

**PALMER AREA USERS' COMMITTEE
ANNUAL MEETING, 12 AUGUST 2004
McMURDO AUDITORIUM
Raytheon Polar Services Company, Centennial, Colorado**

7:00 - 7:30 CONTINENTAL BREAKFAST

7:30 – 8:15 OPENING

- Introduction of attendees and overview of agenda (15 min)
- NSF welcome and remarks (15 min)
- RPSC welcome and remarks (15 min)

8:15 – 10:00 FACILITIES/OPERATIONS

- Cold room improvements (10 min)
- Science technical projects / facility transition (20 min)
- Pier / Intake (15 min)

BREAK (15 min)

10:15 – 11:15 IT/COMMS

- USAP Web portal / Information Security (10 min)
- POLAR ICE (50 min)

11:15 – 11:45 PRIMO/BATHYMETRY

- Description of PRIMO (10 min)
- Bathymetry requirements (20 min)

BREAK FOR LUNCH (30 min)

12:15 – 13:15 PALMER STATION SCIENCE: THE NEXT FEW YEARS

- Project/Population Projections (20 min)
- Multiple-use Planning Area impacts (10 min)
- Roundtable Discussion (30 min)

13:15 – 14:00 MARINE

- Ship/Station schedule planning (30 min)
- AWS servicing (15 mi)

14:00 – 14:15 PALMER BASELINE DATA COLLECTION

- Existing parameters (5 min)
- Possible new parameters (10 min)

BREAK (15 min)

14:30 – 15:00 EQUIPMENT/INSTRUMENTS

- Inventory reduction (10 min)
- Lifecycle replacement (10 min)
- Future needs (10 min)

15:00 – 15:30 PAUC BUSINESS

- Acceptance of 2003 Minutes (5 min)
- Restructuring of User Committees (25 min)
- New Business

15:30 – 16:30 OPEN DISCUSSION AND MEETING WRAP-UP

- Science Priorities for Palmer Station
- Recommendations
- Adjourn

19:00 BBQ AT BOB FARRELL'S HOUSE

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ANNUAL MEETING
12 AUGUST 2004
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ATTENDING:

RPSC

Jessie Crain
Steve Dunbar
Rob Edwards
Lora Folger
Patricia Jackson
Dave Leger
Doug Miller
Ric Morris
Ken Navarro
Dave Nelson
Karen Pavich
Rebecca Shoop
Cara Sucher
Stephanie Suhr-Sliester

PAUC Members

Vernon Asper
Bill Baker
Germar Bernhard
Bill Detrich
Scott Gallagher
Wade Jeffrey
Alison Murray
Langdon Quetin

NSF

Dave Bresnahan
Marie Bundy
Karl Erb
Bernard Lettau
Pat Smith
Al Sutherland

OPENING

Introduction of attendees and overview of agenda.

Dr. Karl Erb and Dr. Scott Borg began with introductory remarks:

The National Science Foundation recognizes that user committee meetings are an important source of information, and are critical to RPSC and the NSF to get user feedback. The overall feeling is that the PAUC has been effective.

- Dr. Erb presented some information on the proposed International Polar Year.
 - In September Mary Albert will report out on the IPY for the National Academy of Sciences
 - NSF is planning to work with other U.S. agencies
 - COMNAP is looking at a coordinated Southern Ocean program
 - It will be important to consider linkages between Arctic and Antarctic systems
 - Website: www.ipy.org

- Brian Stone gave an overview of major USAP program efforts for the upcoming season and discussed specific topics of interest to the Palmer community:
 - It is going to be a full field-season.
 - There is a large field camp near Pine Island Bay.
 - BAS would like to work with RPSC on a aerogeophysical SOAR-type survey near Byrd Surface Camp. This would be accomplished using Twin Otters from Rothera and BAS.
 - Pole activity and SPSM: First drilling for ICE CUBE will be in January, they are pre-staging materials for the neutrino detector.
 - Prep work is going on for the South Pole 10m telescope: installation is in the planning stage for 2006.

- Field projects
 - Deep ice core drill @ \$5M. They will use the WAIS divide site.
 - There will be some testing done in Greenland in May 2005.
 - Drilling in the field will start in 2007; it will take three to five years of drilling.
 - There will be international participation.

- Palmer Station activities
 - IMS Building (aka CTBT) – international monitoring system. There will be funding and construction next year. This will be a better facility for BSI and for air monitoring.
 - Communications management for USAP: work needs to be done within User Committee framework regarding bandwidth. Groups need to be formed to define what is needed and how best to manage, especially with all of the new activities.

➤ IT Security

- Mark Buckley, RPSC, is temporarily overseeing IT security effort. Many requirements and responses are still being developed.

➤ User Committee restructuring

- Committee reports and recommendations do get read and are considered.
- RPSC will need to work to increase user committee effectiveness, especially problems across the board such as communications, email, etc.
- There needs to be a way to get cross-program input from committees.
- Each committee functions differently. This needs to be standardized in the hope of improving activities of all User Committees.
- The Palmer Area User Committee has been effective and contributed to Palmer Operations.
- There is a need to increase the notion of crossing over ideas from User Committees.
- MAUC and SPUC have a number of issues across a wide range of disciplines. Decisions need to be made on how best to deal with all issues.
- There is a need to increase sharing of knowledge between User Committees using a team approach.
- User Committees are volunteer positions.
- User Committees should have working groups with a specific purpose to bring or act upon issues.
- A mechanism needs to be implemented for conveying information to the User community.
- Committees have been advised to look at budget requests. Projection for NSF shows budget decrease.
- In summary, there is a USAP need and NSF support to have a good advisory system in place for users.
- There was some discussion:
 - The benefits of a cross-community committee are a good thing but the current way the User Committees function needs some tweaking.

- It should be in the User Committee Charters that focus or working groups should be formed for specific issues. The SPUC Charter speaks of working groups. SPUC and MAUC issues have gone beyond the Charter. The issues are complex. At this point we need some thoughts on how to do this.
- It was suggested that all User Groups get together for an Executive Session. A start would be for the Chairs of each committee to get together and to discuss cross-station issues. There should be representatives from existing groups.

RPSC Opening Remarks

RPSC is a customer service organization and believes the user committees provide valuable input. As resources become more constrained, it is important to know what the needs and priorities are in order to provide successful support. This committee can also be used as a way to get information across to all users.

Facilities Operation and Maintenance

- Completion of dump cleanup last January this is a major step in improving the Station environment.
- Cold Room Improvements
 - There is current work going on to address cold room issues as outlined in the PAUC report.
 - There will be better capability and control of temperature.
 - The compressors have increased in size; they now have more cooling capacity and are mounted outside.
 - RPSC had an engineer review specs from PAUC and tried to match user needs. In the past there was no ability to hold temperatures and that has now been improved.
 - They still have the same alarm systems.
- Science technical projects / facility transition
 - Completion of the IMS facility is scheduled for September 2005.
 - Currently the final inspection is scheduled for early October.

- It will be difficult to transition to do all at once; therefore they will go project by project.
 - The CTBT Radionuclide Air Sampling Instrument (RASA) will be the first thing installed and up and running. The similar long-running DOE/EML project would like to see a comparison between old and new instruments before being decommissioned.
 - With some station conservation efforts there is enough power to run everything at the same time.
- Other projects
- There have been improvements to the BioLab third floor men's room.
 - Lab Haz Mat storage locker is in the design phase and will take place next year.
 - RPSC is trying to reserve more money for small improvement projects.
 - Priorities, both long- and short-term, need to be identified.
- Pier
- Pier improvement is a high priority and an immediate issue. Currently ECO is saying they will not tie up the ship to the pier.
 - It was built in 1967 and designed for a ship that is less than 125 feet long. However, cost estimates to replace it are staggering.
 - It is necessary to make sure the pier can accommodate other activities as well. The committee needs to link projects to the direct impact on the research community and provide information that would back up the need for pier replacement.

RECOMMENDATION: The PAUC will gather recommendations from the users and RPSC will write a further justification for the pier.

- Discussion
- Pier replacement would need to be done as quickly as possible, short on scope (weeks) and on-site construction time.
 - It would be at least FY07 or even FY08 before the budget would be available to start the project. Estimated low cost of replacement would \$6-\$7M depending on concept.
 - They could expand and reinforce existing pier using the same type of design, but this would still mean big dollars.

- There is currently no money budgeted for engineering or re-examining proposals. A list of USAP wide high-priority projects is already \$50-\$60 M.
- Currently two issues for pier:
 - 1) short-term need to find a solution that will allow LMG to tie up,
 - 2) long-term pier replacement.
- During dry dock ECO saw LMG hull damage, likely from surge and low tide when tied to the pier. ECO is seeing this damage and does not want to pay to repair it every year.

RECOMMENDATION: RPSC will discuss the situation with ECO; review the damage and seek a solution including both covering repair costs and looking at alternate docking procedures.

➤ SW Intake

- There was an ACTION ITEM from last year to look at the physical characteristics of the water. A realistic sampling plan was never developed nor implemented. *Recommendations are needed for parameters and a sampling strategy.*

➤ Power Issues

- Palmer Station is operating near maximum capability with Day's project and IMS coming on line in 2005.
- Alternative energy is being looked into, including wind generators and fuel cells. However the technology is still not cost-effective. Practical fuel cells are still about five years out. They need to be replaced every 4,000 hours.
- The EPA/Dept. of Energy and Universities are collaborating on energy efficient designs to make it possible to build efficiency into older systems. For example, using glycol waste-heat recovery which is being instituted at Palmer.

IT / COMMS

- Mark Buckley presented information on USAP web portal / Information Security
 - The new usap.gov website as proposed is more intuitive, has an on-line learning center included. It should replace and improve on accessibility of USAP information currently available on polar.org, but implementation will not be a huge impact on Palmer.
 - Security is a growing concern at the NSF and within Raytheon. This is coming down from U.S. government: OMB and the Inspector General. The Information

Systems Security Manager ties all organizations into the USAP infrastructure. RPSC is in a clear implementation role and should create a secure environment in terms of implementing policies and communications.

- Testing went well last year. The awareness program has gotten more sophisticated in monitoring systems in the network.
- Policies have been developed outlining the importance of IT security. The goal is to meet all requirements of IT security but not impose unworkable solutions. We need to find a good balance. IT security should be built in to all projects up front.
- The group was asked to look at the web link as available and review the general project information. Please contact Mark Buckley to suggest any changes.

RECOMMENDATION: RPSC will send out the link to new website when available.

- Scott Holbrook reviewed recent issues in POLAR ICE
 - 2004 was a transition year and we are moving forward toward Version 3.
 - This year the team is working on the following:
 - Changes in field dates, as this can be a problem, an automated process is being developed.
 - Help files also need work and this is being addressed.
 - Implementing SIP to SIP copy.
 - Streamlining the glossary of acronyms.
 - Looking at ways to better collect and include grantee feedback.
 - A vision for Version 3 which includes:
 - ✓ Automatically populating RSP's.
 - ✓ Correcting date entry and problems from itinerary section.
 - ✓ Investigate section by section vs. complete SIP submission protocols
 - Things that did not work so well:
 - Multi-line items
 - itinerary
 - performance / speed of program
 - total inventory
 - McMurdo Helo section
 - Frequency of password changes

- Grantee feedback surveys are still being received. The POLAR ICE team is looking into better ways to collect grantee input; as well as looking at ways to balance out features and how they are chosen or decided upon. This information, based on grantee input will be compiled into a spreadsheet. This will be reviewed and prioritized with the NSF.
- POLAR ICE could work in six–eight week development cycles. There would be four to five iterations before release. A feedback form would be provided after launching a change so that immediate feedback could be received. There needs to be better outreach to inform users.
- There was feedback and discussion on POLAR ICE from the PAUC committee:
 - Itinerary function did not work well
 - SIP is too large and complicated regarding needs at Palmer Station. POLAR ICE seems more geared toward needs at McMurdo.
 - deploy date fields need to be simplified.
 - Requirement to check every box in order to validate was annoying; validation was required for every record before going on.
 - SIPs should allow users to jump around between sections before validating and submitting.

RECOMMENDATION: The POLAR ICE team will compile a report of grantee feedback and provide it to the NSF by the end of August.

PRIMO / BATHYMETRY

- Vernon Asper and Scott Gallagher gave a description of the Polar Remote Interactive Marine Observatory (PRIMO)
 - PRIMO: a mechanism to provide real–time data with no delay; strong emphasis on education.
 - Location: still undecided; most likely within 2–5 kilometers of Palmer Station and 50–100 meters under water.
 - Main component is a vertical profiler with sensors:
 - CTD
 - water chemistry sensors
 - chlorophyll
 - webcam

- capability for additional parameters

Winch operation is critical to the profiler. When the winch is running, the demand is 450 – 500 watts.

Other components

- Underwater optical fiber data cable
- Underwater high voltage power cable
- On site server for operation, data collection and backup
- UPS sufficient for winch

Some issues

- Power plant – 1 Kw
- Bandwith – variable requirement depending on use/outreach
- Level of support – summer / winter – server maintenance, data archiving, troubleshooting
- Funding – short-term, MRI – 3 years; – Long-term – OPP/ Orion?

Management

- short-term: Asper / Gallagher
- long-term: NSF / RPSC

Location

- Will be dependant upon bathymetry depth, whether accessible by the Nathaniel B. Palmer

Scheduling

- This will be dictated by the ship schedule. May 2005, test at Woods Hole for five to six months.
- The planned Palmer deployment is February through March 2006, using both NBP and station resources.
- Would like to ensure it is functional before IPY.

Bathymetry

- Draft proposal is in to OPP
- Use Woods Hole AUV, sidescan sonar, fathometer; in Zodiacs

- Sediment types --> camera on board can tell a lot about the bottom
- The data could be put on a website or whatever would be the best way to share with the science community.

PALMER STATION SCIENCE: THE NEXT FEW YEARS

- Project / Population Projections
 - 2005 – 2006 season will be crowded.
 - Likely population projections show continued long seasons and high levels for the next few years.
- Discussion; potential impacts on wildlife study populations in South Anvers Island Multiple-use Planning Area.

MARINE

- Ship / Station schedule planning
 - Difficulty in partitioning amount of research vs. station support
 - If end of season shuttle runs are fixed in the schedule it will negatively impact science cruises, depending on what the NSF is prepared to fund.
 - In developing preliminary schedules it would be helpful to have likely grantee deployment requests even before SIPs are due.
 - Problems are created for grantees when ship schedules change; can there be a cutoff for a final schedule?
 - South Pole has developed an integrated schedule that is one-year out; this may be something to apply to Palmer.
 - We will be building multi-year schedules.
 - Season may run into winter
 - Port Call process has changed; they are going better than they used to.
- Vessel updates
 - SHALDRILL: NBP will be carrying 100–150 tons worth of science/drilling equipment. It appears to be 220 tons heavier than when first launched.
 - The NBP is in Auckland doing a stability test. An independent Naval architect will be re-calculating stability based on empirical data.
 - In dry dock it was determined the LMG needs a patch on the hull where she grounds while tied at Palmer Station. Also a new winch was installed.

➤ AWS Servicing

- Logistics for AWS didn't seem to work last year. Hugo (Santa Claus) Island and RACER Rock are not reporting.
- Units are supplied by UWisc; a replacement for Hugo is supposed to be on the way. However, they are not entirely behind the idea of continued support for marine stations.
- The RPSC Meteorology Coordinator and Marine Science personnel will support the management and labor to replace non-functioning AWS.
- Need to upgrade all systems and retain a spare at Palmer and Punta Arenas.
- Justification is easy to come up with, but not the funding.
- UWisc will provide spare parts?
- Possibility of BAS maintaining AWS in Marguerite Bay.

RECOMMENDATION: A plan for support of AWS needs to be developed, including scientific justification, among scientists, RPSC, and the NSF.

PALMER BASELINE DATA COLLECTION

➤ Existing parameters

- UV: BSI has been contracted to collect and archive. UV website is updated hourly with current data, and more data products are available with consultation from BSI
- There has been no decision on whether a new instrument will be installed in the new IMS building.
- Terra Scan data is operated by RPSC and a variety of remote sensing data distributed to UCSD, UWisc, and the LTER for archiving and analysis.
- Tide gage is maintained and operated by RPSC but there is not a funded project to oversee.
- Met: PALMOS (local Palmer system) continuously collects and displays real-time data, which is also summarized, archived, and distributed to WMO databases on a regular basis. Vendor may have a site visit to maintain and repair for quality control.

➤ Discussion of possible new parameters

- Basic seawater parameters, including TS and chlorophyll, would be useful but there is no current funding to support.

- This might be an easy add-on to PRIMO data collection and website if supported by the NSF

EQUIPMENT / INSTRUMENTS

- Inventory reduction
 - K. Navarro and R. Shoop keep Warehouse inventory spreadsheet; let them know if status of stored equipment has changed.
 - Lab Instruments
 - There is a spreadsheet with entire list of Palmer Station inventory for reference.
- Lifecycle replacement
 - C. Sucher has a lifecycle equipment replacement plan.
 - This is an effort to establish a Lab Operations and Maintenance baseline, built upon basic lab inventory.
 - NSF needs to know a reasonable base inventory to have on hand.
 - Need suggestions for equipment list
 - A liquid nitrogen plant has been suggested but a more thorough cost-benefit analysis is needed.
 - Field equipment is also included in the life-cycle replacement plan
 - Four-stroke outboard motors and snowmobiles are in the life-cycle replacement plan
 - Palmer Station will be getting a new Zodiac every year; currently there are 12 on station.
 - Need to compare plan to budget; send information for future needs at a later time.

RECOMMENDATION: PAUC would like to review and comment on lab and field equipment inventory.

PAUC BUSINESS

- Acceptance of 2003 Minutes
 - There was a motion to accept the 2003 PAUC Minutes; motion was seconded – Minutes were accepted.

- Discussion on restructuring of User Committees
 - This doesn't necessarily mean a complete restructure, PAUC will stay the same. But the NSF wants the four committees to have a consensus of actions and recommendations. The committees are not broad-based enough to represent the entire USAP community.
 - RPSC has been directed to make recommendations for a common charter and structure for working groups that may address USAP-wide issues.
 - PAUC and ARVOC Committees would like to continue in their current format.
 - Interaction between the committees needs to be increased. A better way needs to be found to integrate competing needs for different groups.
 - Chairs could get together to look at consolidating the User Committee charters.
 - By-laws can stay the same.

- New Business
 - There will be a need for six new committee members for two or three year terms.
 - Amsler, Karen Baker and Sidell rotated out last year
 - Bernhard, Quetin, and Ducklow will continue and rotate off in 2005

RECOMMENDATION: PAUC will elect new members and chair.

- Steve Dunbar wrapped up the meeting by highlighting two critical issues for Palmer Station which may require new ideas to resolve:
 1. Inability or unwillingness of ship to tie-up at the pier
 - Weather problems; storm surge and tide
 - Efficiency of port call operations
 - Will further blasting be required? RPSC will work with ECO for both short and long term solutions

2. Station crowding

- population is maxing out
- lab space and resources will more consistently be at capacity throughout the field season
- there was once a concept for new berthing in existing buildings- this would involve a lot of retro fitting
- Is it possible to build a separate facility for power, etc; convert GWR to berthing?

At 5 p.m. – Meeting adjourned.