

# Compatibility of “Single Coat” Tank Coatings with Retained Pre-construction Primer

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# Project Involvement

- ▶ PTR: Bob Cloutier
- ▶ Project Lead: NASSCO
- ▶ Principal Research: Elzly Technology Corporation
- ▶ Industry Involvement: NASSCO, NAVSEA 05P23, BAE Southeast Shipyards

# NSRP Project Success

- ▶ Retention of Pre-Construction Primer
  - For surface ships, pre-construction primer may be retained and overcoated with applicable coating systems specified in Tables One through 5, with the exception of potable water, reserve feedwater, and freshwater drain collecting tanks, nonskid applications (MIL-PRF-24667), and single coat applications (MIL-PRF-23236 Type VII Class 18/x), if the pre-construction primer application process meets the following...
- ▶ Fast Track Single Coat Preservation System
  - Helped to expedite private shipyard acceptance of the single coat preservation system

# Dilemma

- ▶ US Navy mandates use of single coat
- ▶ Single coat products were primarily developed for the US Navy
- ▶ US Navy heretofore has not allowed PCP retention in tanks
- ▶ There is no test data for single coat products over PCP

# Project Objective

- ▶ Perform testing to determine if preconstruction primer can be retained for single coat applications (MIL-PRF-23236 Type VII Class 18/x)
- ▶ Other products will be included as controls

# Project Tasks

- ▶ Task 1 – Finalize test plan and prepare tanks
- ▶ Task 2 – Apply topcoat to the retained PCP and prepare tanks for exposure
- ▶ Task 3 – Ballast tank exposure and inspection
- ▶ Task 4 – Prepare Final Report

# Leverage Previous Study

- ▶ Retention of Pre-construction Primer in Tank Coating Systems, NSRP Project 3-96-3
  - 12 tank compartments tested
  - Most coatings performed well
  - Included high solids, edge retentive products (MIL-PRF-23236)



# Considerations for this Study

- ▶ What PCP should be tested?
  - Ballast tanks will have one PCP
  - Panels with additional PCPs could be added
- ▶ How long with the PCP be weathered
  - 60 days
  - Consider contamination (next slide)
- ▶ What ballast cycle?
  - 20 days full, 10 days dry
  - Re-use same water to minimize disposal costs

# Variables to Consider

Contamination Options	Surface Preparation Options	Topcoat Options
Puddles of Seawater	Full Abrasive Blast to SSPC SP-10	International Interline 783
Oil	Brush Blast with Spot SP-10	Sherwin Williams FastClad ER
Grease	Pressure Wash	MIL-PRF-23236 Type VII
Weld Smut	Spot SP-1 w/solvent wipe	MIL-PRF-24441 or 23236 Ty VI

# Path Forward

- ▶ **Inspect / Clean / Prime / Weather Tanks**
  - February–April 2011
- ▶ **Determine coating systems**
  - NLT April 2011
- ▶ **Prime & weather test panels**
  - February–April 2011
- ▶ **Topcoat tanks and panels**
  - May 2011
- ▶ **Begin Exposure**
  - June 2011