

Surface Preparation & Coatings Panel Mega Rust 2019 Update

Arcino “**Q**” Quiero, Jr. – SP&C Panel Chair
HII-Newport News Shipbuilding
May 14, 2019 – Portsmouth, VA



NSRP SP&C Panel Mission Statement

Surface Preparation & Coatings

Specs to Decks

- Research, evaluate, develop, and sustain current and emerging technologies that will reduce cost and maintain or enhance quality
- Engage Suppliers, Applicators, and Specifiers of surface and preservation systems
- Facilitate Panel meetings to encourage broad and active participation
- Network with industry experts

NSRP SP&C Panel Member Shipyards (11)



NSRP SP&C Panel Steering Committee

Surface Preparation & Coatings

Active Member Shipyards & NAVSEA:

- Austal USA
- ✓ BAE Systems Southeast – Steve Cogswell
- ✓ GD-Bath Iron Works – Robert Cloutier
- ✓ GD-Electric Boat – Mark Toscano
- ✓ GD-NASSCO – Angel Zepeda
- ✓ HII-Ingalls Shipbuilding – Conlan Hsu
- ✓ HII-Newport News – Arcino “**Q**” Quiero
- VT Halter Marine
- ✓ NAVSEA 05 – Mark Ingle/Howard Castle

Panel Officers:

- SP&C Panel Chair – Arcino “**Q**” Quiero
- SP&C Panel Vice-Chair – Robert Cloutier
- Technical Warrant Holder (TWH) – Mark Ingle

Member Shipyards:

- Conrad Shipyard
- Fincantieri Marinette Marine
- Vigor Shipyard

NSRP SP&C Panel Focus

Surface Preparation & Coatings



- Workforce
 - Specifications
 - Surface Preparation
 - Coatings Application
 - Environmental Compliance
- QA & Documentation (e. g. Records)
- Embracing Innovation & Advancing Technology

NSRP SP&C Panel Activities & Participants

Surface Preparation & Coatings

Two “Official” Meetings/Year:

- Programs Updates
- Projects Reviews
- Technical Presentations
- Participants Workshops/Demo
- **Facilities Tours**

Sponsor 3 Panel Projects/Year:

- Funding – Up to \$150K
- Duration – 12 Months
- Impact – Immediately
- **No Cost Extension (NCE)**

Panel Participants Include:

- **NAVSEA 05 (TWH)**
- NAVSEA 04/CWP Quality
- NSRP and Public Shipyards
- ManTech
- **Mega Rust**
- NACE
- SSPC
- Suppliers, Subcontractors, & Academia
- Work collaboratively w/various Navy Working Groups: SSRAC, NSRP Day, & **Corrosion Community of Practice (CoP)**


NSRP SP&C Panel Activities & Participants

Surface Preparation & Coatings

***“Ideas”* Pitch – May 2019:**

- Team W/NSRP Shipyard
- Submit to SP&C Chair,
Arcino.Quiero@hii-nns.com,
TBD at a later date
- Solicitation information will be available on NSRP’s website: www.nsrp.org

Sponsor up to three (3) Panel projects for 2020:

- Funding – Up to \$150K
- Duration – 12 months after receipt of funding
- Immediate Impact:
 - Safety
 - Quality
 - Schedule 
 - Costs
 - Specification

**Return on
Investment
(ROI)**

NSRP SP&C Panel Projects

Surface Preparation & Coatings

Top 3 – 2019:

- *Survey of Surface Prep & Coatings Automation*
- *Standardization and Digitization of Visual Inspection for Shipbuilding & Repair*
- *Primers with Extended AF Overcoat Window Surface Preparation*

Joint Proposals – 2019:

- *Certification Program – Shipbuilding Industry Surface Prep & Coatings Training*
- *Virtual Spray*

Current Projects - 2018:

- *Thermal Insulating Aerogel Filled Coatings*
- *Evaluation of Plasma Coating Removal & Surface Preparation*

Recently Completed Projects:

- 2017
 - ✓ *Partial Blast of UHS Coated Tanks II*
 - ✓ *Retention of Epoxy Type VI under Ultra High Solids (UHS)*
- Completed in 2018
 - ✓ *Boomlift Carried Environ. Enclosure*
 - ✓ *Implementation of Paperless Paint*
- Completed in 2017
 - ✓ *Universal Primer & Surface Prep Process*
- 2015
 - ✓ *Partial Blast of UHS Coated Tanks*
 - ✓ *Technical Guide for Inaccessible Void Coatings & Treatments*
- Completed in 2016
 - ✓ *Reducing Inspection Costs Using the Latest Digital Inspection Tools*
- 2014
 - ✓ *Cost Savings Comparison in Applying Polysiloxane vs. Silicone Alkyd Topcoats*
 - ✓ *Paperless Paint Documentation II*
- Completed in 2015

NSRP SP&C Panel 2019 Proposed Projects

Top 3 / Project #	Prime / Lead & Team Members	Project Description
1 st / #9	Prime / Lead: Elzly Technology Corporation Team Members: BAE Systems, HII-Ingalls	Survey of Surface Preparation and Coatings Automation – Develop a path forward for NSRP Shipyards to improve automation of surface preparation and coatings processes.
2 nd / #15	Prime / Lead: TruQC Team Members: BAE System, HII-NNS	Standardization and Digitization of Visual Inspection for Shipbuilding and Repair – Configure commercially off the shelf product for standardizing and digitizing visual inspection data to optimize Naval Ship construction and repair processes.
3 rd / #2	Prime / Lead: Excet Team Members: GD-BIW, GD-EB, HII-Ingalls	Primers with Extended AF Overcoat Window – Identify and test the compatibility of commercial high solids primers with extended AF overcoat windows and MIL-PRF-24647 QPD AF paints, potentially eliminating the need for a thumb tacky coat.
Next 2	Prime / Lead & Team Members	Project Description
Next 1 st / #8	Prime / Lead: Elzly Technology Corporation Team Members: BAE Systems, GD-BIW, HII-Ingalls	Reduce Cost & Schedule Impact of Coating Rework – Identify and implement methods to reduce the cost and schedule impact of coatings rework during shipbuilding and ship repair.
Next 2 nd / #12	Prime / Lead: Entry Point International Team Members: HII-Ingalls, HII-NNS	Temporary Protection of Coatings and Finishes in Naval Application – Demonstrate and measure the cost benefits of a higher performing temporary protection system.
Joint Projects	Prime / Lead & Joint Panels	Project Description
WFD 2 nd / Project #16	Prime: GD-NASSCO Lead: Work Force Development (WFD) Panel Team Members: HII-Ingalls, HII-NNS	Virtual Spray Paint Training System – Evaluate Virtual Reality technology, such as Virtual Paint Spray Training Systems (VPSTS), to shipbuilding industry standards (009-32 / NSTM-634 and SSPC as it relates to spray painting operations), and collecting user feedback on the experience.
Joint / #17	Prime: GD-BIW Lead Panel: Work Force Development (WFD) Team Members / Joint Panels: SP&C, WFD, and Environmental Panels	Certificate Program: Shipbuilding Industry Surface Prep and Coating Training – The proposed Certificate Program will provide shipbuilding paint training. This training will include marine and industrial applications to new hires as well as the general public.

NSRP SP&C Panel 2020 Proposed Projects

Project #	Prime / Lead	Prime / Lead	NSRP Yards
1	Elzly Technology	Guide to Stainless Steel use in Navy Shipbuilding Facilitate effective use of stainless steels during shipbuilding and ship repair by identifying best practices, business case for shipyards, approved Navy practices, and methodologies to navigate concerns over it's use.	<ul style="list-style-type: none"> • HII-Ingalls • Other Yards TBD
2	Elzly Technology	Power tools for surface preparation To generate data on the productivity and functionality of the latest, innovative power tools use for surface preparation. The data will help shipyards: <ul style="list-style-type: none"> • Optimize the work requirements • Identity/demonstrate improved tools and processes 	<ul style="list-style-type: none"> • HII-Ingalls • Other Yards TBD
3	Elzly Technology	Fastener Coatings for High Strength Fasteners Provide guidance and recommendations on corrosion resistant alternatives to bare steel high strength fasteners.	<ul style="list-style-type: none"> • HII-Ingalls • Other Yards TBD
4	Elzly Technology	Reduce the Cost and Schedule Impact of Coating Rework Reduce the impact of coating re-work during shipbuilding and ship repair. Specifically: <ul style="list-style-type: none"> • Optimize the work requirements • Identity/demonstrate improved tools and processes 	<ul style="list-style-type: none"> • Other Yards TBD
5	Elzly Technology	Reduce Cost by Respecting and Understanding Paint During Shipbuilding Reduce the cost of coatings by: <ul style="list-style-type: none"> - Providing best practices to other trades to minimize damage to installed coatings - Providing guidance to non-technical owner representatives to identify proper coatings and differentiate significant defects 	<ul style="list-style-type: none"> • Other Yards TBD
6	PPG	Robotic Application to Address Labor Shortages To demonstrate a remote-controlled painting robot that operates on both horizontal and vertical surfaces. The goal is to attract and retain painting labor by remaking a dirty and potentially-dangerous job into a clean and safe robotics operation.	<ul style="list-style-type: none"> • Other Yards TBD
7	Entry Point International	Temporary Protection of Shipboard Coatings and Finishes To demonstrate and measure the cost benefits of a higher performing temporary protection system including the scope of use. Deep dive into real cost reductions (legacy materials and uses vs new methods) in damages to finishes and the associated rework for new build and overhaul which result in direct cost reductions to shipyards.	<ul style="list-style-type: none"> • HII-Ingalls • Other Yards TBD
8	HII-Newport News Shipbuilding (NNS)	Preservation of Vulnerable Materials During the Build Process To identify and evaluate Temporary Coatings to protect parts used in Shipbuilding that can be easily removed and do not leave residue while protecting surfaces from corrosion, environmental degradation, and/or inadvertent damage during ship construction (e.g., from blasting, welding heat / sparks). Determine the risks and rewards associated with the COTS temporary coatings products.	<ul style="list-style-type: none"> • Other Yards TBD
9	ChemQuest Technology	Industrial Powder Coat Training Program	<ul style="list-style-type: none"> • Other Yards TBD
10			<ul style="list-style-type: none"> • Other Yards TBD

NSRP SP&C Panel 2019 Road Map

Surface Preparation & Coatings

- ✓ **February 6th-7th** – **NSRP Technology Investment Plan (TIP) Meeting** – Summerville, SC
- ✓ **February 11th-14th** – **SSPC 2019 Coatings + Annual Conference** – Orlando, FL
 - SSPC Awards Lunch – Monday, February 11th
 - **Judie Blakey** – “Women in Coatings Impact Award”
 - **Mark Schultz** – “John D. Keane Award of Merit”
 - SP&C Panel 2019 Update – Tuesday, February 12th
 - Mega Rust Mid-Year Update – Wednesday, February 13th
- ✓ **March 12-15, 2019** – **NSRP All Panel Meeting** – Charleston, SC
 - State of the SP&C Panel – Tuesday, March 12th AM
 - SP&C Panel Meeting – Thursday, March 14th AM
 - ECB Panel Project Selection (“Top 3” & “Joint” Projects) – Thursday, March 14th PM
- ✓ **May 14-16, 2019** – **Mega Rust 2019 – Naval Corrosion Conference** – Portsmouth, VA
 - SP&C Panel Meeting (8:00 AM – 12 Noon) – Tuesday, May 14th
- June 24-28, 2019** – **NAVSEA SSRA Standard Item Review** – Newport News, VA
- September 10-12, 2019** – **Joint Panels; SP&C, WFD, Risk, & Environmental Fall Meeting** – Groton / Quonset Point, CT
- September 18, 2019** – **NSRP Day @ NAVSEA** – Washington Navy Yard (WNY), Washington, D.C.
- October 29-November 2, 2019** – **SNAME 2019 Maritime Convention** – Tacoma, WA

NSRP SP&C Panel Responsibilities & Takeaways

Surface Preparation & Coatings

“You, the Coatings Community, are the SMEs. You owe it to yourselves, your Shipyards, and your Companies to stay aware of and understand current and proposed requirements. Don’t allow someone else to determine your fate or the fate of your Company without your input”.

“The work isn’t completed until the ship is painted and the coating system is documented; preferably paperless”.

“Together, let’s paint a picture that allows us, the Coatings Community, to be successful!!!”

“Q”

NSRP SP&C – For the Good of the Panel

Surface Preparation & Coatings

Questions & Answers