

REFERENCE GUIDE

SUBMITTING AND EVALUATING NEEDS

What Is a Need?

A need defines a requirement to eliminate or reduce an environmental constraint that:

- Addresses a Fleet operational challenge,
- Identifies an existing gap in knowledge, technology, and/or capability,
- Is associated with an environmental constraint or regulatory driver.

Needs are the fundamental basis of the NESDI program as all technology investments are based on recommended solutions to the need.

When submitting a need, give NESDI as much information as you can about your problem. Tell us what the problem is and how big the problem is. What is the basis of the problem? Is it because of a current or impending regulatory requirement that now makes your job more difficult? Is it a technology gap? Is it a fleet operational challenge? Is it just at your facility or Navy wide?

A Need is NOT a project. At the very bottom of the need submittal form, you will have the opportunity to put in a short "suggested solution," but the description of the need should not include your solution.

A Need is NOT a method to purchase equipment. You may 'need' a piece of equipment for pollution prevention, but that does not constitute a NESDI Need.

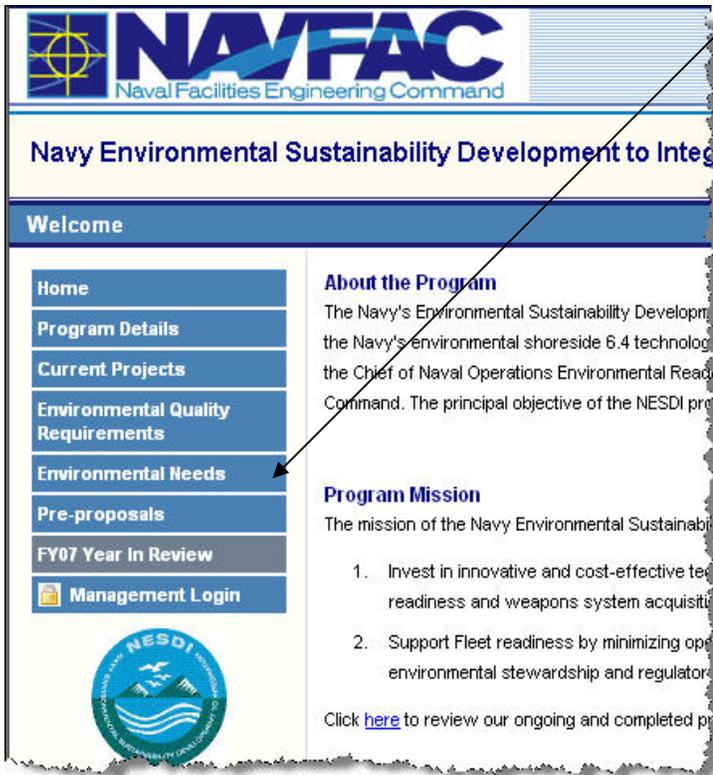
How Do I Submit My Need?

All needs must be submitted via the submission form on the NESDI website (<http://www.nesdi.navy.mil>). See [Example 1](#) for a sample of a Need submission.

HOW TO ACCESS THE FORM TO SUBMIT YOUR NEED →

How Do I Submit My Need (continued)?

From the NESDI website <http://www.nesdi.navy.mil>, click on **Environmental Needs**.



Once on the **Environmental Needs** page, click on the *Submit a Need Now* button on your screen.



The NESDI Environmental Needs Submission Form shown below will appear. All fields must be filled in except for a fax number. After you fill out each line, hit the *Submit Need* button at the bottom of the form. (A full version of this form is included in this guide as [Example 2](#).)

NOTE: If you need help filling out this form, use the **HELP** feature on the top of the submission form. This feature provides explanations applicable to each line you need to enter. Each line entry is also explained in [Example 3](#) in this guide. Note that you can also view examples of submitted needs from **HELP** and [Example 1](#).

Once you submit your need, you will receive confirmation on screen and via email. The screen will display a need identification number for tracking purposes and all the information that you submitted. Print this information for future reference. Click on **Submit Another Need** to continue submitting needs or click on **Finished** to exit. If you have questions or comments, click on **Submit Feedback** at the bottom of the screen.

The screenshot shows the 'NESDI Environmental Needs Submission Form' with a 'Help' button. The form is divided into two main sections: 'Your Contact Information (all fields except fax required)' and 'Need Description and Context (all fields required)'. The contact section includes fields for Name, Address, Phone, E-mail, Command, Activity/Company, and Fax. The context section includes a Title field (255 Characters Max) and a Description of Need field.

You will not be able to edit a need that you submitted. If you want to make a change to your submittal, or if you require further assistance, contact a NESDI management member listed below:

NAVAIR – NADEP Cherry Point	252-464-8141
NAVAIR – NAWC WD China Lake	760-939-2060
NAVFAC – NFESC	805-982-1600
NAVFAC – NFESC	805-982-1668
NAVSEA – NSWC Carderrock	301-227-5259
SPAWAR – SSC San Diego	619-553-5255
SPAWAR – SSC San Diego	619-553-1443

WHAT HAPPENS NEXT? →

What Happens To My Need After I Submit It?

Once you submit your need, the following actions occur. *(These actions are performed on a designated schedule by Navy technical experts (i.e., working groups) assembled by NESDI program management.)*

- 1) You will receive an automated email from the NESDI website thanking you for your submittal. This email will contain a pdf file of your need.
- 2) You may be contacted by a Technology Development Working Group (TDWG) for further information.
- 3) The Technology Development Working Group (TDWG) collaboratively evaluates each need and submits their recommended rankings and dispositions to the website. A standardized ranking criteria is used and can be found on <http://www.nesdi.navy.mil/NeedsRanking.htm>.
- 4) The NESDI program manager schedules a final needs evaluation meeting with all TDWG members. This meeting leverages the TDWG recommendations previously entered for each need to discuss and arrive at a final ranking and disposition.
- 5) The NESDI PM submits the recommendations to CNO for final concurrence.
- 6) Once a final ranking and disposition for your need is reached, you will be notified of the results via an automated email.

If My Need Is Determined To Be Valid, How Does It Get Addressed?

Be aware that the Needs collection process generates many more valid needs than the NESDI program can fund. Regardless of the outcome, we value your interest and look forward to your continued participation.

Needs are ranked as High, Medium, Low, Leveraged, or Not-Valid. They are also given a description of: Request Pre-proposal, Solution Exists, Being Addressed by Existing Efforts, More Information Required, or Outside of NESDI Scope. You will be notified of your need ranking and description.

For all valid needs, the following actions occur to identify technology solutions. *(These actions are performed on a designated schedule by Navy technical experts (i.e., working groups) assembled by NESDI program management.)*

- 1) Valid needs are released to the research and development community and a call for technology proposals is made.
- 2) The TDWG collaboratively evaluates each proposal and submits their recommended rankings and dispositions to the website. A primary decision point for the evaluation is how adequately the proposal addresses the need it seeks to solve.
- 3) The NESDI program manager schedules a final evaluation meeting with all TDWG members. This meeting leverages the TDWG recommendations previously entered for each proposal to discuss and arrive at a final ranking and disposition. Both steps 2 and 3 are a two phase cycle; they first occur for pre-proposals and then for full proposals. Pre-proposals are typically one page descriptions on the technology solution. Once validated, a full proposal is submitted providing more details on the solution including detailed funding requirements and milestones.
- 4) Valid proposals are then eligible for funding. All proposals may not be funded due to program constraints as determined by the NESDI Program Manager. The ultimate goal is to demonstrate and validate that a technology successfully solves a need and to facilitate the integration of that technology.

Limitations on the NEDSI Program Investments

The NEDSI program invests in solutions that adequately address valid needs if they fall into the following Environmental Enabling Capabilities (EEC):

EEC 2: Maximize Training & Testing Requirements within Environmental Constraints (Range Sustainment): Innovations addressing environmental impacts and restrictions at Navy ranges to ensure training and munitions testing/manufacturing are fully available and efficiently utilized. *Navy requires maximal use of training ranges and munitions manufacturing/testing ranges to ensure mission readiness within compliance with applicable environmental regulations while minimizing the environmental impacts and costs of compliance and range function degradation*

EEC 3: Platform Repair & Maintenance with Minimal Environmental Impact (Weapon System Sustainment): Address Fleet maintenance operations while reducing the cost of compliance and increased mission readiness. Focuses on identifying systems and processes that minimize or eliminate environmental hazards in critical repair and maintenance operations both ashore and afloat. *Naval shipboard and aviation afloat operations require the capability to conduct critical repair and maintenance activities in compliance with applicable environmental requirements without compromising effectiveness, safety, or health while minimizing environmental impacts and the cost of compliance*

EEC 4: Support Shore Readiness within Environmental Constraints (Ship-to-Shore Interface): Support Shore Readiness within Environmental Constraints Innovative products to manage ship hazardous material/waste offload to shore facilities. Provides cost effective services at naval bases and air facilities in compliance with environmental regulations *Naval shore establishment requires the capability to operate and maintain facilities and provide waterfront and airfield services to the fleet while complying with applicable environmental regulations and minimizing environmental impacts and costs.*

EEC 5: Cost-Effective Management of Environmental Regulatory Requirements (Regulatory and Base Compliance): Cost-effective methods for identifying, analyzing, and managing environmental constraints of current and projected regulatory impacts. *Naval platform operations require the capability to manage environmental regulatory requirements for permitting, monitoring and detection, record keeping, and reporting that will reduce cost and labor burdens*

Areas that the NEDSI Program Does Not Invest In:

- Marine mammal research
- Ship afloat programs
- The radiological control and health program
- The cleanup of Environmental Restoration sites (with the possible exception of leveraged investments in the analysis and management of contaminated sediments)
- The Navy's Energy Program (except where there is a very strong environmental component to a particular energy management project).

EXAMPLE 1. SAMPLE OF A SUBMITTED NEED



Need Details

Need ID:

N-0590-08

Title:

Hull Bio-Fouling Cleaning/Removal

Rank:

HIGH-Request NESDI Pre-Proposal

Rank Comments:

Sponsor Disposition:

Not Required

Similar Needs Assigned:

None Assigned

Date Submitted:

2/1/2008 11:26:33 PM

Command-Activity That Submitted The Need:

NAVSEA-04RE

Submitter:

Submitters Address:

Submitters Phone, Fax, and Email:

Investment Area:

3-Weapon System Maintenance

Environmental Enabling Capability (EEC):

3-Platform Repair & Maintenance

Pillar:

Compliance

Description:

Ship/boat hulls entering dry-dock are cleaned to remove accumulated fouling. The volume of removed material is troublesome. A means to better remove or reduce the volume of material is needed.

PHNSY - Ships, dry dock caissons and other vessels/structures are washed down upon entering the dry dock with low pressure water, typically to removed salt residue and mud. These wash waters must be sampled prior to discharge into drains. Solid material removed during washing is separated and disposed of as solid waste. For biofouling, if exterior work requires it or the cleaning cycle is up, hulls are hydroblasted at higher pressure to remove the material. This hydroblast water is collected and not allowed to enter dry dock drainage because of strict discharge limitations. Four operational dry docks typically dock several

vessels each per year, most of which receive a low pressure wash down. Wash downs occur with no set schedule and depends on dewatering of the dry dock and floor wash down completion. Thus, hull washing may occasionally occur when no sampling or laboratory personnel are on shift. Drains must be covered with filtering material or containments built around vessels to capture solids. For hydroblasting to remove biofouling, waters must be collected and stored in holding tanks and volumes range from a few thousand to 20,000 gallons. Temporary storage areas are required for the holding tanks while awaiting laboratory results for the hydroblast water.

NNSY - The trouble at NNSY is not the volume of removed material, but instead the fact that the biological material cannot be washed into the river. When a ship comes into drydock but does not need hull work (no grinding/repainting), it is important for the integrity of the hull paint system to remove any marine growth ASAP. However, the project must wait for silt washdown to be completed and cofferdams to be installed before removing marine growth, which hardens and become more difficult to remove without damaging the paint. Most projects in drydock involve hull work, so this problem arises infrequently, about once/year.

PNSY - Wastewater from cleaning the marine growth only from the submarine's hull is currently discharged to the dry dock drainage system. Marine growth is removed by low pressure washing. Solids are collected and disposed of as a solid waste. Marine growth is typically removed from the submarine hull in all 3 dry docks. Solids accumulation is minimal and not a problem. Limiting/preventing the removal of antifouling paint with the process is challenging and the cleaning process may require collection of the waste water in the future. Pressure washing is adjusted so as to remove marine growth only as evidenced by observing the wastewater color.

PSNSY - PSNS does allow some in-water hull cleaning, however the state regulators have banned the majority of in-water cleaning in private shipyard and boatyards. For in-dock cleaning, PSNS captures and treats the wastewater. Collecting this water can be difficult when it is raining or when the vessel is discharging cooling water on the dock floor. Every vessel entering the dry dock receives some type of cleaning before docking and/or after docking.

Ramifications:

Continue to incur costs associated with containment, management and disposal of washwater and solids.
Impacts on drydock discharges and permitting requirements.

Key Policy or Regulatory Drivers:

PHNSY - NPDES Permit No. HI 0110230 specifies monitoring and discharge limitations for hull wash water, hydroblast water and sump water. The sump water current copper discharge limit is stringent and hydroblast water would contain copper above limits, driving practice of not allowing discharge of this wastewater and requiring collection and alternate disposal.

NNSY - VPDES permit No. VA0005215 prohibits the discharge water from pressure washing to remove marine growth to be released to the river. (part I.E.6.a.3.b.i)

PNSY - MEPDES permit and dry dock BMPs

PSNSY - Washington State Dept of Ecology has banned in-water hull cleaning by commercial divers and boatyards, but they acknowledge that they do not have jurisdiction over the Navy. Hull husbandry is included in UNDS as a discharge requiring a marine pollutant control device. NAVSEA has directed the Shipyards to have a policy allowing the fleet to clean

Suggested Solutions:

PHNSY - For surface craft, there are underwater cleaning systems. Adapt to caissons and buoyancy assist modules, barges etc. For submarines, development of a waterless or closed loop cleaning system that can be used in the dry dock. Primarily for submarines, would require input from wide spectrum of sub project personnel before even drafting a possible solution due to operations of a sub upon entering dry dock. For implementation, would require purchase of developed system, training of production shop personnel, adjustment of shipyard best management practices, possible treatment of wastewater produced.

NNSY - A system that would simultaneously remove and collect the marine growth from the hull without damaging the paint (maybe similar to underwater hull cleaning technology that is under development). The solution would be used by shipyard projects conducting marine growth removal or could be contracted out.

PSNS - Develop an in-water hull cleaning device that will collect and treat the effluent.

Time frame for a solution before a major mission/operational impact occurs:

EXAMPLE 2. FULL VERSION OF NEEDS SUBMISSION FORM

Navy Environmental Sustainability Development to Integration Program

Submit An Environmental Need

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- Home
- Program Details
- Current Projects
- Environmental Quality Requirements
- Environmental Needs
- Pre-proposals
- Management Login

This is an official [U.S. Navy](#) Web site.

Chief Of Naval Operations
Environmental Readiness Division (N46)
2000 Navy Pentagon
NC-1 Suite 2000
Washington, DC 20350-2000

NESDI Environmental Needs Submission Form [? Help](#)

Your Contact Information (all fields except fax required)

Name: E-mail:
Address: Command:
Activity/Company:
Phone: -- Ext Fax (optional): --

Need Description and Context (all fields required)

Title (255 Characters Max)

Description of Need

Explain the ramification(s) if this need is not met (fines, penalties etc.)

Key Policy or Regulatory Drivers

Solutions Suggested

If applicable, indicate a time frame for a solution before a major mission/operational impact occurs

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EXAMPLE 3. EXPLANATIONS OF NEED ENTRIES

[Need Example 1](#) [Need Example 2](#) [Need Ranking Criteria](#)

Explanations of Need Entries

Description of Need

Your description must consider the following conditions as they form the basis of a valid need:

- i. Addresses a Fleet operational challenge,
- ii. Identifies an existing gap in knowledge, technology, and/or capability, and
- iii. Is associated with an environmental constraint or regulatory driver.

For example, the NESDI program has concentrated on mitigating risks associated with the naval aviation maintenance community through the minimization of targeted hazardous materials.

Ramifications if the need is not met

What are the environmental or operational risks associated without mitigating the problem? Ramifications could include cost implication, operational delays or restrictions, uninformed decision making as a result of data/knowledge gaps, health and safety risks, quality of life, etc.

Key Policy or Regulatory Driver

What are the specific environmental regulations that are driving the need for a solution? Include specific, up-to-date local, state, Federal, and international regulations.

Solutions Suggested

Provide any insights you might have into alternative approaches that may successfully address the need.

Time frame for a solution before a major mission/operational impact occurs

Based on defined regulatory or policy implementation dates, indicate if there is a time frame for a solution before a major mission/operational impact occurs.