REQUEST FOR INFORMATION (RFI)
Experimental Forward Operating Base (ExFOB) 2012-2 Camp Pendleton, California

INTRODUCTION:

This announcement constitutes an RFI notice for planning purposes. This is NOT a Request for Proposals. NO SOLICITATION DOCUMENTS EXIST AT THIS TIME. This RFI does not constitute a commitment, implied or otherwise, that the USMC Experimental Forward Operating Base (ExFOB) Team, consisting of the Department of Combat Development and Integration, Marine Corps Warfighting Laboratory, Marine Corps Expeditionary Energy Office, Marine Corps Systems Command, Marine Corps Training and Education Command and the Office of Naval Research will take a procurement action in this matter. Neither the ExFOB Team nor the Government will be responsible for any cost incurred in furnishing this information.

The USMC ExFOB Team is interested in gathering information to further its understanding of currently available technologies that could enhance the logistics sustainability of Marines operating across the range of military operations from humanitarian assistance to major combat operations. In these operations, Marines may operate from the seabase, requiring ship-to-shore movement or from remote, austere Forward Operating Bases (FOBs) ashore, and may conduct mobile operations during which Marines are distributed across large areas.

The ExFOB 2012-2 event theme is thermal efficiency as a means of reducing expeditionary energy demand and enabling enhanced combat effectiveness. Specific areas of interest include energy-efficient and low-energy intensity solutions in several areas:

1. Climate control for personnel / Optimizing human performance in any climate
2. Bulk water cooling
3. Climate control for electronics
4. Vehicle climate control
5. Expeditionary soft-shelter climate control

Technologies of interest are generally those that would most rapidly and effectively enhance the self-sufficiency of forward deployed, individual Marines and small units operating from a FOB or naval shipping. Information is requested in the form of a brief technology description, system specifications, “working” photographs of technology (no drawings), inclusion of any government reports, tests, demonstrations and/or any currently existing government contractual relationship.

GENERAL BACKGROUND:

Since March 2010, the Marine Corps has held an annual ExFOB event as a venue for industry to demonstrate their latest expeditionary energy capabilities. The primary focus at these demonstrations is to observe and evaluate industry solutions that will enhance the self-sufficiency and combat effectiveness of Marine expeditionary forces by reducing the energy demand of weapons systems and, enabling the application of renewable energy sources, and changing the way Marines think about energy, water, and waste on the battlefield in current and future operations. Over the last two years the ExFOB Team has accelerated solutions from “concepts-to-combat-to -programs” to reduce the Warfighter need for fuel, water and battery

logistics. ExFOB has guided the development of new requirements and has informed Marine Corps investment and acquisition decisions.

Approximately 60% of our ground fuel in Afghanistan is consumed providing climate control for our personnel and equipment. ExFOB 2012-2 seeks capabilities that can reduce the need for cooling and heating or provide cooling and heating where it is most needed, at the individual and/or system level, while requiring substantially less energy and environmental control equipment than current methods in the Marine Corps inventory. Information received in response to this RFI is intended to serve two purposes: (1) Inform requirements development, and (2) Identify candidates for participation in ExFOB 2012-2. Identified candidates will be invited to demonstrate their technologies at ExFOB 2012-2 at no cost or risk to the U.S. Government, provided the manufacturer or agency can demonstrate that their product or prototype would be sufficiently developed for at least a conceptual demonstration by 6 July 2012.

The ExFOB 2012-2 demonstration is tentatively scheduled from 24 to 28 September 2012 aboard Marine Corps Base Camp Pendleton, California. A three-day window on either side of the demonstration will be used for vendor setup and retrograde. Vendors invited to demonstrate their technology will be referred to as "participants" and will be contacted via email with a signed letter of invitation by 10 Aug 2012. After this date the Marine Corps will actively engage all participants to determine operations/logistics and a data collection plan. The actual ExFOB 2012-2 data collection will take place over five days from 0900 to 1700. Participants will be responsible for all containment measures and all water use will employ a closed loop system. All measures will be taken by the Marine Corps to ensure base safety; security and policy compliance are upheld throughout ExFOB 2012-2. At NO TIME are "goodie bags", promotional give away items or alcohol allowed on the ExFOB premises. Participants at the ExFOB will have their participation terminated if they are found to be in violation of the above or are acting in an "unsafe" manner at anytime.

SPECIFIC INFORMATION OF INTEREST:

Energy Efficient Cooling and Heating of Personnel, Bulk Water, Electronics, Vehicles, Shelters: The need to rapidly establish Forward Operating Bases for combat operations has resulted in temporary structures, housing command and control systems and individuals, that are necessarily less than optimal from a thermal management perspective. Across the elements of the MAGTF approximately 60% of all power demand is for powering Environmental Control Units (ECUs) and Air Conditioners. Vehicles may spend hours at idle before and after convoys in order to cool or heat the occupants. Potable water is currently delivered to FOBs in plastic bottles that can be cooled in existing refrigeration units prior to consumption. The USMC seeks water chilling solutions that can be incorporated with currently fielded (program of record) bulk water storage equipment as a means to reducing bottled water dependence. Efficiency improvements for heating and cooling have the potential to significantly reduce requirements for fuel. We seek alternative approaches for enhancing the energy efficiency of heating and cooling systems of all areas of interest noted above.

Possible solutions might include, but are not limited to, the following:

1. Improvements to the energy efficiency of fielded Environmental Control Units (ECUs).
2. Alternatives to fielded ECUs.

3. Synchronization of power used for heating and cooling with periods of excess electric power generation capacity at the FOB.
4. Small scale ground heat pumps capable of cooling or heating a general purpose medium size tent.
5. Evaporative cooling.
6. Clothing layers with special properties to provide personnel comfort in all operating climates.
7. Direct current electrical power to reduce the generation of heat.
8. Insulating materials that rapidly dissipate heat from computers and individuals.
9. Water chilling equipment that can be incorporated with the fielded (program of record) Sixcon water storage container.
10. Alternatives for cooling only consumable amounts of water immediately prior to consumption.
11. Technologies that apply heating and cooling directly to the individual/command and control system.
12. Technologies that facilitate cooling and/or heating of sitting surfaces, sleeping surfaces, and/or other berthing.

SUBMISSION PROCESS AND DUE DATE:

The ExFOB 2012.2 demonstration will be conducted in cooperation with the U.S. Army's Enterprise Market Investigation Process (EMIP). The ExFOB team partners with the Army's EMIP to collect, review, and evaluate submissions.

To apply for invitation to ExFOB please go to http://www.peocscss.army.mil/EMIP.html, fill out the submission form, and email to usarmy.detroit.peo-cs-css.mbx.truck-tech@mail.mil.

Sources capable of addressing the above requirements are invited to submit a Technology Application Idea (TAI) submission form as per the directions on the EMIP website. The **due date for all submissions is midnight on 6 Jul 2012**. Additional information regarding the joint Army/USMC review process and ExFOB 2012-2 industry demonstration will be provided to those who submit TAIs at: http://www.peocscss.army.mil/EMIP.html.

NOTE: This RFI is issued for the purpose of determining market capability of sources and does not constitute an Invitation for Bid (IFB), a Request for Proposal (RFP), a Request for Quote (RFQ) or an indication that the Government will contract for any of the items and/or services contained in this notice. No solicitation document exists at this time. All information received in response to this notice that is marked Proprietary will be handled accordingly. Information provided in response to this RFI may be shared with other Department of Defense activities. Responses may not include Classified material. Responses to this notice will not be returned. No reimbursement will be made for any costs to provide information in response to this announcement or any follow-up information requests. Information contained herein is based on the best information available at the time for publication, is subject to revision, and is not binding upon the Government. Availability of any formal solicitation will be announced under a separate Federal Business Opportunities (FedBizOpps) announcement.