



# New Generation Polar Research Vessel

## - Project Master Plans -

Prepared for: National Science Foundation  
Office of Polar Programs

Prepared by: Maritime Administration  
Raytheon Polar Services Co.  
Science and Technology Corp.

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# Objectives

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1. Develop time and cost estimates for two alternative procurement approaches for the PRV
2. Identify critical path for each

# Procurement Alternatives

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The RFP for the vessel will contain several chapters and the section that describes the requirements for the vessel is the Technical Specification. This chapter can be developed in several ways. Among them are:

- A. RFP based on technical specification containing vessel performance and operational requirements only  
(This procurement strategy (lease) was employed for *NATHANIEL B. PALMER* and *LAURENCE M. GOULD*.)
  
- B. RFP based on technical specification containing vessel performance and operational requirements as well as vessel guidance plans and specifications (This procurement strategy, for a lease or buy, may encourage more competition, reduce technical risk, and minimize total cost. A separate study addresses this issue.)

# Six Major Phases of Procurement

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- Pre-RFP development
  - define requirements and conduct technical studies
- Compile and issue RFP
- Bidding, evaluation and contract award
- Shipyard design and construction
- Vessel acceptance trials
- Transit to southern hemisphere port

# Estimated Project Schedule

## PRV Performance Based Technical Specification

ACTIVITY	YEAR							
	1	2	3	4	5	6	7	8
Pre RFP Development	■							
Compile RFP Documents and Issue		■						
Bidding, Evaluation, and Contract Award		■						
Shipyard Design and Construction			■					
Acceptance Trials							■	
Transit to Southern Hemisphere Port							■	

## PRV Performance Based Technical Specification with Guidance Drawings

ACTIVITY	YEAR							
	1	2	3	4	5	6	7	8
Pre RFP Development	■							
Compile RFP Documents and Issue			■					
Bidding, Evaluation, and Contract Award			■					
Shipyard Design and Construction				■				
Acceptance Trials								■
Transit to Southern Hemisphere Port								■

# Estimated PRV Schedule by Calendar Year

## (to meet March 2012 Operational Date)

### PRV Performance Based Technical Specification

ACTIVITY	2004	2005	2006	2007	2008	2009	2010	2011	2012
Pre RFP Development		■	■						
Compile RFP Development and Issue			■						
Bidding, Evaluation, and Contract Award			■	■	■				
Shipyard Design and Construction					■	■	■	■	
Acceptance Trials								■	
Transit to Southern Hemisphere Port									■

### PRV Performance Based Technical Specification with Guidance Drawings

ACTIVITY	2004	2005	2006	2007	2008	2009	2010	2011	2012
Pre RFP Development	■	■	■						
Compile RFP Development and Issue			■						
Bidding, Evaluation, and Contract Award			■	■	■				
Shipyard Design and Construction					■	■	■	■	
Acceptance Trials								■	
Transit to Southern Hemisphere Port									■

# PRV Schedule Details

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Foldout 1 – Performance Based Technical Specification (See additional files on CD)

Foldout 2 – Performance Based Technical Specification with Guidance Drawings (See additional files on CD)



# Estimated Government Cost for PRV Project

Performance Based Technical Specification			
	With Vessel Guidance Drawings	Without Vessel Guidance Drawings	Difference
<b>Pre-RFP Development</b>			
Procurement	90,835	90,835	-
Technical	1,056,783	91,970	973,701
Science	237,729	120,961	7,012
<b>TOTAL</b>	<b>1,385,347</b>	<b>303,766</b>	<b>980,713</b>
<b>RFP Development</b>			
Procurement	43,730	43,730	-
Technical	22,063	22,063	-
Science	16,797	16,797	-
<b>TOTAL</b>	<b>82,590</b>	<b>82,590</b>	-
<b>Bidding, Evaluation and Contract Award</b>			
Procurement	135,297	135,297	-
Technical	251,505	251,505	-
Science	165,257	165,257	-
<b>TOTAL</b>	<b>552,059</b>	<b>552,059</b>	-
<b>Shipyard Design and Construction</b>			
Procurement	259,917	259,917	-
Technical	736,329	736,329	-
Science	1,135,435	1,135,435	-
<b>TOTAL</b>	<b>2,131,681</b>	<b>2,131,681</b>	-
<b>Acceptance Trials</b>			
Procurement	18,162	18,162	-
Technical	191,288	191,288	-
Science	18,101	18,101	-
<b>TOTAL</b>	<b>227,551</b>	<b>227,551</b>	-
<b>Transit to Punta Arenas</b>			
Science	78,143	78,143	-
<b>TOTAL</b>	<b>78,143</b>	<b>78,143</b>	-
<b>GRAND TOTAL</b>	<b>4,457,371</b>	<b>3,375,790</b>	<b>980,713</b>

# Estimated Government Costs for PRV Project by Calendar Year (Dollars)

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## Performance Based Technical Specification

CATEGORY	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<b>Procurement</b>	90,835	108,984	109,380	63,023	63,023	63,023	100,683
<b>Science</b>	91,970	145,172	224,437	192,084	192,084	192,084	255,316
<b>Technical</b>	120,961	95,155	150,103	189,612	336,318	420,669	170,874
<b>TOTAL</b>	303,766	349,311	483,920	444,719	591,425	675,776	526,873

## Performance Based Technical Specification with Guidance Drawings

CATEGORY	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
<b>Procurement</b>	38,541	67,109	98,807	104,742	63,023	63,023	63,023	100,683
<b>Science</b>	280,640	789,381	141,258	215,114	192,084	192,085	192,084	255,317
<b>Technical</b>	67,621	180,184	91,744	175,038	189,612	304,716	358,233	233,309
<b>TOTAL</b>	386,802	1,036,674	331,809	494,894	444,719	559,824	613,340	589,309

# Summary

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	<u>Time</u>	<u>Cost*</u>
Performance Based Technical Specs	7 years	\$3.4 mil
Performance Based Technical Specs with Guidance Drawings	8 years	\$4.5 mil

\* Excludes cost of Government Furnished Equipment (GFE) for scientific laboratories and equipment

# Summary (continued)

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- The PRV procurement cycle will take about 7 years with a procurement approach based on performance and operational requirements only in the RFP.
- One additional year, or a total of 8 years, will be required when using guidance drawings and specifications in addition to the performance and operational requirements.
- This latter approach permits incorporation of “lessons learned” from current operations and validation that the operational and scientific requirements in the RFP can indeed be met.
- Pre-RFP activities are critical path in the procurement cycle.
- Key activities in that path are the proper characterization and definition of science and operational requirements. Associated technical studies and the resulting guidance plans and specification can be done in parallel with that effort.

# Summary (continued)

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- A procurement decision for the Government to own the vessel would result in an increase in the time and cost for
  - Pre-RFP activities
  - Evaluation of proposals
  - Construction oversight

# File Location

762/NSF/Presentation Master Plan 06-05