



Homeland
Security

USCG Fleet Status

United States
Coast Guard



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POLAR STAR Reactivation Project

United States
Coast Guard



Project Objective: Complete Major Systems Upgrades (AC&I) and back-logged depot level maintenance (OE) by the end of the industrial period (31Dec2012) resulting in 7-10 yrs of additional service life.

After 32 months and ~\$80M the POLAR STAR Reactivation Project completed all shipyard industrial work on 8 Dec 2012.



On SCHEDULE, On BUDGET and Exceeding All PERFORMANCE Goals.

POLAR STAR will re-enter heavy icebreaking service with significantly improved systems capability, reliability and supportability to meet its extended service life mission requirements.



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Major System Upgrades



POLAR ICEBREAKER MAJOR SYSTEM UPGRADES	STATUS	SCHEDULED COMPLETION DATE
✓ Aft Stern Tube Bearing Redesign and Renewal	Completed	July 2011
✓ Main Motor Cleaning	Completed	July 2011
✓ Gyro Compass Upgrade	Completed	Aug 2011
✓ Open Loop CPP System Conversion	Completed	Oct 2011
✓ Small Boat Davit Renewal	Completed	June 2012
☐ MCAMS Upgrade	In-Progress	Jan 2013
✓ MGT Digital Fuel Control System Upgrade	Completed	Jan 2013
✓ CHS Removal and Cargo Crane Renewal	Completed	Dec 2012
✓ Red Gear, Coupling & Bearing Inspection and Repairs	Completed	Dec 2012
✓ Main Diesel Engine Block Renewal & Reconfiguration	Completed	Dec 2012





POLAR STAR Reactivation Project



- **Next Steps:**

- Integrated systems testing and dock trials will complete in early 2013 along with crew familiarization/training and ready for sea preparations.
- Contractor acceptance Sea Trials conducted 8-11 Jan 2013.
- Transitioning STAR support from Project Staff to In-Service Support via LRE Product Line.
- Further work ups for Sea & Ice trials will be completed in the Spring and Summer of 2013.
- A Post Shakedown Availability is scheduled for the late summer/early fall to allow the ship to be capable of unrestricted heavy icebreaking operations by the end of Nov 2013 in order to sail for Deep Freeze 2014.



STAR Reactivation is at the End of the Rainbow!!





Homeland Security

P-STAR CY13 Schedule

United States Coast Guard



Milestone Description	Planned Date	Comments
End of Industrial Work	31 Dec 12	
Post-Industrial Period	02 Jan-24 Mar 13	Integrated system testing, dock trials, and crew training.
Sea Trials	Jan 13	Shipyard builder's trials to verify propulsion, auxiliary, and navigation system operation.
Aviation Certification	11-12 Feb 13	
Ready for Sea Drills	25-31 Mar 13	Ship's crew proficiency development pier side.
Maintenance Period	15Apr-27 May 13	
Helicopter STAN	28-30 May 13	
Cutter Boat STAN	03-05 Jun 13	
Training Cruise/Ice Trials	17 Jun-09 Aug 13	Ship's crew proficiency development at sea.
Post Shakedown Availability & Command Assessment of Readiness for Training (CART)	10 Aug-27 Oct 13	
Tailored Ship's Training Availability (TSTA)	28 Oct-17 Nov 13	
Available for Unrestricted Heavy Ice-Breaking	25 Nov 13	



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POLAR STAR Science System Status



- **Background:**

The Polar Class had not been employed on science missions for many years prior to and during POLAR STAR's layup and subsequent reactivation, so with no foreseeable demand and higher priority reactivation requirements taking precedence, none of the science systems were addressed during the reactivation project.





POLAR STAR Science System Status



- **Condition Assessment**
- **Science Labs:** Labs (*Aft Geo, Wet, Dry, and Meteorological*) are in good condition.
- **Winches & Winch Control Stations:**
 - Oceanographic Winches, Trawl Core Winch & control stations (Aft and Port) require technical assessment, repairs or overhaul & recertification.
 - Winch control system (Fincor) is of suspect reliability and supportability.
- **Main Deck Science Equipment:**
 - Port & Aft J-Frames require technical assessment, repairs or overhaul & recertification.
 - Aft Science Deck Crane (HIAB) requires renewal as it is unsupported.
- **Other Science Systems & Equipment:** STARC 01 Oct 2010 survey determined various systems, instruments, and outfitting may require upgrading/replacement :
 - Science Data Network and Outfit
 - Meteorological Sensors System
 - Various Scientific Instruments, Supplies
 - Uncontaminated Science Sea Water





POLAR SEA Status



- Coast Guard Authorization Act of 2012, Section 222 directs the Coast Guard to conduct a Business Case Analysis (BCA) of the options for, & costs of, reactivating & extending the service life of POLAR SEA until at least September 30, 2022. The deadline for the BCA is not later than 270 days after enactment of this Act.
- Furthermore, Section 222 language also places a restriction on the removal of parts from POLAR SEA : “The Secretary shall not remove any part of the POLAR SEA until the Secretary submits the analysis required.”
- COMDT(CG-751), Office of Cutter Forces, is the lead for the POLAR SEA BCA.
- Cutter will remain in Seattle until BCA is complete.





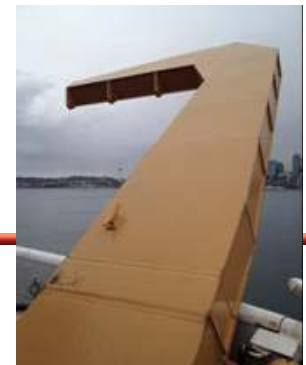
POLAR STAR Science System Status



Way Forward:

- Identify NSF's intent or lack thereof for conducting science aboard POLAR STAR
- NSF's priority for science capabilities and associated systems that need to be recovered and restored
- Time when such system restoration would be required to fulfill mission requirements
- Funding responsibilities and schedule for restoring select systems and equipment.

Earliest maintenance availability where select science systems could be addressed is in the Post-Ice Trials Dockside (Aug-Oct 2013). **NOTHING CURRENTLY PLANNED FOR ACTION.**





HEALY Status



- Two major availabilities between now summer science cruise
 - Drydock – sea valves, UW Body Painting, tanks, bow thruster – PoP 28 Jan to 23 April
 - Dockside – MDE Maint., Topside Preservation, Wt Hnding Ovhs – PoP 15 Mar to 28 May
- Additionally working on long-standing issues





HEALY Mid-Life



- SSMEB completed in 2009.
- 2014 is the mid-point of Healy's 30 year projected service life.
- Survey and Design (S&D) funding is required 2 to 3 years in advance to complete all the front end engineering prior to start of production. FY15 is first year funding could be available to begin S&D.
- Funding within the CG Capital Investment Plan (CIP) FY14-18 does not provide enough funding for Healy's mid-life.
- Healy is notionally scheduled to begin her mid-life availability in FY20 but could begin as early as FY18 if additional funding is provided within the CIP.

