

PART I INTRODUCTION

This document is a Broad Agency Announcement (BAA) that is sponsored by the Office of Naval Research (ONR) Expeditionary Maneuver Warfare and Combating Terrorism Department, Code 30. It is valid until 12:00 pm Eastern Time on 28 May 2010, unless sooner terminated.

This BAA is being managed by the Naval Surface Warfare Center Dahlgren Division (NSWCDD). This BAA is issued under provisions of paragraph 6.102(d)(2) and paragraph 35.016 of the Federal Acquisition Regulation (FAR) which provides for competitive selection of research and development proposals submitted in response to this announcement. Accordingly, proposals selected for award are considered to be the result of full and open competition and fully compliant with PL 98-369, 'The Competition in Contracting Act of 1984'.

Prospective Offerors should note that this BAA is an expression of interest only and does not commit the Government to make an award or pay proposal preparation costs generated in response to this announcement. The cost of proposal preparation for response to a BAA is not considered an allowable direct charge to any resultant contract or any other contract. However, it may be an allowable expense to the normal bid and proposal indirect cost specified in FAR 31.205-18. No contract award will be made unless appropriated funds are available for payment for the effort being acquired. Potential Offerors are reminded that only a duly warranted contracting officer may obligate the government to an agreement involving the expenditure of Government funds. Any resultant contract award would include all clauses required by Federal Acquisition Regulations and appropriate supplements.

This BAA is intended for the development of research efforts in support of the ONR, Code 30. Specific information on program goals is provided in the following section, Program Description. In order for any proposals to be considered, the proposed effort MUST meet the definition of basic or applied research and development found at FAR 35.001.

This BAA is being evaluated using a two step process. Prospective Offerors will first submit a white paper for evaluation. The purpose of the white paper is to preclude unwarranted effort and expense by potential Offerors in preparing a full technical and cost proposal for efforts not considered responsive or for efforts deemed to have a low overall probability of obtaining support. Submission of White Papers is mandatory prior to submission of a full proposal. After review of the White Papers, one or more Offerors may be selected to submit complete proposals. The selection of one or more proposals for award will be based on a peer and scientific evaluation of each Offerors response (to include both technical and cost aspects) to determine the overall merit of the proposal in response to this announcement.

White Papers/Proposals shall be submitted in electronic format to the Contract Specialist, stacey.palivoda@navy.mil. Submittal shall include an electronic signature by an individual having authority to enter into a contract. Proposals shall be submitted via electronic media using Microsoft Office products (i.e., Microsoft ® Word, PowerPoint and Excel) and Adobe Acrobat in separate files for each proposal volume as set forth below. All information pertaining to a particular volume shall be confined to that file.

There will be no formal request for proposal or any further solicitation document issued in regard to this BAA. Therefore, interested parties should be alert for any amendments that may be published. Amendments to this BAA will be issued through FedBizOpps. Offerors may register for auto notification by registering for this specific BAA.

Offerors may submit questions related to this BAA electronically to stacey.palivoda@navy.mil. All questions of a contractual nature and all questions after white paper submission must be directed to the Contracting Office Point of Contact specified above. ALL POTENTIAL OFFERORS SHOULD BE AWARE THAT DUE TO UNANTICIPATED BUDGET FLUCTUATIONS, FUNDING IN ANY OR ALL AREAS CAN CHANGE WITH LITTLE OR NO NOTICE.

PART II PROGRAM DESCRIPTION

ONR Code 30 is responsible for applied science and technology (S&T) research and development to increase the warfighting capabilities and effectiveness of the United States Marine Corps (USMC) including enhancing sustained maneuver and firepower while improving survivability in both decentralized and asymmetric warfare. The S&T effort described herein is an enabling capability element of a Future Naval Capability (FNC) program to Lighten the Load of Dismounted Combatants to enhance the mobility, responsiveness, and sustainability of the Marine Expeditionary Rifle Squad (MERS). This three-year S&T effort is intended to transition to a program of record with MCSC PMM 153 Expeditionary Power Systems (EPS) in FY14.

The Government is interested in receiving proposals for applied research, development, and demonstration of a lightweight, wearable power conditioning and distribution interface that will automatically recognize all connected power sources and all battery-operated devices issued to an individual Marine as well as those issued to the rifle squad as a whole. This BAA specifically addresses the Marine's ability to manage, distribute, and sustain the operation of individual and squad-level battery-powered devices. The intent is to reduce the need to carry multiple types and quantities of extra batteries, reduce the burden of repeatedly replacing batteries in each and every device, reduce the waste of discarding partially spent batteries, and reduce battery resupply logistics. Proposed concepts should enable the dismounted Marine to efficiently, easily, and continuously distribute power among his suite of battery-powered devices while these devices are secured to a modular tactical vest (MTV). Development of improved power sources such as batteries and fuel cells are outside the scope of this effort.

This "personal power strip" (PPS) will provide universal compatibility via a standardized, adaptable, and universal architecture for integrating both legacy and future portable power sources with power consumers. The roles, responsibilities, and equipment issue vary across the MERS and so the PPS should be readily adaptable and reconfigurable for use by the squad leader to the rifleman. A convenient mount for the PPS is the Modular Tactical Vest (MTV) that is common to every MERS member. The solution should readily integrate with and be removable from the MTV without permanently modifying the vest and without the use of special tools. Features should enable flexibility in the placement of devices for tactical carriage and stowage.

Any proposed system must be intuitively easy to use and perform intelligently with true plug-and-play functionality. All interconnects should be able to be performed with a single hand without visual clues as well as provide positive tactile confirmation that the connection is secure. The proposed system must be capable of operation in the temperature and humidity extremes of arctic, desert, jungle, coastal, urban, and aqueous environments. Particular design emphasis should be given to minimizing weight, elimination of "snag hazards", and be ergonomically interoperable with all other gear the foot-mobile Marines must bear.

The PPS includes a universal interface that automatically recognizes each power source and each power consumer upon connection. The PPS regulates power to consumers within their appropriate voltage and current specifications. The PPS will distribute power from a common,

central power source such as the BB-2590, BA-5590, BA-5390, BB-2557, and similar batteries. Power sources may also include body conformal batteries currently under development in the DoD. In addition, the PPS will distribute and regulate power from tactical vehicles to recharge the central battery source and or all other batteries in devices attached to the PPS.

The PPS will distribute power to include, but are not limited to, the AN/PRC-117G, AN/PRC-148, AN/PRC-150, AN/PRC-152, AN/PRC-153, AN/PSC-13 DACT, AN/PSN-13A DAGR, micro DAGR, Vector 21 Binoculars, Phoenix Flashing Beacons, Squad Digital Cameras, Tactical Computers, and Individual Water Purifiers. These devices must remain operable when detached from the PPS whenever needed.

In addition, the PPS should include the ability to recharge batteries (e.g. NiMH AA, CR-123) in weapon mounted devices such as the AN/PVS-14, AN/PVS-17B, AN/PAS-13D, AN/IWNS-I2, AN/IWNS-T, AN/PEQ-18, AN/PEQ-15, AN/PAS-27, AN/PAS-28, AN/PEQ-16A, AN/PSQ-18A, LA-9/P, and STORM. A means to recharge the batteries while they remain within their devices is preferred.

The objective is to develop and demonstrate prototype PPS for field evaluations by Marines in FY14 for potential transition to a formal Program of Record under MCSC PM EPS (PMM 153). Proposed efforts should reflect the following phases of a contract, if so awarded:

1. Base Phase conducted in FY11 to complete architecture development, functional analyses, trade studies, production cost estimates, and initial and detailed designs.
2. Option 1 conducted in FY12 to produce initial and revised PPS prototypes suitable for form, fit, and functional lab evaluations.
3. Option 2 conducted in FY13 to produce thirty (30) final PPS ruggedized prototypes suitable for field evaluations by Marines.

PART III EVALUATION FACTORS

SECTION 1: Basis for Award.

The selection of white papers for full proposals and subsequently full proposals for contract award will be based on a scientific and engineering peer review evaluation of proposals. The business and contractual aspects, including cost, will also be considered as a part of the evaluation. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. The purpose of the evaluation will be to determine the relative merit of the technical approach proposed in each response to the BAA. Evaluation and selection of proposals for awards will be made on the basis of the potential benefits occurring to the Government when weighed against the cost of the proposal. Additional primary considerations will include an independent Government assessment of the probability of success of the proposed approach and the availability of funding. The Navy will attempt to review proposals within 45 calendar days after receipt. As soon as the proposal evaluation is completed, the Offeror will be notified of selectability or non-selectability. Selectable proposals will be considered for funding; non-selectable proposals will be destroyed. (One copy of non-selectable proposals may be retained for file purposes.) Not all proposals deemed selectable will be funded. Decisions to fund selectable proposals will be based on funds available, scientific and technical merit, and potential contribution and relevance to Navy's mission. Proposals may be considered for funding for a period of up to two-years. The Government reserves the right to select for award all, some, or none of the proposals received.

SECTION 2: Evaluation of White Papers

Selection of an Offeror(s) White Paper for submission of a complete proposal will be based on evaluation of Technical and Cost. The Technical Factor is significantly more important than the Cost Factor. The Technical Factor will rate using an adjectival rating system. Cost will not be adjectivally rated. The Technical Factor evaluation will include the evaluation of the proposal with respect to the clarity of the description of the technology being considered, the objectives of the proposed effort, technical issues, and the assessment of the ultimate capabilities of the technology. The Cost Factor will be evaluated on general terms of reasonableness and affordability. A cost realism evaluation will not be performed on the White Paper submission. NSWCCD will respond to each white paper with an invitation to propose or a notification that a proposal will not be entertained. Only those invited Offerors will be permitted to submit a full proposal. White Papers will be evaluated as they are received, however, they may be collected for periodic evaluation. White Papers lacking scientific merit or relevance to the Navy's needs, or those that may fall in areas wherein funds are not expected to be available may be rejected without further action.

SECTION 3: Evaluation of Complete Proposals

Selection of an Offeror(s) for award as a result of submission of complete proposals will be based on an evaluation of the following three factors: Technical, Management, and Cost. The Technical Factor is significantly more important than the Management Factor that is more

important than the Cost Factor. Each proposal will be evaluated with respect to the Cost Factor to determine the realistic cost to the Government. The Technical Factor and Management will each be rated using an adjectival rating system. Cost will not be adjectivally rated. The Technical Factor consists of two sub-factors: T1: Scientific and Technical Merit and T2: Value to Department of Defense of which, T1 is considered more important than T2. The Management Factor consists of two sub-factors: M1: Corporate Experience, Facilities and Equipment and M2: Soundness of Project Plan and Schedule of which M1 is considered more important than M2. The sub-factors are detailed as follows:

T1: Scientific and Technical Merit: This sub-factor will consider characteristics such as: overall scientific and technical merit, innovation, understanding of critical technical issues and a realistic plan to mitigate risk and complete the proposed research. Deliverables will be clearly defined. Novelty or uniqueness of the ideas may be given consideration if well supported.

T2: Value to Department of Defense: This sub-factor will consider the Offeror's understanding of the technical and operational issues associated with military applications of the proposed technology. This sub-factor may consider technology characteristics such as size, weight, projected costs, and viability of the technology to meet the proposed technical goals. The potential of the technology for significant improvements in defense capabilities will be considered. Specifically, this sub-factor will consider the potential contribution and relevance to the Navy's expeditionary mission.

M1: Corporate Experience, Facilities and Equipment: The evaluation will consider the adequacy of proposed facilities and equipment, including, but not limited to, office space, laboratories, indoor and outdoor test ranges, materials handling equipment, test instrumentation, manufacturing equipment, quality assurance tools, and calibration equipment. The evaluation will also consider the relevant prior experience in the proposed technology areas.

M2: Soundness of the Project Plan and Schedule: The evaluation will assess the adequacy and practicality of the proposed project plan that outlines project tasks and schedules, including milestones that will allow assessment of technical progress. This factor will also address the plans and capability to accomplish technology transition within the program.

Cost Factor: All proposed contract costs will be considered in the overall cost evaluation. Costs will not be rated or scored; rather, the Government will analyze each Offeror's cost and pricing information in terms of completeness, reasonableness, realism, magnitude and affordability. The evaluation will determine what the Government can reasonably expect to pay for the proposed effort, the Offeror's understanding of the work and the Offeror's ability to perform the contract.

SECTION 4: Organizational Conflict of Interest.

Awards made under this BAA are subject to the provisions of the Federal Acquisition Regulation (FAR) Subpart 9.5, Organizational Conflict of Interest. All Offerors and proposed subcontractors must affirmatively state whether they are providing scientific, engineering and technical assistance (SETA) or similar support to any Government technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Offeror supports, and

identify the prime contract number. Affirmations should be furnished at the time of proposal submission.

All facts relevant to the existence or potential existence of organizational conflicts of interest, as that term is defined in the FAR 9.501, must be disclosed. The disclosure shall include a description of the action the Offeror has taken, or proposes to take, to avoid, neutralize or mitigate such conflict. Offerors should also indicate if the proposed effort, or similar effort, is the subject of an on-going IR&D program or has been submitted under other solicitations.

**PART IV
PROPOSAL PREPARATION**

SECTION 1: WHITE PAPERS

Prior to submission of a full proposal, the submission of a brief white paper is required. The purpose of the white paper is to preclude unwarranted effort and expense by potential Offerors in preparing a full technical and cost proposal for efforts not considered responsive or for efforts evaluated to have very low overall probability of obtaining support.

White papers are limited to ten (10) pages and shall consist of 2 primary sections: Technical and Cost. The Technical section shall consist of a clear description of the technology(s) being proposed, the objectives of the proposed effort, the technical issues to be resolved to accomplish the objectives, the approach to resolving these issues, an assessment of the ultimate capability of the proposed technology and how this technology will provide increased capability. The Cost portion shall consist of a one page cost breakdown of the effort being proposed to include options for level of effort, contract duration and technology approach(s).

SECTION 2: CONTENTS OF FULL PROPOSAL

Full proposals shall consist of two volumes, technical and cost. Offerors should submit full proposal via FedBizOpps following the instructions provided below. The TECHNICAL VOLUME shall include both the technical and management discussions and shall not exceed 50 pages. The proposal pages should be consecutively numbered to facilitate verification of compliance. Information contained in pages greater than number fifty will not be considered in the evaluation for award.

SECTION 2A: TECHNICAL VOLUME

Please refer to particular areas of interest delineated in Part II for specific considerations that should be addressed in the proposal for each distinct area of interest. At a minimum, the Technical Volume should contain the following:

1. A discussion of the approach to be taken in meeting the requirements of the BAA. This discussion shall include the following information:

a. The rationale for selecting the proposed approach. It must include a complete discussion of the background and objectives of the proposed work, the approaches to be considered and the level of effort to be employed.

b. A description of each major step to be undertaken.

c. A detailed project plan and schedule, including the milestones and timeline for completing each effort, and the projected cost breakdown for each milestone, to include expenditure of internal funds.

d. Expected problems and proposed resolutions.

2. Include information on any efforts currently underway that will prove beneficial to the successful completion of the Offeror's approach. The information should include as a minimum, (I) a description of the work, and its benefit to the approach, and (ii) the names of federal, state, local agencies or other parties presently funding, or requested to fund, like or similar efforts. This information should be provided for both internally and externally funded programs.

3. The type of federal government support, if any, the Offeror requests, e.g., facilities, equipment, materials, manpower, R&D resources etc.

4. A statement regarding possible impact, if any, of the proposed effect on the environment, and the ability of the end product to reduce hazardous waste disposal costs.

5. A brief description of your organization, highlighting those organizations/individuals whom will have direct interface with the government. If the Offeror has extensive government contracting experience and has previously provided information to NSWCDD, a single statement setting forth this condition will be satisfactory.

6. The identities of the facilities to be used for the work, if appropriate for an understanding of the proposal. In addition to the above-required information, the Offeror shall include the methodology, techniques, and approach to technology demonstration and technology transfer for developments under this program. The contractor should identify any technical data proposed to be delivered with less than unlimited rights in the technical proposal. Unless otherwise stated in the proposal, all data delivered to the Government shall be with unlimited rights. If subcontracting is anticipated, provide name, qualifications and level of effort to be subcontracted.

SECTION 2B: COST VOLUME

The Cost Proposal has no mandatory format or page limit. Offeror's shall prepare the cost proposal in general accordance with FAR 15.400 and shall include a consolidated price summary, Pricing Cover Sheet with supporting data in order to allow for a complete review by the Government. When cost of money is being proposed, the Offeror is required to complete a DD Form 1861. The breakdown of the cost data shall include all costs expected to be incurred under the contract. All details, broken-down by cost element are to be prepared for each major task along with supporting rationale. The following information is required so that the Government can analyze the Offeror's proposal:

1. Labor hours, rates and costs by labor category; include bases for estimates.
2. Indirect rates and factors; include bases for estimates.
3. Materials should be detailed and include unit costs, quantities, and total costs of all proposed raw materials, electrical/electronic and mechanical piece-parts, tools, design

equipment, test equipment, purchased tests (e.g., environmental tests), paints/coatings, jigs/fixtures, and rented items.

4. Travel should be detailed and include for each trip, the purpose, number of personnel, airfare, per diem, number of days, rental car cost/day, other expenses, if any (describe), and total travel cost.

5. Each subcontract and consultant identified should have a statement of work commensurate with the proposed cost. All cost should be broken out in the same format that the prime Offeror uses in its proposal.

6. List all other costs not included in the above categories; include bases for estimates.

APPENDIX A - Small Business Subcontracting Plan

Pursuant to the requirements of FAR 52.219-9, if the total amount of the proposal exceeds \$550,000, a large business Offeror(s) selected for award will be required at that time to submit a Subcontracting Plan for Small, Small Disadvantaged and Woman Owned Small Business Concerns.

APPENDIX B - Representation and Certifications

The Offeror shall complete and submit Certifications and Representations with their complete proposal. A fillable copy is provided at the FedBizOpps. Additional Representation and Certification deemed necessary will be required at time of award. In addition, please provide the name of any other federal, state, local agencies or other parties receiving proposal and/or funding the proposed effort of activity.

(1) The proposal has not been submitted to any agency except the Naval Surface Warfare Center – Dahlgren Division, nor is the proposal presently being funded by another source.

(2) The proposal has been submitted to the following sources:

NAME	STATUS OF PROPOSAL
_____	_____

CAGE Code: _____

TIN: _____

DUNS Number: _____

Points of Contact (Contacts) and Phone Numbers:

SECTION 3: GENERAL INFORMATION

Eligibility

A prospective recipient must also meet certain minimum standards pertaining to financial resources, ability to comply with the performance schedule, prior record of performance, integrity, organization, experience, operational controls, technical skills facilities and equipment. Proposals will be considered from organizations interested in conducting scientific research, such as colleges and universities, commercial firms, nonprofit research institutes, small business and small disadvantaged business concerns, historically black colleges and universities and minority business enterprises and institutions. While classified contracts are not anticipated, contingent upon the proposed technology solution, contractors may require access to classified material or information. In such situations, only those organizations that can meet the established security requirements are eligible to participate in this BAA. If a subcontract(s) with a Federally Funded Research and Development Center (FFRDC) is proposed, Offerors are reminded of the limitations in their use (see FAR 35.017) and must provide documentation in the proposal that work is not otherwise available from the private sector. To be eligible for award of a contract, a prospective contractor must meet certain minimum standards pertaining to financial resources, ability to comply with the performance schedule, prior records of performance, integrity, organization, experience, operational controls, technical skills, facilities and equipment. Also, registration in the Contractor Central Registration prior to award is mandatory. For additional information and guidance concerning qualifications and standards for responsibility of perspective contractors, please refer to FAR Part 9.

Proprietary Information

Notwithstanding Navy policy, if information contained in the proposal is in the public domain or cannot be protected under law as trade secret (e.g., a patent publication), the Navy will not accept liability for failure to safeguard against open disclosure. If a responder wishes to restrict the proposal, the Offeror should mark the title page with the following legend: 'This data shall not be disclosed outside the government and shall not be duplicated, used or disclosed in whole or part for any purpose other than to evaluate the proposal; provided that if a contract is awarded to this BAA responder as a result of or in connection with the submission of this data, the government shall have the right to duplicate, use or disclose the data to the extent provided in the contract. This restriction does not limit the government's right to use the information contained in the data if it was obtained from another source without restriction. It is the policy of NSWCDD to treat all proposals as competitive information and to disclose their content only for the purpose of evaluation. Standard proprietary disclaimers notwithstanding, proposals may be reviewed by non-Government technical experts who have signed a non-disclosure agreement with NSWCDD.

Technology Transition:

Offerors are strongly encouraged to engage commercial and military end-users and commercial manufacturers from program inception. The engagement of these communities also helps ensure that the various technologies begin developed will be commercially viable and available to the military.

Reporting Requirements

- Monthly Progress Report consisting of:
 - Status of Technical Effort
 - Accomplishments
 - Funds Status
 - Problems Identified
 - Proposed Solutions
 - Plans for next 30 days

- Final Report
 - Documentation of Research and Development Efforts
 - Technical Objectives Met
 - Prototype Test
 - Evaluation data

- Safety Draft/Final Report (if applicable)

Subcontracting

Pursuant to Section 8(d) of the Small Business Act (15 U.S. C. 637 (d)), it is policy of the government to enable small business concerns to be considered fairly as subcontractors under all research agreements awarded to prime contractors and grantees.

Central Contractor Register

In accordance with FAR 52.204-7 and DFARS 252.204-7004, an Offeror must be actively registered in the Central Contractor Register located at <http://www.ccr.gov/> in order to be eligible for award.

