

SUMMER 2013

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**





This “new start” NESDI project (project #498) will provide an additional technology to enhance the ability of the Puget Sound Naval Shipyard and Intermediate Maintenance Facility to eliminate, reduce or control visible particulate matter emissions/opacity during ship breaking operations.



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 Environmental Readiness Division (OPNAV N45) and managed by the Naval Facilities Engineering Command (NAVFAC). 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 summer 2013 issue of *NESDI News: Highlights & Happenings*—part of our ongoing effort to keep you informed about the NESDI program.

It's been a busy summer for me and the program's management team—the Technology Development Working Group (TDWG). We selected a number of projects as “new starts” for the upcoming fiscal year and also screened and ranked the needs we received via our solicitation efforts for Fiscal Year 14 (FY14). More information about the results of both of those efforts is provided below.

On the management front, we said good bye to some folks and welcomed another to the TDWG. Chaela Hall and Tami McVey were great assets to the program as our two TDWG representatives from Commander, Naval Installations Command. We appreciate all of their efforts on our behalf and wish them well on their new assignments. John Bendick, a frequent visitor to our TDWG meetings and conference calls, will be joining the TDWG as a full-fledged member of the team representing the Naval Supply Systems Command. Welcome John!

Leslie Karr



FY14 “New Start” Projects

For the past several months, our management team has been busy reviewing the full proposals we requested from across the Navy to address the priority needs identified in FY13. As a result of that review, we have initiated nine new projects including an effort to verify the performance of a non-chromated adhesive bond primer and another effort to demonstrate the effectiveness of Low Impact Development (LID) technology to reduce flow, contaminant loads, and toxicity in stormwater at non-industrial Navy sites. A complete listing of these nine projects is provided below. The funding of all of these “new start” projects will depend on the overall program budget for FY14 and other important program priorities.

NO.	PROJECT NO.	TITLE	PRINCIPAL INVESTIGATOR	COMMAND	OBJECTIVE
1.	497	Evaluation of LID Implementation	Chuck Katz	SPAWAR	This project will demonstrate the effectiveness of LID technology to reduce flow, contaminant loads, and toxicity in stormwater at non-industrial Navy sites.
2.	498	Emissions Capture Technology for Oxy-Fuel Hull Cutting Operations	Jim Howell	NAVSEA	The objective of this project is to provide an additional technology to enhance the ability of the Puget Sound Naval Shipyard and Intermediate Maintenance Facility to eliminate, reduce or control visible particulate matter emissions/opacity during ship breaking operations.
3.	499	Aerobic Bioaugmentation for Remediation of Royal Demolition Explosive (RDX)—Contaminated Groundwater	Steve Hammett	NAVFAC	This project will demonstrate an innovative application of bioaugmentation to enhance RDX biodegradation in contaminated groundwater under aerobic conditions.
4.	500	Demonstration of Non-Chromated Adhesive Bond Primer for Metal Repair Bonding	Dane Hanson	NAVAIR	The objective of this project is to verify the performance of the non-chromated primer (BR 6747-1NC) against the control, chromated primer (BR 6747-1).
5.	501	Sustainable Remediation of Low Ph Aquifers and Aquifers with a Continuing Contaminant Source Using Proton Reduction Technology	Nancy Ruiz	NAVFAC	The objective of this project is to demonstrate a sustainable (solar-powered) technology for treating low pH, low permeability, and/or continuing contaminant source aquifer sites.

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NO.	PROJECT NO.	TITLE	PRINCIPAL INVESTIGATOR	COMMAND	OBJECTIVE
6.	502	Biological-Fouling (Bio-Fouling) Reduction to Ships Cooling Water Systems	Sonny Maga	NAVFAC	The objective of this demonstration is to validate the effectiveness, ease of implementation, safety, and cost savings of the innovative i2 bubble infusion technology as a means to significantly reduce the fouling rate and Microbial corrosion within a ship board water system during pier side maintenance.
7.	503	Drydock Sediment Management	Pat Morrow	NAVSEA	The objective of this project is to deliver and demonstrate a versatile and robust compilation of tools and methods to reduce National Pollutant Discharge Elimination System (NPDES) permit violations through the collection and removal of contaminant-laden sediment.
8.	504	Low-Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) Wipe Solvent and Paint Thinner Demonstration and Validation	Luc Doan	NAVAIR	The objective of this project is to demonstrate and validate that the low-HAPs, low-VOC thinner developed by the Army Research Laboratory can serve as a “drop-in” solution to the environmental issues associated with MIL-T-81772 materials used in naval aviation coatings and solvent cleaning applications.
9.	505	Lifecycle Cost — Operation and Maintenance of Storm Water Best Management Practices (BMP)/LIDs	Gary Anguiano	NAVFAC	The objective of this project is to provide the Navy with an updated stormwater decision support tool that includes detailed lifecycle cost information for installation, operation, and maintenance of BMPs/LIDs to help ensure compliance with NPDES permits in the most cost effective manner possible.

In addition to the efforts listed above, the NESDI program will also support an effort, led by Ignacio Rivera, to create a guidance manual and other documentation on the proper use of trace-metal clean-techniques for the sampling of marine waters and discharges.

As the Principal Investigators dive into these new projects, we will certainly keep you up-to-date on the progress they make on these and other NESDI projects in future issues of *NESDI News*.



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Progress on Our FY14 Needs Solicitation, Screening & Ranking

The next significant milestone on the NESDI program schedule is the collection of pre-proposals and full proposals to address the needs we collected via our FY14 needs solicitation process. The NESDI program collected a total of 57 needs for FY14. After a thorough review by program personnel, a solicitation for pre-proposals will be executed to address the needs determined to be priorities by personnel from the program’s management team—the TDWG—and our resource sponsor—OPNAV N45. A final list of the priority needs for FY14 will be included in the next issue of *NESDI News*.

Once pre-proposals have been collected, NESDI program management will review and rank them using established criteria. This is followed by a final evaluation that determines which pre-proposals will proceed to full proposal development. The results are provided to anyone who submitted a pre-proposal shortly after the evaluation period ends on 22 November 2013.

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.



Promoting Technologies

Five New Videos to Be Available on NESDI Projects

The NESDI program is in the process of releasing five new informational streaming videos detailing both recently validated technologies and those that are currently undergoing demonstration. The videos provide a general overview of the NESDI program before leading into the highlights of the subject technology. They typically contain footage of the Principal Investigator describing the construction and subsequent operation of the technology, along with positive observation and feedback by the demonstration site customer. The videos run four to six minutes in length and provide contact information for interested parties who may want additional information. Upon publishing, these videos will be available on the NESDI web site at www.nesdi.navy.mil.

The technologies showcased in the videos thus far are as follows:

- 1. Tertiary Treatment and Recycling of Waste Water (NESDI project #464)**
- 2. Real-Time Drinking Water Quality Monitoring Technologies (NESDI project #356)**
- 3. Methodology for Identifying and Quantifying Metal Pollutant Sources in Stormwater Runoff (NESDI project #463)**
- 4. Stormwater Dual Media Filtration System (NESDI project #454)**
- 5. Alternative Tank Target (NESDI project #289)**

The videos were produced by NAVFAC Engineering and Expeditionary Warfare Center's Technology Transfer Team. Additional videos are planned for production and expected to be released throughout FY14.



The Alternative Tank Target, built by Joey Trotsky and his colleagues, is the subject of one of the NESDI program's new project videos—soon to be available on the NESDI web site.

For more insights into these videos, contact Andy Drucker at 805-982-1108 or andrew.drucker@navy.mil.



Final Project Reports Now Available Via NESDI Web Site

As part of our ongoing effort to keep you informed about our projects, we have just finished uploading final reports (and some user data packages) to the public side of our web site for the following 35 NESDI projects:

NO.	PROJECT NO.	TITLE
1.	472	Lead-Free Electric Primers for Medium Caliber Ammunition
2.	452	Innovative Technologies to Control/Reduce Emissions from Metal Cutting Operations
3.	439	Environmental Effects of Lasers on Biota in the Marine Environment
4.	436	Global Climate Change Initiation Decision Report (IDR)
5.	435	Waste to Clean Energy IDR
6.	415	Advanced Oil Spill Response Technologies
7.	411	Dredge Spoil Management Alternatives
8.	364	Pollutant Source Tracking
9.	361	Potable Water Quality Management
10.	277	Sediment Transport Tools to Evaluate Physical Stability and Natural Recovery Potential
11.	268	Optimization of Sediment Data Collection and Analysis for Contaminant Fingerprinting
12.	240	No Foam System for Aircraft Hangar Fire Suppression System Foam Discharge Checks
13.	236	Assessing the Feasibility of Applying Source Zone Treatment
14.	234	Navy Training Lands Sustainability IDR
15.	231	Implementation of Office of Naval Research Harbor Processes
16.	203	Development of Approach for Assessing Risks to Amphibians
17.	202	Recycle Boiler Nitrite Solution
18.	201	Sodium Sulfide/Ferrous Sulfate Process for Industrial Wastewater Treatment Plant Sludge Reduction
19.	200	Cleaning of Livefront Switchgears
20.	199	Underground Pipeline Leak Detection
21.	198	Closed Loop Aircraft Washrack Wastewater Recycle System
22.	194	Portable Rapid Test Tank Leak Detection System

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An effort by Sonny Maga and his colleagues to build a manmade wetland system for the recycle and reuse of domestic (sewage) wastewater at the Marine Corps Recruit Depot in San Diego, California is the subject of one of the NESDI program's new project videos—soon to be available on the NESDI web site.

NO.	PROJECT NO.	TITLE
23.	182	Alternative Environmentally Friendly Fire Fighting Foams
24.	174	Toxicity Identification Evaluation to Identify Risk-Causing Chemicals of Concern
25.	171	Alternative Landfill Capping
26.	170	Airborne Lead Analyzer
27.	169	Development of Marine Sediment Toxicity Data for Ordnance Compounds
28.	161	Large Bulk Tank Leak Detection (Red Hill)
29.	146	User Data Package for Dust Suppressants
30.	134	Site Characterization Analysis Penetrometer System Contaminant Transport Sensor System (Dense Non-aqueous Phase Liquids Source Zone Identification)
31.	133	Integrated Field Screening for Rapid Sediment Characterization
32.	130	Recovery/Recycle of Chromium (VI) and (III) Ions by Molecular Recognition Technology
33.	14	Aqueous Film Forming Foam Detection and Diversion
34.	13	Biodetoxification of Oily Sludges
35.	12	Coastal Contamination Migration Monitoring

To view these and other project final reports as they become available, visit the NESDI web site (www.nesdi.navy.mil), then select "Current Projects." If a particular project has a final report available for viewing, a "Final Report" link will appear in the "More Information" column under that project number and name. You can also view a fact sheet for many of our projects as well as detailed case studies that have appeared in our Year in Review reports by selecting the "Fact Sheet" and "Case Study" links respectively.



Using Our Web Site



www.nesdi.navy.mil

Direct any questions about the use of our web site (www.nesdi.navy.mil) to our webmaster Eric Rasmussen at 732-323-7481 or eric.rasmussen@navy.mil.

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Program Schedule

For the next several months, the program will concentrate its efforts collecting pre- and full proposals to address the needs collected via our FY14 needs solicitation process, ongoing project execution, and planning for our FY14 IPRs. A complete program schedule is provided below.

NO.	WHAT	WHEN
1.	Evaluate & Rank Needs	9-13 September 2013
2.	Obtain Sponsor Review & Approval of Needs	16-27 September 2013
3.	Deliver N45 Programmatic Review	23 September – 4 October 2013
4.	Request Pre-proposals	11 October 2013
5.	Close Pre-proposal Collection	13 November 2013
6.	Collect TDWG Comments on Pre-proposals	18 November 2013
7.	Evaluate Pre-proposals	18-22 November 2013
8.	Request Full Proposals	12 December 2013
9.	Collect Full Proposals	19 February 2014
10.	Deadline for Functional Working Group Comments on Full Proposals	14 March 2014
11.	Collect TDWG Comments on Full Proposals	21 March 2014
12.	Screen Full Proposals	24-28 March 2014
13.	Deadline for Principal Investigators to Answer Screening Questions	28 April 2014
14.	Conduct In-Progress Reviews	2-6 December 2013 Stormwater IPR (Pearl Harbor, HI) 5-9 May 2014 West Coast IPR (Port Hueneme, CA) 9-13 or 16-20 June 2014 East Coast IPR (Washington, DC area)
15.	Evaluate Full Proposals	9-13 June 2014 (at East Coast IPR)
16.	Obtain Sponsor Review & Approval of Full Proposals	3 July 2014
17.	Announce New Starts	30 July 2014
18.	Announce FY15 Needs Solicitation	2 June 2014
19.	Close FY15 Needs Solicitation	1 August 2014
20.	Screen Needs	11-15 August 2014
21.	Quarterly Status Reports Due (all Mondays)	7 October 2013 6 January 2014 7 April 2014 7 July 2014

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



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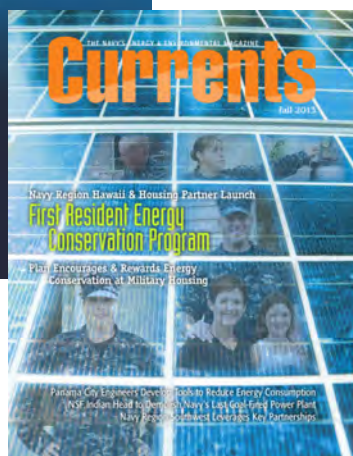
GETTING ON OUR MAILING LIST

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.

No.	Name	Command	Phone	Email
1.	Karr, Leslie (Chair)	NAVFAC	805-982-1618	leslie.karr@navy.mil
2.	Bendick, John	NAVICP	717-605-9144	john.bendick@navy.mil
3.	Cahoon, Lynn	NAVAIR	252-464-8141	albert.cahoon@navy.mil
4.	Earley, Pat	SPAWAR	619-553-2768	patrick.earley@navy.mil
5.	Hertel, Bill	NAVSEA	301-227-5259	william.hertel@navy.mil
6.	McCaffrey, Bruce	Consultant	773-376-6200	brucemccaffrey@sbcglobal.net
7.	Olen, Jerry	SPAWAR	619-553-1443	jerry.olen@navy.mil
8.	Paraskevas, Nick	NAVAIR	301-757-2140	nicholas.paraskevas@navy.mil
9.	Rasmussen, Eric	NAVAIR	732-323-7481	eric.rasmussen@navy.mil
10.	Sugiyama, Barbara	NAVFAC	805-982-1668	barbara.sugiyama@navy.mil
11.	Webber, Cindy	NAVAIR	760-939-2060	cynthia.webber@navy.mil



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 fall 2013 issue, we will provide you with updates on efforts to integrate the results of our projects into the ongoing operations of the Navy, detailed plans on our upcoming IPRs (so that you can participate), and results of the presentation of our annual programmatic review to our resource sponsor at the Pentagon.

Until then, look for the following two articles about successful NESDI projects in the fall 2013 issue of *Currents*, the Navy's energy and environmental magazine:

- New Methodology Helps to Identify Sources of Pollution: NESDI Program's Pollutant Source Tracking Effort Supports the Proper Attribution of Contaminant Loads
- Neutralizing Royal Demolition Explosive in Surface Soils at Two Navy Air-To-Ground Ranges: NESDI Project Demonstrates Hydrated Lime is an Effective Agent

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