

**2016 Research Vessel Operators Committee Meeting- (RVOC)  
Virginia Institute of Marine Sciences/William & Mary  
Gloucester Pt, Virginia  
Tuesday April 19 to Thursday April 21, 2016**

**Executive Summary**

The UNOLS Research Vessel Operators Committee, (RVOC) annual meeting was held at the Virginia Institute of Marine Sciences/ William and Mary College in Gloucester Point Virginia on Tuesday April 19, 2016 to Thursday April 21, 2016.

The RVOC Safety Committee met on Monday, 18 April also at VIMS and then presented a Safety Report to the general RVOC members.

We began this RVOC meeting with a closed session for the UNOLS Marine Superintendents followed by the opening of the RVOC 2016 meeting with lunch served for all participants. During the marine superintendent's round table, we discussed items such as:

- ECDIS
- Electronic Technical Support for Vessel Operations, such as an Electronic Technical Officer
- Appendix B Compliance
- Vessel Security Plans
- Exclusive Economic Zones
- MOSA Accounts
- Improved definitions of types of days on UNOLS vessels

**Minutes:**

Doug Russell/ Univ. of Washington and RVOC Chair opened the 2016 meeting with welcome remarks.

Dr. John T. Wells/VIMS Dean and Director provided a welcome to all participants with a thank you for coming to VIMS and well wishes for a productive meeting.

Doug Russell then provided an overview of the topics discussed in the marine superintendent's round table discussion.

**Old Business**

The minutes from RVOC 2015 were approved as written. The RVSS Appendix B compliance date is July 15, 2016.

**Group Purchases**

Doug Russell reported that the Dsh-5 winch upgrades have been completed on the *Atlantis*, *Langseth*, and *Revelle*/ The contract is in place and work will start shortly to upgrade the winches for *Thompson*. The *Atlantic Explorer* is next and the winch upgrade program should be completed by end of 2017.

### **New items**

Man-Overboard alarms- Doug Ricketts/UMN offered to research this and provide information back to RVOC.

Man-Over-Board Retrieval System- Michael Hulme/UIniv of MD & Murray Stein/UAF will research this.

### **New Business**

**Update on RVSS-** Jon Alberts reminded group that the 10<sup>th</sup> edition of the RVSS is available and the UNOLS Office has hard copies for distribution.

Jon also provided an update on the Council's Ad Hoc committee which has been working on issues around personal privacy information on forms, policies regarding pregnancy at sea, prevention of sexual and other forms of harassment, and other gender climate issues. Each ship operator will need to ensure their ships have policies in place, as well as procedures posted in the event of an incident.

### **Agency Reports**

**NSF Report-** Rose Dufour/NSF discussed the NSF budget for CY 2016. Work continues on clarifying the Major Overhaul Stabilization Account, (MOSA). Additional instructions on managing this account will be forthcoming.

The Decadal Sea Change report was highlighted and the steps NSF/OCE has taken over the past year were outlined.

Prevention of harassment on the ships continues to be an NSF concern and UNOLS needs to continue to make forward progress on this.

On CY 2016 Budget, they have 90 % of the CY 2015 levels, minus shifts to core programs. A breakdown of ship costs was presented: Indirect 12 %, Fuel, 20 %, Crew salaries 34 %, MOSA 13 %, Insurance 2%, Travel 2 %, Misc 8%, Food 3 %.

Some forecasts have fuel prices to rise back to previous levels in 2017.

Vessel Utilization – Office of Management & Budget wants to see better explanations to show full optimal utilization. (FOY= full optimal year) A sub-committee is working on identify each day of the year and what activity the ship was engaged in.

MOSA- ONR has taken the lead on this to determine if any changes are required.

The vessel maintenance may be classified as specialized services which will alleviate significant changes in the system. Rose stated that the MOSA policy would be more clearly defined in the language of the next cooperative agreement.

**ONR Report-** Tom Schnoor/ONR gave this report. He expects his budget to remain stable over the coming year. At present ONR is supporting 425 days of shiptime in the CY 2016 schedules. In CY 2017, there is a 3-ship program scheduled for *Endeavor*, *Armstrong*, and *Sharp*. The *Knorr* and the *Melville* have been transferred Mexico and the Philippines respectively.

**NOAA Report-** Tracy Miller gave the NOAA/OMAO report. NOAA is currently operating 16 ships, with 3060 days in FY 2016, having completed 830 days at sea as of 4/1/2016. Tracy will be transferred to a new assignment on July 27, 2016 and will be replaced by Colin Little. Dan Simon will replace Rick Hester as the OAR coordinator.

U.S. State Dept- Allison Reed provided the report from the Research Clearance Office. Allison replaced Liz Tirpak and Roberta Barnes has retired. On the Research Application Tracking System, (RATS), the current version which was launched in August 2014 was 80 % hard-coded. They are working on a new version and/or a replacement for RATS. In CY 2015, they processed over 150 clearance requests for U.S. scientists and 50 for foreign scientists. There was one denial due to timing issues.

On recent changes in the coastal state requirements:

- France now requires at least 6 months, submitted in French, with French collaborators.
- Cuba- 6 months lead time is required
- Greece/Turkey- In areas of the Aegean Sea, requires clearances from both countries.
- China- South China Sea, - usually requires multiple coastal state clearances, or be 200 nm away from contested areas.

Routine observations are not clear cut and are decided on a case by case basis.

Weather days- Allison recommended adding days to clearance requests on both ends of the cruises.

Foreign Observers- important to list a hard date that the foreign observer is required to join the ship.

Post Cruise Reporting- This continues to be problematic with over 100 preliminary post cruise reports and over 250 final cruise reports overdue. This will impact your future clearance requests.

Testing ship's equipment- If you are outside 12 nm, a permit for testing equipment is not required.

Emergency Maintenance or ship breakdown- No formal request is needed, but operator should notify U.S. State Dept right away. They will notify local embassy in coastal state.

On the Port Permits, it is best to contact the State Dept. for assistance.

### **Tech Pool/NSF Report**

Jim Holik gave the update on the recent Tech Pool RFP. This is designed to give tech managers more flexibility for tech support. The host institution will be assisted by Alice Doyle/UNOLS Technical Services Manager. Five proposals were received and Texas A& M Univ. (TAMU) was selected. The techs will be independent contractors with workmen's comp and liability insurance covered by TAMU. No other benefits, although eligible for training after being contracted for 100 days in a year.

In 2016, the tech pool had (2) techs in the pool and they covered 300 days. There were 6 tech exchanges at 5 different institutions and these covered 225 days.

### **UNOLS Report**

Jon Alberts/UNOLS Executive Secretary provided the report of recent activities at UNOLS. The UNOLS Office is entering the 8<sup>th</sup> year at URI/GSO. UNOLS will remain at URI through April 2019. An RFP for the new UNOLS Office will be distributed in September of 2017. The staffing within UNOLS remained the same. Recent UNOLS committee actions were reviewed which included the FIC publishing the revised Fleet Improvement Plan in 2015 and UNOLS held a Seismic Workshop in 2015.

On the STEM-Seas program, we have three transits identified on *Oceanus*, *Endeavor*, and *Sikuliaq*. This is an NSF pilot program funded for one year in 2016. On the OOI Program, they are moving from construction to operations.

### **Safety Committee Report**

Jeff Garrett/ Chair of the Safety Committee presented the report on the meeting held on Monday 18 April. His review began with a review of accomplishments over the past year. This included the publication of the 10<sup>th</sup> Edition of the Research Vessel Safety Standards. The Committee also reviewed (3) waiver requests and also developed a waiver exemption form and process. The committee has 3 vacancies on the Safety Committee and a call for nominations was posted on the UNOLS web site.

Other points the Safety Committee is working on include:

- Appendix B compliance date is July 15, 2016.
- We discussed the UNOLS quarterly Safety Reports.
- Current level of fleet medical training was briefly discussed
- The issue of Lithium battery safety was discussed and the need for additional safety details needed to be added to Section 9.4 of the RVSS.
- LCI-90 I Winch Display Issues- This could be considered a safety issue as it relates to wire tension. A unified approach, led by UNOLS needs to be raised with the manufacturer.
- Man-Over-Board Alarms- potential group purchase. Doug Ricketts/UMN offered to research the options.
- Jason Cradle- Man-over-board recovery system- Michael Hulme/UMD is looking into this.
- Wire Cutter & Weak Link- Rich Behn/RSMAS to write a proposal for a group purchase.
- Safety Committee- Mid year meeting- a telcon is planned for the fall of 2016.

### **Ship Scheduling Committee-**

Doug Ricketts/UMN and chair of the Ship Scheduling Committee presented the current outlook for 2017 schedules. A meeting was held in San Diego in March aboard the *R/V Sikuliaq*. Fleet Utilization is down by approximately 1000 days from 2007 to 2015. An ad hoc committee was recently formed to review definitions to the types of days on the UNOLS schedules. The committee members are: Rose Dufour/NSF, Mike Prince/MLML, Liz Brenner/UCSD, Alan Hilton/UH. We need to account for all the days in a year.

### **Fleet Improvement Committee-**

Al Suchy/WHOI shared the FIC's recent work.

- The Fleet Improvement Plan was published in 2015.
- The FIC has a new chair, Jim Swift/SIO, as well as three new members, Byron Blomquist/CU, Deb Glickson/FAU, & Rick Keil/UW.
- FIC has also been discussing the need for an electronic tech in the crew.
- Post Cruise debriefs- on Sikuliaq and the new Ocean Class ships- Armstrong & Sally Ride.
- Science Mission Requirements for Globals- need to start on this.

### **Wednesday 20 April 2016**

#### **Ship Happens-**

Dennis Nixon/URI and the UNOLS Risk Manager- gave his annual talk covering:

- Marine Insurance 101
- UNOLS Fleet Insurance Numbers
- World Insurance Market
- Relevant News
- Relevant Legal Decisions
- Conclusions

Dennis presented a refresher course on hull and P&I insurance. Typically NSF and ONR ships don't purchase a hull policy but self-insure. State owned or private vessels do purchase this.

There are clubs or organization of ship owners that pool their risk.

Hull Policy is based on the agreed value of the ship or what it could be sold for tomorrow.

But, due to liability issues in the case of a stranding, salvage insurance policy should be in place.

#### **P & I- Protection and Indemnity Policy**

Protects against liability including collision, allision, injuries to personnel on board and pollution. The policy is roughly based on the vessel's value, because of Limitation Liability Act of 1851 written when ships were steam powered, caught fire frequently, and burned easily.

Historically smaller vessels carry 10 million dollar policies and larger UNOLS ships carry 25 million dollar policies. With our three new ships, (*Sikuliaq, Neil Armstrong, & Sally Ride*) 75 million dollar policies should be carried.

#### **Most Common Risks on board- Injuries**

Under the Oceanographic Research Vessel Act of 1965 only (2) classes of people are on research vessels. Crew Members and Members of the Scientific Party. No passengers.

Members of the crew are entitled to 3 things-

- Maintenance & Cure
- Jones Act of 1920
- Unseaworthiness Doctrine.

Members of the science party must look to their home institutions for illness or injuries in cases where there is no liability on part of the ship. Potential for subrogation if injury is due to unseaworthiness of the vessel. (Subrogation action)

This is covered by P& I Insurance Policy  
Alaska and Texas do not recognize the Jones Act.

### **UNOLS Insurance Fleet Numbers**

#### **Over-the Side Insurance**

For equipment used at sea, NSF & ONR do not recommend this insurance. If the ship is shown to not be negligent, then the owner of the equipment has to assume the risk of any losses.

Longshoreman and Harbor Workers Act versus Jones Act- covers when in a shipyard or at a pier.

#### **UNOLS Wire Pool**

Rick Trask/WHOI is the UNOLS Wire Pool manager and presented an update on the pool resources. His presentation highlighted a recent test cruise to evaluate the at sea characteristics of synthetics on a traction winch. This test cruise aboard the *R/V Endeavor* in April 2016 was to compare the differences between synthetics and traditional 9/16 trawl wire.

Some issues needed to be taken care of before the cruise. The traction heads needed to be reconditioned and dock side tested was required before the cruise.

Two ropes were tested, Philystran (white-jacketed) and Samson Blue. Both were 9/16<sup>th</sup> and had a nominal breaking strength of 32,000 lbs. At 5,000, 10,000, and 15,000 lb test it all went well with no slippage.

At sea a gravity core test was conducted at 70 meters per minute. Preliminary results on the Phillystran showed some twisting of the jacket, but otherwise all went well. With the Samson Blue, there were concerns of picking up deck debris since this product is not jacketed. Samson is also a “softer” rope which could cause fouling issues with blocks and sheaves when not under tension. All the coring went well with the Samson Blue.

Additional testing of a third synthetic rope was conducted. This was a 250 ft. length of Cortland BOB, with a nominal breaking strength of 50,000 lbs.. The BOB was tested from 5,000 to 25,000 lbs. with no slippage.

More testing is needed before we purchase a full 10,000 meter length.

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

Brian Guest/WHOI and manager of the East Coast Winch Pool reviewed the role and current equipment levels of the East Coast Winch Pool. <http://winchpool.who.edu/>

There are (3) people working in this group, Brian Guest, Jamie Haley, and Josh Eaton, They provide portable winches, maintenance, logistical and engineering support to the UNOLS community. For new equipment, the heave compensation is the biggest issue now.

On the engineering side, WHOI can provide advice on new builds, heave sensors, static and dynamic winch testing, and maximum capability documentation and analysis.

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

Aaron Davis/SIO gave this report. The West Coast Winch Pool offers the community the same services as the East Coast Pool.

Aaron reviewed the current inventory, usage information and plans for the future.

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

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

Jon Swallow/UDEL and Stewart Lamerdin/OSU gave the East and West coast reports respectively. At present there are (20) vans between the two pools. There is no cost for an NSF funded project and a modest charge for non NSF cruises. The Cold Van, the General Purpose Van and the Rad Van are the most requested vans. There are still issues with last minute requests and vans returned in less than optimal condition.

The new accommodation van, delivered in 2015 was sent back to the manufacturer for repairs and upgrades.

Some recurring issues for all vans continue around interface connections, steel floors which need to be replaced. Some upgrades planned for 2016 include:

- Modernization of electronics
- Eyewash Stations
- New tankless water heaters
- New scintillation counters
- Improved signage
- Updated web sites
- Incorporation into Equipment Maintenance Program software system

### **Fleet Broadband**

Al Suchy presented slides in his report on the fleet broadband and high seas net.

On the FBB, they upgraded to 204,800 MB/month in 2014 at a current rate of .70/MB.

There are 75 Fleet Broadbands in use.

On the INMARSAT Global Express, it is combination of KA and L bands.

They recently purchased (4) GX100 KA band antennae's for testing on *Revelle*, *Armstrong*, *Sikuliaq* and *Nathaniel Palmer*. The cost is \$4500 per month. The KA band on the *Armstrong* is at the highest acceleration point on the ship, but within specifications.

### **Medical Services Update**

Zack Hall of International SOS/MedAire provided a report as the UNOLS medical services provider. In 2015 they handled 52 cases with 52% that were treated on board and 40 % that required shore-side consultation and/or x-ray's. Of all the cases, 94 % were while ship was underway and 6% occurring dockside. We had 3 diversions on 2015.

There was one heart attack, (acute coronary syndrome) in which the Tempus telemedicine unit was utilized to transmit an EKG trace of the patient.

Some issues in the past year around the shipment difficulties in obtaining controlled substances overseas were troublesome. Efforts were made by MedAire to source locally in the port where the ship was located as well as alternative prescriptions were administered.

Question was asked about the Zika virus and potential for exposure of UNOLS personnel.

Answer: Take precautions to prevent mosquito bites, sexual transmission, and blood transfer.

70 % of patients will not have any symptoms. Conjunctivitis may be a symptom.

There is no long term effects unless pregnant or will become pregnant. Operators were cautioned to contact MedAire if they are operating in areas of concern.

### **NSF Ship Inspection Program**

Tom Janecek/NSF gave this report and emphasized the intent of the inspections are to insure science capabilities and technical support to the science community.

On the Pre-Inspection documents, Maximum capability documents and shipyard reports will be required. Tom is also working on improvements to pre-inspection and post inspection policies, vessel condition summaries and tracking of issues. The inspectors are looking for similar issues and trends across the fleet as well as common solutions.

### **JMS Naval Architects**

Blake Powell/JMS gave the annual report as the NSF Ship Inspection contractor.

For Appendix A, all vessels are in compliance at a Factor of Safety of 5. There will be Appendix A training held at Woods Hole Oceanographic in May. Ted Coburn/JMS has developed an Appendix A instructional sheet.

On Appendix B- the intention of this appendix is to ensure wire does not exceed capabilities of the over-board-handling system (OHS). Through the development of maximum capability documents (MCD) an analysis is conducted. MCD can be developed for existing systems and components through testing. Reminder that App B goes into effect on July 15, 2016.

On Safety Practices, the Safety Briefs have improved throughout the fleet. The muster sheet is improved and the drills are more realistic with improvements such as utilization of smoke machines and 150 pound man-over-board Oscars.

Some areas that need improvement are more realistic recoveries during man-over-board drills, Lithium battery policy and handling procedures, vessel general permit (VGP) compliance and increase the use of environmentally acceptable lubricants. (EAL)

### **Schmidt Ocean Institute**

Eric King/SOI presented the annual report for the *R/V Falkor* and began with video highlights from 2015. They have a new web site as well as a new CTD Handling System, built by Allied Marine Crane, which has heave compensation, but is not automated. The ship has a new digital matrix video system with 64 inputs for the 130 monitors that are on board. They are building a new ROV system, winch, and control vans which will have a 4500 meter capability. At present they do not plan to build another ship.



### **Foreign Country Reports- NOC-NERC/**

Phil Harwood and Stuart Younghusband shared the report from the National Oceanography Centre which operates on behalf of Natural Environment Research Council (NERC) two global multi-disciplinary research vessels the RRS *Discovery* and the RRS *James Cook*. A review and slides of the 2015 research expeditions and the 2016 plans were reviewed.

### **NIOZ & OFEG**

Erica Koning gave the report on the Netherlands Institute and the activities this past year on the *R/V Pelagia*. They underwent a restructuring in 2015. The ship schedule has increased the number of days in 2015 and 2016 with additional funding coming from outside charters.

In 2015-2016 they did work in the Med Sea, Black Sea, Gulf of Aden and off the Somali coast, but did have an armed marine escort to protect against possible piracy activities. In 2016-2017 they are planning a round the world cruise.

The Ocean Facilities Exchange Group (OFEG) has seen an increase in the number of barter days.

### **CMRE/NATO**

Ian Sage gave the report on the two ships that the CMRE's Ship Management Office (SMO) operates as the only 2 NATO-owned research ships, the NATO Research Vessel *Alliance*, and the Coastal Research Vessel *Leonardo*.

The reorganization continued over the past year with the vessels being reflagged under Italian flag and the status changed from public to military. Crew from both vessels now coming from the Italian Navy however they are still using the same technical support personnel. Under the military crewing structure, the ship's day rate has been reduced. The crew size went from 25 to a Navy crew of 44. Science party on the *NRV Alliance* has remained at 25.

Vessel upgrades to the Doppler, CTD system, winches, and communication systems have been made.

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

#### **Regional Class Research Vessel**

Stewart Lamerdin/OSU updated the RVOC attendees on the proposed regional class research vessels. Highlights of the vessel design include large back deck, articulating crane, dynamic positioning, and acoustically quiet and efficient propulsion systems using a push-pull design. The funding for the RCRV is still in negotiations.

#### ***Kilo Moana* Engine Control Upgrades**

The engine control system on the *Kilo Moana* is original equipment which is no longer supportable. The manufacturer, EDI, is no longer in business having been absorbed by Trident. There have been software issues since the initial installation.

The Univ. of Hawaii has teamed up Alion Systems and planning is underway to do the installation in summer of 2016 to be completed by August 2016.

### ***Sally Ride and Neil Armstrong- Ocean Class Updates***

Mike Prince/ONR gave this report.

The *R/V Neil Armstrong* NSF Ship Inspection is planned for April 26-28, 2016, with the first science cruise to be in support of the Ocean Observatory Initiative, (OOI).

The *R/V Sally Ride* inspection is planned for October 2016 with the first science cruise to be the CalCofi program in November of 2016.

Some issues include the lightship displacement which is considerably less the designed. This will require some ballasting and full fuel to get close to design draft. The location of the main crane will make it difficult to use for over-boarding deployments. There are also some issues with airborne noise levels on the working decks.

### ***R/V Thomas G. Thompson Refit***

Doug Russell/UW provided a thorough presentation with slides on the mid-life refit project.

The ship will enter the shipyard in June of 2016 and the contract has a completion date of 30

April 2017. UW is planning for a month to transition back from the mid-life to supporting science, which will include a 10 day shakedown cruise. The work will be done at Vigor Marine Shipyard in Seattle.

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

UW has a completed design ready-to-build ship. Still working to identify a source(s) of funding.

### **UNOLS –New Vessel Planning and Delivery Issues- Panel Discussion**

We then had a panel discussion on lessons learned from experiences in planning a new vessel, taking the delivery of the ship, and finally the first year of scheduling. The format for this session was an open discussion among all the RVOC attendees.

Topics included:

- Contracts- yard schedule performance and delivery of the agreed upon deliverables
- Compliance-addressing ship design issues, documentation, and certifications
- Staffing- training, operations, and safety preparations
- Outfitting- ready for sea
- Readiness- risk assessments and contingency planning

Other things to consider are

- Checklists
- Process Mapping
- Filing Systems
- Maintenance Management System and importance of starting early
- Inventory Management System, including adequate spares and ship stores
- Warranty Claims
- Contract close-out procedures

## **Thursday 21 April 2016**

### **Latest STCW Training Requirements**

Marja Van Pietersom/PMI-MITAGS brought us up-to-date on new STCW requirements which will impact our crews. The new rules will go into effect on 12/31/2016. There are significant changes coming. Her slides outlined these changes and can be found in the appendices. PMI-MITAGS is preparing for these new regulations and will have courses available.

PMI-MITAGS has created a Navigation Skills Assessment Program called NSAP. The goals of the program are to:

- Verify Compliance
- Assess Risks
- Evaluate Strengths
- Serve as a Career Progression Tool
- Focus on human element

PMI still runs the Maritime Apprenticeship Program which is a 2-year deck apprenticeship program and was started in 2006. A 2-year Engine Apprenticeship Program will start in the fall of 2017.

### **VIMS New Research Vessel- Lessons Learned**

Durand Ward/VIMS led a discussion on the new research vessel that the Virginia Institute of Marine Sciences/VIMS is planning to build. The design is completed and the shipyard package is currently being prepared. Durand shared with RVOC some of the lessons he and his team have learned during this project. Such as:

- Before you build a new vessel, ask yourself what does your institution need?
- How do you prepare and plan for a vessel which will serve for the next 40-50 years?
- How do you decide on the types of missions the ship will need to perform, with the understanding that your researchers will want to do everything.
- In setting your mission profiles, things to consider include dynamic positioning, size and types of lab spaces, number of crew and technicians, and science berths.
- Endurance, costs to operate, and other general vessel specifications.

### **Wheel House Technologies and Software Update**

Craig Parkhurst reported on the maintenance management software and recent software upgrades to the underway application to be used when ship is not connected to Internet. This software allows all documents to synchronize locally and continuously. Wheel House will continue to offer implementation support.

### **Business Meeting**

We closed the meeting with a review of assignments, a list of action items, and plans for RVOC 2017.

### **Action Items**

- Safety Committee- has member vacancies. UNOLS posted a call for nominations.

- Medical Training Levels on ships- as assessment of the level of current medical training needs to be conducted.
- Lithium Battery- safe handling and approved fire-fighting methods. UNOLS Office working on this.
- Wire Cutters- Joshua Eaton/WHOI has designs for wire cutters if there is a need/interest.
- Jason Cradles- Man-over-board recovery systems need to be evaluated. Michael Hulme/Univ. of MD.
- Man-Over-Board Alarms- Doug Ricketts/UMN to evaluate options and advise us.
- Electronic Technical Officer- Doug Russell/UW to research this and do a white paper
- MOSA guidelines- Agencies to provide update and additional guidelines
- Appendix A & B- Deck Socket testing device. Please share any information and or techniques for testing
- Appendix B Testing Equipment- would a pooled resource of equipment be worthwhile?
- Mid-year RVOC tele-conference- An idea was suggested that a mid-year RVOC teleconference would be helpful in addressing all the action items
- Ballast Water Treatment system- Continue to watch what system (s) becomes US Coast Guard approved.
- Wire Pool Maintenance Policy 2015- This is currently posted on the Wire Pool web site.
- Post Cruise Reports- UNOLS is working on improvements to the post cruise assessment forms in an effort to improve response rates and have them submitted in a more timely manner.
- Identify and elect an RVOC Chair Elect as Tom Glennon becomes Chair when Doug Russell finishes his term in Sept 2016.

### **Ideas for RVOC 2017**

Suggestion to hold the Safety Committee meeting on Tuesday, then RVOC Wednesday to Friday. Jon Swallow may have a speaker for 2017. Also we need to engage more students in next meeting. RVOC Meeting Location- We have two volunteers, URI and LUMCON in New Orleans.

**Meeting Adjourned-** Noon on Thursday April 21 2016