

**UNOLS Polar Research Vessel Committee
Science Mission Requirements Refresh Project**

Statement of Task to the Committee

INTRODUCTION:

Research in the polar regions requires specialized logistics and infrastructure that can operate safely and effectively in ice-covered waters. For the past 20 years, the Nathaniel B. Palmer (NBP) has provided the polar research community with an excellent platform for year-round operations in polar regions where waters are often stormy or covered with sea ice. The NBP has successfully hosted a variety of high profile research projects, and this research has resulted in a wealth of transformational, peer-reviewed, publications over her 20 years of service. This research has provided scientists with an improved understanding of oceanographic processes operating in the polar regions. However, high priority research questions with important ramifications for understanding global environmental change remain, such as the need to understand oceanographic processes that are increasingly tied to long-term stability of polar ice sheets. Addressing these questions requires enhanced access to ice-covered regions. To advance polar research in the future a vessel is needed that incorporates science mission capabilities articulated by the research community and increases the reach of U.S. researchers into a greater portion of ice-covered seas.

UNOLS has been tasked by the National Science Foundation (NSF) to establish a committee to review science mission requirements (SMR) identified during the Polar Research Vessel (PRV) Study completed in 2006. Through consultation with the research community, the committee will assess whether existing PRV SMRs meet current and emerging needs for polar research. The committee is also asked to identify any additional SMRs required to ensure that the PRV will meet the needs of the polar marine research community for the next 30 years. It is anticipated that a report from this activity will be transmitted to NSF in June 2011.

MEMBERSHIP:

The PRV Committee (PRVC) will be comprised of up to 12 individuals who will represent the various marine research disciplines, as well as maritime technical experts from the UNOLS community and industry. The membership composition shall be as follows:

- The Chair will be an academic researcher.
- 8-9 members from the research vessel user community (international membership, disciplinary balance).
- 3-4 Technical/Operational Experts (naval architects, R/V operators, and R/V Technical Support personnel)

NOMINATIONS:

Nominations to the PRVC and for the PRVC Chair will be solicited from the research community and other organizations with relevant expertise. Candidates will be asked to submit their vitae and letters of interest. Applications for membership to the PRVC and the PRVC Chair will be reviewed by a PRVC selection group that includes the UNOLS Chair, UNOLS Immediate Past Chair, Fleet Improvement Committee Chair, and the Arctic Icebreaker Coordinating Committee Chair. The UNOLS Chair shall appoint the PRVC members and the Chair from the nominations put forward by

the PRCV selection group. Members of the OOSC will be appointed for the duration of the task that has an expected completion date of June 3, 2011.

MEETINGS:

It is expected that the PRVC will meet three times in addition to the PRV workshop. The meeting schedule is indicated in the timeline at the bottom of this document. The first meeting will focus on planning the community workshop, reviewing existing PRV documents, and developing mission scenarios and draft Science Mission Requirements (SMRs). The second and third meetings will be devoted to drafting and finalizing the PRV SMR document. The meeting logistics and travel arrangements shall be coordinated by the UNOLS Office.

WORKSHOP:

One community workshop is planned with approximately 50 attendees. The workshop will present mission scenarios, review community input to the PRV SMR survey, and gather additional community feedback. The workshop date is tentatively planned for late February/early March 2011.

CHARGE TO THE PRV COMMITTEE:

1. Review SMRs identified during the Polar Research Vessel (PRV) Study completed in 2006. PRV reference documents will be provided to Committee members.
2. Consult existing UNOLS reports such as the Science Mission Requirements documents published for Regional Class and Ocean Class Research Vessels <<http://www.unols.org/committees/fic/smr/index.html>>, for guidance on the process and structure of this activity.
3. Develop a survey to gather feedback from the polar marine research community on the anticipated science missions and the capabilities that will be required by a PRV to carry out these missions. The UNOLS Office will assist by publishing the survey on line and compiling responses that are submitted.
4. Plan and hold a community workshop to discuss mission scenarios, review community input to the PRV SMR survey, and gather additional community feedback.
5. Through consultation with the research community, the PRVC will:
 - a. Assess whether the existing PRV SMRs (developed in 2006) meet current and emerging needs for polar research.
 - b. Identify any additional SMRs required to ensure that the PRV will meet the needs of the polar marine research community for the next 30 years.
6. Prepare a report to NSF that shows a clear connection between critical science questions and the PRV SMRs identified. The format of the final report should be consistent with available UNOLS SMR documents for Ocean and Regional Class vessels.
7. Transmit the final report to NSF in early June 2011.
8. The tasks outlined above should be carried out in accordance with the timeline below.

PRV SMR Refresh Project Timeline

Date	Activity
10/12/10	Finalize the Statement of Task, Charge to the PRV committee, and Call for Nomination
10/21/10	Post Call for Nominations
11/3/10	Deadline for Submitting Nominations
Nov	PRVC Selection Group finalize membership and appoint Chair
Early Dec	Finalize PRV web survey
Dec	Open web survey for public comment
Dec	Committee Meeting 1
	Plan Activity
	Plan Workshop
	Review PRV documents
	Develop mission scenarios with AICC/ARVOC input
	Strawman Science Mission Requirements
	Identify areas requiring additional information
Late Dec	Invite workshop participants
Jan	Close web survey
Feb/Mar	Workshop
	Present use case scenarios and web survey results
	Gather additional input
Feb/Mar	Committee Meeting 2
	Draft Science Mission Requirements
Early Apr	Committee Meeting 3
	Finalize Science Mission Requirements
4/11/11	Post Science Mission Requirements for public comment
5/16/11	Close public comments
6/3/11	Submit Final Science Mission Requirements to NSF