

## **UNOLS Research Vessel Technical Enhancement Committee (RVTEC)**

**2005 Annual Meeting  
Oregon State University  
CH2M Hill Alumni Center  
Corvallis, Oregon**

**<[http://oregonstate.edu/cw\\_tools/campusmap/](http://oregonstate.edu/cw_tools/campusmap/)>  
November 8-10, 2005**

### **Meeting Minutes**

#### **Executive Summary**

RVTEC met on November 8-10, 2005. The meeting was hosted by Oregon State University in Corvallis, Oregon. Bill Martin, RVTEC Chair, presided over the meeting. The meeting included reports by Agency representatives, Peter Wiebe (UNOLS Chair), and UNOLS Committee liaisons. A variety of issues were discussed as identified on the meeting Agenda (Appendix I). The meeting also included a variety of technical presentation:

- Shipboard Automated Meteorological and Oceanographic System (SAMOS) - Shawn Smith
- HiSeasNet Installation and Operations Information - Steve Foley
- Demo of the NOAA Scientific Computer System - Douglas Perry
- UHDAS: Univ Hawaii at-sea ADCP acquisition and ship's web display of ocean currents - Julia Hummon
- Wide Area Wireless Internet - Tom Wilson
- Update on VIDS Data Collection System - U.Miami
- Update to Quality Control Database System - U.Miami

The meeting included a trip to Newport, OR for facility tours. These included *Wecoma*, the Hatfield Marine Science Center Facility, and the Northwest Fisheries Science Center.

Elections were held for the RVTEC Vice Chair position. Steve Poulos completed his second term as Vice-Chair. The RVTEC membership nominated Stewart Lamerdin (Moss Landing Marine Labs) to serve as the new RVTEC Vice Chair.

#### **Actions**

**Regional Class Scientific Outfitting** - RVTEC members should review the Regional Class Science Outfitting specification and send comments to Stewart Lamerdin. In turn, Stewart will provide the feedback to NSF.

**Radio Frequency Spectrum** – A committee of Richard Perry (Chair), Steve Hartz, and Toby Martin will survey RVTEC to identify the frequency spectrum use by UNOLS vessels.

**INMARTECH 2006** – A subcommittee of Barrie Walden (WHOI), Eric Zettler (SEA) and Mary

Lynn Dickson (URI) will work to organize the meeting. RVTEC should provide to the subcommittee regarding the technical program.

**Safe Working Loads** – Bill Martin will continue to encourage the RVOC Safety Committee to address the issue of safe working loads and indicate that a clear definition of “safe working load” is needed.

## **Appendices**

<b>Day 1: Tuesday, November 8, 2005</b>	
I	<a href="#">Meeting Agenda</a>
II	<a href="#">Participant List</a>
III	<a href="#">NSF Report</a> - Sandy Shor
IV	<a href="#">ONR Report</a> - John Feitag
V	<a href="#">USCG Report</a> - Phil McGillivary
VI	<a href="#">Research Vessel Operators' Report</a> - Bill Martin
VII	<a href="#">Scientific Committee for Oceanographic Aircraft Research</a> (17.7 Mb) - Steve Hartz
VIII	<a href="#">DEep Submergence Science Committee</a> - Annette DeSilva
IX	<a href="#">Alaska Region Research Vessel</a> (6.9 Mb) - Steve Hartz
X	<a href="#">Hugh R. Sharp Update</a>
XI	<a href="#">Marcus Langseth Conversion Update</a> (3.5 Mb) - John Diebold
XII	<a href="#">Regional Class Steering Committee Report</a> - Stewart Lamerdin
XIII	<a href="#">Regional Class Acquisition Status</a> - Pete Kilroy
XIV	<a href="#">INMARTECH 2006 Planning</a> - Barrie Walden
XV	<a href="#">UNOLS Seismic Operations Permitting</a> - John Diebold
XVI	<a href="#">Permitting NSF Seismic Projects</a> - Sandy Shor
XVII	<a href="#">SEA Acoustic Permitting</a> (1.7 Mb) - Erik Zettler
XVIII	<a href="#">Radio Frequency Spectrum Tasking</a> (1 Mb) - Bill Martin
XIX	<a href="#">UNOLS Goals and Priorities</a> (5.5 Mb) - Bill Martin
XX	<a href="#">UNOLS Report</a> - Peter Wiebe
<b>Day 2: Wednesday, November 9, 2005</b>	
XXI	<a href="#">Technical Services Information</a> - Annette DeSilva
XXII	<a href="#">Shipboard Data Acquisition Systems</a> (5.6 Mb) - Dale Chayes
XXIII	<a href="#">Virtual Integrated Data System</a> - Jim Lovin
XXIV	<a href="#">Long Distance Disruption-Tolerant Wireless Network</a> (2.5 Mb) - Kevin Fall

XXV	<a href="#">Equipment Maintenance Database</a> (1.8 Mb) - Ilya Nakanorov
XXVI	<a href="#">University of Hawaii - ADCP Data Acquisition and Processing</a> - Jules Hummon
<b>Day 3: Thursday, November 10, 2005</b>	
XXVII	<a href="#">Long Distance Disruption - Tolerant Wireless Networks (Poster)</a> (1.2 Mb) - Kevin Fall
XXVIII	<a href="#">HiSeasNet</a> (8.6 Mb) - Steve Foley
XXIX	<a href="#">MATE Report</a>
XXX	<a href="#">Task Statement to the Safety Committee</a> -Rich Findley
XXXI	<a href="#">RVTEC Meeting Action Items</a>

## **Tuesday, November 8th**

### **Meeting Called to Order:**

Welcome by Marc Willis and Introduction of Dr. Abbott.

OSU Welcome Speaker – Dr. Mark Abbot provided a welcome address.

- He is Dean of the College of Ocean and Atmospheric Sciences
- Chair of CORE Board of Governors
- Welcome to OSU with our brand new football stadium, \$90M (9th largest in the Pac10)
- More complex programs: Cruises and ORION
- Discussed need for new scientists.
- Important to get new infrastructure.

Introductory Remarks by Bill Martin, RVTEC Chair

- Welcome
- No cell phone ringing, no OS boot up noise!
- Need nominations for Vice Chair
- The Meeting Agenda will be followed – Appendix I

### **RVTEC Participant Introductions**

- Attendance – Appendix II

### **Agency Reports**

NSF - Sandy Shor (Appendix III)

- No NSF budget yet, under continuing resolution.
- Anticipating a flat year (at best) and a difficult year for ship ops. 20-25% fewer days from NSF (fuel and security.)
- No personnel changes in integrative programs office

- Fleet: Ewing -> Langseth, Gyre retired, Weatherbird -> Seward Johnson at Bermuda, Helix laid up last year and this.
- Intend to maintain and improve quality of service as possible.
- This is first year of a three-year cycle, goes out for review. Quality proposals
- Desire to modernize shared use instrumentation
- Working on an Environmental Impact Statement for NSF-funded marine seismic work
- OCE hiring an Environmental Office soon
- HighSeasNet initiative should improve communication and education. Could be as many as 10 ships
- Funds are likely to be tight for new initiatives.
- Willis – Will the EIS be a fleet wide environmental impact statement? Reply - Yes. EIS is for the entire UNOLS Fleet – expecting to encompass all UNOLS vessel. Focused on NSF seismic research.

#### Navy - John Freitag (Appendix IV)

- One of the original RVTECers.
- Also on continuing resolution but budget has not gone down
- Ship days are up from 05 driven by big programs
  - SW06 four ships off jersey shore for 45-55 days
  - Fish monitoring (3 ships, 21 days)
  - Multi-disc in Monterey bay, 4 ships, FLIP, CIRPAS aircraft
- Ship costs are skyrocketing. Cost per day for globally is up by \$3,600. Navy fuel up \$1/gallon this year
- INSRUV Ship inspection program:
  - Science team Amos, Lamerdin, Webb, Willis (get ONR hats)
  - Thompson and Melville done last year
  - No schedule for this year, KM is next on the list, typically 10 months out
- Shipboard Handling Systems:
  - Look at automated handling of CTDs
  - Hawkins, Willis and Holik
  - Final committee report has been received
  - Posted on the UNOLS web site
  - UDEL let a contract to Calley for Hugh R. Sharp (Cape Henlopen replacement)
  - They did the winches on the Discovery and it was a disaster.
  - Oden (Norwegian company) are providing winches for the new UK ship
  - \$700K: winch, heave comp and handling system. All electric.
- Ocean class:
  - SMRs done
  - Hull studies are complete
  - Looked at the X-craft and recommendation came in as a monohull
  - Congress has directed the Navy to put \$25M into the account from which the ships would be built, but does not authorize or appropriate
- The FOFC plan is being revised by the working group. Includes all federal NAVO, NOAA, USCG Icebreakers and EPA (Lake Guardian)
  - The FOFC and NORLC "wiring diagram" is currently being adjusted.

- Q: Who will provide the new handling systems for new ships: yard or UNOLS?  
A: Not clear at this time. Pros and cons of both. Bulk purchase is not too likely because of ship specific issues.
- Q: How seriously does the ship inspections take on some issues, specifically wires?  
A: Very. There is a significant difference of opinion on wire lubrication

#### NOAA - Mike Webb

- Budgeting for this year was done in 2003. This is problem:
  - Will probably lay some ships up because of increase fuel cost.
- Expected to have a fleet of 18 ships in 2015.
  - Tossing the Capable into the mix caused a ripple
  - The TAGOS to replace the Jordan may not happen
  - FSVs Oscar Dyson (fisheries) boat is on line. In overhaul now, among others, change sonars
- Purchased 7 VSATs 3-large, 4-small. Installing this winter to get 24/7.
- More multibeams
  - Multibeams: big issue is getting trained people or getting people trained
- Capable is going to Todd, NOAA not doing the design
- Halter after Katrina: ship (Bigelow) is fine but the yard is beat up. Small swath is going to be home-ported in NH, delayed by 6 months (or more.)
- Foreign researchers on ships (and labs) – this is an issue that will need to be watched.
- There are software export issues. New rules came out in the end of June. It drew two editorials in Science. There are levels of bad countries. Deemed Export - must know what is on the ships. Need to pay attention to this. Proposed rule making came out in June - Dale is sending info by email. Important issue is that the Institutions would need to have policy and you would need to

USCG – Phil McGuilivary (Appendix V) – Phil read report.

**Accept Minutes** – Minutes accepted (Richard Perry/Marc Willis)

#### **UNOLS Reports**

##### RVOC and Safety Committee - Bill Martin (Appendix VI)

- Did not meet this year. Moved meeting date from October to spring. Next April 2006 at UW
- Safe working loads
- (Letter from our request) - No response. Pressed at UNOLS spring meeting.
- There was a phone conference in September it was discussed.
- Bill Hahn and Fred Jones have retired, need new members
- Rick Trask (WHOI) heads wire pool. Has been funded to test 9/16" wire
- Need funding for testing 0.322"

- DNV/ABS testing will drive the testing of the synthetic line for the new coring system being built at WHOI.
  - BS/DNV is an acceptable approach instead of Subchapter U
  - We finally got some action on this issue
  - Will keep pressing the issue.
- Q: Phil Gibson tested 0.322 wire some time back. Why does that have to be re-done?
- A: probably unaware of the specs. We will dig up those docs and get them to the committee.
- Q: What is the range of current SWL currently used?
- A: No one talks about it in part, at least, for liability issues. There is a history of confusion from vendors on this issue.
- Q: Has anyone broken a .322 other than at the termination?
- A: Many
- Q: What are other countries doing?
- A: This was on the discussion at INMARTEC (last.) Different (more expensive) cables, including titanium and tapered cables.
- Q: Is this issue moving or stalled?
- A: It hasn't moved much of late. The UNOLS office is pressing the safety committee to work on this. Presumably that will lead to some realistic work rules that may lead to some progress.
- Current members of Safety Committee are:
    - Askew, Althouse, Ljunggren, Hawkins, Rabalais, Martin
    - Althouse is chair
    - Short two members, and perhaps a science representative

## **BREAK**

- Safe working load discussion:
  - **Tasking:** Others to work with Rich Findlay to draft a "letter" to Council (Peter W.) for action. Richard Perry, Dave Nelson, Bill Fanning, Robert Stienhouse.
  - Draft terms of reference or mission statement for wire safety. What are the issues that need to be explored to get to this answer?
  - There was a subcommittee of the safety committee which has dissolved

## FIC - Marc Willis

- Met a month ago
- Regional Class
  - NSF is acquiring new-style regional-class ships. Substantially larger than the current Regional ships. ~25M each
  - Goal is three in the next 10 years (2010 - 2014)
  - NSF is not sure that they can award an operator contract for a ship that does not yet exist (as they were planning to do.) Seeking advice from NSB.
  - Timeline/contracting/technology concerns:
  - NAVSEA process locks all the stuff in initial bid
  - Technology will be obsolete by the time the ships are delivered

- Ocean class:
  - Bigger, more sophisticated ships are going to be more expensive to operate
  - There will probably be less of them
- Fleet improvement Plan – UNOLS plan only addresses academic fleet plan. Both plans will show that there will be fewer ships – less access. There will be larger more capable ships. This is very important.
- ADA access:
  - Wheelchair accessible is an important issue
  - NSF is committed to accommodate hearing, sight, and mobility limited folks
  - No one really understands what that means yet
- Global class SMR committee forming - In prep for mid-life refits for AGORS (Thompson, Revelle, Atlantis)
- Have a look at Hugh Sharp. Lots of new, interesting things.
 

Q: How FOFC will require (at least) one ship to be removed from the fleet. How do you have a competition when it is based on retiring someone else's ship?

A: It won't be easy

Q: How did ADA compliance happen?

A: They will comply because they are federal facilities.

#### AICC - Dale Chayes

- Last meeting was in March in DC
- Next is in Seattle in December
- Transition toward more direct NSF support
- Continued ad hoc short term support migrating to NSF
- Expect a solicitation some day (after the transition is done)
- Successful arctic season on Healy including a two ship cruise w/ Oden
- Miss-reference in the recent Sea Technology note. There was no NOAA participation in HLY0503
- Incorporating some PCAR in post cruise debriefs. '05 debriefs coming up
- Small scale improvements:
  - Installed POS/MV-320, upgrading to MK-3
  - Renovation of some lab spaces
  - Upgrade of Terascan
  - Upgrade of Bathy2000

#### SCOAR - Steve Hartz (Appendix VII)

- April meeting in Boulder
- Nov telephone
- HIPR: modified G4 (50,000 feet) \$90M
- Otter, Cessna Skymaster, Twin Otter
- Similar issues including ADA concerns
- Some require class-3 aviation medical

#### DESSC - Annette DeSilva (Appendix VIII)

- Debbie Kelley is chair

- One position on DESSC is open
- MBARI-developed rock drill was transferred to WHOI as a shared access 3rd party tool.
- HOV safety standards: tasked by NOAA and NSF. The Alvin replacement will not be Navy-inspected. Want to have in place. Broad representation on committee. Couple of years to complete.
- Establishing criteria for transition of new assets into the facility
- New HOV
  - Science ops in 2009
  - More info
- Hybrid ROV - Trials in 2006
- Next meeting in December
 

Q: Why not go to Ocean Sciences to reach

A: Ocean sciences do not reach biologists. Will go to ASLO next year.

### **Ship Updates**

#### Alaska Region Research Vessel (ARRV) - Steve Hartz (Appendix IX)

- ARRV is now #1 on the NSB MRE/FC list for next year

#### R/V *Hugh R. Sharp* (Cape Henlopen replacement) – Annette (Appendix X)

- New ship delivered to Port Everglades by ship in December
- Science in late March pending successful NSF inspection
- Acoustic trials in September. Say they met ICES at 8 knots but graph shows not below 50 Hz. There is a known issue at 10 knots.
 

Q: How much wire on the handling the system

A: Don't know

#### R/V *Marcus G. Langseth* - John Diebold (Appendix XI)

- Lots of progress has been made
- Ewing went down the road about a month ago as the Scan Resolution out of Bergen Norway. Bollard pull was 37 tons.
- Principle Mission is MCS
- Will be operated as a national facility
- Three committees:
  - EROCC/Ewing Replacement Coordinating Committee
  - MOWG/Marine Operations Working Group (Lamont)
  - MLSOC/Marcus Langseth Science Oversight Committee under UNOLS
- Town meeting at AGU (Thursday)
- Timeline is sliding forward
  - Shipyard by January 2006
  - Shakedown September '06
  - Science October '06
- New Hire: Robert Stienhouse
- OBS storage: 100 OBSs



- ADA: lots of discussion. As a conversion, we got somewhat of a pass. Will handle visual and audible limitations but probably not so much for mobility limited.
- Marine Mammal mission creep has been big.

#### Regional Class Acquisition - Steering Committee (Appendix XII) - Stewart Lamerdin

- The Academic Fleet Review report of 1999 recommendation 8 was to look at the future etc.
  - In 2005 NSF contracted supervision and oversight of building of Regional Class Research Vessels (RCRV) to NAVSEA
  - A UNOLS advisory team has been formed to provide advice on resolution of academic, operational and technical concerns raised during the design process
  - Additionally, a UNOLS Source Select team was formed to provide advice on selection of the ship design and build teams
  - Late 2006/7 – RFP expected for an operating institution
- Q: Will Regional ship designs address ADA issues?  
A: Wiebe will comment on Council's view of this in the afternoon

#### Regional Class Acquisition – Instrumentation – Pete Kilroy (NAVSEA) reported (Appendix XIII)

- RFP for design/build teams for the RCRV went out on October 31, 2005 <[www.Fed.bizops.gov](http://www.Fed.bizops.gov)> has all the details.
- Proposals are due on January 13th then source selection will be made for two teams to develop a design (Phase I). From the designs, one will be selected to build the ship (Phase II).
- They would like an operator representative at the yard during construction.
- The lead ship construction award is expected for a 2007 start and the third ship is 2011.
- The equipment needs to be as up to date as it can possibly be.
- There are three processes for providing the ship's science equipment (NSF will decide):
  - Contractor furnished
  - Government furnished equipment (GFE) – tested while still under contract at yard.
  - Post delivery installation - Shipyard build in the capability, someone else buy it and it gets installed after delivery.
- NAVSEA would like to have RVTEC's input on the specifications.
- The RFP is currently worded so that science equipment is contractor furnished. It doesn't have to stay that way. It can be changed later to however NSF would like. This is to just get the RFP out the door. There will be an opportunity to advise.
- Having a good set of specifications is prudent. Pete is asking that RVTEC to look at the specs as they exist today and try to get it right.
- Scientific Electronics Systems (SES) were discussed. The current version is:
  - Multibeam
  - Single beam

- sub bottom
- ADCPs
- Navigation and tracking
- Sea surface temperature sensor
- INS
- Dale: Recommend that the design be flexible to allow for upgrades and replacements for transducers and cableways.
  - Q: Why are no computer systems, met sensor, plumbing included?
  - A: This is addressing electronics only; the SMRs provide guidance about other things.
  - Comment: Science community has to have input on mast locations. Network and communications will roll together at some point in the future.

## LUNCH

Discussion on the RCRV acquisition process continued with many questions.

- Q: How do we get our communities view into the NAVSEA process?
- Q: Has it happened through the UNOLS office?
- Q: How does the committee that Stewart Lamerdin is on fit in this process?
- Q: Where is the wiring diagram?
- A: Doesn't exist
- Q: What is the timing?
- A: There is no hard deadline
- Q: If the Statement of Requirements (SOR) is 99% the same as what UNOLS commented on, what's the point of sending more comments (they have been ignored so far)?
- A: Those comments were on the process and NAVSEA needs technical specifications.
- Deadline – Pete – would like to get this by end of the year. If too soon, let him know.
- It was recommended that RVTEC review the specs and send comments to Stewart who will bring them to the RCAC. Then the RCAC will try to provide comments by the end of the year.

## INMARTECH 2006 planning - Barrie Walden (Appendix XIV)

- INMARTECH 2006 will be hosted at WHOI
- Middle of October (after tourist season)
- Need ideas for subjects, methods (formal presentations, show & tell)
- How will INMARTECH and RVTEC happen?
  - Probably a day to do the RVTEC business
  - Monday: RVTEC
  - T-W-T: INMARTECH
  - F: Local vendor tours
- Q: Steering committee?
- A: Walden, Zettler, Dickson, DeSilva and Faith

## Seismic Operations – John Diebold (LDEO) (Appendix XV)

John discussed:

- Prep and impact on planning cruises
- Process:
  - Preliminary assessment (prior to funding and/or scheduling)
  - Environmental Assessment -> NSF -> NMFS -> Bio Opinion/ITS
  - IHA application
  - Scheduling
  - Pre-surveys
  - Protocol/documentation/procedures
  - Monitoring/Mitigation
  - Occasionally follow-up survey (look for bodies)
  - Post-cruise reports
- Applies to all US ships, all American citizens (except in the territorial seas of foreign nations, 3, 4, or 12 miles)
- Ramp-up is 6dB per 5 minutes (typically) with observation (which has to be in daylight.)
  
- LDEO has received about 12 permits between 2003 and 2005 including HLY0503. They haven't to date been refused but operations have been delayed.

**Permitting Requirements and Procedures for use of Seismics in NSF Research on UNOLS Ships** – Sandy Shor, NSF – (Appendix XVI)

- Sandy explained:
  - NEPA requirements,
  - Environment Assessments,
  - Environmental Impact Statements,
  - Endangered Species Act,
  - Marine mammal Protection Act,
  - Other domestic requirements, and
  - Foreign Requirements.
- He provided the status of past and current permitting activities

Q: What are the implications for land and freshwater issues?

A: The MMA doesn't address them, but the Endangered species Act would apply.

**Sea Education Association (SEA) Acoustic Permitting** – Erik Zettler, SEA (Appendix XVII)

- SEA has sail-driven ships.
- They use Benthos CHIRP and ADCP
- Marine Mammal Protection Act (MPA) in Canada prevented them from carrying out sub-bottom work and were not allowed to use CHIRP or 12KHz pinger.
- IHAs have some of the performance data for sonars

Q: What are the criteria that will be asked for in permits?

A: Important acoustic criteria:

- 1) frequency range
- 2) sound level in water

- 3) beam angle
- 4) pulse duration
- 5) pulse repetition

## **Break**

### **Radio Frequency Spectrum Tasking – Bill Martin (Appendix XVIII)**

- The Committee on Radio Frequency (CORF) wishes to define the oceanographic uses of the radio frequency spectrum.
- The liaison is through Otis Brown (U. Miami)
- RVTEC has been tasked to form a committee to assemble our current and projected science use of the spectrum.
- It would include things like sonobuoys, ISM bands, 900MHz, licensed and unlicensed radios
- The RVTEC Subcommittee was formed: Steve Hartz, Richard Perry (Chair), and Toby Martin.

### **RVTEC Input to UNOLS Goals – Bill Martin lead the discussion (Appendix XIX)**

- Review of UNOLS Goals
- Communication improvements are needed for interactions among crew, technologists and science party (remove the term "technician")
- John Diebold passes on the opportunity to explain the re-organization of the LDEO Office of Marine Affairs into the Office of Marine Operations
- A better definition of who does what – roles and responsibilities is needed.
- It was recommended that a bullet be added: “UNOLS promotes the education of scientists on the responsibilities of the technicians”
- Lengthy discussion followed on Post Cruise Assessments:
  - Problem – the scientists get annoyed when they are told that it is their responsibility for certain tasks – and they haven’t planned for it.
  - Bill Martin – How do we deal with these issues? Can the Council help with this?
  - Peter Wiebe – UNOLS gives advice. The way that we do this is to identify the problems, then propose solutions that make sense.
  - Peter Wiebe – Documenting what we do is very important – post cruise assessment (PCA) reports should be detailed. If the PCAs don’t reveal the problem, no one will know there is a problem.
  - John Freitag – he reads every PCA. You begin to realize that there are patterns. When people receive the reports, they don’t condemn with one remark. It usually takes multiple complaints.
  - Stewart – There is an accountability issue. If scientists receive a poor assessment, nothing is done.
  - Marc Willis – When the techs get pinged on a PCA, they get an instant inquiry. It is one way. The scientists don’t get pinged.
  - Sandy – By and large, the PCAs improve the quality of cruises. He communicates the PCAs with criticisms about the science party to Program managers and sometimes to the scientists. He also sits in on cruise planning meetings and hears concerns. Science is the highest priority so they do get the most attention.

- Marc – He doesn't mind getting criticism. He minds that when the science gets criticized, they don't fix the problem.
- Sandy – Scientists get banned from ships. He tries to keep track of this.
- Educating the scientists is important.
- Findley – He has always felt that the PCA was done poorly and should have been done by professionals. Everyone that looks at it in the field, says that it is a bad report.
- Wiebe – If there is a better way to do this, provide a solution. It was NSF who asked UNOLS to put it together.
- Dale and Tom Shipley have both indicated that it can be done better.
- Peter – if there is a problem, suggest a solution.
- NSF likes the form – it gives them feedback and allows them to identify problems.
- Barrie now is the time to bring this to the forefront. The pressures are only going to increase.
- Sandy – what would you like to see changed? Understands mission creep. Crew and science interpretations are incorrect. There are things that don't belong in the tech portfolios. Cuts in operation have been slipping onto the tech support groups. What else do you want? Program managers have influence.
- Sandy – he feels that 95% of the PCAs show a very favorable reviews to the techs.
- Should the PCAs be circulated to the agency program managers?
- Getting better feedback to Program Managers is important. – add an email slot for science program managers.
- Findley – redo a form for Technicians – Customer Survey
- Peter Wiebe suggested the following:
  - o Review the questionnaire
  - o Get better feedback from technicians
  - o Provide the PCAs to the science program managers
- Findley - We don't do quality improvement training. This has not been with a lot of enthusiasm.
- Sandy is willing to entertain any (reasonable) request to fund training.

### **UNOLS Report – Peter Wiebe, UNOLS Chair (Appendix XX)**

Peter thanked RVTEC for inviting him to the meeting. The science community doesn't know what UNOLS does. We need to communicate better. He provided an overview of UNOLS that included the following topics:

1. Provided recommendations on budget shortfalls and impact on 2006 ship use – Problem with 2007 – already enough NSF funded days for 2007. They are now rescinding verbal commitments (between 250 to 300 days). UNOLS Subcommittee Chaired by Marcia McNutt provided recommendations to NSF.
2. 2006 Ship Scheduling Process and Results – partial lay up of many vessels.
3. Marcus Langseth Seismic Oversight Committee – R/V *Langseth* will be operated both as a UNOLS vessel AND a National Oceanographic Facility. The ML Seismic Oversight Committee will be modeled after DESSC.

4. Establish ADA Guidelines for Research Vessels – A UNOLS committee has been formed to develop ADA shipboard guidelines. They will have a phone conference in January. Their goal is to have guidelines available for the Regional Class research vessel design. Dave Chapman (UDel) got funded by the NSF Education program to study handicapped access to research vessels (independent of OCE/UNOLS.) An RVTEC representative is needed for Dave's study.
5. UNOLS Briefing Package – This is intended as a 3-fold brochure to inform t policy makers and the general community about UNOLS. It is being drafted. Peter wants input on his briefing package.
6. UNOLS Office Review - Charter calls for the office to be reviewed every three years but can stay in one place for nine years. However, NSF calls for review every five years. Next renewal in April of next year. No UNOLS member wanted to compete with Moss Landing for the UNOLS Office. Peter, Wilf and Margo made up an evaluation form. In 4 weeks, 16 out of 18 council members filled in the form. Score was 1.2 (approximately excellent.) Sent recommendation to NSF for MLML to run the office for a third three-year term.
7. Fleet Renewal Activities and Status Changes
  - Ocean Class hull evaluation and recommendation - UNOLS response to Admiral Cohen was for monohulls instead of the proposed X-class. Cohen is working on finding money for a class of four vessels.
  - Global Class SMR Development - Bruce Howe is leading an SMR revision in preparation for the mid-life refit of the existing big AGORS (Thompson, Reville and Atlantis) including possibility for heavy lift.
  - Decommissioning and transfers – *Gyre* has retired. *Seward Johnson II* has been transferred from HBOI to BBSR.
  - UNOLS (own) Fleet Improvement Plan Outline - Because of the way FOFC works, they can't include ships in their plan that are not already funded or in a published budget. So UNOLS is drafting our own plan through FIC that will be science driven. A working draft exists. Next draft should be ready in December. Dave Hebert and Peter Wiebe have been asked to represent UNOLS in the review of FOFC's plan.

5:36 pm      ***Adjourn Day One***

6:00 pm      Board vans to WET Labs Facility Tour

**Tuesday Evening**  
**WET Labs Facility Tour**  
**620 Applegate Street, Philomath, OR 97370**  
**<<http://www.wetlabs.com/index.html>>**

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**Wednesday, November 9, 2005:**

**Meeting called to order at 8:28 am**

### **Technical Services Information Discussion – Annette DeSilva, UNOLS (Appendix XXI)**

- Annette provided the link to the UNOLS Data Information System (UDIS). The Technical Service Information is part of the (UDIS) website and there is a link to the technical services outline. Links are provided in Annette's slides.
- Bill Martin suggested that RVTEC look at outline/form to prepare for data to input into the system.
- Some comments on the web form included:
  - Put date on footers, all pdf pages – date of update
  - Revision History would be good – this could be an appendix
  - Indicate “all changes since this date”
  - The equipment should be searchable
  - There should be a “comment section” on each sheet and it should be linked to the URL.

### **Email and Data Downloading – Stewart Lamerdin, MLML lead a discussion on this topic.**

- What are other vessels/groups doing for email transfer? Who are the various providers?
- Dale Chayes – Avoid Inmarsat dependency.
- Iridium, Verizon, and Exchange servers were suggested
- Miami provides a fulltime internet capability
- Stewart was trying to find a system that does not have to be on line at all times
- WHOI uses SeaNet –SeaMail
- The UK uses the BAS system which is a Linux based system
- URI uses SeaWave – Scientists sign on and get billed directly. They also use HiSeasNet which is free. HiSeasNet is supposedly extending their range.
- Ilya N. (U. Miami) - Would not recommend using SeaWave – they weren't pleased with the software and service. No privacy. Unless you are in RI, he does not recommend. Offshore communications seems good.
- Toby Martin – This is a difficult topic. There are two categories. URI and U.Miami are using services. If you want to be a service provider, that is a different topic.
- Stewart – he brought this up because he didn't want a scientist to come aboard and just hang out on the web for the whole cruise.
- The RVTEC can be polled to find out what everyone is using.
- Poulos – It depends on what you are doing on your ship. Do you want to limit time, file size, etc? He suggested that you look at packages.
- Stewart will create an RVTEC survey and conduct it over the next couple of weeks.

### **Shipboard Data Acquisition Systems - What is out there? - Dale Chayes kicked off the session discussion.**

Shipboard Data Systems - What problem are we trying to solve? - Dale Chayes (Appendix XXII)

1. Satisfy the needs/desires of the current science party, so they can do good science
  2. Insure that the data can be used to do good science 10 or 20 or 50 years in the future – more difficult problem. Dale cited the The 10,000 Year Clock example <<http://www.longnow.org/projects/clock/>>.
- Categories of data by type:
    - time of day
    - navigation, attitude, and heading
    - Sonars (multibeam, sub-botom, ADCP)
  - Dale presented the Marine Geoscience Data System: <<http://www.marine-geo.org/link/>>.

Virtual Integrated Data System (VIDS) - Jim Lovin (Univ of Miami) reported of Univ of Miami R/V data acquisition system, VIDS, based on Labview. (Appendix XXIII)

- The system allows:
  - portability
  - dependability
  - flexibility
  - standard data formats
  - Error Checking – alerts (lights, paging, graphics) background checks – previous data
- They have been using this for the last 8 years. VIDS V2 is a total re-write of the current VIDS, which has been used for the last 8 years.

Healy System - Eldridge McFadden spoke about the *Healy* system.

Long Distance Disruption- Tolerant Wireless Networking - Kevin Fall (Intel) (Appendix XXIV)

- Intel has 4 facilities near institutions – Berkely, UW, Carnegie-Mellon, UK
- Delay Tolerant
- <http://www.dtnrg.org>

Equipment Maintenance Database – Ilya Nikanorov (U. Miami) reviewed their equipment maintenance database under development and discussed implementation and operations. (Appendix XXV)

- Findley – metadata – allows you to look at a particular time in space.
- Bill – can this be implemented at other institutions on their server?
- Findley – doesn't make sense since all of the updates would have to be uploaded and maintained. Instead you can use the commercial server in Arizona (\$19.95/mo) and all updates are maintained.

UHDAS – University of Hawaii ADCP Data Acquisition and Processing – Jules Hummon (Appendix XXVI)

- Open source data
- [http://currents.soest.hawaii.edu/uhdas\\_fromships.html](http://currents.soest.hawaii.edu/uhdas_fromships.html)
- At Sea: Access to raw and processed data



- windows shares
- NFS export
- Shipboard web

**RVTEC Vice Chair Nominees are:** Stewart Lamerdin, Kristen Sanborn, Aubri Steele

12:00            **Lunch**

1:00 pm        Board Bus for Newport

3:00 pm        Arrive Newport, OR

3:15 pm        Research Vessels and Hatfield Marine Science Center Facility Tours

**Thursday, November 10, 2005**

08:28am        Bill Martin – called meeting to order

**Show and Tell Session** - Presenters set-up displays in the meeting room for viewing and discussion by RVTEC participants. Displays included:

- Shipboard Automated Meteorological and Oceanographic System (SAMOS) - Shawn Smith
- HiSeasNet Installation and Operations Information - Steve Foley
- Demo of the NOAA Scientific Computer System - Douglas Perry
- UHDAS: Univ Hawaii at-sea ADCP acquisition and ship's web display of ocean currents - Julia Hummon
- Wide Area Wireless Internet - Tom Wilson
- Update on VIDS Data Collection System – Jim Lovin, U.Miami
- Update to Quality Control Database System – Ilya N, U.Miami
- Dale C. & Steve Roberts – Real Time
- David G. – Data Acq Modules For *Wecoma*
- Frank Del. – Shipboard Collaborative Web Site
- Barrie Walden – Data Logging System

**RVTEC Vice Chair Elections** - Bill Martin introduced each candidate and gave each an opportunity to tell more about themselves. – Nominees:

Aubri Steel (U. Miami)  
 Kristen Sanborn (SIO)  
 Stewart Lamerdin (MLML)

Voting was carried out and Stewart Lamerdin was nominated as the next RVTEC Vice-Chair. His nomination will be forwarded to the UNOLS Chair for appointment.

**MATE** – A written MATE report was provided by MATE prior to the meeting. It is included as Appendix XXIX. Annette DeSilva provided a brief summary. Sandy Shor requested input for the MATE program.

### **Subcommittee Reports:**

Wire & Cable Spec Review - Rich Findley (Appendix XXVI)

The safety committee has developed a task statement:

“Define the best operating procedures for over the side cables, to include:

- Max working load as a percentage of yield
- Deck operation procedures to limit potential exposure
- Incoming and routine yield testing to determine actual yield”
- Dale C. – Requests the Safety committee to convey this news to the UNOLS Council.
- Bill M – he will take the statement to RVOC safety committee
- Tom W. – Have the cable tested at a specialized facility
- Sandy S. – NSF’s perspective is to continue funding for analysis of cable and the reporting.

PCA Subcommittee Report – Bill Martin asked for nominations for a new representative. Two candidates came forward – Bruce Applegate and Mary-Lynn Dickson. Mary-Lynn was elected.

ADA Committee – Joe Ustach has been appointed as the RVTEC representative to the ADA committee.

### **Other Business:**

RVTEC members extended their thanks to outgoing Vice-Chair, Steve Poulos.

RVTEC thanked to Peter Wiebe, UNOLS Chair for participating in the meeting.

RF committee membership has been increased – Richard Perry (LDEO) - Chair, Marc Willis (OSU), Steven Hartz (UAF), and Toby Martin (OSU).

Barrie W. reviewed proposed topics for the INMARTECH 2006 symposium to be hosted at WHOI.

**10:59am      *Motion to adjourn***

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11:18am      **RVTEC Manager’s Roundtable Discussion** – Sandy Shor & Bill Martin

**Attendees:** Barrie Walden, Bill Martin, Annette D., Sandy Shor, John Freitag, Dale Chayes, Mary-Lynn Dickson, Steve Poulos, Bruce Applegate, Stewart Lamerdin, Steve

Hartz, John Diebold, Joe Ustach, Rich Findley, Robert Steinhaus, Woody Sutherland, Marc Willis

Discussion Topics Included:

### **Coordinating acquisition and/or maintenance of fleet wide instrumentation**

- Bill Martin – All of the institutions would like to have access to spares quickly. The question – Can we agree that instead of each inst asking for spares, one inst be designated as coordinator for the units. Maintenance of the spare would need to be covered – cost and repair.
- Woody – for this to work the designated inst would need to also be the warehouse for the spare.
- Sandy – NSF would only support this if the funds would go directly to the institution.
- POS-MV – Dale Chayes volunteered
- ADCP – Bill Martin volunteered
- HiSeasNet – Foley and John Berger have also been funded by Sandy to support spares.
- Bill commented that he would rather have the spares on the ship, than on the shore.
- Bill – Scientists expect free email. How do we support email costs when the HiSeasNet system goes down? Sandy – can't promise that Inmarsat B costs would be supported, for now you have to go back to science for those costs.
- Findley – promoted a centralized inventory that all systems from all institutions could be included in. This could promote sharing.
- Stewart – we already do sharing by networking.
- Sandy – Perhaps a subset of sensors should be included in Rich's email. It seems like in recent JMS inspections the operations have done a good job of keeping the calibration records. The cost savings and benefit needs to be evaluated. This could perhaps benefit the single ship operator. If this gives better access to sensors, cost savings, etc – then it is valid.
- Bill Martin – with lean times, instead of buying new equipment if it was easier to know where the equipment resides, then this would be a way to save money.
- CTD sensors – Rich Findley volunteered
- Sandy – if this is to be supported, it would need to be part of the tech or instrument proposal.
- Dale withdrew his POS-MV offer (he no longer prepares the tech or instrument proposal, so he withdraws)
- Multibeam – Bruce Applegate – he is willing to take this on. They are looking for rapid repair. Bill indicated that Kongsberg is willing to consider service contracts.

**12:11pm Break for Lunch**

**Rich Findley updates on Database** - Univ of Hawaii, LDEO, and Univ of Washington are interested in a Pilot project with Univ of Miami to implement or utilize database (Sybase). Sandy encouraged Rich to talk to Steve Rabalais.

### **Technician retention and sharing**

- Bill Martin raised the issue of sharing techs between ships. At some institutions techs do not operate winches or cranes. It might be difficult for these techs to go to another operation where the techs operate winches, load the ship, etc.
- There are differences in salary plans (some get paid for 12 hour days)
- There is concern over disgruntled techs.
- Dale – suggested that Healy techs are often available and are quite good.
- Suggestions:
  - Talk to Sandy about specialized personnel
  - Let the community know about ship lay-ups and potential staff needing work.
  - Match skill sets with needs on other vessels – bring in as 2nd tech

### **Post Cruise Assessment Reports - How are they addressed?**

- Dale Chayes described the role of the UNOLS PCA committee. The forms will be sent to the Committee members to review and comment.
- Findley – Proposing to have Aubri put together three forms – scientist, captain, and technician.
- Barrie – he has no problem with the one the scientists have to fill out. What use is the one that the techs fill out?
- The form is to identify problems and figure out ways to correct them.
- Chayes – He feels that professionals should develop the form.
- The agencies need this form to show that they have a quality assurance program in place.
- Findley - Quality training for Supervisors is needed. He described the programs they implemented at U. Miami. He recommended that a special seminar be held on Quality of Service for RVTEC managers next year on Sunday afternoon prior to the RVTEC/INMARTECH meeting.

**RCRV Science Outfitting revisited** - An RVTEC statement needs to be prepared to articulate RVTEC's technical expertise with regard to scientific outfitting. Provide input on owner furnished equipment/ scientific instruments. Stuart Lamerdin volunteered to generate a statement to be sent to NSF.

**Meeting Action Items** – Included as Appendix XXXI.

**3:08pm Motion to adjourn**