



**Raytheon**  
Polar Services

---

# **ANTARCTIC VESSEL OVERSIGHT COMMITTEE (ARVOC)**

**24 November 2009**

**United States  
Antarctic Program  
National Science Foundation  
Contract OPP 0000373**

## Executive Summary

The operating climate for ARVOC has changed significantly since December 2008. Overall the outlook for marine science has greatly improved. This is, in part, reflected by outbriefs of scientists who generally express satisfaction with the support they receive and with the state of equipment on the vessels. However, we do have to face the problem of the R/V Nathaniel B. Palmer's eventual replacement or rebuild. Given the extended time needed to either replace the NBP or conduct a major overhaul, now is the time to think about different options and different scenarios to assure that we do not again find ourselves in the situation we faced in December. We will develop a stronger working relationship with UNOLS to explore possibilities for collaborative ship support and we need to assist both RPSC and NSF in helping them meet the challenges of maintaining a vibrant marine research program.

# Table of Contents

I	Welcome/Introductions .....	1
II	NSF Update .....	1
III	Vessel Update .....	2
IV	Open Discussion .....	4
V	Next meeting .....	5
	NSF Summary Tables/Office of Polar Programs Funding .....	6
	Re-Supply & Science Support Evaluation of Palmer Station .....	6
	Agenda .....	6
	Attendees .....	7
	Improvements and Capital Equipment Purchases .....	8

## **ACTIONS:**

**Action:** John will contact Scott Borg for his input/advice; ARVOC Chair/RPSC will schedule a spring meeting with the NBP retrofit or vessel replacement being the main topic of discussion.

**Action:** Dan will investigate what is happening with the Icebreaker POLAR STERN as they are in a similar situation as the R/V Nathaniel B. Palmer re: life of vessel, etc. Dan will update ARVOC on his findings.

## **I Welcome/Introductions**

▶ John Anderson:

Welcomed all to the teleconference; reviewed today's agenda, and introduced Sharon Stammerjohn, recently elected ARVOC member. Also noted is the vacancy created with Janet Sprintall's expired term. Nomination/recommendations may be submitted to John and, from these and other science community solicitations, a new member will be elected by the ARVOC committee prior to the next ARVOC meeting.

Three invited guests joining the teleconference are:

Jon Alberts, UNOLS Executive Secretary

Renee Crain, Arctic Division/ NSF

Robin Muench, Arctic Icebreaker Coordinating Committee (AICC) Chair

Their participation promotes better communication and interaction between the Arctic and Antarctic vessel research programs. To reciprocate, John Anderson will represent ARVOC (by telephone) at the upcoming AICC meeting.

## **II NSF Update**

▶ Alexandra Isern:

Recent NSF personnel changes include:

Dr. Mike Montopoli was recalled to active duty by the Navy

Dr. Mike Van Woert has been appointed Acting Head, Office of Polar Environment, Health & Safety (in Dr. Montopoli's absence)

Dr. Alex Isern, has been appointed Antarctic Sciences Earth Sciences Program Manager (she will, however, continue her AIL Ocean Projects Manager duties in the interim until a replacement is identified)

Mr. Will Colston, named Director AIL

Mr. Brian Stone, named Deputy Director, AIL

Mr. Marti Canipe, Einstein Fellow

\*\*

*FY10 Budget Request to Congress* is yet to be approved and signed by Congress. Alex provided ARVOC members with the *Summary tables* by account and an *Office of Polar Programs Funding* comparisons table (FY08-FY10 request with amount and percentage change) (pages 6)

Following general discussion, Alex noted that the ARV is funded and is a part of the \$117 million listed as "Major Research Equipment & Facilities Construction" in *FY10 Budget Request to Congress*. The anticipated commission date for the ARV is 2013. It is expected that the ARV will be a vessel that could potentially operate in both the Antarctic and the Arctic oceans. It was also noted that the NSF listens and responds to the science community's (ARVOC) voice, input, and that their support is instrumental in planning/ designing the new research vessel.

\*\*

Committee of Visitors (COV) recently met at NSF. In their comparison of the continental side logistics to the peninsula/marine side logistics, the COV noted that the continental side far out weighed the marine side in procedures and infrastructure. In response to the COV report, NSF may ask ARVOC to help develop data products that may address the concerns of the COV and aid in improving peninsula logistics/re-supply. Rob Dunbar and Jim Swift are good points of contact if ARVOC members want more detail from the COV meeting.

\*\*

Six months ago, NSF contracted a highly recommended maritime group to look at Palmer Station re-supply options. This was an independent, out-of-the-box study on ways to improve Peninsula side operations and included pax movements, air link, procedures, etc. The group will prepare a draft report, will include an on-line survey/results. From the study and the polls, they will advise options, timelines, etc., and will solicit comments from the science community/ARVOC. Plans are for a February 25-26, 2010 workshop that will allow scientists with peninsula experience to draft the report, leave the workshop with ideas and actions that can be brought back to the NSF. The NSF will then, in turn, take the report to the Advisory Committee. (see *Re-Supply and Science Support Evaluation of Palmer Station* page 7)

\*\*

As most all members know, the selection for a new OPP contractor has been delayed one year, per Alex. The selection process simply took longer than anticipated and the new date is posted to website.

### **III Vessel Update**

► Bob Farrell, Dan Herlihy, Bob Kluckhohn, other RPSC employees in attendance:

\*\*

The R/V Laurence M. Gould charter is being extended for ten years. However, this is not completely finalized, per Bob Farrell. Jeannie Hill-Jurik noted that the charter is being written as a five year contract with a five year option to extend. The actual “charter language agreement” is still being written. However, the indemnity clause has been agreed upon, per Jeannie.

In response to the question ‘are they any basic changes’, Jeannie noted that from a user standpoint, the vessel and its operations will be the same as at present.

\*\*

Bob Farrell met with AGUNSA staff as he transited through Ushuaia. They have assured him that recent staff changes within AGUNSA were necessary but that RPSC can be assured of their commitment and that service will remain the same or better. The Santiago Airport staff continues to serve grantees and employees flying into/out of Santiago.

At RPSC headquarters, the marine cruise coordinators are now aligned under the science planning group (reporting to Dr. Steven Kottmeier). This change will be largely transparent to the grantees but should lead to better planning as a whole and allow for better resourcing.

Dan Herlihy, Marine Manager, provided other staffing information:  
There is a core staff of seven full time employees in-house. These are:

Bob Kluckhohn, Marine Superintendent

Ross Hein, Marine Tech Supervisor

Bruce Felix/Andy Nunn, Electronics Techs (shared position)

Ethan Norris, Marine Science Technician  
Dave Morehouse, Marine Procurement Specialist  
Dawn Scarboro, Administrative Coordinator, Sr.

In addition to this full time staff, there are forty plus contract employees who are extremely dedicated, with much expertise and many years of sailing experience. Dan also noted that Points of Contact may sometimes sail as MPCs. An example is Adam Jenkins, who reports to the Science Planning group. He will sail as MPC with LARISSA. When possible, it is advantageous for the POC to work all the way through and actually sail. However, when other assignments make this impossible, our contract Marine Project Coordinators (MPC) Al Hickey, Herb Baker, Jamee Johnson, Skip Owen, Eric Hutt, and Stian Alesandrini fill the MPC position.

There have been no significant staff changes in Pt. Hueneme. Jackie Samuels is the Manager, Pt. Hueneme Operations.

\*\*

ARVOC members were provided *Improvements and Capital Equipment Purchases-Marine Operations 2009* prior to teleconference. (page 10)

In response to John's question about upgrade to the seismic system, Dan noted that RPSC recognizes the need to upgrade but without a request or a specific need, resources won't be used for this equipment. Leasing might be an alternate option, per John, and might be more cost effective. If RPSC considers this option, John can provide Ross and/or Bruce with lease sources.

Bruce Felix added that establishing a "tech pool/equipment pool" with UNOLS might also work well to meet our needs.

Four equipment items Bruce Huber asked about were:

CTD rosettes- Ross noted that these were replaced because of "chipping" and the expected life cycle of the bottles had been reached. Both vessels now have the standardized bottles.

Deep sea winches- slip rings- Markey Winch representatives concentrated on the winch and controls during their recent travel to the vessel. They aren't aware of any slip ring issues- thus, this wasn't looked at.

Catwalk- Bob Kluckhohn reported that RPSC is currently working on a design that will allow the catwalk to be taken down and then re-installed during open transit time.

Multibeam- Dan reported that the multibeam was tested during the shakedown cruise following the Talcahuano dry dock. The system had been upgraded with a new operation computer system prior to leaving dry dock. During the testing, problems developed with the pinging. The original controller board was put back in place and the pinging problems ceased. It became apparent that the new upgraded board was bad. Teri Chereskin and Scott Walker are on board now and will be working/testing the system. RPSC expects the system will be fully operational for LARISSA.

► Bob Kluckhohn reported that, due to the on-going contract negotiations, vessel schedules are not published as frequently as in the past nor as far out in date.

The schedules are published simultaneously on UNOLS site but thus far this has not generated many responses for vessel time.

The Puerto Montt standby period allowed cost control during the time the NBP was at the Oxcean pier; ECO staff was reduced, the vessel was able to stay in one location without having

to go to anchor and the work done to the vessel was productive. The equipment shakedown cruise went well. The side scan test and the ADCP replacement were successful and there the Chilean navy allowed testing off shore.

Plans are to transport waxy fuel from Palmer Station using a two-ship operation- the ODEN and the NBP. Vessel fueling plans are still being worked through that will allow the NBP's Ross Sea science work.

#### **IV Open Discussion**

► Other:

Adam Jenkins noted that plans are to operate the multi-beam during the ODEN/NBP run (November 2010). Any specific area requests for multi-beam data collection can be submitted directly to John Anderson and he will try to schedule the testing as they transit through those specific areas.

Fleet broadband capable of basic email connection will not be on-line until sometime late in 2010. The antenna is installed and cable is run, but simcards need updating before the system can be brought on line and test. RPSC will keep ARVOC members updated as fleet broadband plans progress.

Bob Farrell noted that, with changes to how the vessel ties up at the Palmer Station pier and the results from the dive inspection last year, plans are to continue use of the pier over the next number of years without having to modify or reconstruct. The new mooring plan works well, the divers will inspect again this year, and the pier status will be reviewed as a part of the Palmer Station re-supply planning process.

Maria inquired if there are any plans to change/improve warehouse storage/accessibility. AGUNSA is a bonded warehouse and is closely regulated for customs purposes, per Bob Farrell. AGUNSA staff will work closely with grantees in their accessing, storing, and retrieving their equipment. Plans are for Dave Morehouse to be on site during the LARISSA port call. Maria, Bob Farrell, Ken Navarro, other members can talk off-line to address any specific issues regarding warehousing. RPSC does have a planning process that is intended to help eliminate storage problems, per Bob.

► Due to what appears to be the successful LMG charter negotiation and resolution, the NBP's charter may now be what needs discussion, consideration. Alex informed the committee that she created an internal document outlining the charter timeline and the need to consider either charter renewal or various other options, i.e., mid-life refit, put out requirements to other for-hire bidders, or purchase. Following discussion, Alex noted that the only choice may be to renew the NBP charter for another five years and continue or start redesign plans. Alex added that whatever vessel is designed, it must be something that is affordable to operate.

John asked if there is anything ARVOC should be doing now to help move this forward. Alex responded that, as an ocean science community, ARVOC can provide RPSC/NSF their thoughts on where to go, how to get there and what to do. Your input/arguments can be very useful in future status of the NBP, per Alex. ARVOC, as advisory committee to RPSC, can provide vital information and support in research vessel planning/operations.

If the NBP is to be replaced, a decision to move in that direction needs to be made now. **Actions:** John will contact Scott Borg for his input/advice; ARVOC Chair/RPSC will schedule a spring meeting with the NBP retrofit or vessel replacement being the main topic of discussion. It's imperative that a decision isn't simply made through inaction. A workshop may be scheduled during the next year to address the research vessel operations. The upcoming AGU meeting may be an opportunity for ARVOC members, NSF reps, others science community members to talk about the research vessel issues.

**Action:** Dan will investigate what is happening with the Icebreaker POLAR STERN as they are in a similar situation as the R/V Nathaniel B. Palmer re: life of vessel, etc. Dan will update ARVOC on his findings.

\*\*

From a recent canvas of grantees who routinely review Outbriefs, two topics were mentioned as needing improvement and were recurring themes.

These are:

Medical forms for physically qualifying – too many, too lengthy, too varied. Some of the forms are on computer for completing, some have to be printed and then filled in. Also, many grantees are repeat travelers but they have to fill in the same information over and over, year after year. Some physicians are refusing to accept the forms because of the time involved with the paperwork. ARVOC asked if this process can be reviewed and perhaps streamlined.

Travel – There have been instances of large discrepancies in ticket pricing. For example, two self-tickers experienced \$1,000 difference in price even though they came from the same location. ARVOC asked if the self-ticketing process can be reviewed and perhaps improved.

RPSC/Bob Farrell will inform Travel and Medical department management of ARVOCs comments from today's teleconference. It would, however, be helpful if more detail can be provided, i.e., ticket discrepancies, by the grantees. John offered to provide examples.

In general, the grantees are quite satisfied with RPSC and not all comments were negative. Overall RPSC is doing a good job, per John and Bruce. ARVOC would like to know that Outbriefs are reviewed and acted upon by RPSC.

John discussed very briefly his work last month on the ODEN in preparation for his upcoming cruise. He thanked Ross Hein for providing excellent technical support in planning and working through some equipment issues.

There were no other questions/topics. John noted that today's telecom accomplished a lot and he thanked everyone for their participation and attention.

## **V Next meeting**

The next ARVOC meeting date and location are to be determined based upon John's discussion with Scott Borg re: new vessel versus renovation; etc. ARVOC members, RPSC, NSF will be kept informed.

John will work with ARVOC members to elect a new member prior to the next meeting.



## **NSF Summary Tables/Office of Polar Programs Funding**

(2 slides were presented by NSF)

## **Re-Supply & Science Support Evaluation of Palmer Station**

(slides presented by NSF)

### **Agenda**

## **ARVOC**

Teleconference: **Tuesday, November 24, 2009**  
(12:00 EST/11:00 CST/ 10:00MST/ 9:00 PST)

Agenda schedule reflects Central Standard Time- the ARVOC Chair time zone. Please adjust to your time zone.

Dialing instructions: Toll Free **877-336-1275**  
Access Code **1274113#**

### **11:00-11:30 John Anderson**

- I. Introductions and recognize new member, Sharon Stammerjohn; Note: upcoming solicitation/elections for members with expiring terms
  - ▶ Brief overview of today's agenda
  - ▶ AICC update

### **11:30 – 12:30 Alexandra Isern**

- II NSF Update:
  - ▶ Personnel changes
  - ▶ NSF budget
  - ▶ Recent Committee of Visitors (COV) meetings
  - ▶ Issues of Concern

### **12:30 – 1:30 Bob Farrell/Dan Herlihy/Bob Kluckhohn**

- III Vessel Status Update:
  - ▶ LMG charter status
  - ▶ RPSC and AGUNSA staffing updates
  - ▶ Review recent vessel equipment purchases, repairs and/or replacements- information/input provided by Tech Supervisors-Hein/ Norris/Felix
  - ▶ Vessel Schedules- two vessel operations in 2010/11 season, schedule status and plans
  - ▶ FleetBroadband install on vessels – information provided by Scott Walker
  - ▶ Palmer Station Pier status update

### **1:30 – 2:30 ARVOC members- open discussion**

- IV Review of December 2008 meeting topics/updates  
<http://www.usap.gov/conferencesCommitteesAndWorkshops/userCommittees/sctnARVOC.cfm>
  - ▶ Consideration of NBP charter extension to carry beyond 2012 end date

### **2:30 – 3:00 Other**

- V: Next meeting date

## Attendees

Name	Affiliation
Bruce Huber	ARVOC
Maria Vernet	ARVOC
Matthew Charette	ARVOC
Meng Zhou	ARVOC
Stephanie Stammerjohn	ARVOC
John Anderson	ARVOC, Chair
Alexandra Isern	NSF
Roberta Marinelli	NSF
Adam Jenkins	RPSC
Bob Farrell	RPSC
Bob Kluckhohn	RPSC
Bruce Felix	RPSC
Dan Herlihy	RPSC
Dawn Scarboro	RPSC
Jeannie Hill-Jurik	RPSC
John Evans	RPSC
Ken Navarro	RPSC
Patricia Jackson	RPSC
Rob Edwards	RPSC
Ross Hein	RPSC
Jon Alberts	UNOLS
Renee Crain	
Robin Muench	

## Improvements and Capital Equipment Purchases

MARINE OPERATIONS 2009

(ARVOC telecon Tuesday, November 24<sup>th</sup>, 2009)

### Marine Technician

(Ross Hein)

Jumbo Piston Coring system- upgraded

Mega Corer- refurbished

Kasten Corer- upgraded and standardized

Box Corer- replaced and standardization of spares

Hydraulic system, NBP deck- major upgrade

Seismic compressors- repaired (last year)

CTD rosette bottles- standardized and replaced (both vessels)

18' Otter trawl- design according to USAP standard

Otter doors- improved and standardized, aluminum

Blake trawl net- design according to USAP standard

Blake frames- new fabrication

Pot fishing gear- worn and damaged gear is replaced with new

Grappling techniques and gear- improved

Deep sea winches (fixed)- manufacturer inspected and assessed all NSF owned winches aboard both vessels

Outboard motors- for use on Zodiacs specifically in support of peninsula field camps. Motors are on order.

MK V Zodiacs purchased to replace condemned MK V Zodiacs

Yamaha outboard motors- are being evaluated to determine performance issues and procedures being written to mitigate problems and to improve reliability in the field

Cross deck-able Trace Metal Clean winching system- spec and build new system to include new Kevlar cable and a dedicated trace metal rosette (12 positions). Built to GEOTRACES standards.

DUSH-6 winch- assessment to determine possible return to service.

.680 wire (NBP) and addition of single strand multi channel fiber- replacement is in-process

Satlantic FIRE (Fluorescence Induction and Relaxation) Fluorometer system

---

### Marine Science

#### Technician

(Ethan Norris)

Capital Equipment

Guildline Portasals- quantity two, new purchases

Allegra X22R centrifuges

Eppendorf 5417R centrifuge

Note: with the loss of the Catwalk storage area on the NBP, please keep in mind there will be space limits in maintaining "backup" and "spare" supplies. The science parties should plan accordingly.

---

### Marine Electronics

#### Technician

(Bruce Felix, Andy Nunn)

ADCP- replaced NBP OS-38 fully functional

EK500 bio-acoustic sonar system- upgraded software, fully tested and calibrated with new sonar window material

SCUD Towed camera- upgraded system with new camera, LED lights, video recording system batteries and scaling lasers

Main ship's crane load cells- replaced and standardized between ships

SEACAT 19 Plus compact CTD profiler- new purchase

Net depth sensor- redesigned and fabricated 2 new units for use with MOCNESS

MOCNESS- purchased new 1M system and upgraded spares inventory

Fiber optic cable - began process of adding to NBP, including sliprings, cable spool to be installed in 2010 and all required tools

CTD- Replaced CTD systems lost on ODEN in 2008

---

## IT

(Scott Walker)

Fleet Broadband- mounted in a temporary location on top of the bridge on an open ECO pedestal that ECO allowed RPSC to use.

Terascan System desk- cabling has been routed to this system on the Bridge.

Base Line data on the Terascan System at high latitudes will be collected while at Rothera Base.

Any approved final implementation of the Fleet Broadband will be an engineered solution with installation for production use on the ship to occur after the 2010