USV Payloads for Single Sortie Detect to Engage (SS-DTE) Mine Counter Measures

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INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2), the Department of Defense Grants and Agreements Regulations (DoDGARS) 22.315(a) and 35.016, and DoD's Other Transaction Guide for Prototypes Projects, USD(AT&L), OT Guide, Jan 2001. A formal Request for Proposals (RFP), other solicitation, or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I GENERAL INFORMATION:

1. Agency Name - Office of Naval Research

2. Research Opportunity Title - USV Payloads for Single Sortie Detect to Engage (SS-DTE) Mine Counter Measures

3. Program Name - USV Payloads for Single Sortie Detect to Engage (SS-DTE) Mine Counter Measures

4. Research Opportunity Number - 12-018

5. Response Date -

White Papers: 9/13/2012
Full Proposals: 11/26/2012

6. Research Opportunity Description -

The Office of Naval Research (ONR) is seeking white papers and full proposals describing innovative technology solutions that will enable the Navy to develop an Unmanned Surface Vehicle (USV)-based system capable of conducting the three phases of mine hunting operations - mine detection/classification, identification, and neutralization - in a single sortie, to potentially be incorporated as part of a future Littoral Combat Ship (LCS) MCM mission package.

There are two distinct but strongly connected new technology products described in this BAA that work together to enable effective planning and conduct of USV-based mine countermeasures (MCM) operations in shallow water environments. These two technology products are:

Product Area 1 - The SS-DTE MCM Payload, will contain the components needed for deployment and retrieval of UUVs, as well as the launch of mine neutralizers aboard a USV, a UUV sustainment system, an interface with the LCS communication system, associated autonomy/automation required to accomplish the SS-DTE task, and the software architecture and software planning tools necessary for payload management and coordinated behaviors.

Product Area 2 - The capability for neutralization of near-surface floating and drifting mines. The primary investment will be to develop the technologies to support a UUV-based capability to prosecute near-surface floating and drifting mines; however, the neutralization system must also be capable of prosecuting bottom and volume mines.

As appropriate, this development will utilize a Modular Open Systems Approach (MOSA) for all components of this effort. Ongoing assessment during development cycles will determine level(s) of system openness that best facilitate transition. This will allow upgrades and integration of software components with minimal effort as the roles and capabilities of the USV and its assets improve.

The following two subsections describe the SS-DTE MCM payload and neutralization technology products in further detail. It should be noted that this effort is not developing a new USV or UUV, but is focused on developing critical technologies that support Product Areas 1 and 2.

1. SS-DTE MCM Payload.

The SS-DTE MCM Payload will contain the equipment needed for deployment and retrieval of multiple classes of UUVs as well as the launch of mine neutralizers aboard a USV and the associated autonomy/automation needed to accomplish this task. Additionally, it is anticipated that the payload could support operations using tethered MCM sensors. All functionality of the SS-DTE MCM payload will be controlled and coordinated by a Payload Manager (PM), which must provide the capability to autonomously allocate its assets to perform the MCM mission. The mission will be autonomously executed; however, human operators aboard the LCS will be provided new/updated mission plans, system status updates, and terminal target information for review, and can intervene if required. Human operators will initiate the mine destruction action during the last phase of this mission. The PM will also provide necessary commands to the USV as well as packaging and handling data transfer to the LCS communications system (communications system development is not part of this effort). The SS-DTE USV payload will incorporate an advanced capability for neutralization of near-surface floating and drifting mines, utilizing target cuing from airborne sensors (described in the following technology product).

For purposes of initial system definition of SS-DTE, the notional system consists of a 40 ft. USV host craft that carries 4 lightweight UUVs and supporting gear for deployment and retrieval (D&R), UUV sustainment, up to 24 expendable neutralizers, and payload management, and data processing. Notionally, two of the UUVs would be configured for bottom search operations, where the remaining two UUVs would be configured for both

volume search and for Reacquisition - Identification (RI) missions. After each mission phase, raw data would be extracted from the UUVs following recovery to the USV, and this data would be processed onboard the USV. Data products will be transmitted to the LCS for Operator-based assessments.

The deliverables under this technology product will be a Deployment and Retrieval System (DRS) and associated autonomy/automation, payload sustainment capabilities to support rapid energy replenishment and data transfer, a Payload Management capability to support all operations associated with the mission, and an Open Architecture design that is intended to eventually include all subsystems.

2. Neutralization of Near-Surface Floating and Drifting Mines

The SS-DTE payload will support the deployment of a tethered mine neutralization system. The long term vision of the Navy, however, is for the development of an un-tethered, expendable neutralizer, designed in a manner to minimize unit cost. This system would be used to autonomously destroy mines that have been previously detected and localized by a mine-hunting system. To this end, this technology product will focus on the development of a neutralizer test bed, and enabling technologies, that can be demonstrated as both a man-in-the-loop tethered system, as well as an autonomous, un-tethered system. The deliverables under this technology product will be a neutralization test bed platform, along with enabling navigation and sensing capabilities that support autonomous destruction of mine targets located at any point in the water column, from the surface to the ocean floor. The near surface and drifting mine prosecution will be executed with 'real or near real time' target data from a sensor suite either USV or aerial platform based (this queuing technology is not part of this development). An additional capability to conduct automated Battle Damage Assessment (BDA) will also be developed under this technology area (see Task 8).

Tasks:
ONR has broken down the problem into separate tasks. Offerors choosing to propose a solution to the entire problem must provide a separate white paper for each task.

Task (1) Modular Open Systems Approach (MOSA)
The Government intends to utilize an overarching MOSA implementation for all technology developments associated with the SS-DTE MCM Program. The approach taken should facilitate development of software modules by multiple parties, and integration into a single demonstration system by an independent system software integrator. The OA approach will simplify transition of all technology products developed for ONR acquisition partners. A near-term goal of this effort is to develop a system that exhibits mainly scripted behaviors, with sensor processing done onboard a USV, and decision making being performed off-board the USV by human operators. The OA approach will facilitate eventual migration of processing from the USV to off-board sensors (UUVs) as Automatic Target Recognition (ATR) and computing efficiency improves.

A three-phased strategy is envisioned to fully define and develop the OA approach for SS-DTE.

Phase One will consist of a short study evaluating current software architectures and capabilities, their potential to achieve the project's overall goals for the overall SS-DTE system defined by the government, and the necessary steps to achieve a high level of MOSA compliance. Any new software developments necessary to facilitate transition into the target acquisition programs should also be discussed. It is anticipated that the first phase will be completed within 6 months of contract award.

Phase Two comprises development of the required documentation necessary to implement the OA approach based on these existing technologies and any necessary enabling capabilities. A detailed description of the architecture will be developed, along with associated module development and interface guidelines to be used by module developers which should facilitiate smooth integration into the overall architecture by the system integrator. These guidelines should impose minimum requirements for modules to qualify as MOSA compliant. A functional block diagram highlighting key components and interfaces should be developed giving an overall view of the proposed design. It is anticipated that the second phase will be completed within 9 months after completion of Phase One.

Phase Three of the effort is envisioned to be the software integration portion of the project and will likely last 3 years 9 months. It will be performed by either candidates fulfilling the requirements of the first two phases, or alternately, by a government entity supported by those same candidates, as required.

ONR is requesting white papers and full proposals, which address phases one and two or all of the three phases described above.

While cited as separate tasks, Task 1 and 2 are interrelated. Phases one and two of the MOSA implementation are to be conducted in concert with the first phase of the Payload Manager task.

There is potential for software source code to be a deliverable under this task.

Task (2) Payload Manager

The SS-DTE MCM payload will be controlled and coordinated by a payload manager, which will provide the capability to autonomously allocate its assets to conduct long range mine search activities, including detection/classification, identification, and neutralization. The payload manager must support automated mission planning and execution with supervised autonomy from human operators aboard the LCS. Mission planning requires the ability to plan and schedule search, classify, identify, and neutralization operations. Additionally, the ability to plan and schedule for the deployment and retrieval of MCM assets will be required. The Payload Manager will support adaptive in-situ planning based on performance estimation both before and during mission execution, as well as other events that occur during mission execution, such as faults, failures, unexpected deviations, and mission changes from human operators. Furthermore, this payload will be implemented with an Open Architecture such that, as the roles and capabilities of the USV and its assets are defined and improved, software components can be interchanged and integrated with minimal effort.

The effort for this task is divided over two phases:
1. Payload manager design. In this phase, the theoretical design of the planning, scheduling, and performance estimation tools will be designed and demonstrated. This phase is estimated to be completed 16-24 months after award.
2. Payload manager component integration. In this phase, the previously designed components will be integrated into a payload manager software as MOSA compliant modules.

ONR is requesting white papers and full proposals, which propose both the design and implementation of the payload manager as a whole, or specific functional components. This should include both a description of the payload manager design, as well as an implementation strategy under the Modular Open System Approach to be defined under Task 1.

Task (3) Automated Deploy and Retrieval of Unmanned Underwater Vehicles from an Unmanned Surface Vessel

The Deploy and Retrieve System (DRS) will operate from, and be interoperable with a USV for the purpose of deploying and retrieving UUVs for MCM operations. While neutralization is the final step in the SS-DTE process, the neutralizers will be deployed from a separate mechanism, not addressed by this Task. Multiple classes of UUVs are under consideration to include Man Portable (MP), Light Weight (LW), Heavy Weight (HW), and Tethered. The government is interested in notional designs that are scalable (for MP, LW & HW), and that address tethered systems. However, the system that will be demonstrated in-water at the end of this effort will likely utilize four LW UUVs.

The notional concept of operations is for the USV to transit to the Area-of-Operation (AO) to deploy fully charged UUVs, conduct UUV missions, retrieve UUVs, extract mission data and charge batteries (sustainment) and re-deploy. Multiple deployment and recovery cycles for each UUV are anticipated, with USV mission times on the order of 40 hrs before returning to LCS for replenishment. UUV configuration(s) will have side-scan and forward-looking sonar. The government will work with developers to define appropriate USV interface requirements as part of the system design process. ONR anticipates awarding multiple contracts focused on system design and critical subsystem demonstration.

White papers and full proposals that lay out a notional DRS approach to include scalability for MP, LW, and HW UUVs, as well as for tethered systems are solicited. The deliverable from this task will be DRS hardware that supports the demonstration configuration described above, and associated software, which will be incorporated into the Payload Manager.

Task (4) Sustainment: Automated Energy and Data Transfer.

This effort will develop and demonstrate automated, unattended energy replenishment and data transfer between UUVs and the host USV, which we refer to as "sustainment." Sustainment is critical to the SS-DTE timeline, as it determines the system's ability to keep the UUVs in the water and on-task. To facilitate the demonstration of these technologies, a short UUV section will be added to an existing lightweight (12-3/4") UUV to support power and data connections to the host USV. The sustainment system will integrate with the DRS and will be controlled by

the Payload Manager, both of which are discussed in other sections of this document. The objective for energy transfer is complete energy replenishment in 5 hours (threshold), with a goal of under one hour. The reference UUV for this development is a lightweight 12-3/4" system with a nominal 28V, 6 kWh battery, capable of 500W peak output. Objectives for data transfer are the transfer of all data in less than one hour, with 720GB as threshold, and 1TB as goal.

The following list suggests some potential white paper and full proposal topics, however the list is not exhaustive. Alternative approaches or individual technologies (both for data transfer or power replenishment) that support the sustainment objectives will be considered.

a) Methods to speed recharging of UUV batteries, including alternate chemistries, fast charging algorithms, or energy buffering.
b) Optimal and adaptive partial battery charging to reduce charge time, while assuring that the mission at hand can be completed.
c) Non-contact (no hard connector) methods for charging and data exchange, including inductive/capacitive, resonant energy transfer, windowed optical communications, and high speed RF communications.
d) Methods to robotically align and mate connectors to the UUV while on the USV deck or in a flooded space, in the presence or saltwater, motion, and vibration.

The deliverable from this effort will be a prototype sustainment section that will be inserted into a lightweight UUV, along with any required hardware and software to be added to the USV and/or the DRS to support the sustainment operation.

Task (5) Neutralizer Test-bed.

This task is focused on the development of an expendable neutralizer test-bed that can be operated as either a tethered (semi-autonomous), or un-tethered (fully autonomous) system. It should utilize technologies that demonstrate the feasibility for the Navy to produce a low unit cost expendable mine neutralizer in the future. The Navy envisions that this future neutralization system would be able to be deployed from a wide variety of airborne and maritime platforms, and will be used to destroy mines that have been previously detected and localized by a mine-hunting system. This test-bed will be used to demonstrate supporting neutralization technologies developed under this BAA, as part of an effort to prove the feasibility of developing an expendable neutralizer that is less expensive than current neutralization solutions. MOSA compliance to support integration of the products from tasks 6 & 7 is required. ONR is soliciting white papers and full proposals that address development of this test bed, as well as overall system concepts focused on the destruction of mine targets located at any point in the water column, from the surface, down to a depth of 600 feet. Proposals that are tailored to specific classes of targets (bottom, volume, surface, drifting) will be considered, although concepts applicable to all targets are preferred.

White papers and full proposals should focus on concepts using unmanned underwater mine neutralization vehicles. As an example, system emphasis should be on low cost construction and a small vehicle form factor, potentially compatible using existing sonobuoy infrastructure,

which would enable large number of neutralizers to be carried and launched by the SS-DTE USV.

Task (6) Low Cost Target Reacquisition Capability

This task is focused on developing improved UUV employable sensing technologies that provide increased capability to detect and reacquire near-surface and drifting mine targets, after initial identification is accomplished by a wide area search sensor. The need exists to develop an inexpensive neutralization sensor module for use on both current and future mine neutralization platforms. Current forward looking sonars are too expensive to support planned procurement cost objectives for expendable neutralizers. Low cost target detection sensors are needed to support increasing system autonomy requirements of un-tethered UUV neutralizers in order to improve the probability of target re-acquisition. The overall requirement for this sensor, and associated autonomy, is to enable autonomous prosecution of a mine target located at a known depth (at any point between the sea surface to a depth of 600 feet), from a standoff distance of 50yards. This standoff corresponds to the anticipated maximum positional uncertainty of a previously detected mine target.

This capability should be effective for drifting mines located on, or very near the water's surface in up to sea state 3, as well as bottom mines in a cluttered environment, and volume mines. To accomplish this, sensors could have switchable modes, since the depth of the mine in the water column would be known prior to deployment of the neutralizer.

Emphasis for this sensor should be low production cost, and a small form factor, compatible with platforms that could be deployed using existing sonobouy infrastructure. A unit cost target for this sensor module of $5000 (threshold), and $1000 (goal), in quantities of 1000 or more, is desired for future acquisition programs.

White papers and full proposals can address all of the above objectives, or only the near surface re-acquisition capability.

Task (7) Low Cost Navigation

This task is for the development of a low cost navigation concept to enable untethered mine neutralization. A low cost navigation system is a critical component of a truly affordable disposable autonomous mine neutralization system. Current Doppler Velocity Logs (DVL) and inertial sensors represent mature technologies in their current applications, but are too expensive to be viable for the desired expendable neutralizer cost thresholds. The navigation subsystem cost target is $1000 or less in quantities of 1000 or more, for a future expendable neutralizer.

This navigation capability should provide maximum radial error of 30 yards or less without external aids after the neutralizer transits a distance of at least 300 yards through water from a known launch point to the target, with a maximum current of 1 kt. Maximum water depth is 600 feet; implying that bottom lock will not always be possible, if utilizing a DVL. Navigation concepts that are suitable for use with air deployed neutralizers, as well as deployment from

maritime platforms are desired. MOSA compliance to support integration with neutralizer test bed is required.

ONR is soliciting white papers and full proposals that describe novel approaches to solving this navigation challenge. Solutions that incorporate novel operational techniques to estimate and compensate for navigational error, as well as material solutions, are encouraged.

Task (8) Battle Damage Assessment (BDA) Capability

This task is focused on the development of an automated BDA capability, suitable for use in a USV-based SS-DTE scenario. This technology will enable a remote operator to determine if a mine was successfully neutralized, as part of the SS-DTE mission. Preferably, this capability would not require the performance of a dedicated mission using an off-board platform, after the neutralization activity takes place. Offerors should submit white papers and full proposals outlining potential BDA solutions. ONR anticipates offerors focusing on initial prototyping. Key subsystem functionality for each approach will be proven through modeling and simulation, and testing as appropriate.

Additional information.

A reference document is available that provides additional details relevant to the envisioned Open Architecture guidelines for SS-DTE, as well as the Payload Management and Automated Deploy and Retrieval systems to be developed. This reference may be found at: http://www.onr.navy.mil/Science-Technology/Departments/Code-32/All-Programs/Ocean-Systems-321/Ocean-Engineering-Marine-Systems/Ocean-Engineering-SSDTE.aspx.

In support of Task 2, ONR may choose to pursue parallel efforts in Payload Automation. Any effort pursued here will be separate from this BAA and will be considered through ONR's Planning Letter process. Further information on the technical nature of this effort and the submission process may be found at: http://www.onr.navy.mil/Science-Technology/Departments/Code-32/All-Programs/Ocean-Systems-321/Ocean-Engineering-Marine-Systems/Ocean-Engineering-SSDTE.aspx.In support of Tasks 3 and 4, it is anticipated that the government will provide lightweight UUVs, or form and fit mock-ups, as Government Furnished equipment to support this technology development. Additionally, the government will work with developers to define appropriate USV interface requirements as part of the system design process. The Government anticipates integrating all viable technologies developed under this program into a final configuration for the purpose of demonstrating a sustained SS-DTE capability in FY17.

Offerors should submit separate white papers and full proposals for each task of interest. Offerors addressing two or more tasks may also submit a separate overview document describing synergies between tasks. The technology solutions must be demonstrated at a technology readiness level (TRL) of 6 at the time of the final demonstration in FY17. After down-selecting white papers, full proposals may be requested from selected candidates. See Section IV. of this BAA for detailed information on the submission of white papers and full proposals.

7. Point(s) of Contact -

Questions of a technical nature with regards to the SS-DTE product should be submitted to:

Mr. John Dudinsky
Naval Surface Warfare Center Panama City Division
Email: john.dudinsky@navy.mil

Or alternately

Dr. Thomas Swean
Office of Naval Research
Code 32
875 N. Randolph Street
Arlington, VA 22203
Email: tom.swean@navy.mil

Questions of a business nature should be submitted to:

Michael Boyle
Office of Naval Research
Code 252
875 N. Randolph Street
Arlington, VA 22203Phone: (703) 696-2901
Email: michael.s.boyle@navy.mil

Any questions regarding this solicitation must be provided to the Technical Point of Contact and Business Point of Contact listed in this solicitation. All questions shall be submitted in writing by electronic mail.

Questions submitted within 2 weeks prior to a deadline may not be answered, and the due date for submission of the white paper and/or full proposal will not be extended.

Amendments will be posted to one or more of the following webpages:

- Federal Business Opportunities (FEDBIZOPPS) Webpage - https://www.fbo.gov/
- Grants.gov Webpage - http://www.grants.gov/
- ONR Broad Agency Announcement (BAA) Webpage - http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx

Questions of a security nature should be submitted to:

Diana Pacheco
Industrial Security Specialist

Office of Naval Research
Security Department, Code 43
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995
Email Address: diana.pacheco@navy.mil

Any CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any entity wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC with copy to both the Technical POC and the Business POC stating that the entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity and arrange for the CLASSIFED question to be asked through a secure method of communication.

8. Instrument Type(s) - Contracts, Grants, and other Assistance Agreements

Awards may take the form of Contracts, Grants, and other Assistance Agreements as appropriate. ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

Any contract awards resulting from this BAA will incorporate the most current FAR, DFARs, NMCARS and ONR clauses. Examples of model contracts can be found on the ONR website at the following link: http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/contract-model-awards.aspx.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -

12.630

10. Catalog of Federal Domestic Assistance (CFDA) Titles -

Basic, Applied & Advanced Research

11. Other Information -

Work funded under a BAA may include basic research, applied research and some advanced technology development (ATD). With regard to any restrictions on the conduct or outcome of work funded under this BAA, ONR will follow the guidance on and definition of "contracted fundamental research" as provided in the Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum of 24 May 2010.

As defined therein the definition of "contracted fundamental research", in a DoD contractual context, includes [research performed under] grants and contracts that are (a) funded by Research, Development, Test, and Evaluation Budget Activity 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Activity 2 (Applied Research) and performed on campus at a university. The research shall not be considered fundamental in

those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.

Pursuant to DoD policy, research performed under grants and contracts that are a) funded by Budget Category 6.2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Category 6.3 (Advanced Research) does not meet the definition of "contracted fundamental research." In conformance with the USD(AT&L) guidance and National Security Decision Direction 189, ONR will place no restriction on the conduct or reporting of unclassified "contracted fundamental research," except as otherwise required by statute, regulation or Executive Order. For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting "contracted fundamental research." In those cases, it is the ***prime contractor's responsibility*** in the proposal to identify and describe the subcontracted unclassified research and include a statement confirming that the work has been scoped, negotiated, and determined to be fundamental research according to the prime contractor and research performer.

Normally, fundamental research is awarded under grants with universities and under contracts with industry. ATD is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of research results due to subject matter sensitivity.

As regards to the present BAA, the Research and Development efforts to be funded will consist of applied research and advanced technology development. The funds available to support awards are Budget Activity 2 and 3.

FAR Part 35 restricts the use of the Broad Agency Announcements (BAAs), such as this, to the acquisition of basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts and grants and other assistance agreements made under BAAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

THIS ANNOUNCEMENT IS NOT FOR THE ACQUISITION OF TECHNICAL, ENGINEERING AND OTHER TYPES OF SUPPORT SERVICES.

II. AWARD INFORMATION

1. Amount and Period of Performance-

Anticipated Number of Awards: One or more awards per task. An Offeror may propose on more than one task.

Anticipated Range of Individual Award Amounts: As required to complete each task, generally not exceeding $2M per task. There may be more than one performer per task.

Anticipated Period of Performance: Up to five (5) years

2. Peer Reviews-

In the case of proposals funded as basic research, ONR may utilize peer reviewers from academia, industry, and Government agencies to assist in the periodic appraisal of performance under the awards, as outlined in ONR Instruction 3966.1. Such periodic program reviews monitor the cost, schedule and technical performance of funded basic research efforts. The reviews are used in part to determine which basic research projects will receive continued ONR funding. Peer reviewers who are not U.S. Government employees must sign nondisclosure agreements before receiving full or partial copies of proposals and reports submitted by the basic research performers. Offerors may include travel costs for the Principal Investigator (PI) to attend the peer review.

3. Production and Testing of Prototypes-

In the case of funded proposals for the production and testing of prototypes, ONR may during the contract period add a contract line item or contract option for the provision of advanced component development or for the delivery of additional prototype units. However, such a contract addition shall be subject to the limitations contained in Section 819 of the National Defense Authorization Act for Fiscal Year 2010.

III. ELIGIBILITY INFORMATION

All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit either white papers or full proposals in response to this BAA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR POC to discuss its area of interest. The various scientific divisions of ONR are identified at http://www.onr.navy.mil/. As with FFRDCs, these types of

federal organizations may team with other responsible sources from academia and industry that are submitting proposals under this BAA.

University Affiliated Research Centers (UARC) are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contracts.

Teams are also encouraged and may submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.

Some topics cover export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 1201.1 et seq.

For Grant, Cooperative Agreement and Other Transaction Agreement applications:

The Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by Section 6202 of Public Law 110-252, requires that all agencies establish requirements for recipients reporting information on subawards and executive total compensation as codified in 2 CFR 170.110. Any company, non-profit agency or university that applies for financial assistance (either grants, cooperative agreements or other transaction agreements) as either a prime or sub-recipient under this BAA must provide information in their proposal that describes the necessary processes and systems in place to comply with the reporting requirements identified in 2 CFR 170.220 and Appendix A. Entities are **exempt** from this requirement **UNLESS** in the preceding fiscal year, it received: a) 80 percent or more of its annual gross revenue in Federal contracts (and subcontracts), loans, grants (and subgrants), and cooperative agreements; b) $25 million or more in annual gross revenue from Federal contracts (and subcontracts), loans, grants (and subgrants), and cooperative agreements; and c) the public does not have access to information about the compensation of the senior executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 or section 6104 of the Internal Revenue Code of 1986.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process - White Paper, Full Proposals

White Papers: The due date for white papers is no later than 4:00 PM (EDT) on Thursday, September 27th, 2012. White papers are to be submitted in the format described below to the following web dropbox (select Dr Swean as program manager).:

http://onroutside.onr.navy.mil/ASPProcessor/annual321oe/

In addition, please email all submissions to:

john.dudinsky@navy.mil

If an Offeror does not submit a white paper before the specified due date and time, it is not eligible to participate in the remaining Full Proposal submission process and is not eligible for funding. Each white paper should state that it is submitted in response to this BAA and cite the particular sub-section (task) of the Research Opportunity Description that the white paper is primarily addressing.

The Future Naval Capabilities team will evaluate each white paper and indicate in its email response to the proposer whether a full proposal would appear to have a high or low probability of success if submitted. The Government may provide recommendations related to contract structure (e.g., options) when providing results of White Paper Review. Submission of a full proposal will be either encouraged or discouraged; however, a full proposal may be submitted by a proposer, even if its white paper was not well received, and it will receive full consideration.

White Paper Evaluation/Notification: Navy evaluations of white papers will be issued via email notification on or about 29 October, 2012.

Full Proposals: The due date and time for receipt of Full Proposals is no later than 13 December, 2012, 4:00 PM EST. It is anticipated that the final selections will be made on or about 14 January 2013. As soon as the final full proposal evaluation process is completed, each PI will be notified via email of the project's selection or non-selection for FY13 funding. Full proposals received after the published due date and time will not be considered for funding, except as may be allowed under the “Submission of Late Proposals” clause below.

2. Content and Format of White Papers/Full Proposals -

White Papers and Full Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified responses are permitted. If a classified response is submitted, the resultant contract will be unclassified.

Unclassified Proposal Instructions:

Unclassified White Papers and Full Proposals shall be submitted in accordance with Section IV. Application and Submission Information.

Classified Proposal Instructions:

Classified White Papers and Full Proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

OUTSIDE ENVELOPE (no classification marking):

Office of Naval Research
Document Control Unit
ONR Code 43

875 North Randolph Street
Arlington, VA 22203-1995

The inner wrapper of the classified proposal should be addressed to the attention of Swean, Thomas (tom.swean@navy.mil), ONR Code 32 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)
Program: USV Payloads for Single Sortie Detect to Engage (SS-DTE) Mine Counter Measures
Office of Naval Research
Attn: Swean, Thomas
ONR Code: 32
875 North Randolph Street
Arlington, VA 22203-1995

An 'unclassified' Statement of Work (SOW) must accompany any classified proposal.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

IMPORTANT NOTE: Titles given to the White Papers/Full Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

a. WHITE PAPERS

White Paper Format

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single spaced
- Font - Times New Roman, 12 point
- Max. Number of Pages permitted: 5 pages (excluding cover page, resumes, bibliographies, and table of contents)
- Copies - One (1) electronic copy in Adobe PDF or Word 2007 delivered via email. Electronic (email) submissions should be sent to the attention of the TPOC at: tom.swean@navy.mil. The subject line of the email shall read "ONR BAA12-018 White Paper Submission."

  NOTE: 1) Do not send .ZIP files; 2) Do not send password protected files.

  In order to provide traceability and evidence of submission, Offerors may wish to use the "Delivery Receipt" option available from Microsoft Outlook and other email programs that will automatically generate a response when the subject email is delivered to the recipient's email system. Consult the User's Manual for your email software for further details on this feature.

White Paper Content

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER", and shall include the BAA number, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.

- **Technical Concept:** A description of the technology innovation and technical risk areas.

  The technical section shall state which areas and topics are being addressed and shall consist of clear descriptions of objectives, technical issues and risks which must be resolved to accomplish objectives, approach to resolving these issues, particular prior experience of the offeror in targeted technology area, and a clear description of and schedule for demonstration of the significant aspects of the concept.

- **Other Requirements:** Include description of requirements and cost amount for Government Furnished Equipment (GFE)

b. FULL PROPOSALS

i. INSTRUCTIONS FOR CONTRACTS, COOPERATIVE AGREEMENTS AND OTHER TRANSACTION AGREEMENTS (Does not include Grants)

NOTE: *Submission instructions for BAAs issued after FY 2010 have changed significantly from previous requirements. Potential Offerors are advised to carefully read and follow the instructions below. The new format and requirements have been developed to streamline and ease both the submission and the review of proposals.*

Proposal Package: The following three documents with attachments comprise a complete proposal package*:*

(1) Technical Proposal Template (pdf)
(2) Technical Content (word)
(3) Cost Proposal Spreadsheet (excel)

These documents can be found at: http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx
All have instructions imbedded into them that will assist in completing the documents. Also, both the Technical Proposal Template and the Cost Proposal Spreadsheet require completion of cost-related information. Please note that attachments can be incorporated into the Technical Proposal Template for submission.

The format requirements for any attachments are as follows:

- Paper Size- 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing- single or double spaced
- Font- Times New Roman, 12 point

The Cost Proposal Spreadsheet can be found by following this link: http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx. Click on the "proposal spreadsheet" link and save a copy of the spreadsheet. Instructions for completion have been embedded into the spreadsheet. Any proposed options that are identified in the Technical Proposal Template or Technical Content documents , but are not fully priced out in the Cost Proposal Spreadsheet, will not be included in any resulting contract or other transaction. If proposing options, they **must** be separately priced and separate spreadsheets should be provided for the base period and each option period. In addition to providing summary by period of performance (base and any options), the Contractor is also responsible for providing a breakdown of cost for each task identified in the Statement of Work. The sum of all costs by task worksheets MUST equal the total cost summary.

For proposed subcontracts or interorganizational transfers over $150,000, Offerors must provide a separate fully completed Cost Proposal Spreadsheet in support of the proposed costs. This spreadsheet, along with supporting documentation, must be provided either in a sealed envelope with the prime's proposal or via e-mail directly to both the Program Officer and the Business Point of Contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor. Offerors should also familiarize themselves with the new subcontract reporting requirements set forth in Federal Acquisition Regulation (FAR) clause 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards. The pertinent requirements can be found in Section VII, Other Information, of this document.

Offerors should submit one (1) hard copy and one (1) electronic copy on CD-ROM. The electronic copy should be submitted in a secure, pdf-compatible format, except for the electronic file for the Cost Proposal Spreadsheet which should be submitted in a Microsoft Excel 2007 compatible format. All attachments should be submitted in a secure, pdf-compatible format.

The secure pdf-compatible format is intended to prevent unauthorized editing of the proposal prior to any award. A password should not be required for opening the proposal document, but the Government must have the ability to print and copy text, images, and other content. Offerors may also submit their Technical Proposal Template and Technical Content in an electronic file that allows for revision (preferably in Microsoft Word) to facilitate the communication of potential revisions. Should an Offeror amend its proposal, the amended proposal should be submitted following the same hard and electronic copy guidance applicable to the original proposal.

The electronic submission of the Excel spreadsheet should be in a "useable condition" to aid

the Government with its evaluation. The term “useable condition” indicates that the spreadsheet should visibly include and separately identify within each appropriate cell any and all inputs, formulas, calculations, etc. The Offeror should not provide “value only spreadsheets” similar to a hard copy.

ii. INSTRUCTIONS FOR GRANTS

Grant proposals shall be submitted through Grants.Gov using the Grants.gov forms from the application package template associated with the BAA on the Grants.Gov website. To be considered for award, applicants must fill out block 4 of the SF 424 R&R as follows: Block 4a, Federal Identifier, enter N00014; Block 4b Agency Rounting Number, Enter the ONR Department code [32] and the Program Officer's name [Swean, Thomas]. Applicants who fail to provide a Department code identifier may receive a notice that their proposal will be rejected.

To attach the technical proposal in Grants.gov, download the application package
Click on "Research and Related Other Project Information"
Click on "Move form to Submission List"
Click on "Open Form"
You will see a new PDF document titled "Research & Related Other Project Information"
Block 7 is the Project Summary/Abstract -> click on "Add attachment" and attach the project summary/abstract. (You will not be able to type in the box, therefore, save the file you want to attach as Project Summary or Abstract).
Block 8 is the Project Narrative -> click on Add attachment and attach the technical proposal. (Save the file as Volume I- Technical Proposal since you will not be able to type in the box).

Full Proposal Format - Volume 1 - Technical Proposal and Volume 2 - Cost Proposal

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single-spaced
- Font - Times New Roman, 12 point
- Number of Pages - Volume 1 is limited to no more than 17 pages. Limitations within sections of the proposal, if any, are indicated in the individual descriptions shown below. The cover page, table of contents, resumes and current and pending project and proposal submissions information are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated. There are no page limitations to Volume 2.
- Copies - the full proposal should be submitted electronically at http://www.grants.gov as delineated in paragraph 5 below.

Volume 1: Technical Proposal

- **Cover Page:** This should include the words "Technical Proposal" and the following:
    1. BAA number 12-018;

2. Title of Proposal;
3. Identity of prime Offeror and complete list of subawards, if applicable;
4. Technical contact (name, address, phone/fax, electronic mail address)
5. Administrative/business contact (name, address, phone/fax, electronic mail address) and;
6. Proposed period of performance (identify both the base period and any options, if included);
7. Signature of Authorized Representative.

- **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.

- **Technical Approach and Justification:** The major portion of the proposal should consist of a clear description of the technical approach being proposed. This discussion should provide the technical foundation / justification for pursuing this particular approach / direction and why one could expect it to enable the objectives of the proposal to be met.

    - **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.

    - **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.

  Project Schedule and Milestones: A summary of the schedule of events and milestones.

  Reports:

  The following are sample reports that are typically required under a research effort:

  -Technical and Financial Progress Reports
  -Presentation Materials
  -Final Report

  Grants do not include the delivery of software, prototypes, and other hardware deliverables.

Current and Pending Project and Proposal Submissions: Offerors are required to provide information on all current and pending support for ongoing projects and proposals, including subsequent funding in the case of continuing contracts, grants, and other assistance agreements. Offerors shall provide the following information of any related proposal submissions from whatever sources (e.g., ONR, Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations).

The information must be provided for all proposals already submitted or submitted concurrently to other possible sponsors, including ONR. Concurrent submission of a proposal to other organizations will not prejudice its review by ONR:

1) Title of Proposal and Summary;
2) Source and amount of funding (annual direct costs; provide contract and/or grant numbers for current contracts/grants);
3) Percentage effort devoted to each project;
4) Identity of prime Offeror and complete list of subcontractors, if applicable;
5) Technical contact (name, address, phone/fax, electronic mail address)
6) Administrative/business contact (name, address, phone/fax, electronic mail address);
7) Duration of effort (differentiate basic effort);
8) The proposed project and all other projects or activities requiring a portion of time of the Principal Investigator and other senior personnel must be included, even if they receive no salary support from the project(s);
9) The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months or labor hours per year to be devoted to the project, regardless of source of support; and
10) State how projects are related to the proposed effort and indicate degree of overlap.

Qualifications: A discussion of the qualifications of the proposed Principal Investigator and any other key personnel. Include resumes for the Principal Investigator and other key personnel and full curricula vitae for Principal Investigators and consultants. The resumes and curricula vitae shall be attached to the proposal and will not count toward the page limitations.

Volume 2: Cost Proposal

The offeror must use the Grants.gov forms (including the Standard Form (SF) Research and Related (R&R) Budget Form) from the application package template associated with the BAA on the Grants.gov web Site located at http://www.grants.gov/. If options are proposed, the cost proposal must provide the pricing information for the option periods; failure to include the proposed costs for the option periods will result in the options not being included in the award. Assume that performance will start no earlier than three (3) months after the date the cost proposal is submitted. A separate Adobe .pdf document should be included in the application that provides appropriate justification and/or supporting documentation for each element of cost proposed.

Part 1: The itemized budget must include the following

- Direct Labor - Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.

  Administrative and clerical labor – Salaries of administrative and clerical staff are normally indirect costs (and included in an indirect cost rate). Direct charging of these costs may be appropriate when a major project requires an extensive amount of

administrative or clerical support significantly greater than normal and routine levels of support. Budgets proposing direct charging of administrative or clerical salaries must be supported with a budget justification which adequately describes the major project and the administrative and/or clerical work to be performed.

- Fringe Benefits and Indirect Costs - (i.e., F&A, Overhead, G&A, etc) - The proposal should show the rates and calculation of the costs for each rate category. If the rates have been approved/negotiated by a Government agency, provide a copy of the memorandum/agreement. If the rates have not been approved/negotiated, provide sufficient detail to enable a determination of allowability, allocability and reasonableness of the allocation bases, and how the rates are calculated. Additional information may be requested, if needed. If composite rates are used, provide the calculations used in deriving the composite rates.

- Travel -The proposed travel cost should include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principals. Offerors may include travel costs for the Principal Investigator to attend the peer reviews described in Section II of this BAA.

- Subawards - Provide a description of the work to be performed by the subrecipients. For each subaward, a detailed cost proposal is required to be submitted by the subrecipient(s). The proposed subawardee's or subrecipient's cost proposal can be provided in a sealed envelope with the recipient's cost proposal or via e-mail directly to both the Program Officer and the business point of contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is for either a subcontract or a sub-agreement. A proposal and supporting documentation must be received and reviewed before the Government can complete its cost analysis of the proposal and enter negotiations.

- Consultants - Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs, a copy of the signed Consulting Agreement or other documentation supporting the proposed consultant rate/cost, and a copy of the consultant's proposed statement of work if it is not already separately identified in the prime contractor's proposal.

- Materials & Supplies - Provide an itemized list of all proposed materials and supplies including quantities, unit prices, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

- Recipient Acquired Equipment or Facilities - Equipment and/or facilities are normally furnished by the Recipient. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Allowable items normally would be limited to research

equipment not already available for the project. General purpose equipment (i.e., equipment not used exclusively for research, scientific or other technical activities, such as personal computers, laptops, office equipment) should not be requested unless they will be used primarily or exclusively for the project. For computer/laptop purchases and other general purpose equipment, if proposed, include a statement indicating how each item of equipment will be integrated into the program or used as an integral part of the research effort.

- Other Direct Costs - Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
  NOTE: If the grant proposal is for a conference, workshop or symposium, the funds provided by ONR may be used to pay for food or beverages as a direct cost only in exceptional circumstances. The funds will not be used for food or beverages unless (1) the grant proposal contains a request for such funding that is fully supported factually in accordance with the cost principles of the relevant OMB Circular, and (2) the grants officer determines that the funding is a reasonable, allocable, allowable expense under the relevant cost principles.

- Options - The Base Period of Performance and Option Periods must be priced at the submission of the proposal. Unpriced options will not be included in any resulting award or agreement.

- Fee/Profit - Fee/profit is unallowable under assistance agreements at either the prime or subaward level but may be permitted on any subcontracts issued by the prime awardee.

Part 2 - Cost breakdown by Government fiscal year and task/sub-task corresponding to the same task breakdown in the proposed Statement of Work. When options are contemplated, options must be separately identified and priced by task/subtask.

3. Significant Dates and Times -

Event	Date	Time
White Paper Due Date	9/27/2012	4:00 PM Eastern Daylight Time
Notification of White Paper Evaluation*	10/29/2012	
Full Proposal Due Date	12/13/2012	4:00 PM Eastern Standard Time
Notification of Selection: Full Proposals*	1/14/2013	
Awards*	7/13/2013	

**These dates are estimates as of the date of this announcement.*

NOTE: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Materials submitted through the U.S. Postal Service, for example, may take seven days or more to be received, even when sent by Express Mail. Thus any hard-copy proposal should be submitted long enough before the deadline established in the solicitation so that it will not be

received late and thus be ineligible for award consideration.

4. Submission of Late Proposals -

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

a. If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 P.M. one working day prior to the date specified for receipt of proposals; or
b. There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or
c. It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Submission of Grant Proposals through Grants.gov

Detailed instructions entitled "Grants.Gov Electronic Application and Submission Information" on how to submit a Grant proposal through Grants.gov are under the Submit Proposals section of the website at http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-gov.aspx

White Papers should not be submitted through the Grants.gov Apply process but rather should be sent directly to ONR. White paper submissions should be e-mailed directly to the Technical

Point of Contact. White Paper format requirements are found in Section IV, item 2a above.

By completing Block 17, the Grant Applicant is providing the certification on lobbying required by 32 CFR Part 28. Refer to Section VI, "Award Administration Information" entitled "Certifications" for further information.

For electronic submission of grant full proposals, there are several one-time actions that must be completed in order to submit an application through Grants.gov. These include obtaining a Dun and Bradstreet Data Universal Numbering System (DUNS) number, registering with the Central Contract Registry (CCR), registering with the credential provider, and registering with Grants.gov. See www.grants.gov, specifically www.grants.gov/GetStarted.

Use the Grants.gov Organization Registration Checklist at http://www.grants.gov/applicants/register_your_organization.jsp which will provide guidance through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called 'MPIN' are important steps in the CCR registration process. Applicants who are not registered with CCR and Grants.gov should allow at least 21 days to complete these requirements. The process should be started as soon as possible. Any questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 (1-606-545-5035 for foreign applicants) or support@grants.gov.

Special Notices Relative to Grant Applications to be submitted through Grants.Gov:

All attachments to grant applications submitted through Grants.Gov must be in Adobe Portable Document Format (i.e., .PDF files). Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award.

Applicants who have registered with Grants.gov are urged to submit their proposals electronically at least three days before the date and time that proposals are due so that they will not be received late and be ineligible for award consideration.

Proposal Receipt Notices:

After a full proposal is submitted through Grants.gov, the Authorized Organization Representative (AOR) will receive a series of three e-mails. You will know that your proposal has reached ONR when the AOR receives e-mail Number 3. You will need the Submission Receipt Number (e-mail Number 1) to track a submission. The three e-mails are:

Number 1 - The applicant will receive a confirmation page upon completing the submission to Grants.gov. This confirmation page is a record of the time and date stamp that is used to determine whether the proposal was submitted.

Number 2 - The applicant will receive an e-mail indicating that the proposal has been validated by Grants.gov within two days of submission (this means that all of the required fields have

been completed). After an institution submits an application, Grants.gov generates a submission receipt via email and also sets the application status to "Received." This receipt verifies the Application has been successfully delivered to the Grants.gov system. Next, Grants.gov verifies the submission is valid by ensuring it does not contain viruses, the opportunity is still open, and the applicant login and applicant DUNS number match. If the submission is valid, Grants.gov generates a submission validation receipt via email and sets the application status to "Validated." If the application is not validated, the application status is set to "Rejected." The system sends a rejection email notification to the institution, and the institution must resubmit the application package. Applicants can track the status of their application by logging in to Grants.gov.

Number 3 - The third notice is an acknowledgement of receipt in e-mail form from ONR within ten days from the proposal due date, if applicable. The e-mail is sent to the authorized representative for the institution. The e-mail for proposals notes that the proposal has been received and provides the assigned tracking number.

6. Address for the Submission of Full Proposals for Contracts, Cooperative Agreements, and Other Transaction Agreements.

Hard copies of Full Proposals for Contracts, Cooperative Agreements, and Other Transaction Agreements should be sent to the Office of Naval Research at the following address:

Office of Naval Research
Attn: Tom Swean
ONR Department Code 32
875 N. Randolph Street
Arlington, VA 22203-1995

V. EVALUATION INFORMATION

1. Evaluation Criteria -

Award decisions will be based on a competitive selection of proposals resulting from a scientific and cost review. Evaluations will be conducted using the following evaluation criteria:

1. Overall scientific and technical merits of the proposal

   Technical Merit. The extent to which the proposed technical approach is feasible, achievable, and complete. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal identifies major technical risks, and planned mitigation efforts are clearly

defined and feasible.

Scientific Merit. Proposer must demonstrate that its proposal is innovative, that the technical approach is comprehensive, systematic and sound, that it has an understanding of critical technical issues and risks, that it has a plan for mitigation of those risks, and that the technical elements are well integrated into a cohesive program. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that the final product can be expected to achieve the program goals.

2. The qualifications, capabilities and experience of the proposed Principal Investigator (PI), team leader and key personnel who are critical in achieving the proposal objectives.

3. The offeror's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives.

4. Potential Naval relevance and contributions of the effort to the agency's specific mission.

5. Past Performance

   This factor assesses the experience of the organization in performing similar contracts in the past successfully. The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

6. The realism of the proposed costs and availability of funds.

Overall, the Technical Factors (Factors 1 - 5 above) are significantly more important than the Cost factor (Factor 6 above), with the Technical Factors all being of equal value. The degree of importance of the Cost Factor will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the proposal's technical superiority to the Government.

Award(s) will be made to the proposers whose proposals are determined to be the most advantageous and of best value to the Government, all factors considered.

Industry-Academia Partnering - ONR highly encourages partnering among industry and academia with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-academic partnering which enhances the

development of novel S&T advances will be given favorable consideration.

Industry-Government Partnering - ONR highly encourages partnering among industry and Government with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-Government partnering which enhances the development of novel S&T advances will be given favorable consideration

The ultimate recommendation for award of proposals is made by ONR's scientific/technical community. Recommended proposals will be forwarded to the contracts department which will perform costs analysis prior to any ensuing negotiations. Any notification received from ONR that indicates that the Offeror's full proposal has been recommended, does not ultimately guarantee an award will be made. This notice indicates that the proposal has been selected in accordance with the evaluation criteria above and has been sent to the contracting department to conduct cost analysis, determine the offeror's responsibility, and any take any other relevant steps necessary prior to commencing negotiations with the offeror

2. Commitment to Small Business –

The Office of Naval Research is strongly committed to providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses (SDBs), woman-owned small businesses (WOSBs), historically underutilized business zone (HUBZone) small businesses, veteran-owned small business (VOSBs), service disabled veteran-owned small businesses (SDVOSBs), historically black colleges and universities, and minority institutions, and other concerns subject to socioeconomic considerations through its awards.

a.) Subcontracting Plan - For proposed awards to be made as contracts that exceed $650,000, large businesses and non-profits (including educational institutions) shall provide a Subcontracting Plan that contains all elements required by FAR 52.219-9, as supplemented by DFARS 252.219-7003. Small businesses are exempt from this requirement.

The Subcontracting Plan should be submitted as an attachment to the “Technical Proposal Template”and will not be included in the page count. If a company has a Master Subcontracting Plan, as described in FAR 19.701 or a Comprehensive Subcontracting Plan, as described in DFARS 219.702, a copy of the plan shall also be submitted as an attachment to the “Technical Proposal Template.”

Plans will be reviewed for adequacy, ensuring that the required information, goals, and assurances are included. If a subcontracting plan is not submitted with the proposal package or the negotiation of an acceptable subcontracting plan is required, there could be a delay in the issuance of an award. In addition, in accordance with FAR 52.219-9, failure to submit and negotiate a subcontracting plan may make an offeror ineligible for contract award.

Offerors shall propose a plan that ensures small businesses (inclusive of SDBs, WOSBs, HUBZone, VOSBs and SDVOSBs, etc…) will have the maximum practicable opportunity to participate in contract performance consistent with its efficient performance**.**

As a baseline, offerors shall to the best extent possible propose realistic goals to ensure small business participation in accordance with the current fiscal year subcontracting goals found on the Department of Defense Office of Small Business Program website at: http://www.acq.osd.mil/osbp/ If proposed goals are below the statutory requirements, then the offeror should provide a viable written explanation as to why small businesses are unable to be utilized and what attempts have been taken to ensure that small business were given the opportunity to participate in the effort to the maximum extent practicable.

b.) Small Business Participation Statement –

If subcontracting opportunities exist, all prime Offerors shall submit a Small Business Participation Statement regardless of size in accordance with DFARS 215.304 when receiving a contract for more than the simplified acquisition threshold (i.e., $150,000). All offerors shall provide a statement of the extent of the offeror's commitment in providing meaningful subcontracting opportunities for small businesses and other concerns subject to socioeconomic considerations through its awards and must agree that small businesses, VOSBs, SDVOSBs, HUBZones, SDBs, and WOSBs concerns will have to the maximum practicable opportunity to participate in contract performance consistent with its efficient performance.

NOTE: Small Business Offerors may meet the requirement using work they perform themselves.

This assertion will be reviewed to ensure that it supports this policy by providing meaningful subcontracting opportunities. The statement should be submitted as a part of the proposal package and will not be included in the page count.

3. Options -

The Government will evaluate options for award purposes by adding the total cost for all options to the total cost for the basic requirement. Evaluation of options will not obligate the Government to exercise the options during the period of performance.

4. Evaluation Panel –

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements -

- The North American Industry Classification System (NAICS) code - The NAICS code for this announcement is "541712" with a small business size standard of "500 employees".

- Central Contractor Registration: All Offerors submitting proposals or applications must:
  (a) be registered in the Central Contractor Registration (CCR) prior to submission;
  (b) maintain an active CCR registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and
  (c) provide its DUNS number in each application or proposal it submits to the agency.

- Access to your Grant, Cooperative Agreement, Other Transaction and Contract Award

  Effective 01 October 2011, hard copies of award/modification documents will no longer be mailed to Offerors. All Office of Naval Research (ONR) award/modification documents will be available via the Department of Defense (DoD) Electronic Document Access System (EDA).

  EDA

  EDA is a web-based system that provides secure online access, storage, and retrieval of awards and modifications to DoD employees and vendors.

  If you do not currently have access to EDA,you may complete a self-registration request as a "Vendor" via http://eda.ogden.disa.mil following the steps below:

  Click "New User Registration" (from the left Menu) Click "Begin VENDOR User Registration Process" Click "EDA Registration Form" under Username/Password (enter the appropriate data) Complete &anp; Submit Registration form

  Allow five (5) business days for your registration to be processed. EDA will notify you by email when your account is approved.

  Registration questions may be directed to the EDA help desk toll free at 1-866-618-5988, Commercial at 801-605-7095, or via email at cscassig@csd.disa.mil (Subject: EDA Assistance

Grants, Cooperative Agreements and Normal Other Transaction Agreements (OTAs) Certification Requirements:
Grant and Cooperative Agreement awards greater than $100,000, as well as OTAs not under Section 845, require a certification of compliance with a national policy mandate concerning lobbying. Grant applicants shall provide this certification by electronic submission of SF424 (R&R) as a part of the electronic proposal submitted via Grants.gov (complete Block 17). The

following certification likewise applies to each cooperative agreement and normal OTA applicant seeking federal assistance funds exceeding $100,000:

CERTIFICATION REGARDING LOBBYING ACTIVITIES

(1) No Federal appropriated funds have been paid or will be paid by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the applicant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The applicant shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including sub contracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Grants and Cooperative Agreements not through Grants.gov:
Proposers seeking grants or cooperative agreements who have received Grants.gov waiver approval for awards greater than $100,000 shall complete and submit electronic representations and certifications at the Contracts and Grants Section of the ONR Home Page at http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal.aspx.

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Government research facilities and operational military units are available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for any one specific program. The use of these

facilities and resources will be negotiated as the program unfolds. Offerors submitting proposals for contracts, cooperative agreements and Other Transaction Agreements should indicate in the Technical Proposal Template, Section II, Blocks 8 and 9, which of these facilities are critical for the project's success. Offerors submitting proposals for grants should address the need for government-furnished facilities in their technical proposal.

In support of Tasks 3 and 4 of the research opportunity, it is anticipated the government will provide lightweight UUVs, or form and fit mock-ups, as Government Furnished equipment to support this technology development.

2. Security Classification

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. Normally, work done under a grant does not require access to classified material. If it is determined that access to classified information will be required during the performance of an award, a Department of Defense (DD) Form 254 will be attached to the contract; and FAR 52.204-2 - Security Requirements will be incorporated into the contract. The Offeror must clearly identify such need by completing Section II, Block 11 of the Technical Proposal Template, DD 254 - Security Classification Specification in the technical and cost proposal template.

3. Use of Animals and Human Subjects in Research

RESERVED

4. Recombinant DNA

RESERVED

5. Use of Arms, Ammunition and Explosives

Safety
The Offeror is required to be in compliance with DoD manual 4145.26-M, *DoD Contractor's Safety Manual for Ammunition and Explosives* if ammunitions and/or explosives are to be utilized under the proposed research effort. (See DFARS 223.370-5 and DFARS 252.223-7002) If ammunitions and/or explosives (A&E) are to be utilized under the proposed research effort, the Government requires a preaward safety survey in accordance with DFARS PGI 223.370-4(C)(iv) entitled *Preaward survey*. The Offeror is solely responsible for contacting the cognizant DCMA office and obtaining a required preaward safety survey before proposal submission. The Offeror should include required preaward safety surveys with proposal submissions.

If the Offeror proposes that the Government provide Government-furnished A&E containing any nitrocellulose-based propellants and/or nitrate ester-based materials (such as nitroglycerin,) or other similar A&E with a tendency to become chemically unstable over time, then

NMCARS 5252.223-9000 will also apply to a resulting contract award. (See NMCARS 5223.370-5)

Security
If arms, ammunition and explosives (AA&E) are to be utilized under the proposed research effort, the Government requires a preaward security survey. The Offeror is solely responsible for contacting the cognizant DCMA office and obtaining a required preaward security survey before proposal submission. The Offeror should include a required preaward security survey with proposal submission. (See DoD manual 5100.76-M, *Physical Security of Sensitive Conventional Arms, Ammunition and Explosives*, paragraph C1.3.1.4)

If AA&E are to be utilized under the proposed research effort, the Government may require the Contractor to have perimeter fencing around the place of performance in accordance with DoD 5100.76-M, Appendix 2.

If AA&E are to be utilized under the research effort, the Offeror is required to provide a written copy of the Offeror's AA&E accountability procedures in accordance with DoD 5100.76-M. If the Offeror is required to provide written AA&E accountability procedures, the Offeror should provide the respective procedures with its proposal submission. See DoD 5100.76-M Appendix 2.12.

6. Department of Defense High Performance Computing Program

RESERVED

7. Organizational Conflicts of Interest

All Offerors and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) 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. In accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests or do not have acceptable plans to mitigate identified conflicts will be rejected without technical evaluation and withdrawn from further consideration for award. Additional ONR OCI guidance can be found at http://www.onr.navy.mil/About-ONR/compliance-protections/Organizational-Conflicts-Interest.aspx. If a prospective offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with ONR by sending his/her contact information and a summary of the potential conflict by e-mail to the Business Point of Contact in Section I, item 7 above, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively avoided, the

proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

8. Project Meetings and Reviews

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

9. Executive Compensation and First-Tier Subcontract Reporting

Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of award of a first-tier subcontract with a value of $25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Contractor shall report the following information at http://www.fsrs.gov for each first-tier subcontract:

- (a) Unique identifier (DUNS Number) for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has one.
- (b) Name of the subcontractor.
- (c) Amount of the subcontract award.
- (d) Date of the subcontract award.
- (e) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.
- (f) Subcontract number (the subcontract number assigned by the Contractor).
- (g) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.
- (h) Subcontractor's primary performance location including street address, city, state,

and country. Also include the nine-digit zip code and congressional district.

- (i) The prime contract number, and order number if applicable.
- (j) Awarding agency name and code.
- (k) Funding agency name and code.
- (l) Government contracting office code.
- (m) Treasury account symbol (TAS) as reported in FPDS.
- (n) The applicable North American Industry Classification System (NAICS) code.

By the end of the month following the month of a contract award, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for the Contractor's preceding completed fiscal year at http://www.ccr.gov, if -

- (a) In the Contractor's preceding fiscal year, the Contractor received -
    - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
    - (ii) $25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.).

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of a first-tier subcontract with a value of $25,000 or more, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for each first-tier subcontractor for the subcontractor's preceding completed fiscal year at http://www.fsrs.gov, if -

- (a) In the subcontractor's preceding fiscal year, the subcontractor received -
    - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
    - (ii) $25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.).

If the Contractor in the previous tax year had gross income, from all sources, under $300,000, the Contractor is exempt from the requirement to report subcontractor awards. Likewise, if a subcontractor in the previous tax year had gross income from all sources under $300,000, the Contractor does not need to report awards to that subcontractor.

10. Other Guidance, Instructions, and Information

None