



SP-3 PANEL 2007 WHITE PAPER PROJECT RESULTS

October 2007

Panel Chair

2007 White Paper Proposals

Paper No.	White Paper Title (Participants)	Program Funds
1	Implementation of Digital Surface Profile Gauges (Prime Contractor – Elzly Technology Corporation, Subcontractors –Atlantic Marine, Todd Shipyards, Ben Fultz, United Coatings)	\$78,806
2	Recycled Glass Abrasive Evaluation (Prime Contractor – New Age Blast Media, Paul J Mellon Jr., Subcontractors – Elzly Technology Corporation, J. Peter Ault)	\$96,000
3	Field Study of Ship Coating Performance over Flash Rust (Prime Contractor – Atlantic Marine, Subcontractors – Elzly Technology Corporation, Shipyards TBD)	\$99,540
4	Review of Safety Concerns for the use of High Pressure Waterjet Cleaning (Dr. Lydia Frenzel, Advisory Council, Warwick Mills Inc, possibly others)	\$53,500
5	Preparation of a Manual on How To Inspect “Flash Rust” (Dr. Lydia Frenzel, Advisory Council, Warwick Mills Inc, possibly others)	\$64,500

Field Study of Ship Coating Performance Over Flash Rust

Panel: Surface Prep & Coatings

50/100

PROGRAM INFORMATION	OBJECTIVE
<p><u>Prime/Lead</u>: Atlantic Marine</p> <p><u>Team Members</u>: Elzly Technology Corporation, NASSCO, Todd</p> <p>Duration: 12 months</p>	<p>Increase the productivity of ultra-high pressure waterjet blasting by increasing the amount of flash rust than can be painted</p>
DELIVERABLES/BENEFITS/ROI	FINANCIAL
<ul style="list-style-type: none">• Report detailing the results of the physical inspections and service life implications of applying coatings over flash rust• Savings potential of up to 20% of the cost for UHPWJ surface preparation per availability	<p>Program Funds: \$99,540</p> <p>Cost Share: \$0</p>

Field Study of Ship Coating Performance Over Flash Rust

Panel: Surface Prep & Coatings

- **This project continues a 2007 study.**
- **2007 results:**
 - Three Navy ships surveyed – coatings were 5-6 yrs old
 - Coatings believed to have been applied over Grade M surfaces looked just as good as coatings applied to Grade L surfaces
 - Data collected to date is not sufficient to justify a rule change
- **2008 plan:**
 - NAVSEA 05P23 has suggested a broader investigation
 - Perform a more detailed review of Navy maintenance records
 - Look at more Navy ships with longer service than seen to date
 - Look at work done by more shipyards & more types of coatings
 - Continue to collect detailed adhesion & performance data on coatings applied over Grade M surfaces

Implementation of Digital Surface Profile Gauges

Panel: Surface Prep & Coatings

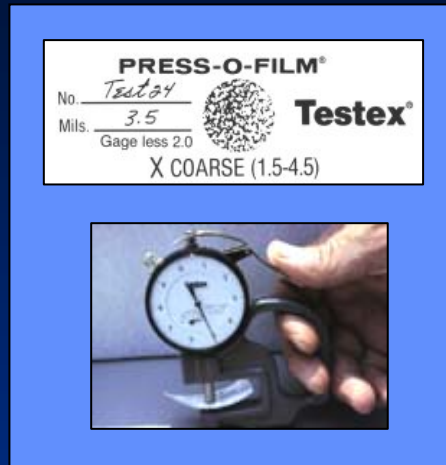
30/100

PROGRAM INFORMATION	OBJECTIVE
<p><u>Prime/Lead:</u> Elzly Technology Corporation</p> <p><u>Team Members:</u> Atlantic Marine, Todd Shipyards, Bechtel, United Coatings</p> <p>Duration: 12 months</p>	<p>Resolve various technical issues associated with using digital profilometers for measurement of surface profile in place of replica tape and manual gages</p>
DELIVERABLES/BENEFITS/ROI	FINANCIAL
<ul style="list-style-type: none">• Recommendations for integrating digital surface profile equipment• More efficient and accurate measurement process• Reduced recordkeeping burden because results are captured electronically	<p>Program Funds: \$78,806</p> <p>Cost Share: \$0</p>

Implementation of Digital Surface Profile Gauges

Panel: Surface Prep & Coatings

Current
Manual
Method



Potential
New
Method

- All blasted surfaces must be checked in numerous spots for profile depth. Current method is inefficient.
- Digital surface profile gages have the potential to decrease the time for inspection & permit paperless data recording.
- Accuracy, repeatability, durability, and ease of use in a shipyard environment must be determined.

Preparation of a Manual on How To Inspect Flash Rust

Panel: Surface Prep & Coatings

20/100

PROGRAM INFORMATION	OBJECTIVE
<p><u>Lead:</u> Dr. Lydia Frenzel</p> <p><u>Team Members:</u> Todd Pacific, Atlantic Marine, Detyens Shipyard, UHP Projects</p> <p>Duration: 12 months</p>	<p>Develop a stand-alone training manual focused on the fundamentals of inspecting flash rust</p>
DELIVERABLES/BENEFITS/ROI	FINANCIAL
<ul style="list-style-type: none">• Self-guided manual• Standard methodology for assessing flash rust• Reduced variance requests• Less delay time and avoidable paperwork• Help mitigate the impact of lost time due to flash rust (est. \$230K)	<p>Program Funds: \$74,400</p> <p>Cost Share: \$41,800</p>

Preparation of a Manual on How To Inspect Flash Rust

Panel: Surface Prep & Coatings

- **Task Methodology**
 - Gather and review the studies and photos already available
 - Prepare in-situ photos of common obstacles to good inspection
 - Prepare a self guided module for training inspectors
- **Task compliments other tasks on performance of coatings over water-jetted surfaces**
 - Inspectors' ability to properly grade water-jetted surfaces is key to optimizing the savings available from this method
 - Existing training courses for shipyard paint inspectors focus on dry abrasive blasting, not water-jet blasting
 - Results can be used by all NSRP shipyards
 - Dr. Frenzel is an acknowledged expert in water-jet blasting and is well acquainted with the NSRP shipyards and their needs

ECB DECISIONS

- **Field Study of Ship Coating Performance Over Flash Rust**
- **Preparation of a Manual on How To Inspect Flash Rust**

**WAITING ON 2008 FUNDING
DECISIONS FROM THE NAVY**