

FALL 2015

# NESDI NEWS

## *Highlights & Happenings*



### IN THIS ISSUE:



### 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.

### 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) out of the Engineering and Expeditionary Warfare Center in Port Hueneme, California. 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.

# [www.nesdi.navy.mil](http://www.nesdi.navy.mil)

The NESDI Program: Integrating Green Technologies Into the Fleet



## From the Program Manager's Desk

Welcome to the fall 2015 issue of *NESDI News: Highlights & Happenings*—part of our ongoing effort to keep you informed about the NESDI program.



**Ken Kaempffe**  
Program Manager

I want to thank our Principal Investigators for doing their parts to help us meet program financial benchmarks. It is critical that the NESDI program obligate and expend funds as planned and that we meet or exceed

Assistant Secretary of the Navy financial benchmarks. The good news is that for yearend FY15, the NESDI program exceeded expenditure benchmarks for both FY14 and FY15 funds. For FY14 funds, the yearend expenditure benchmark is 90 percent and we achieved 91 percent. For FY15 funds, the yearend expenditure benchmark is 55 percent and we achieved 61 percent. So keep up the great work spending money as planned.

In this issue of our newsletter, we provide you with the final results of our FY16 needs solicitation. Over two dozen needs were ultimately selected by members of our Technology Development Working Group (TDWG) with help from various functional working groups then validated by the appropriate subject matter experts at our resource sponsor. It is these priority needs for which we are now soliciting pre-proposals. More information about these priority needs and how to submit a pre-proposal can be found in the “Results of FY16 Needs Solicitation, Screening & Ranking” and “How to Submit a Pre-proposal” sections in this issue of *NESDI News*.

  
Ken Kaempffe  
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For more information about submitting a pre-proposal, read the “How to Submit a Pre-proposal” section in this issue of *NESDI News*, visit our web site at [www.nesdi.navy.mil](http://www.nesdi.navy.mil), or contact your TDWG representative.

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## Results of FY16 Needs Solicitation, Screening & Ranking

All in all, the program collected a total of 62 needs via our FY16 solicitation. After a thorough review by program personnel including the TDWG and our resource sponsor, OPNAV N45, 27 needs were determined to be worthy of further attention by the program. As a result, we are soliciting pre-proposals to address the following priority needs.

No.	Need	Title	Ranking
1.	N-1048-16	Technologies for Certifying Safe Materials Potentially Presenting an Explosive Hazard	MEDIUM
2.	N-1055-16	Future Sustainability and Readiness of Naval Assets — A Strategic Response to the Impacts of U.S. Environmental Protection Agency Rule 20 and the Future Phase-out of Hydrofluorocarbon Chemicals	MEDIUM
3.	N-1057-16	Naval Air System Command Solutions for Engine Washing	HIGH
4.	N-1059-16	Impact of Propeller Wash on Performance of Sediment Remediation Options in Navy Harbors	MEDIUM
5.	N-1060-16	Advanced Discharge Characterization	MEDIUM
6.	N-1061-16	Comprehensive Sewer Gas Elimination Options for Navy Installations	MEDIUM
7.	N-1062-16	Smart Electronic Tools for Navy Environmental Compliance Monitoring and Reporting	MEDIUM
8.	N-1063-16	New In Situ Methods to Quantitatively Determine the Role of Monitored Natural Attenuation of RDX in Groundwater Remediation	MEDIUM
9.	N-1065-16	Contaminated Silt Management in Navy Harbors	MEDIUM
10.	N-1066-16	Cost-Effective Treatment Options for 1,4-Dioxane in Groundwater	HIGH
11.	N-1067-16	Low-Volatile Organic Containing Ground Support Equipment Primer(s)	MEDIUM
12.	N-1069-16	Development of an Optional Propane Burner for Fast Cook-Off Testing	LOW
13.	N-1071-16	Metal Corrosion Prevention in High Saline Marine Environments	MEDIUM
14.	N-1079-16	Navy Installation Solid Waste Diversion Technology, Process Knowledge and Capability	HIGH
15.	N-1080-16	Intertidal Zone Polychlorinated Biphenyl Removal	MEDIUM
16.	N-1081-16	Utility Vault Water Contaminant Removal	MEDIUM
17.	N-1082-16	Industrial Pier Area Testing of Best Stormwater Pollutant Reduction Measures	MEDIUM
18.	N-1083-16	Assessment of Uncontrolled Stormwater Pollutants	MEDIUM
19.	N-1084-16	Integration of Green Energy and Stormwater requirements	MEDIUM
20.	N-1087-16	Linking Receiving Water Impacts to Navy Stormwater Discharges	HIGH
21.	N-1090-16	Development of Analytical Detection Method and Review of Treatment Technologies for Insensitive Munitions	MEDIUM
22.	N-1092-16	System for Containment and Recovery of Depainting and Painting Wastes from Small Vessel Hull Repair	LOW
23.	N-1093-16	Assessment and Transition of Hexavalent Chromium Reduction Technology at Fleet Readiness Centers	MEDIUM
24.	N-1094-16	Demonstration-Validation of non-N-Methyl-2-pyrrolidone Immersion Paint Stripper	MEDIUM
25.	N-1100-16	Advanced and Cost Effective Sediment Management Approaches	HIGH
26.	N-1103-16	New Methods to Address Copper in National Pollutant Discharge Elimination System Effluents at Shipyards and Drydocks	HIGH
27.	N-1106-16	Demonstration of Toxic Release Inventory Reduction Technologies	MEDIUM



## How to Submit a Pre-proposal

Now that the priority needs for FY16 have been established, the NESDI program will turn its attention to the collection of pre-proposals to address those needs. The purpose of the pre-proposal is to ensure that the proposed project adequately addresses the requirements outlined in the need. The NESDI program concentrates on technologies that are sufficiently mature for demonstration and validation and supports the overall environmental readiness of the Fleet and Navy acquisition communities. Pre-proposals should address the following requirements:

- Be approximately two pages in length.
- Clearly identify the applicable Environmental Enabling Capability.
- Focus on the problem to be addressed.
- Clearly explain the project objectives.
- Quantify and qualify the technical criteria for a successful project.
- Identify the environmental constraint(s) to be resolved.
- Include the basic strategy for successfully integrating the solution into the Fleet.
- Identify the authorization stakeholders related to the proposed effort.

A solicitation for pre-proposals is executed via the program's website ([www.nesdi.navy.mil](http://www.nesdi.navy.mil)) using a pre-proposal template. To submit a pre-proposal, click the "here" link in the "We are currently accepting pre-proposals for valid needs through 18 November 2015, click here for details" banner at the top of the NESDI website home page. You will be directed to a page that provides you more details about the pre-proposal collection process. Once you're ready to submit your pre-proposal, click the "Submit Your Pre-proposal Now" button. You will be asked to fill-in the information on the following screen:

Once you have completed all of the fields on this form, hit “Submit” at the bottom of the form. Your pre-proposal will then be sent to the program’s management team (the TDWG) for further consideration.

You have until 18 November 2015 to submit your pre-proposal.

Please direct questions you may have about submitting a pre-proposal to your TDWG representative or the NESDI program manager, Ken Kaempffe, at 805-982-4893 or [ken.kaempffe@navy.mil](mailto:ken.kaempffe@navy.mil). If your question pertains to the function of our website ([www.nesdi.navy.mil](http://www.nesdi.navy.mil)) please contact our webmaster Eric Rasmussen at 732-323-7481 or [eric.rasmussen@navy.mil](mailto:eric.rasmussen@navy.mil).

Once all pre-proposals have been collected, NESDI program management will review and rank 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 is followed by a final evaluation that determines which pre-proposals will proceed to full proposal development. The results will be provided shortly after the evaluation period ends on 15 January 2016.

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

The call for full proposals will run from 20 January 2016 until 16 March 2016. (Full proposals are solicited by invitation only.) Successful proposals will result in new projects beginning in FY17 and beyond.

**You have until 18 November 2015  
to submit your pre-proposal.**

## **Annual Program Brief Well Received**

Each year, the NESDI program manager delivers a brief to the program’s resource sponsor (OPNAV N45) that summarizes the program’s efforts for the preceding fiscal year and lays out a plan for the next fiscal year. Ken Kaempffe, Cindy Webber and Bruce McCaffrey traveled to Washington, DC and the Pentagon in early November to deliver the FY15 programmatic brief to OPNAV N45 staff including Dr. Frank Stone (Branch Head, Afloat/Ashore Environmental Compliance Branch), Lindsay Nehm (Water Programs Lead and RDT&E Action Officer), Bob Neumann (Financial Management Lead), and other staff members.

In addition to a discussion of the program’s success meeting obligation and expenditure rates and highlights of its successful projects for the fiscal year, participants engaged in a lively discussion about ways the program can stay relevant to the Navy mission.





## Introducing New Project Initiatives

With this issue of *NESDI News*, we will begin to introduce you to our FY16 “new start” projects. First up is project no. 518, *Understanding the Impact of Low Water Flows on Sewer Systems and Wastewater Treatment Plants* being led by Tami Relph from the Naval Facilities Engineering and Expeditionary Warfare Center. Increased use of low flow devices (toilets, showers, etc.) and widespread mandated water conservation measures have resulted in reduced and concentrated flow through wastewater collection systems. As technology improves and water conservation requirements tighten in the future, flow rates will be even further reduced. Currently, little is known about the impact of low wastewater flow on installation collection and distribution systems which were designed for much higher flow rates.

Potential problems could arise such as increased corrosion in lines, elevated levels of hydrogen sulfide (a threat to sanitation workers in confined spaces), more frequent blockages, and increased concentrations of unhealthy contaminants.

This project was formed to determine whether such impacts are occurring, and if so, to recommend measures to overcome them.



**This wastewater treatment plant is designed for an average daily flow of 107,000 gallons per day. This image was taken during a time of low flow into the plant and shows the incoming sewage flowing through two bar screens, and finally into a Parshall flume where the flowmeter records the flowrate of the influent wastewater.** (Photo Credit: Tami Relph)

The first phase of this project will include data collection from a significant portion of the Navy-operated systems and a select number of similar municipal systems, along with detailed investigations of problem systems. The team will ask for data on flow rates, total

suspended solids, nitrogen, Biological Oxygen Demand and sulfur concentrations. These data are regularly collected for other purposes and therefore should be readily available. The project team will also collect data on Notices of Violation as well as qualitative information from installation water program managers and the Water Media Field Team. This would include such data as increased odor, lift station blockages, higher hydraulic detention times, increased grit loads after heavy rain due to low flow periods, etc. Once these data are collected, they will be compiled into a spreadsheet to help identify problem issues that correlate with low flow conditions.

At this point in the project, a go/no go decision point will be inserted. If no significant problems are identified, a final report will be prepared and the project will be terminated. If problems are found, the project team will gather additional information on the issues (such as additional laboratory analysis not normally performed by the Public Works staff) and will identify potential Best Management Practices (BMP) to address those issues. If an appropriate technology is identified that addresses a key problem with reduced flow rates in sewers or treatment plants, a limited duration demonstration may be recommended for future NESDI funding.



**Outfall for the same wastewater treatment plant. The treated wastewater effluent discharges into a combined sewer line after chlorination.**

At the conclusion of this task, a final report will be published. If BMPs are developed, they will be posted on the NAVFAC portal. This document would be formatted similarly to the existing collection of BMPs for stormwater management. The project team will employ the Technology Implementation Team at Naval Facilities Engineering and Expeditionary Warfare Center's

environmental department to provide all applicable Navy wastewater program managers with a copy of the final report and the link to any BMPs posted on the NAVFAC portal. This will ensure that all applicable Navy wastewater program managers are aware of any BMPs to address problems associated with low wastewater flows.



## Dates Set for 2016 Program IPRs

The schedule for the program's 2016 IPRs is set. So mark your calendars accordingly.

An entire program schedule for the next year is provided in the "Program Schedule" section in this issue of *NESDI News*.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>March 2016</b>						
		1	2	3	4	5
6	7	8	9	10	11	
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>May 2016</b>						
1	2	3	4	5	6	
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

What	When	Where
West Coast IPR	7-11 March 2016	China Lake, CA
East Coast IPR	2-6 May 2016	Washington Navy Yard, DC

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](mailto:cynthia.webber@navy.mil) or 760-939-2060.

## The Latest Project Fact Sheets On-line

Integrating Green  
Technologies  
into the Fleet

## Navy Environmental Sustainability Development to Integration (NESDI) Program

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Project Title

Status

Objective

More Information

ID	Project Title	Status	Objective	More Information
527	Structure-Function Relationship and Environmental Behavior of Per- and Polyfluorinated Substances from Aqueous Film-forming Foams	Active Project	This project will provide environmental restoration (ER) managers and Remedial Project Managers (RPM) with better tools for building accurate conceptual site models to better manage sites impacted by perfluorinated and polyfluorinated substances.	<a href="#">Fast Sheet</a>
526	X-ray Inspection System to Demilitarize Targets	Active Project	This project will demonstrate and validate a portable X-ray machine to find projectiles lodged in Navy boat targets.	<a href="#">Fast Sheet</a>
525	Non-isocyanate Polyurethane-Free Formulation Coatings for Aircraft and Support Equipment	Active Project	The goal of this project is the qualification, approval and transition of polyisokane topcoats as a replacement for isocyanate-containing formulations. The selected formulation will also be compatibility tested with chromium-free primer systems.	<a href="#">Fast Sheet</a>
524	Innovative Hydrant Flushing	Active Project	This project will demonstrate and evaluate the effectiveness of using a truck-mounted potable water distribution system to prevent nitrification and maintain adequate free chlorine residual in Navy drinking water systems.	<a href="#">Fast Sheet</a>
523	Integrated Diagnostic Stormwater Monitoring with Passive Sampling	Active Project	This project will evaluate the effectiveness of using passive sampling devices (PSD) to assess the impacts of stormwater runoff and improve stormwater management at Navy facilities.	<a href="#">Fast Sheet</a>
522	Demonstration of New Strategies for Enhanced Monitored Natural Recovery at Navy Sediment Sites	Active Project	This project will demonstrate and validate the suitability of using uncontaminated natural sediments for the enhanced monitored natural recovery of contaminated sediments at Department of Defense and Department of the Navy sites.	<a href="#">Fast Sheet</a>
521	Autonomous Benthic Ecology System	Active Project	This project will develop and test an Automated Benthic Ecology System (ABES) for the purpose of monitoring coral reef and benthic communities on vertical structures residing at Navy's at sea ranges, vessel homeports and weapons test and evaluation centers.	<a href="#">Fast Sheet</a>
519	Analysis of the Long-Term Fate of Humorous Constituents on Terrestrial Sites	Active Project	The objective of the proposed effort is to identify, research, and summarize the current knowledge about the fate, transport, and toxicity characteristics of munition constituents (PNCs) and associated degradation products found at Navy terrestrial munition response sites.	<a href="#">Fast Sheet</a>
518	Understanding the Impact of Low Water Flows on Sewer Systems and Wastewater Treatment Plants	Active Project	This project will determine whether there are adverse impacts from low flow devices in Navy-operated wastewater collection and treatment systems. If such problems are identified, a secondary objective will be to prepare a decision tool of Best Management Practices (BMP) to address the identified problems.	<a href="#">Fast Sheet</a>
516	Develop an Automated Real-time	Active	To secure and demonstrate technology which can provide real-time	<a href="#">Fast Sheet</a>

## Want more insights into our projects?

One-page fact sheet summaries of all of our projects are available on our web site and no username or password is required to access them. Visit [www.nesdi.navy.mil](http://www.nesdi.navy.mil) then select "Projects." You'll see a list of projects with our most recent efforts at the top of the list. Click on the "Fact Sheet" link in the "More Information" column for more details. The "More Information" can also be used to display those projects with posted final reports, videos and *Currents* articles.





## Program Schedule

From now through the end of the spring, the program will concentrate its efforts on screening the pre- and full proposals we receive to address the needs collected via our FY16 solicitation. A complete FY16 program schedule is provided below.

No.	What	When
1.	<b>Pre-proposals DUE</b>	<b>18 November 2015</b>
2.	<b>Make Pre-proposals Assignments to FWGs</b>	<b>1 December 2015</b>
3.	<b>TDWG &amp; FWG Comments on Pre-proposals DUE</b>	<b>16 December 2015</b>
4.	<b>Evaluate Pre-proposals</b>	<b>11-15 January 2016</b>
5.	<b>Request Full Proposals</b>	<b>20 January 2016</b>
6.	Full Proposals DUE	16 March 2016
7.	FWG & TDWG Comments on Full Proposals DUE	1 April 2016
8.	Conduct West Coast In-Progress Review	7-11 March 2016 (China Lake, CA)
9.	Screen Full Proposals	4-8 April 2016
10.	Principal Investigator Answers to Full Proposal Screening Questions DUE	2 May 2016
11.	Conduct East Coast In-Progress Review	2-6 May 2016 (Washington Navy Yard, DC)
12.	Evaluate Full Proposals	9-13 May 2016
13.	Announce FY17 Needs Solicitation	1 June 2016
14.	Obtain Sponsor Review & Approval of Full Proposals	10 June 2016
15.	Announce FY17 New Starts	29 July 2016
16.	Close FY17 Needs Solicitation	1 August 2016
17.	Screen Needs	8-11 August 2016
18.	Evaluate & Rank Needs	12-16 September 2016
19.	Obtain Sponsor Review & Approval of Needs	19 September - 7 October 2016
20.	Request Pre-proposals	14 October 2016
21.	Conduct OPNAV N45 Programmatic Review	November 2016
22.	Quarterly Status Reports Due	4 January 2016 4 April 2016 5 July 2016 3 October 2016

Check out our web site ([www.nesdi.navy.mil](http://www.nesdi.navy.mil)) for the latest version of our program schedule.



FALL 2015

# NESDI NEWS

*Highlights & Happenings*

## 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@outlook.com](mailto:ljwass@outlook.com).

## Contact Your TDWG Member

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

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1.	Kaempffe, Ken (Chair)	NAVFAC	805-982-4893	<a href="mailto:ken.kaempffe@navy.mil">ken.kaempffe@navy.mil</a>
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9.	Venable, Bill	NAVFAC	805-982-1674	<a href="mailto:william.venable@navy.mil">william.venable@navy.mil</a>
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11.	Youngers, Luzmarie	NAVAIR	904-790-6396	<a href="mailto:luzmarie.youngers@navy.mil">luzmarie.youngers@navy.mil</a>

## 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*. We'll provide you with additional insights into our collection of pre-proposals to address our priority FY16 needs.

