

Electrical Technologies Panel

Spring Panel Meeting
April 3-4, 2024

Philadelphia, PA

Agenda

Wednesday, April 3, 2024

Time*	Presentation	Speaker
8:00 am	Convene Meeting – Begin Webinar	
8:00 am	Welcome and Introductions Chair Report	Jason Farmer, Panel Chair
8:30	NSRP Update	Lydia <u>Szydlo</u> , ATI
8:45	Modern Trends in Electrical Power Distribution Systems	Kylan Robinson, Schweitzer Engineering Laboratories
9:30	NAVSEA 05Z3 Update	Chris Nemarich, NAVSEA 05Z33
10:00	Break	
10:15	Distributed Temperature Sensing Integration into Ship Electrical Plant Monitoring and Controls for Conditions Based Maintenance	<u>Gio Tomasi</u> , RSL Fiber Systems
11:00	High-Density Ribbon Fiber Optic Cable & Tooling for Shipboard Applications	Jason Farmer, Ingalls <u>John Mazurowski</u> , PSU ARL Chris Good, NSWC DD
11:30	Lunch	
1:00	Shipboard Fiber Optic Cables Jacket Performance Enhancements	<u>Gio Tomasi</u>
1:30	Fiber Optic Test Enhancement for Cost Reduction	Dan Morris, KITCO Fiber Optics
2:00	Navy Fiber Optic Specs and Standards Update	Chis Good, NSWC Dahlgren Division
2:30	Cable Transit and Sealant Qualification Test Requirements Update	Chris Nemarich, NAVSEA 05Z33
3:00	Break	
3:15	2024 NSRP Technology Investment Plan	
3:45	Day 1 Wrap-Up	Walt Skalniak, Panel Vice-Chair
4:00	Adjourn	

Agenda

Thursday, April 4, 2024

Time*	Presentation	Speaker
8:00 am	Load Bus for Tour <i>(Location: Embassy Suites Philadelphia Airport)</i>	
8:30	Arrive at Philadelphia Navy Yard Visitor Check-In/Badging	
9:00	Tour of NSWC Philadelphia <ul style="list-style-type: none"> • DDG Test and Evaluation Facility • Electric Plant Controls, Modeling & Simulation Lab • Electric Power R&D Lab <i>*Must be pre-registered to attend</i>	Joe Amato, NSWC PD Head, Power Systems Division C44 Jesse <u>Rougeux</u> , NSWC PD Head, Electric Power R&D Branch C322
11:30	Load Bus – Depart Philadelphia Navy Yard	
12:00	Lunch	
1:00	Lighting on Naval Ships DOD-HDBK-289 Modernization Support Effort	Chris Nemarich, NAVSEA 05Z33 <u>Gio Tomasi</u> , RSL Fiber Systems
1:45	Shipboard Lighting Systems and Areas of Interest	Ben Hatch, NSWC PD
2:15	Break	
2:30	FY'24 Panel Project Solicitation Topic Discussion	All
3:00	For the Good of the Panel/Open Discussion	All
3:45	Action Items & Wrap-Up	Walt Skalniak, Panel Vice- Chair
4:00	Adjourn	

Electrical Technologies Panel

Purpose

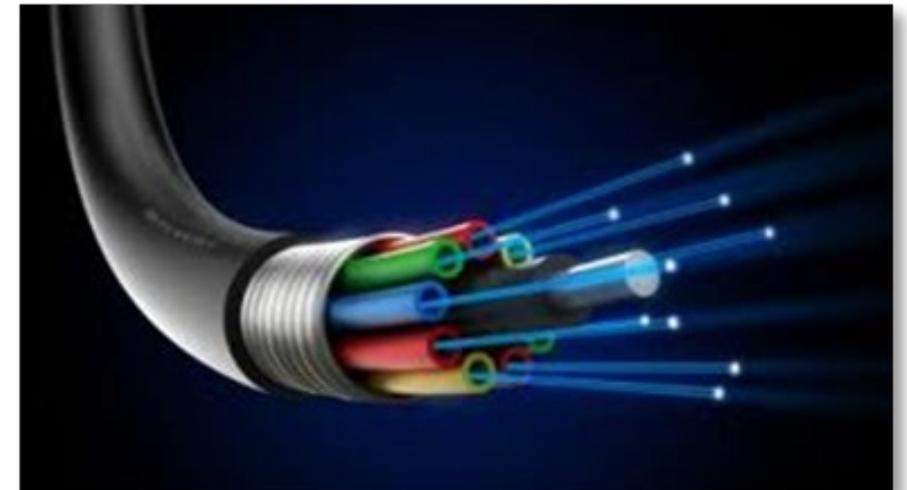
- Evaluate & transition improved electrical system technologies, installation processes, and electrical system specifications.
- Facilitate collaboration with the Navy and industry to identify & implement electrical technologies, processes, and best practices.

Goal

- The goal of the Electrical Technologies Panel is to improve shipboard electrical systems and installation processes to achieve reduced cost, improved performance, and improved safety.

Focus Areas: The panel's focus is to identify and implement technologies and processes that improve:

- Total Ownership Cost
- Energy Efficiency
- Electrical System Performance
- Safety of Workforce and Ship's Crew



Electrical Technologies Panel Overview

- Typically hold 3 meetings/year
 - Collaboration with other Panels
 - Technology Area Meetings focus
 - Facility Tours where available
- Areas of Interest
 - Electrical Installation & Testing
 - Fiber Optics
 - Solid State Lighting
 - Switchgear Inspection
 - High Temperature Insulated Bus Pipe
- 2023 Panel Meeting Recap
 - Spring Meeting – NSRP All Panel
 - March 28-30, 2023
 - Charleston, SC
 - Summer Meeting
 - July 18-20, 2023
 - General Atomics (San Diego, CA)
 - Tours: GA – EMS and GD–NASSCO
 - Winter Meeting
 - December 15, 2023
 - Virtual Format

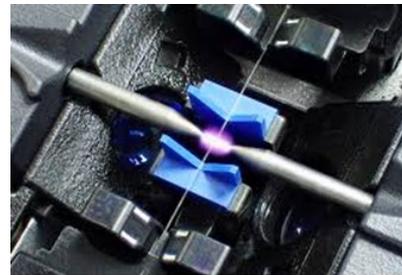
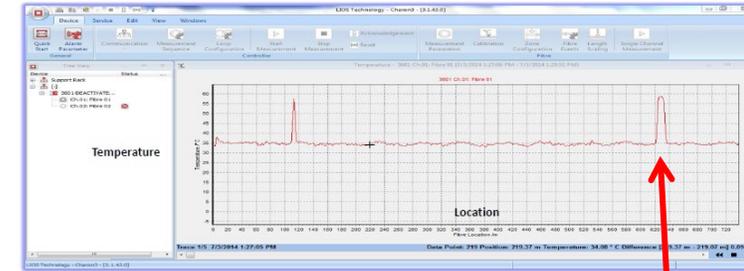
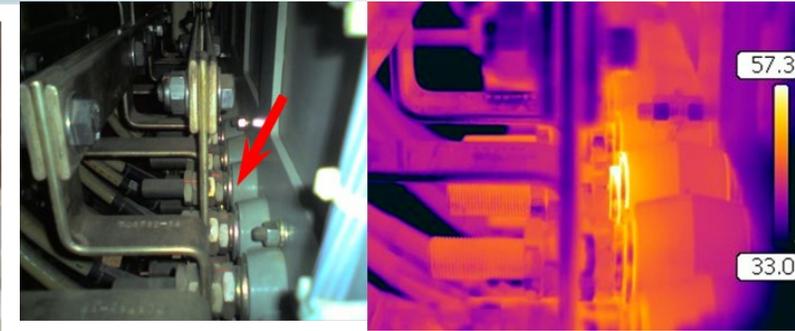
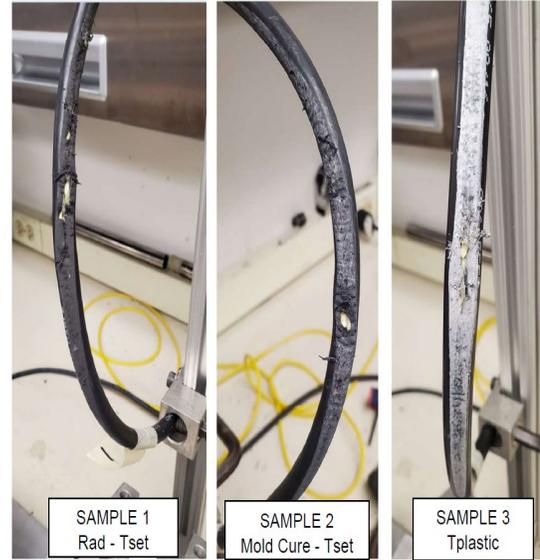


Panel Activities

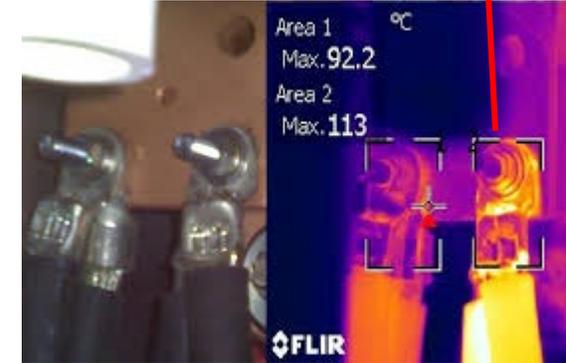
- **Panel Projects:** ETP Projects address many areas of shipboard electrical systems
 - Electrical Connections & Testing Methods
 - Cableways and Cable Installation
 - Fiber Optic Networks
 - Lighting Systems
- **Industry Events:** Panel members participate in industry events in support of Technology Transfer
 - MFPT Annual Meeting
 - NAVSEA Working Groups
 - NSRP Day at NAVSEA
 - NSRP Panel Meetings
 - ShipTech

Panel Projects

- Active Panel Projects
 - DTS Integration Into Ship Electrical Plant Monitoring & Controls
 - Shipboard Fiber Optic Cables Design Enhancements
 - High-Density Ribbon Fiber Optic Cable & Tooling



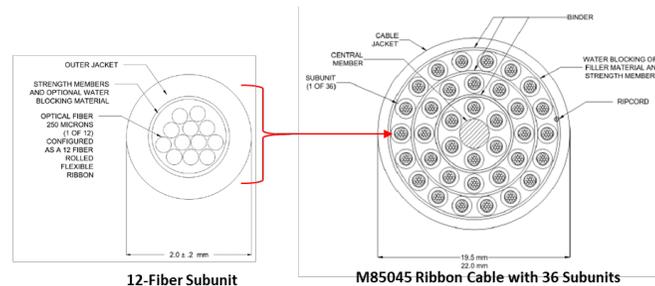
Fusion Splicer Individual Fiber



Fusion Splicer Ribbon Fiber



Standard M85045 Cable Example

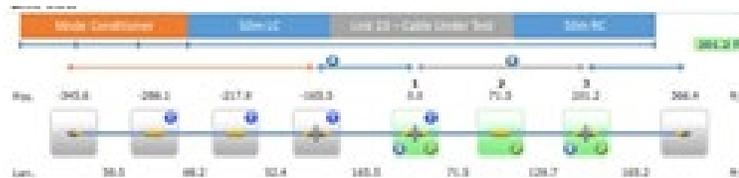
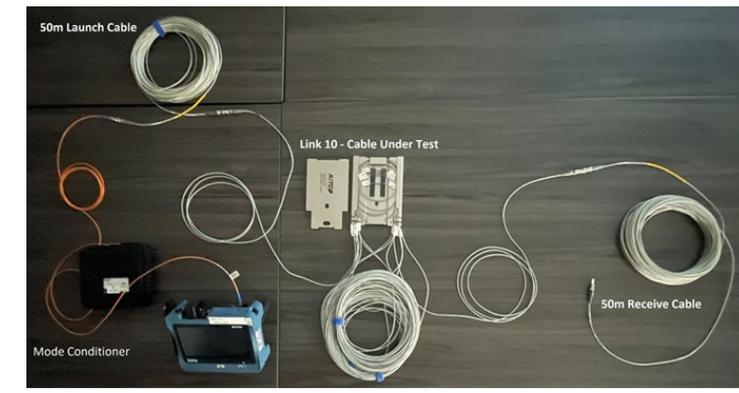
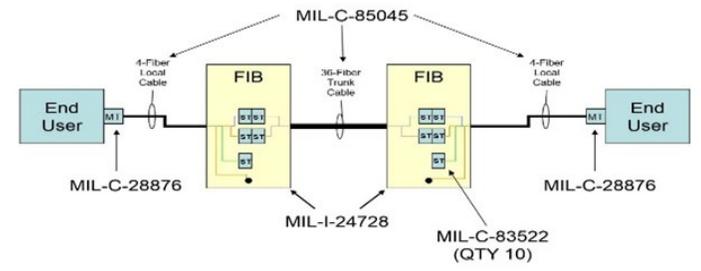


M85045 Ribbon Cable Example

Panel Projects

- FY'24 New Starts
 - Fiber Optic Testing Enhancement for Cost Reduction
 - DOD-HDBK-289 Modernization Support

Source Launching Conditions	Source Type	Input Beam	Fiber	Output Beam
Overfilled (LED)				
Slightly under-filled (ideal conditions)				
Under-filled (VCSEL)				



MILITARY HANDBOOK

LIGHTING ON NAVAL SHIPS (METRIC)

AMSC N/A DISTRIBUTION STATEMENT A Approved for public release, distribution unlimited

FSC 62CP DISTRIBUTION STATEMENT A Approved for public release, distribution unlimited

~12"



Upcoming NSRP R&D Project Solicitations

- Idea Submission Form
 - All NSRP projects require at least one U.S. Shipyard participant. A new online form to facilitate early communication between potential Offerors and ECB member shipyards is available on NSRP.org. The form will be available for submission of R&D ideas to all NSRP shipyards and Panel Officers year-round.
- Research Announcement
 - In order to increase the innovation and participation of RA25's portfolio of proposals, the 50% cost share goal will be relaxed for certain participants. The cost share expectation for matching Program-funded participation of the following three organization types is waived for RA25:
 - Small Businesses (per NAICs 541715)
 - Non-Profits
 - Academia
 - Cost share contributions from these organizations will still be accepted. These organizations should consider the project's value to their business and consider providing at least some cost share as part of their project to make it more attractive during the ECB final selections. The ECB will take cost share into consideration in determining the project's overall value compared to other projects when choosing projects.
 - The 50% cost share goal remains unchanged for participation of company types not listed above

Upcoming NSRP R&D Project Solicitations

- Panel Projects

- Program funding ceiling will be increased from \$150K to \$200K
- ECB member shipyard participation requirement will be updated to “Participation by at least one U.S. shipyard is required”

Important Dates

RA25 <u>Estimated</u> Timeline
Late March/Early April 2024 – Solicitation Released
Mid-July 2024 - Summary Proposals Due
Late July/Early August 2024 – Technical Evaluation
September 2024 – Virtual Presentations and ECB Selection

FY25 Panel Project <u>Estimated</u> Timeline
May 2024 – Solicitation Released
Late August 2024 – White Papers Due
Late September 2024 – Panel Voting and Down-Select
November 2024 – Panel Officer Presentations and ECB Selection

The RA and Panel Project solicitations will be announced on [SAM.gov](https://sam.gov) and posted on [NSRP.org](https://nsrp.org) upon release.

Upcoming Events

- MFPT
 - May 8-9, 2024
 - Virginia Beach, VA
- FY25 Panel Projects (*Pre-Solicitation*)
 - ETP Virtual Meeting to discuss topics
 - Formal presentations during Summer Panel Meeting
- Summer Panel Meeting (*Initial Planning*)
 - Late July/ August timeframe
 - Groton, CT

Announcement for Upcoming NSRP R&D Project Solicitations

The mission of NSRP is to employ a unique framework to research, develop, mature, and implement industry-relevant shipbuilding and sustainment technologies and processes, improving efficiency across the U.S. shipyard industrial base and meeting future demand.

The NSRP Executive Control Board (ECB) plans to issue both Research Announcement (RA) and Panel Project Solicitations for proposals that address the Program's mission. NSRP's research objectives and initiatives are documented in the [Strategic Investment Plan](#) and topics are identified in the [Technology Investment Plan](#).

New Developments

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Panel Projects

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Panel Meetings

NSRP panel meetings serve an important role within the Program by providing a public forum for potential collaboration, project teaming, and transferring R&D technology across the industry. Participation in one of the nine Panels is highly encouraged and a great way to get involved with the Program. Multiple meetings around the country (and virtually) are already scheduled with more to follow. Meetings are always free and open to the public. Visit the [NSRP Event Calendar](#) for the latest information and registration.

Important Dates

RA25 Estimated Timeline	FY25 Panel Project Estimated Timeline
Late March/Early April 2024 – Solicitation Released	May 2024 – Solicitation Released
Mid-July 2024 – Summary Proposals Due	Late August 2024 – Writer Pages Due
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Questions?

