

MEETING MINUTES

Arctic Icebreaker Coordinating Committee (AICC) Meeting

Pier 36 - 1519 Alaskan Way, Bear Room, USCG Base

Seattle, WA

January 9 & 10, 2007

Executive Summary

The UNOLS Arctic Icebreaker Coordinating Committee (AICC) held a meeting at the Coast Guard's Integrated Support Center in Seattle, Washington on January 9 and 10, 2007. In addition to members of the committee, representatives of the U.S. Coast Guard, the National Science Foundation, the Arctic Research Commission, and the National Oceanic and Atmospheric Administration participated in the meeting. Discussions centered on recent and planned operations aboard the U.S. Coast Guard Cutter *Healy*, with the committee providing recommendations regarding the scientific outfitting and operation of the vessel. Other items of discussion included improving the partnership between the Coast Guard and science community, planning for future icebreaker science outfitting and improving information for and communications with the public, arctic native communities and the Arctic science community. Action items and the minutes of the meeting follow below.

Action Items	Status
Test mailing list for State Dept. notification	Mike/UNOLS
Nudge Simon to respond to AICC recommendations from August teleconference	Carin
Discuss having workshop, in response to NAS report, with Simon. Assuming Simon is favorably disposed to workshop, need to write proposal or put money in UNOLS budget for the meeting	Margo Carin/Margo/Mike
Community-awareness raising efforts (possibly another EOS article?) to advise <i>Healy</i> 's availability is beyond summer season, other Science of Opportunity.	???
Develop protocol for getting major science instrumentation	Simon, then Tom,

for icebreakers that involves science input	then AICC
Discuss holding more retreats in Alameda, at least in short-term, with Simon	Margo/Carin, UNOLS budget
Hook science into CG press releases and CG into science press releases	AICC. Forcucci?
Develop wire diagram for CG icebreaker operations.	Lindstrom? Forcucci?
Get more info about AEWG meeting, then nudge Simon to support science (and CG?) participation	Carin
Prioritize list of equipment/lab upgrades provided by Dale (with costs generally indicated)	AICC
Letter of Thanks to VADM Wurster	Margo
Acknowledge Dan Oliver's service to AICC and science	Carin/AICC
Memorial for Jessica and Steve from science community	AICC/ <i>Healy</i>

Appendices

- I. [Agenda](#)
- II. [Attendees](#) (PDF format/82.2KB)
- III. [Chair Report- Action Items Day 1](#) (PDF format/55.2KB)
- IV. [Arctic Research Commission Report](#) (PDF format/2.08MB)
- V. [Coast Guard/DHS Major Acquisition Process](#) (PDF format/52.9KB)
- VI. [Chair Report - Icebreaker Retreat Summit](#) (PDF format/59.8KB)
- VII. [2006 Healy Operations](#) (PDF format/1.90MB)
- VIII. [USCG Maintenance and Logistics Report](#) (PDF format/2.16MB)
- IX. [Healy Science Systems - Dale Chayes Report](#)
- X. [Chair Report - Action Day Items day 2](#) (PDF format/4.06MB)
- XI. [Electronic Systems Support Unit Seattle](#) (PDF format/3.10MB)

Proceedings of the meeting

Meeting called to order, welcome by Dr. Margo Edwards, Chair

Introductions around the room, Appendix II for list of participants

Minutes of the previous meeting, moved, seconded, approved.

Review of previous action items (Appendix III):

Action Items	Status
Send words to Mike for Liz Tirpak about informing BASC when foreign icebreakers are working off Barrow	Bernie/Sheehan

Use '05 debriefs as basis for letter of "constructive criticism" to NIC for ice service support (with copies to CGHQ, NSF, ARC)	Margo
Develop science needs and long-range plans for ice data on <i>Healy</i> .	Peter sent to Simon
Review Dale's new lab layouts and send official AICC recommendation to Simon	Do we want to do this?
Get EOS article about native concerns finished and published	Carin and Bernie w/Renee's help
Multibeam upgrade - review other icebreakers and the performance of their multibeam systems	Margo/Bernie/Dale, CG is moving forward
Plan a future meeting with ARVOC	Try again.
Make sure HLY0601 has two hours of internet connectivity as requested (can we leverage Cyber-infrastructure Office support?)	Dale/ <i>Healy</i> , Thanks D. Oliver
AICC to recommend with IPY outreach efforts that <i>Healy</i> connectivity be increased	Margo
AICC to recommend more stringent medical checkups prior to high Arctic trips	Margo
AICC to recommend having doctor on board for high Arctic trips	Margo
Establish priorities for "2006" system upgrades	Margo

August 28, 2006 AICC Teleconference:

After events during the summer 2006 field season, AICC members held a phone conference held with three main topics of discussion:

1: Cancellation of the last two legs of HLY06

1) AICC recommends that the Coast Guard work with NSF and NOAA to find ways to mitigate the impact of canceling the programs of Larry Mayer and Rob Reves-Sohn. This should include priority consideration for the rescheduling of these programs.

2) We recommend that AICC be informed in a timely manner about important operational decisions, so that the committee can give appropriate factual information and advice when queried by the science community, which is one of the roles of the committee.

Although this is not a specific recommendation, many on AICC felt that this incident underscores the oft-repeated mantra that the US needs additional icebreakers, or at least blue/gold crews, to support myriad needs in the Polar Regions.

2: Technical issues on HLY0602

1) We recommend that, once a proposal has been selected for funding on the basis of scientific merit, NSF (as the main source of support for science technical support) should have a technical/logistical

review of major field programs that involve instrumentation that is not part of *Healy*'s standard complement of tools. Whereas *Healy* should provide support for users of technical systems who are not technical experts with these systems, it is the responsibility of the proposing investigator to identify a path to obtain the necessary technical expertise and equipment. The technical/logistical analysis should consider the appropriateness of the tools to be deployed from *Healy* during the available time frame in the location(s) proposed for the cruise. While technically risky programs should not be rejected merely due to risks, these risks should be weighed against the science payoff and the possibility of success considering the time available for technical development before and during the cruise.

2) We recommend that technically complex programs be flagged once approved for funding and that a system be developed to track the progress of major equipment fabrication and associated logistics. An example system is that used by the Antarctic program for tracking instrument development. This tracking process should begin well in advance of deployment so that a technical development failure or delay does not "lose" ship time. The tracking process should include decision points for postponing deployment of continuing to full cruise implementation.

3) We recommend that for the purposes of continuity, stability and forward planning, there should be long-term cooperative agreements to provide comprehensive support of *Healy* science systems. These agreements would result from peer review of proposals submitted in response to a specific NSF RFP.

3: AEW and Native Communities

1) We recommend that there be a meeting in early 2007 in Barrow to allow the science community to meet with northern residents and discuss their concerns regarding *Healy* programs and operations. This meeting should involve the Coast Guard, NSF, NOAA (or other funding agencies with cruises in upcoming seasons), the State Department, Chief Scientists of upcoming programs, members of AICC and users and operators of foreign icebreakers planning to work around Barrow. The organizers of the meeting can be determined after discussion with AEW and similar entities. The primary focus of the meeting will be to improve communications between the science and native communities, potentially through a continuing series of annual meetings.

2) A secondary goal of this meeting will be to disentangle scientific expeditions taking place around northern communities from exploration programs that are being conducted by private industry.

4: Incidental Harassment Authorizations (IHA) and working in the Arctic

The committee did discuss a fourth issue, the question of IHAs for working in the Arctic Ocean, but there wasn't really consensus on what to recommend to NSF, and we did not include a summary of that discussion in the recommendations to Simon. It should be a topic of discussion at this AICC meeting.

UNOLS report (Mike Prince):

- October new chair-elect: Vernon Asper, University of Southern Mississippi
- Marcia McNutt took over as chair in October. First non-operating institution chair, first woman as chair.
- NSF on continuing resolution will slow some planned acquisitions, reduced travel funds for NSF employees.
- Regional Class vessel: two teams have been awarded, but have been asked to stop work for 90 days

while NSF and Navy come to grips with design parameters. Construction may not start on time.

- *Langseth* conversion: due to be turned over to Lamont at the end of this week. Will then transit to Galveston and complete conversion and outfit. Hope to be ready to operate in July 2007.

- *Alvin* replacement: probably going slower due to technical and funding issues.

- Ocean Class RVs: Navy was going to build 4. Navy study with UNOLS input. Final recommendation: build two and bring on line in 2014 and 2015 (which matches *Melville* and *Knorr* retirements.) Will likely lead to a different fleet composition than previously planned.

-DESSC: is initiating an AICC-like debrief process.

-Federal Interagency Working Group-Facilities (formerly FOFC): fleet plan will include NOAA, EPA, icebreakers, NAVO and the academic fleet. Working group has completed their draft. Approval will happen in the spring.

-FIC: is working on a review of the academic fleet improvement plan (FIP).

-RVOC: hosted meeting in Seattle. Next in April in St. Petersburg, FL. ID system for transportation workers (TWIC) may have an impact on scientists visiting ports, fuel costs, crew availability, and safety issues on the agenda.

-RVTEC: Combined RVTEC and INMARTECH in Woods Hole Oct 16-19. Next meeting in the fall in Moss Landing.

-MLSOC: Langseth oversight. Has not met yet. Tentatively in March in Galveston.

-SCOAR: The committee has some interest in UAVs.

-RFP for the regional vessels is on hold until the construction is started or more firmly in place.

-RFP for the ARRV is out and UAF is working on a proposal.

Agency reports:

NSF (Renee Crain, via phone):

- Nothing specific to report

- Constraints due to budget

NOAA - Craig Russell from Office of Ocean Exploration.

Discussed the cancelled and postponed cruises from the 2006 season. Larry Mayer's cruise will be rescheduled in 2007 and the 4 days for Reves-Sohn will be scheduled in the Antarctic. There are no plans for Ocean Exploration (OE) or NOAA Arctic Research to schedule cruises in 2007 or 2008 primarily due to budget. OE and Arctic Research are coordinating a program (RUSALCA) using a Russian icebreaker in international waters.

US Arctic Research Commission (ARC) - John Farrell (Appendix IV)

John Farrell replaced Garry Brass as the executive director in June 2006. John gave a brief overview of the ARC. It is one of the smallest federal agencies with seven commissioners, two offices, and small staff. It was established in 1984 as a Federal Commission. They produce a biannual statement of goals and priorities for Arctic policy and program plan. They are involved in a broad range of efforts including icebreakers and SCAMP-II. They work with both the Congress and Administration.

John's background is in Geological Oceanography; he served as the Associate Dean at GSO-URI, as a program manager at ODP, and worked on the IODP ACEX coring expedition.

Recently, the USARC has assisted with the National Academies of Science (NAS) icebreaker study. The chair also reported to Congress on the NAS recommendations. They are encouraging a review of Arctic Policy, working with the USCG (ADM Allen). They also met with NSF about the AARV and IARPC. They are also supportive of efforts towards bringing on new icebreakers as well as mapping of the extended continental shelf.

Bernie Coakley mentioned the possibility of an engineering study for MCS data from the submarine, which might get funded in 08.

USCG Reports

Coast Guard Headquarters CDR Tom Wojahn (USCG)

USCG has their budget but icebreaker money comes through NSF and their continuing resolution could result in up to a \$10 shortfall from what was requested (\$57M for FY07). FY06 was just over \$47M.

The NAS recommendations were quickly reviewed.

- Support for research
- Review support for polar science/operations
- Return budget to CG to manage breakers
- Presidential determination on polar icebreakers

The final recommendation was to obtain a new Presidential determination. The last one was under the Clinton administration in 1992 covering Arctic and Antarctic policy (PDD 26). They are working with the ARC to draft an update of the PDD, which they hope will include addressing Polar Icebreakers. There was some discussion about whether or not this can get done during the current administration.

DOD has weighed in on Polar Icebreakers. They have been reluctant to support Polar icebreakers in the past, but recently have stated they are in support of Polar icebreakers and consider them to be part of the 1,000 ship Navy fleet.

Tom reviewed the Department of Homeland Security (DHS) Major Systems Acquisition Process, which would apply to procurement of new icebreakers. (Appendix V)

- Pre-Acquisition
 - Project Identification
 - Booze-Allen report
 - NAS study
 - Some additional CG studies

- Project Initiation
 - Give go ahead
- Concept and Technology Development - AICC input here
 - Acquisition
- Capability Development & Demonstration - AICC involvement here
- Production and Deployment
 - Sustaining
- Operations and Support

USCG Pacific Area (PACAREA) CDR Bob McFarland (USCG)

Bob has been spending most of his time with looking at how to manage the possible budget shortfalls.

Icebreaker retreat - VADM Wurster was very pleased with how the meeting went and he is dedicated to supporting science with the icebreakers.

Polar Sea left on time after a lot of work and training, even completing some training in Hawaii. The Swedish icebreaker *Oden* took the lead and broke all the way into McMurdo on their own, *Polar Sea* followed them in. The weather and winds were very favorable. They are working the turning basin now and will go to the ice pier in the next day or so. Very few problems and machinery casualties. Not being the lead ship will help with the maintenance issues on the hubs. Peter Minnett had a person (funded by NASA) on the *Polar Sea* for the transit to Sydney.

There will be a press conference on Friday with VADM Wurster and others about the release of the Diving Accident investigation at the Integrated Support Center in Seattle.

Antarctic Research Vessel Oversight Committee (ARVOC) - Jim Swift, SIO

ARVOC is a user committee of the US Antarctic Program (USAP). These committees are defined as follows: "The USAP Users' Committees provides advice and recommendations to Raytheon Polar Services Company (RPSC) on the support of science projects using USAP resources and facilities. The committees ensure representation of principal investigators to the management and operation of USAP research stations, vessels, and field camps. RPSC's goal is to provide effective and efficient support to science projects. The committees advise RPSC on policies that guide their operation on stations, vessels, and at field camps and how they may be improved, and on USAP resources and how they can better meet grantees' needs. RPSC and NSF/OPP will respond to the committees' recommendations as outlined in the bylaws."

ARVOC concentrates almost totally on the two USAP research vessels, the *Lawrence M. Gould* (LMG) and the *Nathaniel B. Palmer* (NBP).

ARVOC last met on 14 June 2006 at RPSC in Centennial, Colorado. The following notes are based on the official meeting report ("ARVOCJune2006MeetingReport.pdf"), which, along with other information about ARVOC can be found at:

<http://www.usap.gov/conferencesCommitteesAndWorkshops/userCommittees/sctnARVOC.cfm>

ARVOC business and member discussions often parallel those of the AICC. For example, ARVOC members discussed how they would like to be kept better informed and, thus, better prepared for the ARVOC meetings, prior to the actual meeting dates, suggesting that brief reports relative to key agenda topics be sent to members prior to each meeting.

Again similar to AICC business, ARVOC continues discussions about how various underway LMG and NBP data sets are archived and subsequently made publicly available. ARVOC endorses actions that will make more of the underway data available to outside users as soon as possible after each cruise ends.

At the June 2006 meeting, focus of this discussion was largely on Marine Geophysical Data Management System (mgDMS) data sets, currently being sent to Lamont Doherty Earth Observatory for archiving. RPSC suggested that future Research Support Plans include advice to the principal investigator stating that "RPSC will send a copy of the complete dataset to the Marine Geology Data Management System at LDEO. The data can be held as proprietary for no more than two years." RPSC suggested a form/checklist for the principal investigator(s) be developed for the PI to approve and sign at the end of his/her cruise. The signed checklist would provide for the release of data from LDEO either immediately or after a specified moratorium period, not to exceed 2 years. Different mgDMS data sets could be released at different times. The intent here is to encourage and provide for the immediate release of data sets for which the PIs see no reason to invoke a moratorium.

It was proposed that other underway data sets (ADCP, pCO₂, others?) also be sent to LDEO and that the principal investigators should advise what is proprietary, similar to the procedure described above for the mgDMS data sets. Discussion included concern that some of these data sets need post-processing or quality control work before they can be released. Others voiced concern that since NSF policy directs principal investigators to send their data to the National Snow and Ice Data Center confusion may arise as to where data is to be sent. Hence, as this topic generated many questions, the data set archiving process will be an agenda item at the next ARVOC meeting.

MET data are not currently being reported from either LMG or NBP to the Global Telecommunications System (GTS).

<http://www.wmo.ch/pages/prog/www/TEM/GTS/gts.html>

There is an IPY proposal to put MET and/or sea ice observers on the vessels with part of their duties to include MET reporting to GTS. Principal investigators' concerns with release of data, where best to post the data on-line, funding costs involved, who might serve as principal investigator if this becomes a proposal to NSF were all questions brought up during discussion. There was agreement among ARVOC members that making MET data available to real-time forecasters and re-analysis product providers is important. A sub-committee will work to resolve questions and make recommendations to ARVOC on MET data reporting from the vessels.

Moving shipments from Punta Arenas, Chile, back to home institutions was discussed. Recent RPSC improvements include larger shipping boxes, improved chain of custody forms, improved cargo instructions (in Spanish) for use by Agunsa staff, and a Statement of Work that is being written for use with contracted freight forwarders. These should result in lower freight costs and a reduction in shipping errors.

McMurdo port call issues (regarding NBP) were discussed. Personnel movements by helicopters to/from

the vessel, the prioritization process by which people are flown out of McMurdo, the effect of the break-in icebreakers being in port and doing their tasking are all factors impacting the vessel port calls. Also, the lack of a designated Point of Contact for Vessel-to-McMurdo communications added to the problems.

ARVOC members discussed the RPSC proposed Charter changes. These are part of an effort to standardize all User Groups' Charters. The most significant difference between the old and the revised documents is how members are elected to ARVOC. In the course of this discussion, ARVOC suggested that the language having to do with the committee's purview include "...research aboard USAP vessels, or other U.S. vessels." This last is a new addition to the responsibilities of ARVOC.

The lists of new instrumentation and other scientific equipment list were reviewed.

Finally, ARVOC remains highly interested in a joint meeting with the AICC.

Discussion following Jim's report indicated that there seems to be a gap in science guidance, debriefing, etc. for *Polar Star* and *Polar Sea* when doing science, especially in the Antarctic. Also, discussed how to deal with short turn around science opportunities.

Tom Wojahn asked what it would take to change the "charge" to AICC?

Mike Prince responded that the committee could make a recommendation to change the charter. It would then be endorsed by the UNOLS Council and finally voted on by the UNOLS membership. Since NSF funds the committee they could have some impact on what the committee spends their time on.

Icebreaker Retreat –Margo Edwards (Appendix VI)

Echoed CDR McFarland's assessment that the icebreaker retreat was very successful. VADM Wurster asked at the end of the retreat, "How many scientists in the room fully support all of the NAS recommendations?" The answer was none, although all of the scientists there supported most of the recommendations, there were reservations in some areas.

- Pre Retreat topics

- 1) Protocol for communications. Important info based on positions (not names)
- 2) Clear agreement on what should not be released (not discussed)
- 3) Plan for advertising good works of *Healy*
- 4) Coordinated approach for communicating w/ Northern communities
- 5) Plan for modifications
- 6) Recommendations on NAS reports

- Retreat recommendations

- 1) AICC should facilitate a workshop to address the science requirements of the new icebreaker fleet. If there are two new breakers, what do we want on them and what do we want them able to do? Could support the *Healy* refit. Ensure that ships get state of the art equipment. There should be a standing committee including ARVOC representation to keep this issue moving forward. Proposal to NSF/Arctic for a workshop. Margo will talk with Simon about launching this process.

We need to be careful how this is handled, as we don't want to "drive science" or take an official position on the NAS report, but it is appropriate for AICC to respond to the recommendations of the NAS report. This could also be a useful process for the *Healy* refit.

Discussion about when this workshop should take place. Jeff made the point that this workshop should not be tied to any acquisition event or political event. Question about whether the workshop should be in the UNOLS office proposal or in a stand-alone proposal.

ACTION Item: Talk to Simon about support for a workshop, determine focus, size, timing, source of funding, etc.

2) AICC should develop new approaches to doing science on icebreakers. *Healy* is available in the shoulder seasons. Is a 300 days per year operation possible and how can it be supported? Get other agencies engaged, NASA, NOAA, etc. Probably though some community awareness raising method(s.)

Discussion about EOS article that addresses that other agencies and work in other times of year and locations of the year to encourage proposal pressure for *Healy*.

Get out the word that *Healy* is available at times other than just during the summer, especially the shoulder seasons (fall/spring) if *Healy* is to become a full-season platform. How can *Healy* accomplish 300+ days of sea time per year?

Develop an operational model for hybrid CG/science programs.

AICC should encourage participation from and discussion of "science of opportunity" with funding agencies other than NSF including NOAA, NASA, Navy, etc.

ACTION ITEM: Determine content and venue for publicizing the availability of *Healy*.

3) How do we get major new science instrumentation onto the icebreakers? What agency, what funding mechanism, who funds. AICC would like a clear protocol for new instrumentation so the process works despite personnel rotations.

We need a standardized process that allows for developing proposals for new instrumentation that would include community development of requirements. Main questions are who will prepare the proposal, who will get the funding and who will fund the equipment? AICC could set up a subcommittee or advise the CG and NSF on what process to follow. This should be a written protocol so that rotating CG and science personnel aren't an issue. Want to make sure that the state-of-the-art equipment is available for the new ships, not the older equipment that is specified in the original proposal.

There should be a standing committee set up within AICC to keep this particular issue moving forward. ARVOC should be represented on the standing committee as they have much experience with this process. The standing committee will treat the workshop as an early step in a longer process of bringing new icebreakers into the fleet.

4) Want to improve PACAREA participation in AICC meetings. Could alternate meetings in Alameda; continue w/ retreat model;

AICC will propose that the "retreat" process continues.

We want to improve the participation of PACAREA in AICC meetings. One suggestion was to hold some of the AICC meetings in Alameda to allow the participation of the PACAREA commander. Another was to continue to hold this smaller group retreat every year in the future. All agreed that this meeting had aired important issues that don't usually get discussed at AICC meetings. Consensus was to keep the Seattle meetings and to also keep going to DC, but use Alameda for periodic smaller group, focused meetings with the VADM.

ACTION ITEM: Margo/Carin contact NSF (Simon) about funding periodic smaller meetings at PACAREA.

5) Advertising *Healy's* good works. Could hook science into the CG press process for ship's coming and going.

For advertising *Healy's* good works, a potential way to increase *Healy's* outreach is by hooking PI's into CG press and media releases. The CG is on TV every time an icebreaker comes back into port in Seattle, but science is rarely included. We can help each other.

6) There is no Marine Superintendent for the icebreaker fleet (as there are for UNOLS vessels.) In the routine process, you call Dave Forcucci, but not for unusual events. Much discussion of what this role would mean. Example of sheaves, demonstrates that it is not always clear who should make science support decisions.

AEWC meeting and AICC attendance - Discussion about when an AEWG meeting will be held, who should attend, would NSF and NOAA support this.

Operations 2006 - David Forcucci (Appendix VII)

- HLY0601 SLIP Grebmeier/Lovvorn

Biology, productivity

- HLY0602 Lawver et. al

Seismic refraction, reflection and coring

Got 25% of their very optimistic desires

Got 75% of the ship time that they requested

Civilian helicopter support was very successful.

2007 Plans – David Forcucci

Currently in dry-dock

- Extended 13 days due to rudder damage and windstorm delays in painting

- Off dock on January 31

- Return to ISC February 9th

- Short propulsion trials as part of shipyard for 6 days

- Shakedown March 8-16, 2007

- 17th in port, March 19 science load out

- Depart April 3 for Dutch Harbor

- BEST:

Dutch to Dutch w/ personnel and outreach stop in the Pribilof Islands

How to support seal sampling

- SLIPP year two

- Gap with nothing scheduled: June 16 - August 15, 2007 (62 days)

There are no programs funded.

When will we know for sure that nothing is funded or scheduled?

- Mayer/LOS: August 16 for 30 days

- Return to Seattle

The plan is to seek civilian helicopter support for BEST and SLIPP.

There is a NOPP requests for a small amount of work near Barrow and a NOAA sanctuary wreck survey in the vicinity of Wainwright Inlet. Perhaps 5 days.

2008 Plans – David Forcucci

BEST (2)

Early departure in March

Forty days or so

ASCI web site showing IPY projects:

CATS: Canadian Archipelago (Davis Strait) for Falkner, Lee, Muenchow, and Samelson. May be pre-proposed plans.

2007 permits and clearances?

No foreign clearances.

NOAA seal people would need permits.

None for Jackie's cruise.

Polar bears for Mayer? Probably not, because he doesn't need to get off the boat.

Discussion of meetings with native communities – Carin Ashjian

AEWC office has migrated to Anchorage (from Barrow.) We need to determine when the AEWC will actually hold a meeting and if it would be acceptable to have a broader group representing the PI's, agencies, the ship and AICC present.

2006 Cruise debriefs

There weren't many issues for 2005 and these were not put forward yet.

Lawver (HLY0602) debrief recommendations are not ready yet. Will cover these all as a group after the meeting.

MLC Pacific Report on icebreaker status - LCDR Gregg Stanclik (Appendix VIII)

Polar Sea

- Overhaul (\$27M) was successful.
- Successful Arctic ice trials in August
- Currently on DF07, working w/ *Oden*
- Moor tomorrow at ice pier

Healy

- Upgrades of propulsion controls and computers, low voltage
- Governor CTES, repairs
- Out of shipyard on February 8.
- Current: \$15M
- Outboard: IPP (FO) upgrade, Pump controller modifications

Impact on maintenance of moving to 300 days/year, visited with many European operators. Learned that:

- All merchant crewed (17 to 27 people) fully licensed merchant mariners
- Some operate 300 days per year, but not all
- Difference is 1/3 of *Healy* crew are untrained
- They rotate personnel, typically 4 months on 4 months off

MLC has contracted w/ JJMA for the costs and methods of maintenance (not staffing) issues of operating *Healy* 300 days/year. This trip was to validate the JJMA study. They have not looked at Canadian icebreakers. There is clearly a personnel aspect to a 300-days/year schedule.

Recap multibeam over the next three years. Target 2009/10 change. NSF has to fund (until/if budget authority comes back to CG.)

Polar Star: Could cost \$50M to reactivate out of caretaker status and do upgrades to where the *Polar Sea* will be in two years.

Future of multibeam - LCDR Gregg Stanclik (USCG)

Coast Guard tasked JJMA/Alion and SAIC to evaluate multibeam improvement options. Their report is due on May 1, 2007.

Healy science systems – Dale Chayes (Appendix IX)

Status from 2006

Installed ultra short baseline navigation system and tested it during the shakedown. They have made some improvement in understanding ADCP issues. Successful science systems operation in 2006.

Plans and options for 2007 and beyond.

Multibeam

- Design for freezing in (intentional or accidental) affects installation design.
- Use existing interfaces, plan for this
- Plan for acceptance tests/trials at factory, in the harbor (at the dock) and at sea.
- Include training and education of support personnel
- Study due in May that will recommend suitable sonar systems.
- Will need a significant endorsement from the science community.
- Spares, underwater, known hardware (eg Palmer)
- Existing SB2112: Topside spares, there is a pool of hardware, doing a revised inventory and sharing agreement
- SB2112 manufacturer support expertise is fading away.

Communications

- Iridium email and file transfer to stay the same.
- CGDN+ upgrade to 128kbps removes switching cables access to Inmarsat HSD, which we have used in the past. Might use tunneling if approved.
- Plan to use a lease VSAT thru LDEO budget for 07.
- Long term plans for up to 78N is VSAT, which would bring the capability up to par with other

UNOLS vessels.

Will install a PAR sensor on or before the shakedown.

BEST planning meeting indicates a large number of CTDs and net packages. Need to go through the exercise of switching the other winch to 0.322" cable and then back again for Grebmieir. The ship has the cable and slip rings.

Fiber optic 0.681 tow cable

They have put .681 cable/winches on board three times in the past few years. Don't need it for 2007, but should consider what the best approach is for the future.

TeraScan

2005 antenna pointing problems, 2006 upgrade to 1.5M dish, suffered two different antenna failures. Have put in a lot of effort and the downtime was significant.

TeraScan license costs are very expensive and the response from them as a vendor is less than satisfactory.

Consider other options: Dartcomm is a system in use by other installations that seems to work.

ADCP

They work, but not very well. There is EMI interference from the long unprotected cable runs and mechanical coupling problems from the mounting rings. Acoustic interference possibly from SEABEAM needs to be looked at more carefully.

Responsibility and planning for maintenance, etc of some science systems.

Need to identify cutter maintenance plan responsibility for a lot of systems that are probably not on a list or a plan. See Dale's list.

January 10, 2007

Action items from first day were reviewed. (Appendix X)

Brief discussion about a memorial for Jessica and Stephen, Captain Lindstrom would like this done by March before shipmates rotate off.

ESU report - James Wilson (Appendix XI)

- Two commands MLC and PACAREA support *Healy*.
- Need to update the USCG org chart on the AICC web site
- ESU supports all three icebreakers. *Polar Sea* isn't doing any science missions and *Star* is not deployed.

Upgrades to the science network

The 128kbps upgrade is currently expected by ESU to provide 64kbps for science until other needs come along. Dale does not expect that science will have “half” of the 128kbps CG link for long, if ever. TISCOM purchased the equipment and routers. ESU purchased a firewall.

ATG for ESU *Healy* support - Dave Hassilev

INMARSAT connectivity for science.

Was getting two hours per day with a 64kbps connection. The 128kbps upgrade to the CGDN+ is part of a Coast Guard wide upgrade for all (big) ships and will “break” the old way of providing the 2 hours per day for science.

The upgrade is independent of the follow-on tunnel for science. Approval of the tunneling is pending certification approval.

The CGDN+ backhaul solution uses a dedicated backhaul from the Stratos New Zealand LES. This is expected to perform better than the ISDN dialup from the same LES.

ESU is replacing some computers due to the warranty life cycle.

Updating OS versions on some servers

Upgrading the NOAA SCS software.

Discussion about use and allocation of “live” Internet connectivity.

Discussed communications changes that will allow 24 hour access, which would be for fewer, more controlled access points, but a higher perceived performance. A lot of discussion about how open the access should be, what is really required for direct access to the Internet.

They have installed a new version of the Science Computer System (SCS 4.0), which handles some of the science data acquisition.

Requests for proposals for a new icebreaker support contract will be issued in 2008, currently ATG in the last year of their contract.

Agreement to support Hassilev is renewed for 2007. Trying to budget for a second ATG computer support person.

ESU Seattle Science unit has 7 FTEs (Wilson, Cohoe, Hassilev, 2nd ATG, ETSC Luna, IT1 Doramus, MST1 McFadden

ESU Command Duty Officer 24x7 800-982-2546 [Email: James.m.wilson@uscg.mil](mailto:James.m.wilson@uscg.mil)

ESU Responsibilities:

- Configuration management
- Electronics Grooms
- IT Technical Support – Science Network

- Science Network Support
- Coordination with ship and shore.

Website, cruise planning manual, technical support – David Forcucci

Icefloe.net has ship info, science equipment, cruise planning information and reports from current and past cruises.

Use the “search” site to find info.

CG contracts w/ UNOLS office (Laura) to maintain the web site. Wojahn: the money for maintaining the web site is CG funds not NSF funds.

Healy is billeted for five MSTs currently and often sails with 6. The complement is one chief plus four or five MSTs.

Dave showed MST rotations and the outline of the science infrastructure support.

Some of the MSTs have sailed on some UNOLS cruises and will sail on some more this winter before the shakedown.

Need to clarify information for proposal writers about what technical support is available and provided.

Dave showed the Coast Guard infrastructure organizational chart.

Waiting for Simon to proceed with the RFP for technical services support.

IHAs

Glenn Sheehan would like to streamline this process.

Renee: Permitting is not quite as big an issue as Glenn makes it out to be. NSF wants to stick with the model of only doing IHAs for seismic systems. Through the Oceans Sciences section will be doing a broad EIS, perhaps done this fall. That will streamline the process somewhat. There will still need to be a simpler Environmental Assessment for each seismic cruise. The concessions that Larry Mayer made with regard to not using multibeam near shore are not necessarily endorsed by NSF. The environmental noise budget discussion is a long-term discussion.

ARRV

Denis Wiesenburg has asked for a letter of support for the ARRV. Probably not appropriate to focus it on the UAF proposal. Mike will phone Denis and ask what the point of the letter is supposed to be.

Operation of the ARRV might encourage more dialog between OCE and OPP.

Will AICC have some oversight for ARRV? Renee: to the extent that there is OPP funding, in any event, it will improve dialog. Don't insert AICC as the oversight body without direction from OCE. There is more collaboration between these groups within NSF.

AICC Personnel:

This is Bob Bourke's last meeting and Peter Minnett will rotate off when a replacement is identified. Margo presented certificates of appreciation to Bob Bourke and Peter Minnett.

Margo then showed the results from *Healy* Multibeam data that she has been working on as a way of showing the Coast Guard people some of the benefit of operating the *Healy* with the systems continuously collecting data.

Margo turned over the chair position to Carin.

Future Meetings

Discussed next meeting. Carin will talk to ARVOC and consider July (mid to late) in DC. Otherwise may wait until October when *Healy* returns.

Adjourned at 12:10