

# Partial Blast of Ultra High Solids Coatings on Navy Ships

NSRP SPC Panel Project Update

September 5, 2018

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# Partial Blast of Ultra High Solids Coatings on Navy Ships

## PROJECT TECHNICAL REPRESENTATIVE

- Bob Cloutier, GD-BIW

## INDUSTRY INVOLVEMENT

- BAE Systems Southeast Shipyards, GD-NASSCO, GD-Electric Boat, HII-Newport News Shipbuilding, Main Industries, IMIA LLC, Marine Specialty Painting, MARCOM Services LLC, International Paint, Sherwin Williams, On Point Solutions

## NAVY INVOLVEMENT

- NAVSEA 05, NAVSEA 04, Southeast RMC, SURFMEPP, SEA 21, Puget Sound Naval Shipyard, NSWC Philadelphia, Carrier Planning Activity, Naval Research Laboratory

# Partial Blast of Ultra High Solids Coatings on Navy Ships

## SCOPE

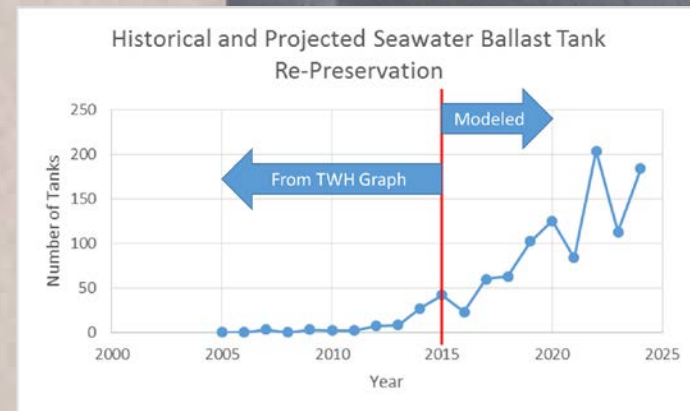
- Continue institutionalization efforts to substitute a partial blast for a full blast during re-preservation of tanks and/or voids with ultra-high solids coatings on surface ships
  - Continue monthly working group telecom's
  - Perform additional demonstration(s) on active Navy Ships
  - Evaluate performance of documented partial blast areas
  - Perform cathodic disbondment testing of "partial blasted" test panels
  - Submit wording to SSRAC for NAVSEA Standard Item 009-32

# Why “Partial” Blast?

Why do we spend a disproportionate amount of surface preparation time removing paint from “difficult areas” and then spend a disproportionate amount of application time coating those areas?

- 6.4:1 ROI with conservative assumptions
- 1.5 year payback after implementation
- Breakeven over 7 years if only 10% of tanks are candidates
- Other applicable spaces exist and will improve ROI

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# Major Project Efforts

- Develop Industry Standard
- Process Demonstrations
- Performance Confirmation
- Project Outreach & Implementation



2017 SSRAAC Change Proposal Form (PRACTICAL 214851) doc  
Activity Serial # (if applicable) SSRAAC # (SSRAAC USE)

NAVSEA Standard Specification for  
Ship Repair and Alteration Committee (SSRAAC)  
2017 SSRAAC Meeting

Submitted by:	Fide Auth	Activity:	NSRP	Date:
<b>TYPE OF PROPOSED CHANGE:</b>		Administrative <input type="checkbox"/>	Technical <input checked="" type="checkbox"/>	
Standard Item <input checked="" type="checkbox"/>	009-02	Title: Cleaning and Painting Requirements; accomplish		
Para: Attachment D		Page: NCW		
SWT <input type="checkbox"/>		Title:		
Para:		Page:		
Appendix 4 E <input type="checkbox"/>	Section:	Para:	Page:	
Annex A <input type="checkbox"/>	Page:	Annex D <input type="checkbox"/>	Phrase:	Page:
<b>PROBLEM:</b> Single coat (SSR-25226, Type V1 Class X118) coatings in good condition at the end of their service life are more difficult to remove than legacy coatings. This drives cost and schedule increases when maintaining spaces coated with single coat.				
<b>RATIONALE FOR CHANGE:</b> Single coat materials have successfully been partially tumbled before re-coating in order to reduce cost and increase the area for re-preservation. The proposal is to add an "Appendix D" to NSI 026.02 describing a partial tumb procedure that has been demonstrated in public and private shipyards several times over the past 10 years.				
<b>PROPOSED CHANGE:</b> Incorporates the attached procedure as Attachment D. Add Note (XX) "If approved by the SUPERVISOR, the surface preparation method of Partial Blast, described in Attachment D may be used in place of the surface preparation SSPC/NACE standard required in the Table Line." Reference Note (XX) in: <<<REVIEW LIST BEFORE SUBMITTING>>> Table 2, Line 2A, Table 2, Line 17A; Table 2, Line 19; Table 2, Line 23; Table 2, Line 23A; Table 3, Line 15; Table 3, Line 13A; Table 3, Line 15; Table 3, Line 16A; Table 3, Line 19; Table 4, Line 5A; Table 4, Line 10; Table 4, Line 12; Table 4, Line 15; Table 4, Line 16; Table 4, Line 20				
<b>COST IMPACT:</b> NO IMPACT <input type="checkbox"/> INCREASE <input type="checkbox"/> DECREASE <input checked="" type="checkbox"/> Provide data to support your conclusion to include both government and contractor costs associated with the proposed change. Work independently performed by the NSRP SPC panel and CWP 456 suggest roughly 5-10% of re-preservation cost can be avoided.				
<b>SCHEDULE IMPACT:</b> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> If YES, describe schedule impact. Work independently performed by the NSRP SPC panel and CWP456 suggest that the schedule for				

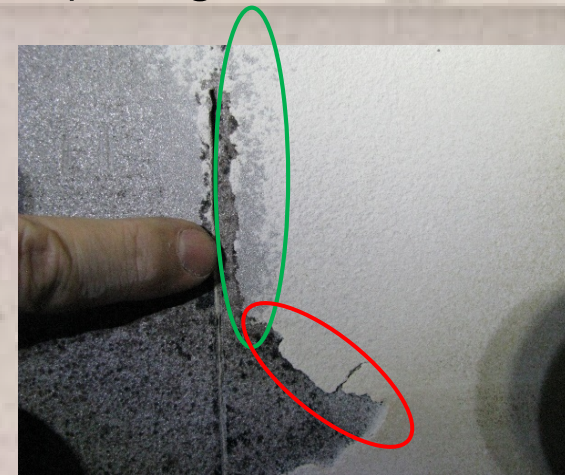
# Develop Industry Standard

- Navy Standard Activity
  - Current NSI 009-32, Attachment C describes a waterjetting “spot and sweep” process
  - NSI 009-32 change proposal to add an Attachment describing the partial blast procedure was rejected for administrative reasons
  - Draft CFR language available for “Partial Blast Demonstration”
- Industry Consensus Standard Activity
  - SP-10: Annex titled “Partial Blast of Surfaces with Remaining Serviceable Coating” was rejected
  - Proposal developed for a new industry standard for “spot and sweep” using water or abrasive

# Process Demonstration

- NSRP Project Demonstrations
  - LPD-21 Well Deck Overhead
  - LPD-17 Fwd Peak Tank
    - Ultimately considered to risky considering the remainder of the work package
  - DDG-82 (LASSEN) partial blast as an option item in the work package
  - DDG-62 (FITZGERALD) considered but rejected
- Navy Demonstrations
  - CWP demonstrations (previous work)
  - Navy Paint Center of Excellence Project (ongoing)

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# Performance Confirmation

- NEW YORK (LPD-21) Well Deck Overhead (~1 year old)
  - Completed inspection JAN2018 & provided backup material to clear DFS
- KEARSARGE (LHD-3) Well Deck Overhead (~6 years old)
  - Cannot distinguish swept vs SP-10 areas
- Spaces blasted as part of CWP-356 demonstration
  - No additional data available
- Cathodic Protection Tests
  - Acceptable performance

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# Project Outreach & Implementation

- Delivered Final Report on 31MAY2018
  - Can be Requested at [www.nsrp.org](http://www.nsrp.org)
  - Distribution is Unlimited/ Approved for Public Release
- On-going efforts
  - SSPC standard development
    - “Stakeholder group” will receive proposed standard for comment
    - SSPC/NACE workgroup will be formed
  - Navy PCoE project (NRL lead)



Questions?

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