

Annual Marine Corps Expeditionary Energy Technology Demonstration Seeks Battlefield Solutions

2015 Camp Lejeune Gathering Seeks to Accelerate Future Energy Innovations

THE MARINE CORPS will host its annual Expeditionary Energy Concepts (E2C) technology demonstration (formerly known as the Experimental Forward Operating Base (ExFOB)), June 23-25, 2015 at Marine Corps Base (MCB) Camp Lejeune, North Carolina.

E2C is the Marine Corps' innovative process to identify and evaluate energy efficient technologies that can increase the self-sufficiency of expeditionary forces. By providing industry with opportunities to demonstrate new capabilities, E2C can quickly move technologies from concept to combat.

Created by the Commandant in 2009, E2C brings together energy stakeholders from across the Marine Corps requirements, acquisition, and science and technology development communities, as well as from the other military services, to leverage ideas and resources and identify energy solutions to meet warfighter needs.

Each year, the Marine Corps invites select industry participants to E2C to demonstrate commercial technologies with potential to reduce battlefield energy and water requirements and extend the operational reach of the Marine Corps.

The E2C 2015 demonstration will evaluate technologies that enable small unit distributed operations. Specifically, E2C 2015 will focus on the following three technology areas:

1. Hybrid/electric all-terrain vehicles
2. Advanced batteries and energy storage
3. Fuel cells (up to 10 kilowatts)

Hybrid/Electric All-Terrain Vehicles

Small unit distributed operations require small, highly mobile, tactical vehicles that can travel for extended range without fuel resupply. Hybrid-electric and pure electric all-terrain vehicles offer significant fuel savings and have the potential to extend the operational reach of Marines on the move.

Advanced Batteries & Energy Storage Technology

Marines use batteries to power a wide range of equipment and platforms in training and on the battlefield. Rechargeable batteries and energy storage solutions for specific military applications that offer greater energy density than the batteries used today can lighten the carried load, help increase infantry mobility, and extend operational reach.

Fuel Cells

Fuel cells will play a critical role in reducing future fuel requirements and achieving the Commandant's aggressive 2025 energy goals to increase operational reach, improve readiness, and use only mobility fuel.

E2C is not a tradeshow. During the week-long demonstration, a team of engineers will collect data on system performance and Marine operators will provide qualitative feedback on what they see. Following the demonstration, promising technologies may be evaluated in a controlled laboratory environment and then put into the hands of Marines for field testing in combat conditions. Laboratory and field evaluation results will inform Marine Corps requirements development and may lead to future fielding.

Systems that make it through the five phases of E2C—from demonstration to fielding—can enable a more self-sufficient, combat-effective future force.



The first E2C technology demonstration (then known as ExFOB) was held in March 2010 at MCB Quantico, Virginia. The E2C process helps quickly identify and evaluate commercial technologies that reduce battlefield energy and water requirements and extend the operational reach of the Marine Corps.

U.S. Marine Corps

E2C Results “From Concept-to-Combat”

SINCE 2009, THE E2C team has:

- Conducted seven demonstrations at Marine Corps bases across the country.
- Reviewed over 300 technologies through the E2C RFI process.
- Assessed over 100 technologies at E2C demonstrations.
- Evaluated 26 systems in the laboratory/field following E2C.
- Transitioned five systems to Programs of Record.

Through the E2C process, the Marine Corps has conducted seven demonstrations at bases across the country, reviewed over 300 technologies through the E2C Request for Information (RFI) process, assessed over 100 technologies at E2C demonstrations, evaluated 26 systems in laboratory and field following E2C, and transitioned five systems to Programs of Record.

This June, subject matter experts from across the Marine Corps and other services will gather at MCB Camp Lejeune to once again test potential energy solutions that can help extend the operational reach of the Marine Corps, and ultimately, help to achieve the Commandant’s energy goals.

The following five renewable energy systems, first introduced by industry at past E2C technology demonstrations (formerly ExFOB), are currently Programs of Record:

1. **Solar Portable Alternative Communications Energy System (SPACES)**
SPACES is a lightweight, portable, renewable energy system designed to provide power for platoon and squad size units operating in remote locations. Marines use SPACES to recharge batteries that power communications equipment like satellite communication radios, reducing the number of batteries carried on extended patrol.
2. **Ground Renewable Expeditionary Energy Network System (GREENS)**
GREENS is a portable power generation system that incorporates solar panels, energy storage, and AC/DC

power sources. GREENS provides an average continuous output of 300 watts or 1,000 watts peak—enough to power a battalion combat operations center.

3. Radiant Barrier

This shelter liner, designed for a Base-X 305 medium soft shelter, doubles the R-value (thermal resistance) of the tent. Marines use radiant barriers to keep cool air in and hot air out, reducing the number of environmental control units required in a combat environment.

4. Light Emitting Diode (LED) Lights

LED light sets for medium soft shelters and general purpose use are more efficient than traditional fluorescent lights. Marines light their tents with these systems to keep power requirements at a minimum.

5. Mobile Electric Hybrid Power Sources (MEHPS)

MEHPS power generation—combining batteries, solar, and smart controls with traditional diesel generators—has demonstrated up to 50 percent fuel savings and up to 80 percent reduced generator run time. The Marine Corps is working closely with the Army to develop joint requirements for and field hybrid power systems that will increase the combat effectiveness of both services.



For more information about E2C and other expeditionary energy efforts underway, visit the Marine Corps Expeditionary Energy Office’s web site at www.hqmc.marines.mil/e2o.

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Join SERDP & ESTCP for an Upcoming Webinar

Online Series Promotes the Transfer of Innovative, Cost-Effective & Sustainable Solutions

THE STRATEGIC ENVIRONMENTAL Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) will continue their webinar series in 2015 to promote the transfer of innovative, cost-effective and sustainable solutions developed by both programs. The series targets end users, including practitioners, the regulatory community and researchers. The primary objective of the series is to provide end users with cutting-edge and practical information from sponsored research and technology demonstrations in an easily accessible format at no cost to the participant.



The webinars are held approximately every two weeks on Thursdays from 12:00 to 1:30 PM Eastern time. Each webinar features distinguished speakers from one of SERDP and ESTCP's five program areas:

1. Energy and Water
2. Environmental Restoration
3. Munitions Response
4. Resource Conservation and Climate Change
5. Weapons Systems and Platforms

To view the complete schedule of upcoming webinars, visit www.serdp-estcp.org/Tools-and-Training/Webinar-Series.

Webinar topics in 2015 include management strategies for contaminant source zones, the use of bio-based methodologies at Department of Defense (DoD) installations for

the production of environmentally sustainable materials, acoustic methods for underwater munitions, solar technologies, bioremediation approaches at chlorinated solvent sites, blast noise measurements and community response, munitions mobility, and others.

Following the completion of each live webinar, archives of the presentation and audio will be available online.

To view the complete schedule of upcoming webinars and to access archived files of past webinars, visit www.serdp-estcp.org/Tools-and-Training/Webinar-Series.

SERDP is DoD's environmental science and technology program, planned and executed in partnership with the Department of Energy and U.S. Environmental Protection Agency, with participation by numerous other Federal and non-Federal organizations. The program focuses on cross-service requirements and pursues solutions to DoD's environmental challenges while enhancing and sustaining military readiness.



ESTCP is DoD's environmental technology demonstration and validation program. Projects conduct formal demonstrations at DoD facilities and sites in operational settings to document and validate improved performance and cost savings. Demonstration results are subject to rigorous technical reviews to ensure that the conclusions are accurate and well supported by data.

For more information, visit www.serdp-estcp.org.

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Navy Announces 2014 CNO Environmental Award Winners

Annual Awards Recognize Outstanding Environmental Stewardship

VICE ADMIRAL PHIL CULLOM,

deputy chief of naval operations for fleet readiness and logistics (N4), announced the winners of the fiscal year (FY) 2014 Chief of Naval Operations (CNO) Environmental Awards competition.



Each year, the CNO Environmental Awards honor ships, installations, individuals, and teams for their outstanding achievements in Navy environmental programs. The FY 2014 winners, listed alphabetically within each category, are provided below.

- **Natural Resources, Large Installation**
Joint Base Pearl Harbor-Hickam, HI
- **Environmental Quality, Industrial Installation**
Fleet Readiness Center Southeast, Jacksonville, FL
Fleet Readiness Center Southwest, San Diego, CA
Naval Base Kitsap, Bremerton, WA
- **Environmental Quality, Overseas Installation**
Naval Air Facility Atsugi, Japan
Naval Hospital Yokosuka, Japan
Naval Support Activity Bahrain
- **Sustainability, Non-Industrial Installation**
Naval Base San Diego, CA
Naval Medical Center San Diego, CA
Naval Support Activity Monterey, CA
- **Sustainability, Individual or Team**
Naval Base Coronado, CA
Naval Supply Systems Command Fleet Logistics Center, San Diego, CA
Navy Region Southwest Sustainable Solid Waste Program, San Diego, CA
- **Environmental Restoration, Installation**
Former Naval Air Station Alameda, CA
Naval Submarine Base New London, Groton, CT
Portsmouth Naval Shipyard, NH

- **Cultural Resources Management, Small Installation**
Naval Air Facility Atsugi, Japan
Pacific Missile Range Facility, HI
Portsmouth Naval Shipyard, NH
- **Cultural Resources Management, Individual or Team**
Mrs. Heather Robbins of Naval Facilities Engineering Command Mid-Atlantic, Norfolk, VA
Mr. Jeffrey Pantaleo of Joint Base Pearl Harbor-Hickam, HI
Mr. Michael Smolek, Sr. of Naval Air Station, Patuxent River, MD
- **Environmental Planning, Team**
Hawaii-Southern California Training and Testing EIS Team, Pearl Harbor, HI
Supplemental EIS for the Introduction of P-8A Aircraft into U.S. Navy, Norfolk, VA
U.S. Navy F-35C West Coast Home Basing Environmental Planning Team, Norfolk, VA
- **Afloat**
Large Deck Combatant: USS Essex (LHD 2)
Littoral or Amphibious Warfare: LCS Crew 102
Submarine: USS Tennessee (SSBN 734)
Surface Combatant: USS Dewey (DDG 105)

In a naval message announcing the winners, Cullom saluted the awardees.

“I would like to congratulate all the nominees and winners of the FY 2014 CNO Environmental Awards. Their participation in this competition exemplifies their dedication to environmental stewardship in pursuit of our Navy’s overall mission. These achievements underscore that each contribution can have a tremendous long term impact in conserving our environmental surroundings and resources.”

All CNO winners advance to the Secretary of the Navy level of competition.

For more information on the CNO Environmental Awards program, visit <http://greenfleet.dodlive.mil/environment/awards>. 

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Navy Shore Energy Technology Transition & Insertion Program Launches First Solicitation for Needs

Deadline for Submittals is June 8, 2015

THE NAVY SHORE Energy Technology Transition & Insertion (NSETTI) program is soliciting the Navy Shore Energy community for their for installation and facility energy needs. And if you want your need to be considered in the Fiscal Year (FY) 2016 evaluation cycle, it must be submitted by June 8, 2015.

The mission of the NSETTI program is to provide solutions by demonstrating, validating and integrating reliable, cost-effective, innovative technologies, processes, and filling knowledge gaps to ensure energy security and legal compliance while increasing infrastructure, energy efficiency and mission-compatible alternative energy resources.

To submit a need to the program, visit the NSETTI program web site at www.nsetti.navy.mil.

The NSETTI program, under the Directed Energy program element, is sponsored by the Chief of Naval Operations (CNO) Shore Readiness Division (N46) and managed by the Naval Facilities Engineering Command Engineering and Expeditionary Warfare Center (NAVFAC EXWC). The program is focused on three primary objectives that influence management priorities and directly affect the program's success:

1. **Collect, Validate & Rank Energy RDT&E Needs**
Expand awareness of program opportunities within the Navy shore side community to encourage and facilitate the submittal of well-defined energy needs and requirements.
2. **Resolve High Priority Needs**
Ensure that program investments and the resulting projects maintain a direct and consistent link to the defined user needs.

3. **Integrate Solutions & Validate Benefits**
Maximize the number of program-derived solutions that are successfully integrated into the shore side facility environment and verify that the solutions provide the anticipated benefits.

The NSETTI program seeks to meet current Navy policy, guidance and mandates through the demonstration/validation of technologies that fill identified gaps in the following thrust areas:

1. Renewable/Alternative Energy
2. Efficiency and Systems (e.g., lighting, HVAC, microgrids)
3. Energy Storage
4. Transportation and Fuels (non-tactical)

In an effort to identify ongoing challenges in the Navy shore side energy community, the NSETTI program is opening up its needs collection process. All NSETTI program decisions and investments are based on energy needs which meet the following conditions:

- Identifies an existing gap in knowledge, technology, and/or capability
- Is associated with an energy policy, instruction or mandate
- Can be categorized under one of the program's thrust areas

Anyone in the Navy may submit their needs for consideration by the NSETTI program. To submit a need to the program, visit the NSETTI program web site at www.nsetti.navy.mil then select "Needs" from the navigational menu on the left. You will be taken to the following page:



Once on the “Energy Needs” page, select “Submit Your Need Now” and you will be taken to the following page where you can actually submit your need:



In order to complete this needs submission form, you will need to enter the following information:

- Contact information for the need originator
- Title of the need
- Detailed description of the need
- Explanation of the ramifications if the need is not met
- Key Navy policy and regulatory drivers
- Suggested solutions to the need

Once you have provided all of the above information, select “Spell Check” to correct any data entry errors then select “Submit Need.”

To have your need considered in the FY 2016 evaluation cycle, it must be submitted by June 8, 2015.

Once a need is submitted, it is evaluated by technical experts assembled by program management—the NSETTI Working Group (NWG). After reviewing the needs, the NWG makes recommendations to the NSETTI program manager with final review and approval from NAVFAC Headquarters, Commander Navy Installations Command and CNO leadership about which needs will move forward to the next stage in the process—the solicitation for proposals to address priority needs.

For more information about the NSETTI program and its needs solicitation process, contact Katelyn Staton at the information provided below. [↕](#)

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Tell Your Story in *Currents* • Due Date for Fall 2015 Issue Submissions is July 17, 2015

Have some good news about your energy or environmental program? Want to share it with others? *Currents* is the place to do it. *Currents*, the Navy’s official energy and environmental magazine, has won first place in the Navy’s Chief of Information Merit awards competition three times. And it’s people like you and the stories you submit that make *Currents* the best magazine in the Navy.

So if you have a story that you’d like us to promote in our fall 2015 issue, submit your text and images by Friday, July 17, 2015. Any submissions received after this date will be considered for our winter 2016 issue.

You can get a copy of the *Currents* article template by sending an email to Bruce McCaffrey, our Managing Editor, at brucemccaffrey@sbcglobal.net. This template has proven to be a tremendous asset in helping us edit and track your article submissions. Bruce is also available at 773-376-6200 if you have any questions or would like to discuss your story ideas. And don’t worry. If writing isn’t one of your strengths, we’ll handle all of the editing necessary to get your submission into publishable form.

As a reminder, your Public Affairs Officer must approve your article before we can consider it for inclusion in the magazine.

Don’t forget to “like” us on Facebook at www.facebook.com/navycurrents. *Currents*’ Facebook page helps expand the reach of the magazine and spread the news about all the great work you’re doing as the Navy’s energy and environmental guardians.

Currents Deadlines

Fall 2015 Issue: Friday, July 17, 2015
Winter 2016 Issue: Friday, October 16, 2015
Spring 2016 Issue: Friday, January 15, 2016
Summer 2016 Issue: Friday, April 15, 2016

You can also refer to your *Currents* calendar for reminders about these deadlines.