

WINTER 2014

NESDI NEWS

Highlights & Happenings



Welcome

This quarterly update provides you with the latest information about program operations, significant accomplishments, and future focus areas for the Navy Environmental Sustainability Development to Integration (NESDI) program. We hope you will find these insights useful and that they encourage you to participate (or increase your involvement) in the program over the coming months.

**The NESDI Program: Integrating
Green Technologies Into the Fleet**





Who We Are

The NESDI program is the Navy's environmental research and development demonstration and validation (6.4) program, sponsored by the Chief of Naval Operations Energy and Environmental Readiness Division (OPNAV N45) and managed by the Naval Facilities Engineering Command (NAVFAC) from the Engineering and Expeditionary Warfare Center in Port Hueneme, CA.

The mission of the program is to provide solutions by demonstrating, validating, and integrating innovative technologies, processes, materials, and by filling knowledge gaps to minimize operational environmental risks, constraints, and costs while ensuring Fleet readiness.



From the Program Manager's Desk



Leslie Karr, P.E.
NESDI Program Manager

Welcome to the winter 2014 issue of *NESDI News: Highlights & Happenings*—part of our ongoing effort to keep you informed about the NESDI program.

The NESDI program ended 2013 with a bang by holding the third in a series of In-Progress Reviews (IPR) dedicated to solving stormwater management issues—this one held in Pearl Harbor, Hawaii. Members of our management team, the Technology Development Working Group (TDWG), and Principal Investigators who are leading our stormwater-related projects were joined in Hawaii by over 50 other participants—mostly from the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility (PHNSY & IMF), Naval Facilities Engineering Command (NAVFAC) Hawaii, and NAVFAC Pacific—to discuss the program's stormwater investments and identify other challenges that have yet to be met. More information about the results of this IPR is provided below.

In this issue of *NESDI News*, we must say goodbye to two of the program's more seasoned Principal Investigators. Bill Major, whose work on our efforts to demonstrate a low cost, real time sensor to detect chlorinated solvents as well as an effort to determine the polycyclic aromatic hydrocarbon composition of clay targets used at skeet ranges and was profiled in the spring 2013 issue of *NESDI News*, retired at the end of last year. Kappy Paulsen was the Principal Investigator on a wide range of NESDI projects including our Large Paint Facility Flow Rate Computational Fluid Dynamics Modeling and Verification project (#370), our Innovative Technologies to Reduce Emissions from Metal Cutting Operations project (#452), our Controlling Opacity During Ship Hull Cutting & Demolition project (#481), and our Alternative Metal Hot Cutting Operations for Opacity project (#480). Kappy retired at the end of January. We wish Bill and Kappy great success in retirement. Their impact on the NESDI program was impressive and they will not soon be forgotten or replaced.

For the past several weeks, the TDWG and I have been screening and ranking the pre-proposals that we received to address the priority needs collected via our Fiscal Year (FY) 2014 needs solicitation process. More information about the results of our pre-proposal review as well as a schedule for our remaining 2014 IPR is also provided in this issue.

Leslie A. Karr

Leslie Karr



Third NESDI Stormwater IPR Connects Pearl Harbor End Users with Program Personnel & Investigators

In an effort to address the ongoing challenges of effectively managing stormwater at Navy facilities, the NESDI program convened a meeting of stormwater end users, researchers, and policymakers at the Joint Base Pearl Harbor-Hickam (JBPHH) on 3-6 December 2013. This IPR was focused on the following objectives:

- Enhance collaboration across existing, local stormwater projects.
- Collect needs from the local community to guide future NESDI program investments.
- Educate NESDI program personnel on challenges facing the Pearl Harbor community.
- Increase collaboration among local players from Hawaii's stormwater community.

In addition to personnel from the program's resource sponsor organization, OPNAV N45, participants including end users from Pearl Harbor's Navy community, joined NESDI personnel in person and over the phone to ensure existing projects and future investments are properly focused, efficiently executed, and successfully integrated. Sixty participants

from many different organizations attended or dialed-in to hear briefings about ongoing projects and to provide valuable feedback to Principal Investigators including:

- Chief of Naval Operations Energy and Environmental Readiness Division
- Hawaii Army National Guard
- Kansas State University
- Low Impact Development Center
- Naval Air Warfare Center Weapons Division China Lake
- Naval Sea Systems Command
- Naval Surface Warfare Center Carderock Division
- NAVFAC Hawaii
- NAVFAC Marianas
- NAVFAC Northwest
- NAVFAC Pacific
- Navy Region Southwest
- PHNSY & IMF
- Space and Naval Warfare Systems Command—Systems Center Pacific
- U.S. Army Directorate of Public Works
- U.S. Coast Guard Base Honolulu

A number of support contractors were also in attendance.

Most of the meeting was filled with presentations on a number of stormwater projects including:

- An effort to explore, develop and recommend methods and equipment for removing hazardous wastes from dry dock floors to maintain compliance with discharge limits. (Surface Cleaning of Dry Dock Floors, project #440)
- The demonstration and validation of a stormwater management model (the Source Loading and Management Model for Windows (WinSLAMM)) that will allow Navy facilities managers to identify potential sources of metals, particularly copper and zinc, in stormwater runoff. The validated model will also help those managers quantify the potential reductions expected if and when a variety of mitigation actions are put into effect. (Modeling Tool for Navy Facilities to Quantify Sources, Loads, and Mitigation Actions of Metals in Stormwater, project #455)
- An effort to demonstrate and validate a Geographic Information System-based stormwater methodology to assist in identifying and quantifying problematic metal pollutant point sources in stormwater runoff. (Methodology for Identifying and Quantifying Metal Pollutant Sources in Stormwater Runoff, project #463)



Members of the TDWG and some NESDI Principal Investigators tour the Honolulu Fish Auction with Dr. Jeffrey Drazen (pointing).

Photo Credit: Leslie Karr

- Testing the feasibility of a mobile waste water treatment system that addresses the escalating costs of waste water disposal generated from water blasting processes performed at Navy shipyards. (Portable Treatment for Ship Material Removal Processes, project #475)

And for the first time, the program's investments in Low Impact Development (LID) were briefed at an IPR including the following projects:

- A demonstration of the effectiveness of LID technology in reducing flow, contaminant loads, and toxicity in stormwater at nonindustrial Navy sites. (Evaluation of Low Impact Development Implementation, project #497)
- An update to a stormwater web site that provides detailed

lifecycle cost information for the installation, operation, and maintenance of Best Management Practices (BMP)/LIDs so that Navy activities can do a better job of complying with their National Pollutant Discharge Elimination System permits at the least cost to the government. (Lifecycle Cost - Operation and Maintenance of Stormwater BMPs/LIDs, project #505)

- An effort to evaluate LID practices that are capable of removing heavy metals from stormwater runoff from industrial areas. (Low Impact Development for Industrial Areas, project #493)

Fact sheets for these and many other NESDI projects can be found on the program's web site by visiting www.nesdi.navy.mil then selecting "Current Projects."



Some of the fish up for auction at the Honolulu Fish Auction during the TDWG's tour of the facility.

Photo Credit: Leslie Karr

On the afternoon of the third day and despite the electricity going off across much of JBPHH, the meeting was reconvened outside so that meeting participants could see one another! After a number of the above presentations were repeated for the benefit of those people who were unable to attend the first two days of the meeting, attendees turned their attention to identifying other “needs” for the program to address down the road. PHNSY & IMF personnel identified two such needs—one to develop and validate guidance for anti-degradation studies and a second need to develop and validate an integrated strategy for forensics analysis (of the sources contributing to stormwater runoff).

Attendees also toured the PHNSY & IMF and elsewhere on JBPHH to see firsthand the environment in which many NESDI projects must

operate. Led by environmental staff from the shipyard, attendees toured the operations in some of the shipyard’s dry docks and other facilities on JBPHH to better understand the associated management challenges there. In particular, the group toured the following areas:

1. JBPHH’s Bilge and Oily Wastewater Treatment System
2. JBPHH’s pre-treatment facility
3. JBPHH’s recycling center
4. PHNSY&IMF dry docks #3 and #4

In addition to this tour, members of the TDWG along with other meeting participants were up before the sunrise to tour the Honolulu Fish Auction with Dr. Jeffrey Drazen from the University of Hawaii at Manoa. Dr. Drazen is an Associate

Professor in the Department of Oceanography and conducts regular tours of the fish market with students enrolled in his “Ecology of Pelagic Marine Animals” class. This tour provided those in attendance with an opportunity to see many large pelagic organisms that are an important component of pelagic marine ecosystems. This tour also exposed attendees to an important segment of the fishing industry –fisheries and fisheries economics.

The Honolulu Fish Auction is the only fish auction between Tokyo and Maine and the only fresh tuna auction of its kind in the United States. Fishing boats tie up and unload their catch just a few feet from this modern, state-of-the-art facility. The Honolulu Fish Auction allows independent fishermen to sell their catch at a fair price and, in turn, enables auction buyers representing the wholesale, retail and restaurant sectors to get the freshest fish. Open competitive bidding rewards higher quality fish with higher prices. It also produces fair pricing for the range of fish species and quality based on market conditions supply and demand. So it is easy to see how protecting the quality of the water around the Hawaiian Islands plays a vital part in the local economy. This system and excellent water quality provide fish lovers in Hawaii with a fresh, constant supply every day.

For more information about the Honolulu Fish Auction visit www.hawaii-seafood.org/auction.



Results of FY14 Pre-Proposal Solicitation, Screening & Ranking

All in all, the program collected a total of 22 pre-proposals to address the priority needs that resulted from our FY14 solicitation process. The next significant milestone on the NESDI program schedule is the submission and review of full proposals.

Once all pre-proposals were collected, NESDI program management reviewed and ranked them using established criteria including how the proposed effort addresses the need, how executable the project is, if the proposed effort is ready for demonstration and validation, and how feasible it will be to integrate the solution into ongoing Fleet operations. This was followed by a final evaluation that determines which pre-proposals will proceed to full proposal development. These results were provided to anyone who submitted a pre-proposal shortly after the evaluation period ended on 22 November 2013.

Full proposals were requested for those pre-proposals that do the best job of meeting the evaluation criteria and addressing the explicit requirements stated in the targeted need.

Of the pre-proposals that were received, full proposals were requested for the following pre-proposals:

Results of FY14 Pre-Proposal Solicitation, Screening & Ranking *(continued)*

Pre-proposal Title & Number	Need to be Addressed
Enterprise NAVFAC Hazardous Waste Application (188)	N-0925-14: Web-Based NEWA Enterprise Hazardous Waste Database Application (WB-NEWA-E)
Underwater Remotely Operated Vehicle (ROV) Mounted Ultra-High Pressure (UHP) Waterjet Cutter Tool for Underwater Munitions Breaching (189)	N-0989-14: Underwater Low Environmental Impact, Munitions Breaching Technology
Long-Term Integrated Sediment Management Strategy to Ensure Resiliency of Mission Critical Infrastructure (191)	N-0944-14: Assessment of Risk Associated with Removal of PCB Contaminated Coating Material at Elevated Temperatures
<ul style="list-style-type: none"> Investigation of New or Improved Epi-seal Materials (195) Leaking Thermosetting Elastomer Bomb Sealant in General Purpose Bombs (202) 	N-0937-14: Leaking Thermosetting Elastomer Bomb Sealant in General Purpose Bombs
Equipment and Process for More Effective Flushing of Potable Water Distribution Lines to Maintain Chlorine Residual Levels (196)	N-0914-14: Flushing of Potable Water Distribution Lines to Maintain Chlorine Residual
<ul style="list-style-type: none"> Radiant Ship Cooling (199) Design Closed-Loop Cooling Water System to Accommodate Ships' Cooling Water Needs (210) 	N-0948-14: Design Closed-Loop Cooling Water System to Accommodate Ships' Cooling Water Needs.
Assessment of Indoor Air Volatile Organic Compound Temporal Variability & Influences of Building Characteristics for Navy Industrial Buildings Affected by Vapor Intrusion (201)	N-0961-14: How Significant is Temporal Variability of Vapor Intrusion Data Associated with Industrial Buildings
<ul style="list-style-type: none"> New Methods for Assessing Biological Response Metrics for Eutrophication Total Maximum Daily Loads (TMDL) (203) Demonstration of an Improved Method for Quantifying Algal Biomass to Meet Nutrient Numeric Endpoint Compliance (204) 	N-0953-14: New Methods for Assessing Biological Response Metrics for Eutrophication TMDLs
Pierside In-situ Discharge Monitoring for Collection, Holding and Transfer Tank Contaminants (206)	N-0956-14: In-Situ Discharge Monitoring
Zero Discharge Inline Hydrostatic Flushing (207)	N-0914-14: Flushing of Potable Water Distribution Lines to Maintain Chlorine Residual
Multi-Sensor Weapons Impact Detection and Location System (208)	N-0946-14: Multi-Spectral Weapon Impact Detection System

The call for full proposals will run from 12 December 2013 until 19 February 2014. (Full proposals are solicited by invitation only.) Successful proposals will result in new projects beginning in FY15 and beyond.



Submit Your Photo! Recommend Your Site!

We are always looking for some good pictures of our project demonstrations in progress. Or do you have another site for us to consider for one of our ongoing projects?

So whether you've got a great picture to share or a new demonstration site to propose, let us know. Your picture, your site or both may end up in a future issue of *NESDI News*.

Using Our Web Site



www.nesdi.navy.mil

Direct any questions about submitting a pre-proposal or any other function of our web site (www.nesdi.navy.mil) to our webmaster Eric Rasmussen at 732-323-7481 or eric.rasmussen@navy.mil.

www.nesdi.navy.mil



Dates Set for Program IPR

Each year, the NESDI program holds IPRs to check in on the progress made by the program's Principal Investigators and make sure that their efforts will achieve the intended results. These annual reviews bring together end users, resource sponsor representatives, and researchers—strengthening the gap between the research and required integration efforts. Each year, dozens of participants attend or dial in to hear briefings about ongoing projects and to provide valuable feedback to the program's Principal Investigators.

Due the travel restrictions still in place for many of our Principal Investigators from the Naval Air Systems Command (NAVAIR), we decided to combine our west and east coast IPRs this year into a single IPR that will be held the week of 5-9 May 2014 in Port Hueneme, CA.

May 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
	Port Hueneme, CA					
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

As always, space for our IPRs is limited. To request a seat or for more information including a draft agenda and dial-in information, contact Cindy Webber at cynthia.webber@navy.mil or 760-939-2060.



Program Schedule

For the next couple of months, the program will concentrate its efforts on the collection and evaluation of full proposals to address the priority needs that were collected, screened, evaluated, and ranked as part of the program's FY14 needs solicitation process. A program schedule for the entire year is provided below.

NO.	WHAT	WHEN
1.	Collect Full Proposals	19 February 2014
2.	Deadline for Functional Working Group Comments on Full Proposals	14 March 2014
3.	Collect TDWG Comments on Full Proposals	21 March 2014
4.	Screen Full Proposals	24-28 March 2014
5.	Deadline for Principal Investigators to Answer Screening Questions	28 April 2014
6.	Conduct In-Progress Review	5-9 May 2014 (Port Hueneme, CA)
7.	Evaluate Full Proposals	9-13 June 2014
8.	Obtain Sponsor Review & Approval of Full Proposals	3 July 2014
9.	Announce New Starts	30 July 2014
10.	Announce FY15 Needs Solicitation	2 June 2014
11.	Close FY15 Needs Solicitation	1 August 2014
12.	Screen Needs	11-15 August 2014
13.	Evaluate & Rank Needs	8-12 September 2014
14.	Obtain Sponsor Review & Approval of Needs	15-26 September 2014
15.	Request Pre-proposals	10 October 2014
16.	Conduct N45 Programmatic Review	22 September - 3 October 2014
17.	Close Pre-proposal Collection	12 November 2014
18.	Collect TDWG Comments on Pre-proposals	17 November 2014
19.	Evaluate Pre-proposals	17-21 November 2014
20.	Request Full Proposals	11 December 2014
21.	Quarterly Status Reports Due (all Mondays)	6 January 2014 7 April 2014 7 July 2014 6 October 2014

Check out our web site (www.nesdi.navy.mil) for the latest version of our program schedule.



NESDI NEWS

WINTER 2014

GETTING ON OUR MAILING LIST

If you're not already on our mailing list and want to subscribe to *NESDI News*, please send your email address to Lorraine Wass at 207-384-5249 or ljwass@surfbest.net.

CONTACT YOUR TDWG MEMBER

For more information about the operation of the NESDI program, contact Leslie Karr, the program manager, or members of the TDWG.

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IN THE NEXT ISSUE OF NESDI NEWS

There is a lot more information coming your way in the next issue of *NESDI News: Highlights & Happenings*. In our spring 2014 issue, we will provide you with updates on our efforts to evaluate and rank the full proposals received by our 19 February deadline.

Until then, look for the following articles about several of our successful projects in upcoming issues of *Currents*, the Navy's energy and environmental magazine:



- Evaluations of Priority MEMs Accurately Characterize Risk to Navy Training Ranges: NESDI Project Assesses Potential Impact of Copper Guidance Wire & Sonobuoy Parachutes
- Studying the Impact of Seafloor Cables on the Marine Environment: NESDI Project Provides Scientific Methodology & Data to Aid in Sound Decision-making
- NESDI & ONR Sponsor Technology to Control Paint Overspray in Shipyards: MAEE Prevents Paint Contaminants from Reaching the Air & Water

You can read *Currents* on-line and subscribe to the magazine at <http://greenfleet.dodlive.mil/currents-magazine>.