Panel Project White Paper Discussion

Welding Technology Panel

Kevin Roossinck, Panel Chair

HII – Ingalls Shipbuilding

NSRP
NATIONAL SHIPBUILDING RESEARCH PROGRAM™
Taking Shipbuilding and Repair to the Next Level

Organization

Executive Control Board

Program Administrator

Extended Team

Major Initiatives

Information, Design, & Integration

Ship Production Technologies

Infrastructure, Logistics, & Sustainment

Panels

Ship Design & Material Technologies

Electrical Technologies

Workforce & Compliance

Ship Warfare Systems Integration

Planning, Production Processes & Facilities

Sustainment

Business Technologies

Surface Preparation & Coatings

Welding Technology

Technology Investment Plan Update (TIP)

- January 30-31 NSRP held a workshop in Summerville, SC to update TIP guidance document.
- The SIP and TIP identify high priority issues and current industry challenges where research proposals would be of particular interest.
- Ship Production Technologies (SPT):
  1. Improve Manufacturing Processes, Planning and Facilities for construction, fabrication and assembly
  2. Improve Manufacturing Processes, Planning and Facilities for outfitting, installation and testing
  3. Improve shipyards sub-tier supplier performance with respect to quality, cost and schedule
  4. Increase use of Automation, Robotics and Mechanization in product fabrication, processes and testing including enablers such as standardization of design
  5. Increase knowledge and proficiency of overall workforce
  6. Develop and qualify emerging technologies
  7. Develop and implement digital shipbuilding tools for improved construction and sustainment activities
  8. Investigate consolidation of standards, and improvements to Standardization, Commonalities and Modularity
  9. Improve quality, level of detail, and automation of job planning and work instructions
  10. Incorporate additive manufacturing (AM) into shipbuilding and repair
  11. Develop solutions to improve installation, maintenance and efficiency of shipboard networks
  12. Develop warehousing scheduling and logistics improvements to facilitate equipment delivery

https://www.nsrp.org/resource-library/

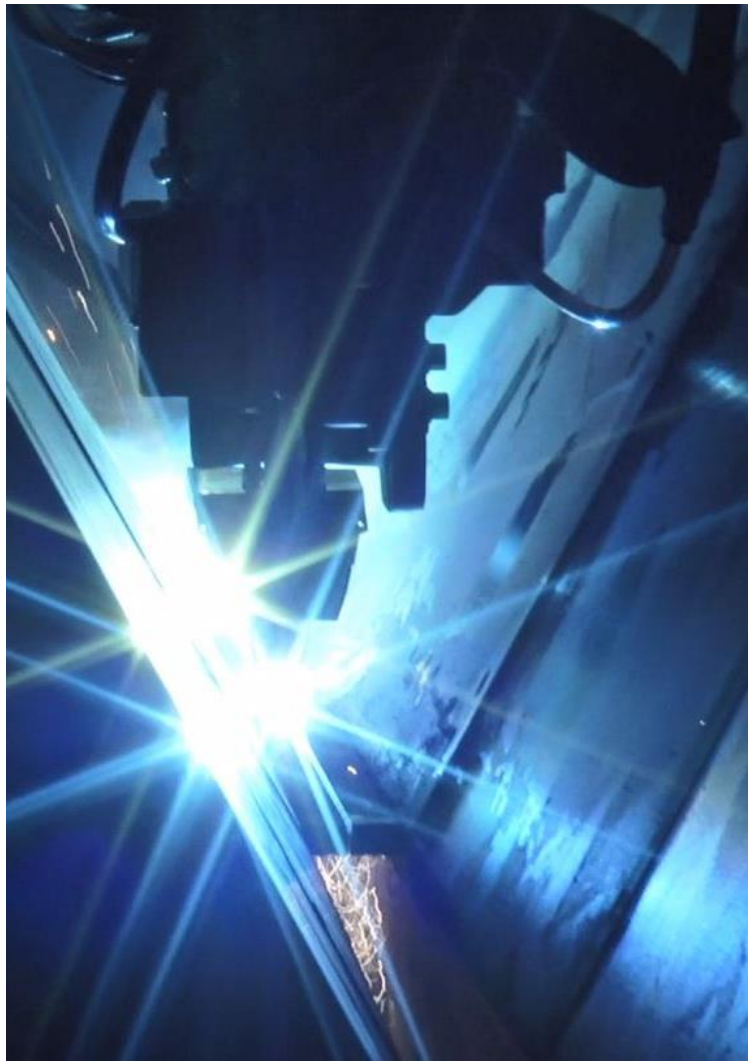
Welding Technology Panel Leadership

Panel Chair: Kevin Roossinck, Ingalls Shipbuilding

Panel Vice-Chair: Cody Whiteley, NASSCO

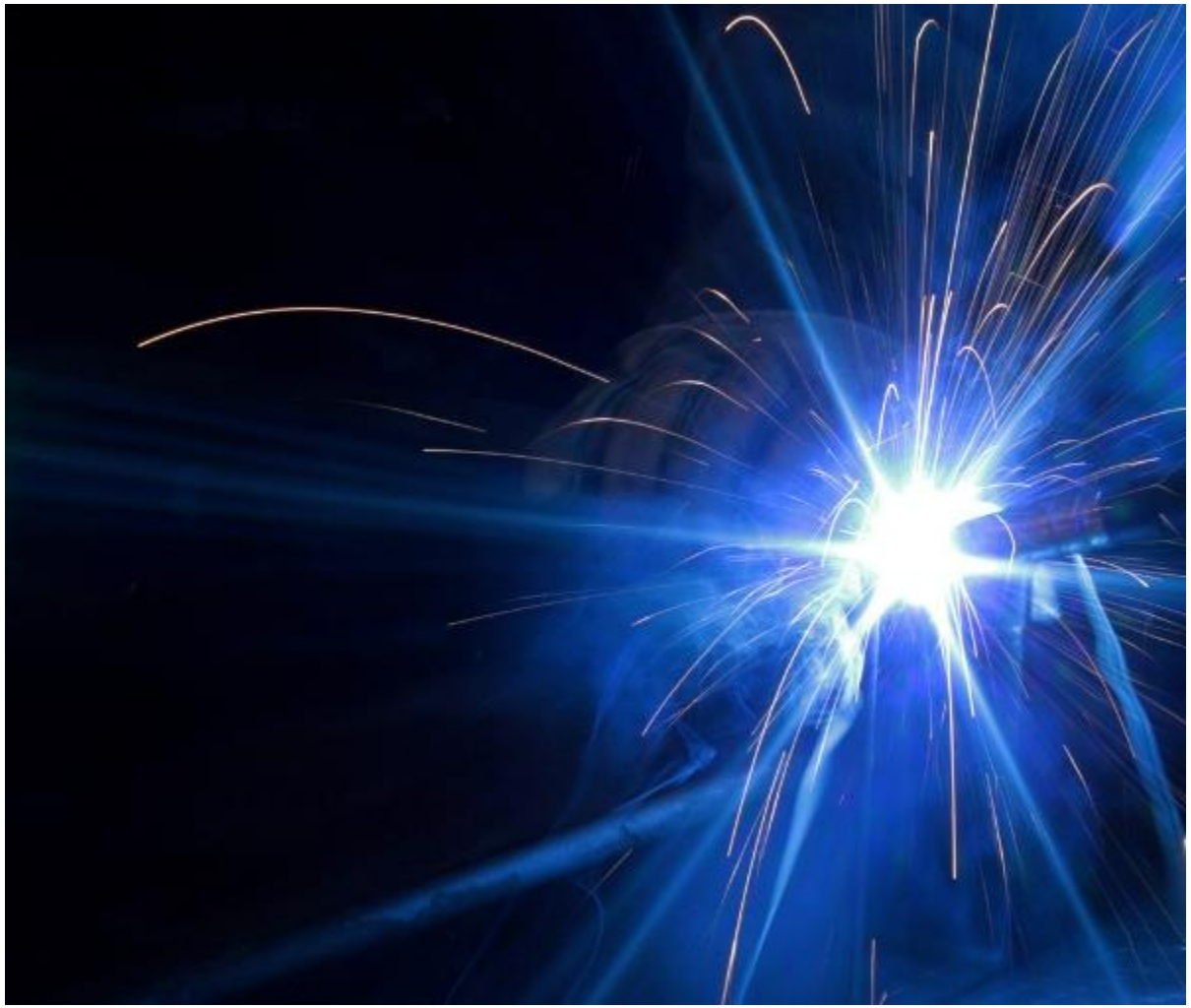
Welding Technology Panel's Mission

- Research, develop and implement technologies and efficiencies focused on welding and allied processes, including weld joint preparation, forming, post-weld heat treatment and inspection methods



Panel's Purpose

- Advance welding, joining and NDT technology and best practices applicable to shipyard production process technologies.
- Promote technology transfer and broad industry interaction in support of the NSRP mission



Research Announcement Solicitation

Important Information

- The 50% cost share goal is relaxed for:
  - Small Businesses
  - Non-Profits
  - Academia

Important Dates

- Summary Proposals Due- July 19, 2024 (12:00 pm EDT)
- Technical Evaluation- July/August 2024
- Oral Presentations and ECB Selection- August/September 2024

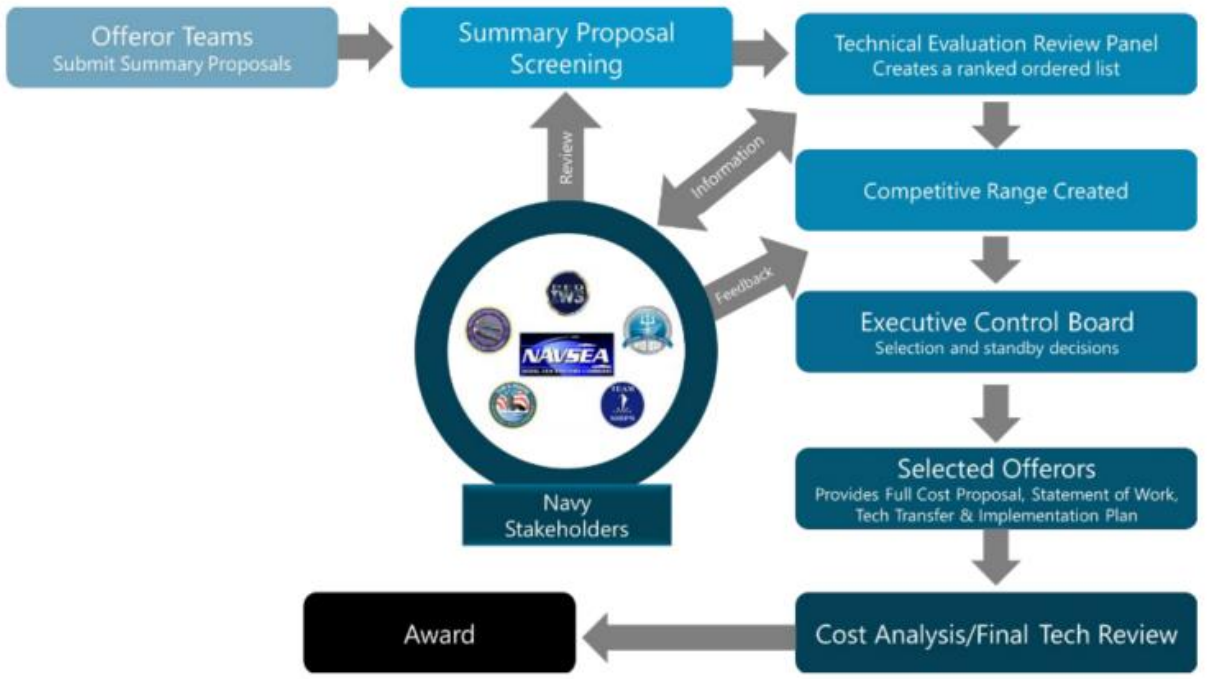
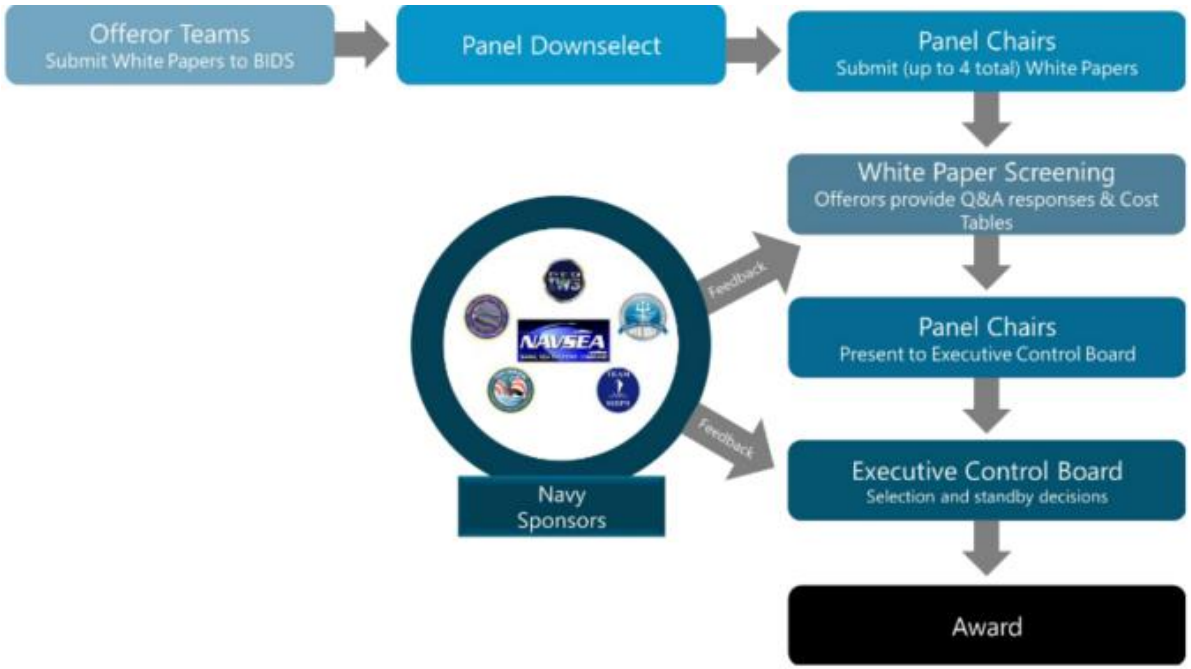


Figure 1 - NSRP RA Project Submission and Selection Process

Panel Project Solicitation (Coming Soon)

Important Information

- Project funding up to $200K
- Maximum project duration of 12 months
- Participation by at least one U.S. shipyard is required



Important Dates

- Solicitation release- May 2024 (expected)
- White Papers Due- Late August 2024
- Panel Voting and Down Select- Late September 2024
- Panel Officer Presentations and ECB Selection- November 2024

Name of Project

Concept/Idea/Objective	Justification/Deliverables
	Justification: TIP Items: X.X.XX.XX, X.X.X.XX
Benefits/ROI	**Project Participants/Financial Information**
	Project Lead: Team Member(s): Duration: X Months [up to 12 months] Program Funds: $X [up to $200K] Cost Share: $X Public Sector: $X

Name of Project

- This section allows you to elaborate on your proposed project

Potential Projects

Navy-identified opportunities

- 20 different AM opportunities articulated
- Automated inspections (vision and UT)
- Automated welding
- Improve learning curve of Navy standards and requirements for new and smaller vendors
- Projects relating to tech pub 248, 278 and 1689
- Develop a template for welder workmanship training for new vendors
- Develop a template for a plan for filler material control
- Project to enable manual procedures to be transferred across shipyards
- Rev 1 automation qualification exceptions

Welding Vendor Training Development

Concept/Idea/Objective	Justification/Deliverables
Develop a training program with key stakeholders to improve the knowledge and proficiency of NAVSEA Specifications (Tech Pub 248, 278, 1688, 1689 and CVN PPD) for suppliers and vendors of Navy Related products.	**Training would be developed within 12 month duration, starting with TP248, followed by TP 278, which are the most applicable across most Naval ship platforms.** **This would be followed by training for TP 1688, 1689 and specific PPD's** **When the training has been developed, the American Welding Society (AWS) is onboard to deliver the training throughout the US as part of the Education and Certification programs.** **Justification:** TIP Items: 7.2.2.5
Benefits/ROI	**Project Participants/Financial Information**
Successful implementation of this training would increase the welding and fabrication knowledge base of the vendors. - Improve the quality of their supplied Hardware and supporting Software - Improve the cycle time when submitting required documentation. - Avoid or reduce work delays and schedule impacting deficiencies.	**Project Lead: NNS** Team Member(s): NNS, EB, Ingalls, NAVSEA Duration: 12 Months [up to 12 months] Program Funds: $200K [up to $200K] Cost Share: ? Public Sector: ?

Welding Vendor Training Development

- Many Vendors cannot afford to have a Welding Engineering on Staff, so they usually draft someone with Welding Experience, NDT or Quality Assurance to fill the role of the Welding Subject Matter Expert.
- As a result, many of the prime contractor are saddled with the mentoring the vendors or dealing with those vendors who submit incomplete or inaccurate paperwork.