



Welding Technology Panel

Meeting Minutes
August 17-18, 2010

Opening

Chair Lee Kvidahl called the summer/fall meeting of the NSRP Welding Technology Panel to order at 8:50am on August 17, 2010 in Idaho Falls, ID.

Members and Guests Present:

See Attachment A

Approval of Minutes

The minutes of the previous meeting were approved.

NSRP Panel SP-7 Membership Report

No changes in membership noted.

Chair Report

Lee Kvidahl gave a brief report on the following items:

1. The use of telecommunication meetings was discussed and approved for future.
2. The MIT Leaders and Panel Chairs are working on the Strategic Investment Plan.
3. Current Solicitation of Projects. Must follow objectives to achieve to have a chance to funded:
 - Reduction in Total Ownership Costs
 - Improve Quality
 - Increase energy efficiency of ship or shipyard operations

Key deadlines for the submission of Panel Projects are:

- | | |
|---|--------------|
| • Submittal of Project Proposals to Lee | September 10 |
| • Review, rank, prioritize projects | September 24 |
| • Lee to submit Top 3 to ATI/ECB | October 08 |



NSRP/NAVSEA Update

Allen McConnell (NAVSEA 00E) gave a report short briefing on what the Navy is looking for future funded projects:

- The Navy is looking for results from projects. Need to be implementable and yards need to commit to implementing if successful. To help with proposal writing there will be a workshop in Charleston, SC. Check the NSRP website for details.

Panel Project Reports

- PreQualified PQR/WPS – Gene Franke, NSWC gave a short overview of the status of this project in Harvey Castners' absence.
 - Allowance for Prime Contractors to provide qualified procedures - Letter has been sent to NAVSEA requesting guidance on how to oversee and control.
 - Use of AWS SWPS is in process. NAVSEA has approved the first two SMAW WPS's. and they are being balloted to the AWS B2 committees. We also have a list of materials going through the AWS committee process, but I don't have final approval yet from the Navy.
- Prototype Portable Friction Stir Welder – David Forrest (NSWC-CD) gave an overview of the project:
 - Main points of the presentation include trying to get a higher rotational speed, using lower pressure (going from 3000 psi to 100-400 psi). Target wall thickness is 3/8". Expected completion is Jan 2011.
- Laser Hybrid Welding Economic Viability Study – Joanna Carter (NGSB) gave a project update:
 - Goal of project is to assume implementation of LHAW for distortion control. How do you determine the Return On Investment (ROI) when the primary benefit is the avoidance of distortion? The project is also going to calculate training costs associated with LHAW, write a specification for implementation and prepare a business case.
- Comparison of SAW & Tandem GMAW for Productivity & Distortion Control – Ken Johnson, Todd Pacific Shipyards gave an update:
 - Objective is to compare T-GMAW to SAW for thin butt welds (6mm and 12mm plate). Goal is to achieve >40 ipm travel speed in order to minimize distortion. Experienced severe arc blow problems until adding large run off tabs (24" x 24"). Fiberglass tape works best on butts.



Technical Presentations – All presentations will be posted on the Panel Web Site

- In Line Weld Penetration Monitor Using Laser Ultrasonics, Marvin Klein (Intelligent Optical Systems)
- Focused Current Resistance Welding, Anthony Ananthanarayanan (Innovative Weld Solutions Ltd.)
- Remote Welding Preheat Control System, Clark Boriack (Concurrent Technologies, Corp)
- Human Factors Systems, Larry Gebhardt (Alaska Ship & Dry dock, Inc.)
- Weld Shrinkage (NSRP RA Project), Jim Dydo (Gatekey Engineering, Inc)
- Fastening Technology for Greener Future, Higher Quality and Reduced TOC, Chris Hsu (Nelson Stud Welding)
- Weld Documentation, Bill Brill (CNST Consultant)
- Friction Stir Welding of HSLA, Tracy Nelson (BYU)
- GMAW ByPass Welding, Lee Kvidahl for Yuming Zhang (University of Kentucky)

Discussion of Potential Panel Projects

Discussion was held on potential new panel projects. A reminder – all new projects must address or tackle one of the following:

- Improve Quality Improve Energy Efficiency Improve TOC

Ideas that were discussed include the following:\

- Portable Friction Stir Welding for Steel
- Hand Held Device for all NDT (Wolf Robotics)
- Development of Modular Tractor for Dual Stiffener welding and Tandem GMA butt welding (Fronius/BIW)
- Development of Simple Tractor Wire Feed System for Horizontal Tandem GMAW (Fronius/NNS/Bug-O)
- Production Learning regarding FSW Defects (NSWC-CD)
- Determine if NDE will find defects in FSW (NSWC-CD)



Next Meeting

The following locations are under consideration for the next meeting for late summer or early fall. As per panel protocol, the shipyard members will take a vote on the location for the next meeting to be held around the March time frame.

- CTC, Johnstown, PA
- EWI, Columbus, OH
- Fronius, Brighton, MI
- Lincoln Electric, Cleveland, OH
- Miller Electric, Appleton, WI
- Penn State University, State College, PA
- University of Kentucky, Lexington, KY
- Wolf Robotics, Ft. Collins, CO

Adjournment:

Chair Kvidahl officially adjourned meeting at 5:20pm.

Wednesday, August 18 **Tour of Premier Technologies**

Large fabrication ship that apparently does business with DOE and other large ASME end users. They just received an “N” stamp. Looking for more opportunities from DOD/Shipyards.

Capable of making large components. Currently have orders for large components for commercial nuclear power plants. A new bay is being built with heavy crane capacity.

Minutes submitted by:

Mike Ludwig

John Matthews should be acknowledged for taking the minutes in Mr. Ludwig’s absence.