US COAST GUARD
POLAR CLASS ICEBREAKERS

Polar Class Engineering Status Brief

AICC Meeting 18 – 19 November 2004

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U. S. COAST GUARD
NAVAL ENGINEERING
Maintenance & Logistics Command, Pacific

POLAR STAR (WAGB-10)

- Departed Seattle for Deep Freeze 2005 on 4 Nov 04
- Several last minute issues including challenges with centerline turbine were resolved before departure from Seattle.
- Borrowing Heavily from POLAR SEA

POLAR SEA (WAGB-11)

- Currently not operational due to status of Main Motors
- Moored here in Seattle awaiting repairs

P-STAR AND P-SEA

- PSTAR borrowing heavily from PSEA to meet last minute parts requirements
- Past weekend 2 evaporator pumps were removed from SEA and sent to STAR in Hono.
- This follows transfer of numerous parts needed prior to sailing


Main Motors are Heart of
POLAR SEA's Problem
Westinghouse 6000 HP DC Motor
S/N 1S84P279
Manufactured 1974

Polar Sea DF 2004 MM Casualties

- ***#2 and #3 Main Motors are Condemned due to low resistance readings in insulation.***
- ***Repairs pend funding availability for tech inspections and whatever repairs are deemed necessary afterwards.***

Cramped quarters


Accessing the rear of the Motor


EM1 Parks in the bottom of #
3M/M

Area behind the commutator

Reliability Improvement Project

- Project Never Intended as a Mid-Life Overhaul
- Only Funded to ~50% Over Life of Program ($46M Funded vice $81M Requested)

Reliability Improvement Project

- Civilian Billeted Project Manager Passed Away in Nov 02 (Driving Force)
- All money zeroed in FY 04-05
  - Civilian & Military Billets have all expired
  - Funding Not Restored
  - All remaining spare parts placed in storage pending funds under next AC & I Program

Service Life Evaluation Board

- Ship Structure & Machinery Evaluation Board (SSMEB) Completed on Polar Sea
  - Primary Propulsion Systems Unsupportable after 2010.
  - Hulls in Good Condition
- AMSEC Study Showed That Re-utilization of Existing Hulls w/New Propulsion Is Feasible

PSEA and the MLCPac support organization is standing by for funding and direction.


Questions?