



# Polar Research Vessel (PRV) Update/Summary

- In January and February 2013, NSF reviewed the costs for construction and operation of the Polar Research Vessel (PRV) as specified in the UNOLS Science Mission Requirements (SMRs) document. While the construction costs were significant, the projected annual costs required to operate the PRV exceeded the combined operational costs of the NB PALMER and LM GOULD. Without a significant funding increase, NSF could not afford to operate the PRV.
- NSF then began a review of the NB PALMER (NBP) to determine its suitability for not only a service life extension, but for incorporating at least some of the capabilities and characteristics of the PRV. That study was originally intended to be performed in October 2013, but due to the government shutdown, had to be postponed.
- The new SLEP study has already commenced, beginning with a meeting held last month at the ship owner's facilities in Louisiana. This week (Oct 21-26, 2014), representatives of NSF, Lockheed-Martin, Edison Chouest Offshore, and JMS will be performing an on-site analysis of the NB PALMER. The SLEP feasibility report will be due to NSF in late January 2015.



# Polar Research Vessel (PRV) Update/Summary

- In addition to determining the suitability and estimated extended life expectancy of the NBP, the report should detail the potential for adding the following PRV capabilities to the vessel:
  - Increase science and technical berthing from 39 to 55 people
  - Increase lab space by 15-20%
  - Increase working deck space for science 10-15%
  - Decrease acoustic background noise
  - Enhance ice breaking capability from ABS A2 to IACS PC3
- Once the report is received, NSF will review the merits of having a SLEP performed on the NBP compared to developing a PRV-like vessel, albeit with some reduction in performance capabilities as described in the UNOLS PRV SMRs. NSF remains committed to ensuring viable Antarctic research platforms for the coming decades.



# Polar Icebreaker (PIB) Update/Summary

- The Coast Guard is continuing its development of the next generation heavy icebreaker. NSF is an active participant in the 46-member, 11-agency Integrated Product Team that over the last two years has produced:
  - Mission Needs Statement
  - Concept of Operations
  - Preliminary Operational Requirements Document
  - Key Performance Parameters (KPPs)
  - Operational Requirements Document (ORD, due Dec 2014)



# Polar Icebreaker (PIB) Update/Summary

- The new vessel or vessels, will replace the aging POLAR SEA and POLAR STAR. They are intended to operate in both Arctic and Antarctic waters, including providing support for the annual break-in at McMurdo Station, Antarctica. In addition, there is an expectation that the vessels will have at least some capabilities of conducting oceanographic observations, including:
  - Hydrographic surveys
  - Mapping surveys
  - Biological Sampling
  - Coring & Trawling
  - Supporting laboratory vans
- The ultimate degree the new vessels will be outfitted with scientific support capabilities will depend on cost trade-offs and support from other agencies, including NSF, NOAA, ONR, as well as the Coast Guard.