr. Oscislowski responded that this depends on the level of the emergency. A high emergency has an immediate response and a low emergency has a response time of 1 hour.

## **East and West Coast Van Pools-**

Jon Swallow/UDEL and Stewart Lamerdin/OSU presented the update on the East and West Coast van pools, respectively.

<http://marops.cms.udel.edu/uecyp/>

<http://www.shipops.oregonstate.edu/ops/vans/>

East Coast- They presently have 12 vans and in CY 2014 they had 22 deployments on six ships.

Van Pools need your cooperation by requesting the vans early and returning them in good condition.

Some improvements recently made include: eye wash stations, environmental testing, CSC documentation for commercial shipping etc.

West Coast- They currently have 10 vans which include a general purpose van, cold van, coring vans and an accommodation van. Some recent improvements include overhead heaters, escape hatches, and modifications to allow stacking during commercial shipments. Some challenges in 2014 include exterior

maintenance, electrical connections, interior cosmetics, water intrusion, and scintillation counter issues, foreign port issues and reliability of cold vans.

Accommodation Van: A new berthing van is currently under construction.

Total usage on the West Coast vans were 980 days in 2014 and 866 days planned in 2015.

### **Fleet Broad Band**

Al Suchy/WHOI reported on this. From 2014 to 2015 the use of megabytes doubled. The current rate is \$.70 cents per mb. There are currently 45 Fleet Broad bands systems in use. See slides in appendices for details. Jim Holik/NSF commented that a data management plan is needed for all vessels and Jim is working on this now.

### **Ship Inspection Program**

Blake Powell/JMS reported on the NSF Ship Inspection Program.

In regards to RVSS- Appendix A, all vessels are in compliance at a factor of safety of 5. Some common findings include maintaining accuracy, safe-working load documentation, lack of clear markings of the maximum permissible tension on sheaves, and the logging of maximum tension of each cast. Appendix B compliance issues were discussed and the need for detailed test plans.

Other topics discussed were:

- Lithium Battery Safety
- Fuel Efficiency and monitoring
- Environmentally Acceptable Lubricants (EAL's)
- Shipyard documentation- need to document any measurement reading done on hull and machinery such as tail-shafts and what was done during the yard period.
- Impractical Life Raft Embarkation Plans
- Human Factors around areas including labeling controls and control settings, tagging hydraulic lines with installation and replacement dates.
- Science Safety Briefings- these should be completed before getting underway and should include real life examples, shipboard policies, RVOC training Video and UNOLS Harassment Prevention video.
- Muster Lists and Best Practices/Lessons Learned
- US Coast Guard Marine Safety Alerts
- Engine Room Operations and knowing your escape routes
- Accidental release of CO2 and improper or missing labels
- Overloading of lifting gear
- Surge Protection devices
- Recreational and Medical Marijuana policies
- NTSB Lessons Learned

### **Foreign Country Reports**

#### **National Oceanography Centre/Natural Environment Research Council/ Andy Henson/NOC**

Andy Henson reported on recent activities aboard the RRS *James Cook* and the RRS *Discovery*. The *James Cook* recently underwent a refit in Santander and then operated in the Pacific and Columbian waters in 2014-2015. The *Discovery* operated in the Atlantic in 2014 & 2015 and also had a maintenance

period to address winch issues and azimuth motor issues. Some of the challenges are the marine staffing and finding deck and engineer personnel. Flat funding, ownership, and governance continue to require attention. Technician recruitment and retention continues to be a challenge as is the diplomatic clearance process.

### **NIOZ- Royal Netherlands Institute for Sea Research/Erica Koning/NIOZ**

Erica Koning brought us up to date on the R/V *Pelagia*. Funding continues to be a challenge although in 2014 they had 300 days at sea. They also spent 10 days at the Shipping Museum in Amsterdam for public outreach. In 2015 they have 316 days planned at sea.

Eric also reported on the Ocean Facilities Exchange Group, OFEG, <http://www.ofeg.org/> This group continued to work on issues such as the Maritime Labor Convention 2006, the International Polar Code, and the impact on operations as it relates to the flag state.

One of the barter programs of the OFEG group was the OSNAP East program. This project involved 25 moorings, glider floats, principal investigators from United States, United Kingdom, Germany, and the Netherlands. The moorings were deployed from the R/V *Knorr*.

### **NATO Science and Technology Organization- Centre for Maritime Research and Experimentation**

Ian Sage/CMRE presented the report on CMRE activities. The Future Options Study explained the recent organizational changes taking place. Italy as the host nation offered to operate the ship under military flag with a military crew. CMRE continues to direct operations and provide oversight of the vessel. The negotiations continue as this is a complex issue with new flag, new insurance, new manuals for operations and safety. These changes will bring greater efficiency and lower day rates.

### **Other Special Reports**

#### **Schmidt Ocean Institute**

Eric King/SOI gave an overview of the Schmidt Ocean Institute which is a non-profit focusing on innovation and sharing of information and technology. In 2014 they had 14 cruises including 3 student cruises in the Pacific. Mapping of 127,000 sq. km was accomplished. The NDSF vehicle *Sentry* was deployed from the SOI R/V *Falkor* in 2014.

A shipyard period in 2014 was completed and the helideck was removed which allows for (4) 20 ft containers to be stored there. They also installed a new genset and a high power computing system.

#### **Kilo Moana's Control System Replacement and Caley CTD Winch Update**

Alan Hilton/UH reported on the R/V *Kilo Moana's* engine control system which is scheduled to be replaced in early 2016. The control system has been very problematic, unreliable, difficult to service and is now obsolete. The bid to complete the work will be awarded in 2015.

On the CTD Handling system which was installed in 2010 and manufactured by Caley, this has also had issues. Preventative maintenance has been on-going; however, they have had problems with the level wind, slew gears, and docking heads. The slew gear failed in 2013 but could not be replaced dockside so had to wait for a shipyard period. In 2014 the render/recover system malfunctioned on deep casts. In 2015 a new slew gear was purchased however the incorrect size was shipped. Modifications to the slewing motors corrected this issue and work continues.



## **New Builds and Mid-Life Refits**

**Regional Class Research Vessels-** Rose Dufour/NSF reported that more information on the approvals for NSF to move ahead with the replacement regional class research vessels will be known next week. We will know if we will be building 2 or 3 hulls.

**Ocean Class Research Vessels-** Mike Prince/ONR presented an update on the ocean class ships that ONR is building for the UNOLS academic research fleet. Both hulls are in the water now at Dakota Creek Shipyard in Anacortes, Washington. The R/V *Neil Armstrong* (AGOR 27) is undergoing builder sea trials and so far things are going well. A mock INSURV ship inspection is planned for this week. The sonar self-noise testing is going on. The bubble sweep down looks good although there are some issues with cavitation from the props. In June acceptance trials begin and a Navy INSURV inspection is planned. The delivery of the ship is planned for July. The out-fitting availability and installation of various acoustic systems and mission equipment will take place in August and September. The R/V *Sally Ride* outfitting and testing continues. They are pulling wires, installing piping and joinery. At present delivery is planned for September 2015.

Both ships will have post-delivery science verification periods and scheduling for the 2016 operating year is underway.

In the area of lesson learned, the sound insulation material being used is a mass loaded vinyl (MLV), material. This type of insulation was also used on the *Sikuliaq* and there is concern that it may not pass the USCG fire code ratings.

**R/V Sikuliaq-** Pete Zerr/UAK reported out on the Univ. of Alaska's R/V *Sikuliaq*. They currently have a schedule of 234 operating days in 2015. Pete highlighted some of the issues with testing of various ship systems as well as the new A-frame which will be installed later in 2015.

## **Thursday 30 April 2015- Day -3**

**WheelHouse Technologies-** Craig Parkhurst from WheelHouse shared some news on the software maintenance program developed by WheelHouse. This is a cloud-based marine maintenance program and version 4.0 will be released soon. UNOLS operators were encouraged to ask questions during the break.

**“Ship Happens”- Admiralty Law and Insurance Update-** Dennis Nixon/URI gave his annual presentation on admiralty law and insurance with his Power Point slides in the meeting presentations. He covered the world insurance market, UNOLS vessel insurance rates, vessel casualties, and recent legal decisions affecting the UNOLS fleet.

Key points included the importance of ship operators disclosing any known or potential problems with vessel to your underwriter. You cannot insure your vessel for an amount greater than the true value of the ship. The insurance market is improving slightly as value of the world's fleet is down, but new ship values are higher.

**Relevant Vessel Casualties-** There is concern that there is not enough salvage capacity or resources for large vessel strandings. With fewer casualties the result has been fewer salvage companies in the market to handle these occurrences.

Dennis highlighted several recent vessel casualties, some of which were caused by human error. This included freeing ports that had been welded closed thus preventing deck wash to leave the vessel. The

engine room flooded and the vessel sank. Another case involved unfamiliarity with the engine control systems that resulted in a collision and loss of life.

Several legal cases and the outcomes were discussed and are listed in the presentation slides.

Bob Taylor, an insurance broker from Seattle, and a colleague of Dennis Nixon discussed punitive damages which were not covered by insurance companies. Fifty percent of all settlements involve punitive damages. We also had a discussion on whether to allow or prevent and the risks involved in having a crew or scientists aboard who may not be physically qualified and safe to go to sea.

### **SCOAR- Scientific Committee on Oceanographic Aircraft Research**

Dan Schwartz/Chair of the UNOLS-SCOAR presented a list of recent committee activity with a focus on opportunities, needs, and challenges. Drones and unmanned aerial vehicles of all types are quickly becoming more common and will become one of the more common oceanographic sampling tools aboard oceanographic research vessels in the coming years. The Federal Aviation Administration, (FAA) office of Unmanned Aerial Systems office, (<https://www.faa.gov/uas/>) is the office responsible for licensing, safety and integration. A discussion on the types of users which includes the public, private, and commercial sectors was covered. Various rules governing air space was broadly described. Certificates of Waiver or Authorizations (COAs) need to be consulted before flying these UASs.

An organization has been established which provides guidance on the use of these UAS. Go to : <http://knowbeforeyoufly.org/>

The SCOAR committee under the guidance of Dan Schwartz drafted a new chapter for the next edition of the Research Vessel Safety Standards. This will be incorporated into the RVSS as a new chapter.

### **Vessel General Permit**

Ben Bryant/Kluber Lubrication led a good discussion on environmentally acceptable lubricants and the Vessel General Permits. On the VGP front, environmentally acceptable lubricants, (EALs) are required for all oil-to-sea interfaces. There are four exceptions that are:

- Availability
- Pre-lubricated items (such as wire ropes)
- OEM approvals
- Dry-Docks

Appendix A of the VGP lists the standards for EALs.

Examples of Oil-to-Sea interfaces includes:

Stern Tube, Propeller Shafts, and Stabilizers  
Controllable Pitch propellers  
Z-drives and tunnel thrusters  
Rudder Bearings  
Deck Applications (level winds, wire rope, etc)  
Deck Hydraulics

### **R/V *Thomas G. Thompson* Mid-Life Refit**

Doug Russell described the plans for the *Thompson* midlife refit which is expected to begin in mid-2016.

This extensive overhaul will include re-powering of the ship, new bridge controls, upgrades to the HVAC, sewage system, ballast, potable water and fire-fighting systems. Refurbishment of the hydro winches, habitability, EM-302 and 300 Hz ADCP are planned. Additional power to the main decks, storage, a new workboat, lab and deck lighting are all on the work lists. The ~ 30 million dollar investment will extend the service life of the ship from 30 to 45 years. UW will manage the award that is expected to be at least 12 months in duration.

### **R/V *Barnes* Replacement Effort**

Doug Russell/UW highlighted the recent effort by the Univ. of Washington to replace the UNOLS R/V *Barnes*. The design process continues with a contract awarded to Jensen Maritime. They have finished Phase I that focused on (3) design reviews, mock-ups, and decisions on the size, general arrangements, science labs, deck-layouts, centerboards, and propulsion. Currently moving into Phase II for the final design and engineering specifications. This is planned to be completed by the summer of 2015. The new vessel will be designed to enable both oceanographic and fishery research capabilities with capacity for up to 10 science and 5 crew berths.

The current funding status has secured 1.5 million from UW for the design process and UW has requested 12 million from the state. There is much uncertainty around the funding and private sources are also being considered.

### **Round Table Discussion Items-**

The 2015 RVOC meeting concluded with a discussion on action items and areas that need further work in the coming year. This list of topics and action items follows:

1. Should mobilization and demobilization days be funded? Perhaps a day rate for port days and a separate rate for days at sea was discussed.
2. Crew Pool- It has been discussed at various meetings that a UNOLS crew pool, modeled after the technician pool should be established. This would require a new source of funding as it would require a crew pool manager similar to the UNOLS technical services manager currently filled by Alice Doyle/UNOLS.
3. On-line Forum- An on-line, password-protected site for internal UNOLS marine superintendents was discussed again. This needs further development.
4. UNOLS Policies and Definitions. – It was suggested that an RVOC subcommittee needs to be established to work on clarifying some of the common terms used within UNOLS. Terms such as fixed and provisional rates, transit days, weather days, MOSA, and policies governing the coming in from a cruise all needs to be more clearly defined.

### **Next Year- RVOC 2016**

We had one volunteer to host the RVOC meeting in 2016 come forward. Durand Ward/Marine Superintendent at Virginia Institute of Marine Sciences.(VIMS) at Gloucester Point, Virginia has offered to host RVOC 2016. There were no objections and a date of April 18-21, 2016 was decided upon.

### **Meeting adjourned**

The RVOC 2015 meeting, hosted by the University of Washington's School of Oceanography, adjourned at 1145 PST.