Meeting Minutes

2010 Research Vessel Operators' Committee Meeting April 20-22, 2010

Graduate School of Oceanography University of Rhode Island Narragansett, RI

Note: All appendices are in PDF format unless noted otherwise. Large files are listed with their size.

APPENDICES

I.	Agenda
II.	Participant List
III.	Status of crew and technician retention workshop findings and actions - Jon Alberts
IV.	GEOTRACES winch modifications for global AGOR's/Sailor Thrane & Thrane 500 Fleet Broadband System - Al Suchy
V.	IMO Initiative for Long Range Identification and Tracking (LRIT) - Robin Plumley
VI.	UNOLS/DESSC/MLSOC/AICC Reports - Jon Alberts
VII.	Ship Scheduling Committee Report - Stan Winslow
VIII.	FIC Report - Al Suchy
VIIII.	RHOV Report - Al Suchy
X.	RVTEC Report - Rich Findley
	X(a). Overview of Tritium Lab Swab Program
	X(b). Overview of R2R
XI.	SCOAR Report - Dan Schwartz (50MB)
XII.	ONR & IWG-F (ex-FOFC) Report - Tim Schnoor
XIII.	NOAA/OMAO - RADM Jon Bailey
XIV.	NSF Report - Matt Hawkins
XV.	Equipment Pools - Matt Hawkins
XVI.	UNOLS Wire Pool and wire tracking database update - Rick Trask & Ruthanne Molyneaux
XVII.	Post Cruise Assessments & Safety Reports - Jon Alberts
XVIII.	New proposed IMO regulations regarding high-latitude operations - Dan Oliver
XIX.	Common Marine Inspection Document (CMID) - Joe Malbrough
XX.	2010 Oceanology International Exhibition - Stewart Lamerdin (14MB)
XXI.	Medical Section: MedAire & medical training discussion - Dr. Paulo Alves & Ms. Detelina Trendafilova
XXII.	<u>NERC - Robin Plumley</u>
XXIII.	Discovery Replacement Project - Robin Williams

XXIV.	DRDC Atlantic/CFAV QUEST - Yves Perron
XXV.	R/V SIKULIAQ Update - Dan Oliver
XXVI.	Ocean Class AGOR Update - Mike Prince
XXVII.	RCRV Update - Matt Hawkins
XXVIII.	Greening the Fleet/NOAA Dart Mooring Cruises - Liz Caporelli
XXIX.	USCG AMVER System - Mr. Benjamin Strong
XXX.	REVMA vessel management software - Mr. Gerd Rohardt
XXXI.	Noise control design and abatement - Mr. Raymond Fischer
XXXII.	Kilo Moana load handling system - Capt. Gray Drewry
XXXIII.	Towing Restrictions and man-rated cranes - Sergio Fifi, Jensen Maritime Consultants
XXXIV.	Winch Monitoring - Mr. Tomas Rezanka, MTNW
XXXV.	NSF Ship Inspection Program - Blake Powell, JMS
	Discussion of Appendix A (RVSS) Rope & Cable Safe Working Load Standards & SWL Estimator spreadsheet review and upcoming workshops - Rich Findley
XXXVII.	Ship Happens: Admiralty Law & Insurance Update - Dennis Nixon

Welcome remarks:

Pete Zerr (RVOC Chair)- Called the Meeting to Order. Agenda see appendix I.

Sam DeBow, URI Graduate School of Oceanography/ Marine Superintendent, presented logistics of meeting.

David Farmer, Dean of the URI Graduate School of Oceanography(49th year of operations at URI) Dr. Farmer stressed the importance of ships, safe operations, the critical need to increase our studies of the oceans, and recognized the hard work that RVOC does to provide this access to the sea.

Introductions from participants attending the meeting were announced. See appendix II.

Introductions:

Minutes from 2009 meeting were unanimously approved.

Old Business:

Some discussion on the P-code GPS in the fleet. Most ships have removed their equipment due to no longer being used. Matt Hawkins stated that this is in Jim Holik's program and NSF feels it is no longer needed. Dan Schwartz offered that the hardware we have is old and there is lot of maintenance issues. Zoltan Kelety/SIO reminded us there are export compliance issues in keeping it. Stan Winslow/UH said we got rid of ours as did Al Suchy/WHOI.

Status of Crew and Technician Recruitment Pilot Program. – Jon Alberts/ UNOLS reported on the progress made by Alice Doyle as the new UNOLS Technical Services Manager. The UNOLS Technician Recruitment and Retention Pilot Program is underway and in the fact gathering stages. Focus will be on the marine technicians, but anything which applies to crew recruitment and retention will be shared with RVOC. See appendix III.

Group Purchase updates of Shipboard Scientific Support Equipment

Geotraces Handling System

Al Suchy provided an update on the Geotraces program and handling system with a power point presentation. Significant design modifications to the Knorr were required for the original Geotraces Winch and Handling System. A new overboarding system design is complete and WHOI is awarding a contract to build. Will be ready by Oct 2010 for deployment off the Knorr. The drawings of the system were shown and WHOI has an alternative method in case the new system is not ready.

Melville, Revelle, Thompson and Knorr will be able to use it. The new design will not require structural modifications. The package is a CTD trace metal clean rosette. The length of the Kevlar made it very difficult to use the crane without contamination issues with the stopper. See appendix IV.

Fleet Broadband System-

Al Suchy presented a power point presentation on this. There are currently 20 vessels in the program as of now. A workshop was held in Woods Hole in May 2009. New 3 year operating program started on Jan 1, 2010. Some operators are using the system more as a telephone system and it was intended for data use. We have only used 15 GB of the annual 480 GB pool, this is low, but we expect an uptick in the coming months. GBs that are not used will not carry over to following year. WHOI is setting up an ftp site to enable users to see how they are using it.

IMO Initiative for Long Range Identification and Tracking (LRIT)

Robin Plumley was not able to make the trip due to volcano activity. See appendix V.

New Business Committee and Liaison Reports

UNOLS Report-

Jon Alberts provided an update on the UNOLS Office with a focus on the UNOLS staff, recent efforts, publications, Council highlights, DESSC, MLSOC, AICC, and the UNOLS Technician Recruitment and Retention Program. A large volume of volunteer requests are being accepted for UNOLS ships. A power point presentation is in the appendices. See appendix VI.

Safety Committee and Research Vessel Safety Standards- RVSS

Dan Oliver/UAK and Chair of the Safety Committee Report-

Three new candidates for the Safety Committee submitted resumes. They are Eric King/UW, Eric Benway/WHOI, and Turner Cabaniss/UCONN. RVOC voted and accepted these new members to the Safety Committee. The Safety Committee has been working on Appendix B which is nearly complete. In the upcoming year the Safety Committee will review medical standard screening for science parties and the crew safety training manual.

Ship Scheduling Committee

Stan Winslow/UH reported on efforts in for the 2011 ship schedules. The Global ship schedulers met in San Diego in January 2010 to begin work on 2011 schedules. The

2011 schedules appear to be thin at this point. The Global ships are fully utilized while the intermediates severely underutilized, yet costs continue to rise. We will make a decision on when the schedule meetings will be held. The Ship Scheduling Committee is looking at various issues for 2011 schedules which include: due dates for proposals, proposal pressure, deferred cruises, August panel, NOAA DART cruises, outside work, and cancellation clauses. See appendix VII. Joe Malbrough mentioned that he uses a charter agreement set up and it has worked well and Paul Ljunggren uses a BIMCO charter agreement.

Fleet Improvement Committee

Al Suchy/WHOI provided a power point presentation on the FIC activities.

FIC is currently looking at a list of 13 items (propulsion, dynamic positioning, electric power, bulbous bow, centerboards, underwater noise, ctd operations, incubators, incinerators, scientific storage space) for the Regional Class Research Vessels which NSF requested. FIC is also reviewing:

Projected End of Service Life Timelines Hugh Sharp debriefs White paper on Long Core support ship Global class vessel planning UNOLS Outreach/Mentoring

The question was asked how the "End of Service Life Dates" is arrived at. The FIC has been looking at this issue. A number

of the ship retirement dates have passed.

There have been two rounds where the Service Life Extension Plans (SLEP) was looked at closely. A lot more planning and discussion still needs to be done. See appendix VIII.

RHOV Update Al Suchy provided a power point presentation.

The Alvin replacement is still in Phase 1. The submersible will be rated for 4500 meters although hull is rated for 6500 m. The battery technology for HOV still isn't there yet. The current plan is to use existing lead acid batteries as has been used in the past. There are also issues with the syntactic foam.

Schedule shown- for the new Alvin. Atlantis in shipyard in Dec 2010 to Feb 2011. We have work to get it ready for new sub. Sphere updates – timeline shown with dates for each step. Looking at ergonomics of new submersible. New weight of the Alvin will be an issue with the A-frame- we are working with Caley, ABS and NAVSEA to get through these issues. See appendix VIIII.

RVTEC Report Rich Findley-

Rich presented an overview of the Rolling Deck to Repository (R2R) program and power point slides are in appendices.

Rich also discussed the University of Miami Tritium Lab SWAB Program. They survey for levels of C14 and tritium to determine what background levels are and to protect lab spaces from contamination. Samples are collected, taken to Miami, analyzed, and then a report is shared with operators. See Appendix X a & b.

SCOAR Report

Dan Schwartz

Dan provided a power point presentation on the recent SCOAR committee activities.

The next meeting is planned for June 22/23, 2010 in Monterey a the CIRPAS facility.

They will be discussing new technologies, various industries, issues of air space, recovery systems and adaptability to various ship platforms. One new hybrid system was highlighted where they fly a sensor from a plane and lower to a desired height above the sea surface, which would be unsafe for an aircraft. See appendix XI.

Facilities Tour

Dwight Coleman/URI led a tour for the entire RVOC group of the University of Rhode Island Inner Space Center.

Agency Reports

U.S. State Department

Liz Tirpak attended RVOC and outlined the ongoing effort that she and Roberta Barnes have been working on to reduce the bureaucracy in processing and completing research clearances. Liz also explained the new RATS program.

The Research Application Tracking System, (RATS) is an online data management system designed to improve the transparency and efficiency of the Office of Ocean and Polar Affairs' (OPA) implementation of the marine scientific research consent regime. Through RATS, an applicant can generate an application, track its progress, receive authorization documentation, and submit reports. RATS increases the speed with which critical information is relayed between the applicant and the official channels responsible for obtaining and/or issuing authorizations.

Dan Schwartz publicly thanked the State Dept. for the assistance that they provided in the repatriation of the Thompson's Captain after his death. Liz and Roberta were extremely helpful in changing the clearances as well.

Office of Naval Research Tim Schnoor

Tim gave a power point presentation on ONR activities. The Navy still holds the title on Alvin although NSF is major funding agency for the use of Alvin. The Navy is still doing the inspections. ONR also funds science on non Navy UNOLS ships and in 2010 there are about 500 UNOLS days. This expended almost all my budget which is approximately ten million each year. ONR recognizes the issues of keeping these ships at sea and the many maintenance issues which arise over the course of a year.

ONR thanks the marine superintendents for keeping the ships running. Unplanned maintenance does tax the ONR budget and it impacts the operations.

See appendix XII.

INSURV inspections- we identify area that need maintenance. The INSURV schedule will be changing and is to be determined. Inspections are every 5 years on ships.

DURIP program- Funding multi-beam instrumentation on ships, 1 million /project which may be available in 2011.

Ocean Class Ships- Mike Prince gave an update on the Ocean Class ship process and stated that operator selection is ongoing and delivery is still planned for 2014

NOAA Report RADM Bailey

NOAA homeports 20 ships and 12 aircraft. Currently NOAA is spending a lot of time in Congress working on various issues.

The budget distribution and number of operating days (4,000 days) has been a challenge and the workload exceeds the budget and we are trying to get this more in synch.

We have three new ships, the Pisces, Shimada and the Hassler. We are having problems with the twin hull Hassler. It is two years behind schedule and there are weight issues.

We have some new Aircraft, a King Air and a new P3.

NOAA was involved in the Haiti study and details are provided in his power point.

"Greening the Fleet-"- we are doing a coordinated program, Cost Benefit study due in May 2010.

NOAA continues to look at crew recruiting and retention and current findings were shown as graphs. We have changed the staffing model and have a home of record requirement and we fly home after 90 days. The economy has helped stabilize the fleet.

Fleet Maintenance- slides-

The new NOAA base of operations for the vessels will be Newport, OR with a move planned for July 2011. See appendix XIII.

Zoltan Kelety asked the question whether UNOLS ships can get the contract work that NOAA is doing. RADM replied that much of the NOAA work is fisheries research which UNOLS ships are not typically outfitted to conduct.

United States Coast Guard Jonathan Berkson, (USCG)

Jonathan provided a Coast Guard report on POLAR STAR, POLAR SEA and HEALY.

The HEALY, commission in 2000, will conduct three cruises in 2010, the BEST program, Extended Continental Shelf study and a Pickart/WHOI mooring cruise.

The POLAR SEA recent highlights included a Chinese mooring recovery cruise, Deep Freeze 2010 standby vessel and a dry dock, then fall deployment.

The POLAR STAR is in caretaker status, but will receive 60 million in upgrades.

Budget authority- Congress redirected 54 million from NSF back to the Coast Guard for FY 2011.

National Science Foundation Matt Hawkins, (NSF)

Matt provided a power point presentation which outlined the current organizational chart at NSF. The GEO advisory report was issued in Oct 2009. Discussed challenges for next decade for Geosciences.

Budget- NSF received an additional 3.0 billion in ARRA funding.

Two big projects are the 148 million for R/V Sikuliaq and 106 million for OOI The budget projections for 2011 were given. The issue appears to be a lack of science proposals and not science funds. See appendix XIV.

Special Reports

Equipment Pools

Matt Hawkins/NSF gave a complete overview of the equipment pool.

NSF is putting emphasis on shared used pools of the various equipment.

Definitions of "Pooled Equipment and Shared Use Equipment" as well as "Centers of Expertise and "Free at point of Use" were discussed in detail in the power point.

The equipment pools should reduce the overall costs of this equipment.

See appendix XV.

Wire Pool

Rick Trask/WHOI- explained the pool of wire- storage locations, one at Scripps and one at WHOI. We keep an inventory and determine what is needed and where it is needed. Current stock of cables/wires includes .680 coax, .681 FO, .322 em. $\frac{1}{4}$ inch $\frac{1}{2}$ inch and $\frac{9}{16}$ th inch 3 x 19. The wire pool has a budget for shipping.

Break testing – Rick is now doing break testing for the community, both the east coast and the west coast inventory. See appendix XVI.

Van Pools

Bill Byam and Pete Zerr detailed the East Coast and West Coast Van Pool, See power point presentation. We have had some scheduling issues, so please let us know as soon as possible what the van needs are. For scheduling question was asked if we could receive this from the STRS system. The UNOLS office will look into this.

East Coast Winch Pool/West Coast Van Pool

There is a winch pool being established at WHOI with David Fisichella and Jamie Haley and also a winch pool at Scripps.

Wire Pool Database:

Rick Trask/Ruthanne Molyneaux/WHOI provided an extensive explanation of the new wire pool data base, see the power point presentation. Ruthanne Molyneaux is the expert on this database and is available to help.

There was a new Wire Pool Policy in October of 2008 which UNOLS needs to post on web site, action item.-

Matt Hawkins stated that this will be a requirement of the ship inspection program to provide the records available on the wire database.

Medical Section

MEDAIRE

Dr. Paulo Alves presented a presentation on the MedAire system and reminded us that the sooner you call us, the better to reach a good outcome. He detailed a pie chart of when calls come in, chart of medical categories and percentages represented in each case.

Outcomes of cases- only 2 % resulted in diversion.

Telemedicine is defined in 3 segments- (1) local resources, (2) communications, (3) remote sources. We can enhance the communication and the local resources, and the remote resources are continuously improved. Remote telemedicine devices are providing many new solutions to transmitting medical information.

Detelina Trendafilova presented information on training and that MedAire decided to survey what the training level was in the fleet. A survey was sent out in Oct 2009 and the results are shown in pie charts. See appendix XXI.

Dennis Nixon offered that we should investigate the diagnostic box as a item to be carried aboard our ships. Action item.

Representatives from Other Countries- Note: Due to travel restrictions which resulted from Icelandic volcano, members from NERC, NURC, NIOZ were unable to attend RVOC.

Robin Williams did discuss RRS Discovery replacement The ship will be 52 years old and will be retired in 2013/2014. Contract was placed in March 2010. The ship specs are in meeting presentations. Robin went into great detail on the ship replacement process which only happens every twenty years in the UK. A comparison between the two ships (RRS James Cook & RRS Discovery) was provided.

Robin provided details on bubble sweep down, comparing the RRS James Cook and the new ship. They have done a tremendous amount of research on bubble sweep down.

Robin Plumley/NERC did call in by phone and provided details on his power point which was shown. Cruise highlights from the RRS Discovery, refit in 2010, winch system upgrades and steel work on the Discovery foc'sle deck were discussed.

The RRS James Cook cruises in the North and South Atlantic were discussed along with ship issues. Bubble sweep down issues still a problem. We are using trim to try and mitigate the problem and there are still some winch issues. For fuel conservation, we are running at 10 kts. On gray water that has not been covered in Marpol, we are finding some ports are considering grey water as black water and is a challenge in handling it

Long Range Identification and Tracking LRIT- Robin Plumley provided overview of the LRIT. See power point in appendix V.

Safety Statistics and Post Cruise Assessment Reports

Jon Alberts/UNOLS

Post Cruise Assessment Committee includes Bob Collier, Joe Malbrough, Wilf Gardner and Dave Fisichella. Last Committee meeting was a teleconference in January 2010. Committee will focus on Global ship PCAs and provide a report. Showed power point on fleet safety statistics. See appendix XVII.

Question: Can we get Chief Scientist to fill out PCA before he/she departs ship? Discussion/ very difficult to do.

Medical Examinations for non crew personnel

Eric King/UW is reviewing this now. UW doesn't have a TB test for science, but crew and techs are tested.

Special Reports

Greening the Fleet

Liz Caporelli/WHOI is working on a survey of current practices and how we may be able to move towards a sustainable fleet and will send it out to UNOLS operators. Liz is also working with Bruce Corliss/Duke on developing a workshop. See appendix XXXVIII.

21 April- 2010

Special Reports- continued

New Proposed IMO Regulations regarding high latitude operations

Dan Oliver/UAK provided a power point of new IMO regs that will impact fleet. IMO resolution A.1024-26. In 2002 IMO put out guidelines for vessels operating in the polar waters, now new regulations are coming into place. See appendix XVIII.

All the classification societies have established guidelines for operating in polar waters and Matt Hawkins is keeping up on this. OPP is also closely following this and speaking for NSF.

Potential impact- The list of areas affected by these rules was outlined by International Association of Classification Societies, (IACS). These rules will impact the Sikuliaq in various areas such as the ability of the sea chest to de-ice and ballast tanks exposed to air will need to be heated. Grandfather clauses are unknown at this time but there may be significant impacts to the Sikuliag. There are maps which show areas of coverage but the rules are yet to be determined. Coast Guard will have a status site web site up by end of April. Rules may be complete by 2012.

Dan Oliver will send updates to RVOC as this develops over the next few months.

Defence Research and Development Canada

Yves Perron/DRDC gave a background and organization detailed discussion in his power point presentation. The DRDC Atlantic operates the CFAV "Quest" as well as calibration barge for developing sonars. The CFAV Quest specifications and operations were outlined in detail in his slides. This was once the quietest ship in the world.

They support the Canadian Navy with various programs: Undersea Warfare Platform Performance Information Systems Signature Management Special Projects – UAV, AUV Northern Watch project of underwater arrays linked to satellites, then transmitted to shore stations. International links- NATO, US, UK, Australia See Appendix XXIV.

Research Vessel New Builds

Dan Oliver/UAK gave a power point presentation on the Sikuliaq.

Design verification process is underway now with Marinette Marine. They are taking our specs and reviewing them with UAF and will then produce the design blocks and then own the design. This process will save money, production time and result in a better ship.

Marinette Marine has retained Guido Perla and UAF has retained Glosten .

Changes since the FDR are outlined in slides, included anti roll tanks and 12 feet longer then originally planned. Dan provided Sikuliaq schedule with key dates for each step over the next few years. See appendix XXV.

Ocean Class AGOR update

Mike Prince and Chris Macdonald-

Schedule detail given on power point slides in great detail with a 2014/2015 delivery.

Mike gave an overview of the two design teams. The first design meeting is with Dakota Creek, then Marinette a few weeks later. The operator representatives will be present for design reviews in late July.

Phase 1 is in a competitive phase, we can't tell them how to design it, but can only say if you go this way, you won't meet the performance specs.

Operator Selection Committee will have representation from un-conflicted operators, and will be an internal NAVSEA decision.

Ray Fisher is consulting on both designs for acoustic issues.

Contract 74.5 million for first ship and 71 million for second ship. Fixed cap contracts. See appendix XXVI.

Regional Class Research Vessel Matt Hawkins

Matt gave history on the procurement process and how NAVSEA was used.

Then NSF set up a panel in Oct 2009 and the Glosten design was picked to do a project refresh on. NSF is asking FIC to review a set of design parameters and report back to NSF by October 2010. This is not to be an engineering analysis, but are judgment questions. NSF will build one ship and operator will be selected like it was in Sikuliaq. See appendix XXVII.

Local Vessel Update

Dan Schwartz – Barnes

We have stood up a committee to start process to define and replace the Barnes, This will be state funded. We will at some point take Barnes out of UNOLS and then work through the process to make it a UNOLS vessel. Puget Sound named a significant area and the need for a small vessel in there. Will send out a call to RVOC for input on small vessels and conceptual designs.

Guest Speakers

REVMA- Vessel management software

Gerd Rohardt was unable to attend and Pete Zerr gave a brief description of this from a power point. See appendix XXX.

AMVER- <u>www.amver.com</u>

Ben Strong gave a presentation on the AMVER system which is a USCG program for Automated Mutual Assistance Vessel Rescue. Established in 1958 and global in 1971.

System works because of our ships which can assist in the rescue. Position reports stay in a server in West Virginia. Simple to enroll in our system by submitting information on your ships and position reports.

Sharing our products with international search and rescue organizations/partners.

We have 20,000 ships enrolled- Ships don't have to be 1000 gt, we welcome all ships

Contact: Ben Strong (benjamin.m.strong@uscg.mil)

See appendix XXIX.

Noise Control Design and Abatement

Ray Fisher gave a very good overview of what ship noise is, how it is generated, radiated, and how to control it. He discussed the ICES requirement and background on what ICES is. The NOAA FRV Oscar Dyson and a summary of noise control measures taken and treatments used were described. Other issues to be concerned with are vendor weight discrepancy which is a common problem and can be as high as 30 %.

Marine growth can actually cause cavitations on props and increase hull noise.

Inspections- these are very important to keep these isolation mounts maintained and inspected.

The R/V Hugh Sharp did meet ICES at 8 knots. We did the design from the ground up and were quite successful.

Spray on dampening materials are becoming available, including materials safe for berthing areas. See appendix XXXI.

Kilo Moana Load Handling System

Capt Gray Drewry/UH gave an overview on the system and then a case history from the Chadwick cruise. We had motor problems which caused ship to black out. Variable speed drive on winch for CTD tripped, and set off the entire alarm panels. Fire alarms, trouble alarms, DP was also engaged then bow thruster shut down. Power was restored about 15 minutes later then engineers smelled smoke, and had to ensure there wasn't a fire. Vector motor was opened up and there was water inside. Motor had to be sent out to be repaired then shipped to vessel. We will need to put it all back together and then continue to trouble-shoot and try to figure out why is happened. See appendix XXXII.

Oceanic

Doug White/UDEL gave an overview of the Oceanic database. <u>www.researchvessels.org</u> Running unfunded since 2005- vision about 15 years ago during WOCE cruises and we have kept it up.

Tour of R/V Endeavor

2010 Oceanology International Exhibition, London England-

Stewart Lamerdin reported on this conference which is held every two years. Vendors from all over the world met and showed off their equipment. Stewart felt it was a worth while trip. See appendix XX.

Towing Restrictions and Man-Rated Cranes

Segio Fifi/Jensen Maritime presented a detailed power point presentation on the aspects of towing and effects on research vessel stability. He outlined the towing regs, CFR's for both inspected and un-inspected and explained the calculations used to determine 46 CFR 173.095(b). See appendix XXXIII.

Measurement Technology Northwest

Thomas Rezanka MTNW discussed winch monitoring and safety programs in a power point presentation. LCI90i and software will be available early summer of 2010. Joe Malbrough will be conducting a group purchase of the LCI90i for 8 UNOLS ships. See appendix XXXIV

NSF Ship Inspection Program

Blake Powell/JMS gave an overview of the ship inspection program which since 1997 has conducted over 120 ship inspections. JMS is here to help the ships to be sure they are safe, share knowledge with other ships in the fleet and continuously improve the ships. Quality of ships has improved due to the people and the sharing of common findings and best practices, such as Appendix A and Appendix B-

Some common areas where improvements are needed are:

Lab postings, lighting and mounting on ships.

Vans in pool are generally good but there are many old vans still out there that fail.

Fire fighting equipment is outdated and we see egress and lashing arrangements issues.

Some winch and crane stations are not set up too well and ergonomics improvements are needed. Also we see alot of poor bridge installations.

Emergency procedures and drills- some are well documented, but are not up to speed on drills, etc. Need a schedule of drills for the entire year. Perhaps weekly drills.

Maintenance and Inspections- -

Shipyard reports- some documentation is lost in the rush to get out of the shipyards

We would like to see what was accomplished at the shipyards.

Some areas in training need to be looked at, such as: Stability program training Medical Person In Charge- minimum training of crews- is common Vessel Security Officer Advanced Firefighting- we recommend every 5 years Winch and Crane operators Electronics and power distribution and back up power for critical equipment. ADA. Some vessels could make improvements in areas such as: Awareness, Lighting, Access to berthing and markings from berthing area-

Pre-Inspection information- There is now an electronic format in place. For the shipyard reports, we need to see what was done at last shipyard Post Cruise reports are required since the last inspection. Appendix A worksheet needs to be on record too. Expected Repairs- Marine Supts- this is a new form

Transfers of best practices- we try to point a ship that may need some guidance from another operator who is doing a good job. See appendix XXXV.

Appendix A Workshop

Rich Findley/RSMAS detailed the Appendix A workshops. This series of two day regional workshops, funded by NSF for invited attendees include winch owners, operators, crew, scientists, technicians, and marine managers. It will be based on the UNOLS Winch Wire Workbook and the objectives of the work shop will be hands on training and operation of the wire monitoring equipment provided by Measure Tech NW.

Discussions of scientist bring their own winches which do not follow Appendix A.

Workshop Locations RSMAS/HBOI- (June 2, 3) WHOI- tbd UW-tbd SIO- tbd Contacts-Aubri Steele 772-242-2582 Rich Findley- 772-242-2372

See appendix XXXVI.

Appendix **B**

Dan Oliver/UAK, Chair of the RVOC Safety Committee reported on the meeting held on Monday April 19th. Appendix B was discussed all day- The draft is being updated and will be available to RVOC. We think it is at a suitable level to use for equipment purchases and want to make it available as soon as possible.

After 20 May we will ask for a formal review and feedback for RVOC.

We are using two years after the date of promulgation for compliance.

The Walton Smith engineering analysis cost 15 K, and NSF has said it would fund through SSSE each operator to do this study on each ship.

We have not run this through the regulatory bodies, so if you are an inspected vessels you must still comply with subchapter U. At some point we will approach USCG to allow Appendix B to be the new standard. The requirements for each component will still need to be filled out and each system will be documented.

Ship Happens: Admiralty Law and Insurance Update

Dennis Nixon/URI/GSO- presented a power point presentation, see appendix XXXVII.

Dennis reminded RVOC that "I am your lawyer and I will get back to you- I am here to help you" This was followed by:

News from Kiel Overview of Insurance Market Vessel Casualties Legal Decisions

News from Kiel-

Highest fatality in my memory, (6) fatalities in 2009-2010.

Medical evaluations were discussed in Kiel, but the difficulty in finding crews cause concerns on imposing stricter health requirements.

Overview of the deaths in the past year makes us think what we can do better but exactly what is uncertain.

Case Histories

Major allision with German RV and Greek Ferry-New Chilean RV lost to tsunami, within hours of launching Norwegian gear explosions and weld failures British vessels pulled a CTD through a block. Shipyards can be dangerous and shipyard laws allow them to limit their liability in US. We need to recognize that our ships are at risk while in shipyard. Our ships don't have hull insurance- Are you paying attention to this and putting something in place? You can purchase at extra cost and you can have shipyard pay a a higher liability.

InsuranceMarket

If you have seen more then a 4% increase, you are probably paying too much. Recession has reduced insurance market Piracy and Insurance- prohibitive premiums in these areas

Vessel Casualties affecting Research Vessels

Over view of vessel casualties Company so proud of its safety record, crew became hesitant to report any minor accidents, so crew didn't report anything. Fooled by own bureaucracy Hide problems to keep up a "perfect record" 85% of marine accident caused by human error-

Relevant Legal Decisions

Major legal cases

Maintenance and Cure not paid, so lawyer went after punitive damages after a seaman hurt his arm on a tugboat. Insurance does not cover this

Aiding refugees and trying to land them in Italy, captain arrested for bringing in illegal immigrants Langseth- Aug 2009 Living Oceans Society sued, it was dismissed

Safety Issues

"Must repackage the idea of safety everyday"- increased vigilance"-Dennis Nixon