



Environmental and Ship Motion Forecasting (ESMF)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/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 select for award all, some or none of the proposals in response to this announcement. 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.

Awards under this BAA will consist of contracts. Therefore, proposals submitted as a result of this announcement will fall under the purview of the Federal Acquisition Regulation (FAR).

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995

2. Research Opportunity Title -

Environmental and Ship Motion Forecasting (ESMF)

3. Program Name -

Seabasing Future Naval Capabilities (FNC) Program: PR11-02 Connectors and the Sea Base

4. Research Opportunity Number -

BAA 10-019

5. Response Date -

Full Proposals Due Date: 15 Nov 2010, 2:00 PM Local Eastern Time

6. Research Opportunity Description -

Background:

This background is provided for informational purposes only. The Seabasing concept has been maturing over the past few years, and a special emphasis has been placed on the development of technologies needed to make it a reality. The Office of Naval Research (ONR) has aligned the Future Naval Capabilities (FNC) programs with the vision of Sea Power 21. Each of these FNCs consists of a number of Enabling Capabilities (EC) that address warfighting capability shortfalls. The Environmental and Ship Motion Forecasting program falls under the *Connectors and the Sea Base* EC in the Seabasing FNC.

The Seabasing concept has been developed in order to enable Operational Maneuver from the Sea (OMFTS), the Marine Corps' warfare doctrine where all logistics support will come from the sea, rather than from supply points ashore. This offshore logistics presence creates a number of challenges associated with the transfer of material between ships in order to facilitate and sustain shoreside amphibious operations; one of these challenges is the mitigation of delays in material transfer caused by excessive ship motion. ONR currently has ship-specific, motion-mitigating ramp and crane systems in development, but for general operation of legacy equipment an alternate approach is desired.

The ESMF program seeks to provide sea-based military and civilian ship and cargo system operators with seaway environmental forecasting, in order to predict ship motions and determine windows of opportunity for inter/intraship material and personnel movement. The technical objective is to predict specific wind and waves and the resulting ship motions up to 30 seconds in the future, to identify critical environmental conditions in advance of up to 5 minutes for go/no-go decisions for procedures such as crane ops and cargo handling, and to identify any necessary long-term (24-48 hour time horizon) conditions that feed both the boundary conditions of the short-term prediction and any necessary operator guidance for critical seabasing ops decision making; this includes environmental scenarios such as prediction of dominant swell, as well as

incoming storm tracks. Enabling the warfighter to make more informed decisions for onboard and ship-to-ship operations is a critical capability for the Sea Basing environment, and the goal of this program.

Environmental and Ship Motion Forecasting (ESMF) Program

The overall implementation of the ESMF program will consist of the following technical focus areas:

- **Environmental Sensing/Reconstruction:** Integration of a sensor system to provide real-time estimates of the temporal and spatial wave and wind fields. Properties of interest include wind speed and direction, standard wave parameters (Hs, Tp), directional wave spectrum, and complete phase-resolved wavefield measurements.
- **Environmental Forecasting:** Leveraged real-time and long-lead data to accurately predict future wind and wave fields via wind and wave propagation models, current models, and wind/wave interaction models.
- **Ship Motion Measurement:** Combined wave and wind predictions and ship-motion predictions using data measurements and/or physics-based modeling.
- **Decision Support System/Operator Guidance:** Visual aids and enhanced decision making capability provided to shipboard operators.

The program goal is to develop and demonstrate a flexible, open-architecture “system-of-systems”, capable of integrating various measurements, models, predictions, and technologies into an operator guidance/decision support system.

The following are the main technology product areas for the ESMF program; these are listed in order to provide potential offerors insight into the scope of the overall ESMF program focus areas and technical efforts needed to address them for this BAA. Note that this BAA seeks to identify both industry products related to the technologies listed below, as well as alternative, innovative technologies that may exist; the list below is by no means conclusive, and alternative technologies and products that address the focus areas but have not been listed below are welcome. The four main technology focus areas with potential investments include, **but are not limited to:**

I: Environmental Sensing/Reconstruction

Radar: <ul style="list-style-type: none"> • Coherent • Incoherent • Shipboard Navigation Systems • Multi-Band 	LIDAR: <ul style="list-style-type: none"> • Air-Based • Shipboard • Autonomous Craft 	Synthetic Aperture Radar <ul style="list-style-type: none"> • Air-based • Space-based 	Wave Buoys <ul style="list-style-type: none"> • Fixed • Drifting • Autonomous 	Stereo Imaging
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II: Environmental Forecasting

Wave Propagation Models: <ul style="list-style-type: none"> • Linear • Non-linear 	Wind Field Models	Current Models	Wind-Wave Interaction Models	Weather Models
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III: Ship Motion Measurement/Prediction

Single-ship motion models	Multi-body ship/connector motion models	Ship As a Wave Buoy (SAWB) approaches	Neural-Networks	Full-scale ship motion measurement systems
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IV: Decision Support System/Operator Guidance

Determining periods of quiescence (calm seas)	Orientation relative to other ships	Active Guidance (manual or autopilot, DP or motion control)
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The list above is **not** intended to prescribe the solution to the problem, but rather to provide guidance to the types of technologies that are being considered by ONR for use in the development of the ESMF program. This BAA is seeking proposals that address the integration of technologies such as those presented above into a complete system architecture. Commercial Off The Shelf (COTS) solutions that fit into the proposed architecture and which address one or more of the areas outlined above and could be adapted to meet the needs of this FNC are also of interest; it is anticipated that the complete system may contain a number of these COTS solutions, but will still require significant technology development in order to integrate them into the final product.

Operating Environment:

Ship speed: The system must operate for forward ship speeds including, but not limited to, zero to 10 knots.

Ship type: The system will be implemented on one or some of the ships currently envisioned in the Seabasing scenario. Ships currently under consideration for the primary system include the MLP, LMSR, T-ACS, T-AKE, and JHSV; secondary operator guidance and sensor packages will likely utilize connector platforms as well, such as the LCAC, LCU, SSC, or INLS. This program is focused towards the seabasing environment, and will not encompass the operating envelope of high speed surface combatants. This program will initially focus on a single-ship demonstration, but will

incorporate a multi-ship environment by its end. The government will be responsible for providing the ships for these demonstrations. It is desirable that proposed systems operate on as many of the seabasing platforms above as possible.

Sea State: The system must operate through Sea State (SS) 4, with both wind-driven and swell components taken into account. Products that address wavefield measurements of seas with a low wind-driven component but high swell are encouraged. All Sea States are defined per NATO Standardization Agreement (STANAG) 4194.

Operational Conditions: The system shall be impervious to, or be able to autonomously compensate for, adverse influences of ambient environmental conditions. These conditions include extreme temperatures, vibration, corrosive environments, moisture, and signal disruption/corruption from rain, snow, variations in barometric pressure, fog, sunlight, reflection off the sea and shipboard structure, electromagnetic influence, radio frequency influence, sonic influence, subsonic influence, and ultrasonic influence. The system must also operate in low light and nighttime conditions.

Water depth/Shoreline obstructions: The system will initially be demonstrated in an unobstructed bluewater environment, but operational capability in all coastal and bluewater environment is encouraged. For the purposes of this program, “bluewater” refers to a deep water wave assumption such that subsurface topography is not expected to be modeled or measured.

Affordability and Maintainability: The system components must be reliable, balance acquisition costs and life cycle costs to be affordable, must not be maintenance intensive and shall be maintainable by a ship’s force technician.

Ship Impact: Given the weight, space, and power requirements of the fleet, products that have a low ship arrangements impact are encouraged.

System Availability: The ESMF system is anticipated to extend the ability of operators to assess changing sea state conditions and increase their confidence to continue material, personnel, and vehicle transfer operations. The shipboard system is required to operate continuously, with no availability gap. Any sensor system development is required to maintain data input continuously as well. For offboard systems (if used) with power requirements, this may require system redundancy via onboard sensors or a staged deployment schedule to ensure continuous operation.

Concept of Operations (CONOPS):

The ESMF system could be applicable to numerous aspects of anticipated seabasing operations, many of which rely on inter/intraship transfer of material, vehicles, and personnel. The ability to predict windows of opportunity for decreased ship motions could be important for legacy crane and ramp operations (limited to SS1/2) in more severe sea states (SS3/SS4). The system could also provide a warning system for the

emergency breakaway of two ships in a skin-to-skin configuration in the event of a large oncoming group of waves.

The ESMF system needs to account for components of both active and passive ship motion control, such as roll-stabilizing tanks, roll stabilizing fins, dynamic positioning, and other innovative technologies. Additionally, ESMF should be compatible with the range of potential fendering and mooring technologies, whether passive or active, due to their influence on ship motions in a skin-to-skin configuration. Decreasing ship motions through these types of technologies as a complement to predicting incoming wave events could effectively increase the windows of opportunity for transfer and Landing Craft Air Cushion (LCAC) operations, with some level of combined prediction and control allowing for decreased motion in higher sea-states.

For transition to the new Mobile Landing Platform (MLP) acquisition program, the ESMF system could be a critical enabling technology to extend LMSR/MLP/LCAC operations to sea-states above the mid-sea state 3 currently specified. The new MLP design is anticipated to have 3 lanes for LCACs, with athwartship loading and launching. The operational concept is to marry the LMSR and MLP “skin-to-skin” and to position the ships appropriately with respect to wind and sea to minimize ship motions and to create a lee for the LCAC operations. This may present issues related to interaction between the wind/waves, LMSR, MLP, and LCACs for operations in higher sea states (SS4). Most seabasing operational profiles dictate a best-heading approach for operations, but in confused seas (and perhaps even the long-crested, best heading scenario) the interaction of SS4 waves with the proposed system of ships within this wave environment may be a challenge. In the SS4 environment, the ESMF system should provide the ship operators with ability to make go/no-go decisions for the operational process based on knowledge of the incoming waves and the predictions of the resulting ship motions. This capability could reduce risk to the warfighter, provide more efficient transfer operations, and allow these operations to occur in increased sea state environments.

Program Plan/Phasing:

Phase I: Concept System Architecture Design (IA), State-of-the-Art System Demonstration (IB)

Phase I is broken into two major subsections (Phases IA, IB): the first is the concept design system architecture stage, in which up to four (4) awarded performers develop the design for a robust, common-interface, open-architecture system that can combine a number of different wave-field measurement technologies, environmental prediction models, and ship-motion prediction models to a Technical Readiness Level (TRL 3) level concept system architecture; TRL 3 is defined as “Active research and development is initiated. This includes analytical and laboratory studies to physically validate analytical predictions of separate elements of technology”. It is anticipated that the performers will present and document the concept design of their system architecture and how the individual technologies they are pursuing in the technology focus areas outlined above will fit into this architecture; these technology pieces may be already developed to a

higher TRL level, but it is expected that the Concept System Architecture Design for the end of Phase IA will not be higher than TRL 3.

At the end of this Phase IA there will be a downselect to up to two (2) performers. Phase IB (Option) will require these performers to develop an “art-of-the-current” proof-of-concept demonstration of their Concept System Architecture Design at a TRL 4 level; TRL 4 is defined as “Basic technology components are integrated to establish that the pieces will work together”. During this system and hardware development the two (2) performers will develop their TRL 3 concept design, system architecture, and technology pieces to hardware which will be demonstrated at sea. Since the ship to be used for the test can not be specified at this time, the ship motion prediction function shall be based on the USNS BOB HOPE and WATSON class LMSRs and the T-ACS5 (FLICKERTAIL STATE); the government will provide the ships for any sea-based demonstration. It is anticipated that this TRL 4 demonstration system will have limited precision and maturity compared to the eventual TRL 6 system, and will be demonstrated in a controlled single ship, bluewater environment. This art-of-the-current demonstration may utilize simplified wave, wind, and ship motion models as compared to the final system, and will not require serious development of the operator guidance/decision support system piece of the architecture. This TRL 4 demonstration is intended to show how far existing models can be leveraged to solve this problem, with the intent to further these models to a higher degree of fidelity and accuracy in the Phase II system in a multi-ship environment.

It is anticipated that the final system could incorporate multiple sensor platforms, wave/wind models, and ship motion models, and an open-architecture approach from the beginning of the program to ensure that different pieces can be incorporated across the life of the system design. The performer should be prepared to work with the government integration team to incorporate any Government Furnished Information (GFI) and/or Government Furnished Equipment (GFE) that may improve the accuracy or reliability of their system; this will be a critical component in the downselection criteria from Phase IA to IB and from Phase I to Phase II.

The Government intends to procure system(s) having an Open System Architecture and corresponding components, and the designs for Phase IA and IB should incorporate common-interface, open architecture approaches for integration of the technology pieces into the overall system. As part of this program, the contractor shall define, document, and follow an open systems approach for using modular design, standards based interfaces, and widely-supported consensus-based standards. The performer shall develop, maintain, and use an open system management plan to support this approach and will be required to demonstrate compliance with that plan during all design reviews.

Additionally, it is expected that throughout the life of the program the contractor and the ONR ESMF integration team will conduct annual Open Architecture development and review meetings, at which point the performer and the integration team will discuss and codify the standards-based, open architecture interfaces to be used for the duration of the program.

Phase II: Technology Readiness Level (TRL 6) System Demonstration

After the Phase I (Phases IA, IB) TRL 4 demonstration, the Government will downselect to one (1) performer to advance their TRL 4 system design demonstrated at the end of Phase I to a TRL 6 system demonstration. This downselect will be based on the Government's evaluation of the Phase I system performance. The final deliverable will provide high-accuracy ship motions forecasts into an integrated operator guidance/decision support system that will incorporate all of the necessary technologies, and can be demonstrated at a TRL 6 by the end of the program (FY15). The system must be at a TRL 6 in order to transition to a Navy or Marine Corps acquisition program. TRL 6 is defined as a system/subsystem model or prototype demonstration in a relevant environment, which can include at-sea testing or a simulated operational environment. It is anticipated that this demonstration will be performed in a multi-ship seabasing environment, with a demonstration of applicability to Skin-to-Skin operations, LCAC operations and material/personnel/vehicle transfer.

Delivery or Performance Period Requirements:

Phase IA:

Phase IA will have a period of performance of eight (8) months. There will be a kick-off meeting conducted by the performer in order to clarify what will be required during the performance period.

A Mid-Term System review will be conducted to assess current progress. The Final System Review will occur one (1) month before the end of the Phase IA period of performance to which the performer will present the results of its Phase IA system architecture development. This will allow the Program Office time to evaluate whether an Option will be exercised. The Final Report will be due at the end of the period of performance. Monthly Technical and Financial Progress Reports will be required from each performer as well as Presentation Materials.

The final deliverable for the Phase IA will be a technical report detailing the TRL 3 Concept System Architecture Design. This report should detail the performer's technical approach for each of the four technical focus areas listed in Section 1.1, its methodology for designing an open architecture system, and its approach for integrating its technical components into a complete system for the TRL 4 demonstration in Phase IB.

Phase IB (Option):

Phase IB (Option) will have a period of performance of twenty (20) months and will begin once the Option has been exercised. Quarterly Product Reviews will be established for each performer to present its current system development status. An At-Sea Demonstration will also be required at approximately eighteen months (18) within the Phase IB period of performance. Monthly Technical as well as Financial Progress Reports will be required from each performer.

The final deliverable for Phase IB (Option) will be an integrated TRL 4 hardware and software system for a single-ship demonstration. This at-sea demonstration will provide the government with the means to evaluate the system performance for downselect. After the TRL 4 demonstration, the performer will deliver an after-action final report detailing lessons learned and suggestions for future development.

The final deliverable for Phase IB (Option) will also include a technical proposal, and non-proprietary statement of work, and cost proposal for Phase II.

Phase II:

Phase II will have a period of performance of twenty-one (21) months. There will be a kick-off meeting conducted by the performer in order to clarify what will be required during the performance period. Quarterly Product Reviews will be established for the performer to present its current system development status. Monthly Technical as well as Financial Progress Reports will be required from each performer.

A Phase II demonstration will occur at sea in a multi-ship seabasing environment, with a demonstration of applicability to Landing Craft Air Cushion (LCAC) operations and material/personnel/vehicle transfer as outlined in the Concept of Operations (CONOPS) section of this document. Monthly Technical as well as Financial Progress Reports will be required as well as a Final Report.

It is anticipated that the Phase II system may incorporate Government Furnished Information and/or Government Furnished Equipment (GFI/GFE) pieces similar to the Phase I system.

Deliverables:

Some examples of deliverables are test data, technical reports, and technology transfer media such as a video of the process. At a minimum, deliverables will include the following:

- Monthly Financial Progress Reports: Brief report detailing current expenditures, percent of work complete, and estimate to complete.
- Monthly Technical Reports: Brief report detailing program's technical status and progress.
- Presentation Materials.
- Full proposals (Technical Proposal and Cost Proposal) for subsequent phases.
- Final Reports.

At Sea Demonstrations shall be required for Phase IB and II task orders and include the following deliverables.

1. Software Development Plan
2. USE Cases.
3. A functional requirements document.
4. Detailed design documents (software diagrams included, e.g UML).
5. Hardware Interface Control Documents (HW ICD).
6. Software Interface Control Documents (SW ICD).
7. Test Cases.
8. If not clearly specified in the Detailed Design documentation, all complex algorithms and mathematical functions must be clearly documented in an Algorithm Specification. These algorithms may include computations or data compression, signal processing, etc.
9. A User's Guide and Documentation.
10. A list of outstanding software issues/workarounds/short-comings.
11. TRL 4 prototype (Phase IB only)
12. TRL 6 prototype (Phase II)

7. Points of Contact -

All UNCLASSIFIED communications shall be submitted via e-mail. All technical questions of an UNCLASSIFIED nature to the Technical Point of Contract (POC) shall be sent via e-mail with a copy to the designated Business POC.

Science and Technology Point of Contact:

Dr. Paul E. Hess III
Program Officer
Office of Naval Research
Ship Systems and Engineering Research Code 331
875 N. Randolph Street, Suite 1425
Arlington, VA 22203-1995
Email Address: paul.hess@navy.mil

Questions of a **business** nature should be submitted to:

Business Point of Contact:

Mr. Juan Carlos Rivera
Contracting Officer
Office of Naval Research
875 N. Randolph Street
Arlington, VA 22203-1995
Email Address: juancarlos.rivera@navy.mil

Questions of a **security** nature should be submitted to:

Ms. Diana Pacheco
Information Security Specialist
Office of Naval Research
Security Department, Code 43
One Liberty Center
875 North Randolph St.
Arlington, VA 22203-1995
Email Address: diana.pacheco@navy.mil

All questions are due no later than 2:00 PM Local Eastern Time 10 days **prior to** the due date listed in Section I.5. above.

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 a 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 CLASSIFIED question to be asked through a secure method of communication.

Answers to questions submitted in response to this BAA will be addressed in the form of an amendment and will be posted to one or more of the following WebPages:

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

8. Instrument Type(s) -

Award will be in the form of Indefinite Delivery/Indefinite Quantity (IDIQ) contracts with cost-type Task Orders made issued against those IDIQs.

ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

10. Other Information -

Work funded under this BAA may include basic research, applied research and some advanced research. 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 fundamentals 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. Non-fundamental research is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of such research results due to subject matter sensitivity.

The funds available to support awards under this solicitation are Budget Activity 2 and 3. This program is not considered fundamental research.

This announcement is NOT for the acquisition of technical, engineering, and other types of support services.

In 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.

II. AWARD INFORMATION

Total Amount of Funding the Program Office expects to Award through the Announcement:

- \$23M in total funding available.

Anticipated Number of Awards:

- Up to four (4) contract awards are anticipated to be issued for Concept System Architecture, two (2) for TRL 4 System Development, and one (1) for TRL 6 Total System Development under this project.

Expected Amounts of Individual Awards:

- Phase IA Base awards up to \$750k each.
- Phase IB Option awards up to \$6M each.
- Phase II up to \$8M each.

Anticipated Period of Performance:

- Phase IA project has an eight (8) month period of performance.
- Phase IB (Option) project has a twenty (20) month period of performance.
- Phase II project has a twenty-one (21) month period of performance.

The IDIQ minimum quantity will be \$75,000. Subsequent Task Orders will be issued based on the success of the prior phase and will follow the criteria established in FAR 16.505. The IDIQ maximum quantity will be based on the total program estimate, which should be approximately \$14.75M.

Although ONR expects a program phasing plan similar to the above to be executed, ONR reserves the right to make changes.

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.

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.

Research in areas that involve export controlled technologies is limited to “U.S. persons” as defined in the International Traffic in Arms Regulation (ITAR) – 22 CFR § 1201.1 et seq.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

Full Proposals - The due date for receipt of Full Proposals is 2:00 P.M. (Local Eastern Time) on 15 Nov 2010. It is anticipated that initial selections will be made by 15 Dec 2010. As soon as the final proposal evaluation process is completed, the Offeror will be notified via email of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated. Full Proposals shall be mailed to the technical point of contact listed in Section 1.7. **Proposals for Phase II Task Order 0002 are to be delivered under Task Order 0001 Phase IB (Option).**

2. Content and Format of Full Proposals -

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. The proposals submitted under this BAA are expected to be unclassified.

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

Alternatives to the format and content identified below may be appropriate depending on the scope and nature of the proposed effort. Coordinate any alternative proposal formats and contents relating to white papers and technical proposals (Volume I of the full proposal) with the cognizant ONR Program Officer. Alternative formats and content may be directed by the ONR Program Officer or may result from the Offeror’s suggestions approved by the ONR Program Officer.

Full Proposal Format – Volume 1 - Technical 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: Technical Proposal
 - Sub-Volume 1: IDIQ proposal (Address Program Phases IA/IB and II separately) –

The following sections are limited to a total of no more than 25 pages: Proposal Checklist, Table of Contents, Technical Approach and Justification, Operational Naval Concept, Operational Utility Assessment Plan, Project Schedule and Milestones, Assertion of Data Rights, Technology Transition, Software Development Plan, Technical/Design Reviews, Management Approach, Organizational Conflict of Interest, Pending Proposal Submissions, and Qualifications.
 - Sub-Volume 2: Task Order 0001 proposal (Address Program Phase IA/IB) –

The following sections are limited to a total of no more than 25 pages: Proposal Checklist, Table of Contents, Statement of Work, Technical Approach and Justification, Operational Naval Concept, Operational Utility Assessment Plan, Project Schedule and Milestones, Assertion of Data Rights, Deliverables/Reports, Technology Transition, Software Development Plan, Technical/Design Reviews, and Qualifications.
 - Volume 2: Cost Proposal – No page limitation.
- Copies – one (1) unbound signed original, 6 unbound copies, and one electronic copy on a CD-ROM or DVD, (in Microsoft® Word or Excel).

Full Proposal Content

Each section of the Technical Proposal must start on a new page.

Technical Proposals shall consist of two sub-volumes:

Sub-Volume 1: IDIQ proposal (Address All Program Phases)

Sub-Volume 2: Task Order 0001 proposal (Address Only Program Phase IA/IB)

Volume 1: Technical Proposal

- **Cover Page:** (include one for all sub-volumes) This should include the words “Technical Proposal” and the following:
 - 1) BAA number
 - 2) Title of Proposal
 - 3) Identity of prime offeror and complete list of subcontractors, if applicable
 - 4) Technical contact (name, address, phone/fax, electronic mail address)
 - 5) Administrative/business contact (name, address, phone/fax, electronic mail address)
 - 6) Proposed period of performance (identify both the base period and any options, if included)
 - 7) Start and end dates for offeror’s fiscal year
 - 8) Signature of official authorized to obligate the institution contractually
 - 9) Proposal validity of at least 180 days and the date offer is submitted

- **Proposal Checklist:** (include one for all sub-volumes) To assist offerors in the development and submission of their proposals in response to this BAA, a Proposal Checklist has been uploaded as an attachment. Offerors should print and complete the checklist to ensure that all required actions have been taken and information included prior to proposal submission. Inclusion of the completed checklist as the first page of your Volume I, Technical Proposal will assist in proposal evaluation and may shorten the time it takes to make an award.

- **Table of Contents:** (include in all sub-volumes) An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.

- **Statement of Work:** (include only in Task Order 0001/0002 sub-volume) The Statement of Work for the IDIQ contract will be the General Information section of this solicitation. A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach shall be provided. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable, self-standing, task-oriented SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year and a section which lists all proposed deliverables. (This statement of work shall provide separate sections/tasks for Phase IA/IB)

Submission of the SOW without restrictive markings is your company's affirmation that the SOW is non-proprietary and releasable in response to Freedom of Information Act (FOIA) requests.

- **Technical Approach and Justification:** (include in all sub-volumes) 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:** (include in all sub-volumes) 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:** (include in all sub-volumes) 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:** (include in all sub-volumes) A summary of the schedule of events and milestones for all the phases in sub-volume 1 and for task order 1 in sub-volume 2.
- **Assertion of Data Rights:** (include as appropriate in either sub-volume) For a contract award an Offeror may provide with its proposal, assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014, and -7017. These clauses may be accessed at the following web address:

<http://farsite.hill.af.mil/VFDFARA.HTM>

The Government may challenge assertions that are provided in improper format or that do not properly acknowledge earlier federal funding of related research by the Offeror.

If it is determined that data rights are not applicable, indicate no assertions are being made in the proposal submission.

- **Deliverables/Reports:** (include only in Task Order 0001/0002 sub-volume) A detailed list of reports and any proposed hardware, software or prototypes, inclusive of the timeframe in which they will be delivered. See Section 6 for a list of deliverables.

- **Technology Transition:** (include in all sub-volumes) Discuss the suitability for implementation on current or new Navy platforms. Key points to include in this section are:
 - A Technology Transition Plan detailing the strategy to be used for the transition to R&D for current or new Navy platforms. The plan shall cover multiple platforms, if applicable.
 - Indicate testing and specification and standards changes required to implement the results of the project. Each possible platform should be addressed.
 - Indicate routes that might be taken to achieve a broader diffusion of the technology.

- **Software Development Plan:** (include in all sub-volumes) Any proposal that includes software development must provide a brief (typically, one page or less) outline of the development plan explaining the proposed functionality, approach, interoperability, and methodology. Plans should address all the phases in sub-volume 1 and address task order1 in sub-volume 2.

- **Technical/Design Reviews:** (include in all sub-volumes) The contractor shall perform a Mid-Term as well as a Final System Reviews for Phase IA and Quarterly Product Reviews for Phase II. This section will describe the intended reviews and identify when and where they will be conducted. Phase IB (Option) and Phase II will include Quarterly Product Reviews.

- **Management Approach:** (include only in IDIQ sub-volume) A discussion of the overall approach to the management of this effort, including brief discussions of the total organization; use of personnel; project/function/subcontractor relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration.

- **Organizational Conflict of Interest:** (include only in IDIQ sub-volume) The contractor shall disclose the existence or potential existence of organizational conflicts of interest, as defined in FAR 9.501. All proposers and proposed subcontractors must affirmatively state 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 the prime contract number. This disclosure shall include a description of any action the proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. If the proposer believes that no such

conflict exists, the proposer shall make that statement. See Section VII, paragraph 6 for additional information.

- **Pending Proposal Submissions:** (include only in IDIQ sub-volume) Offerors are required to provide information on all pending support for ongoing projects and proposal, including subsequent funding in the case of continuing contracts, grants, and other assistance agreements. Offerors shall provide the following information of any related or complementary 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:** (include in all sub-volumes) A discussion of the qualifications of the proposed Principal Investigator and any other key personnel. Include resumes or full curricula vitae for the Principal Investigator and other key personnel and consultants. The resumes and/or curricula vitae shall be attached to the proposal and will not count toward the page limitations.
- **Commitment to Small Business:** (include only in IDIQ sub-volume)) The Office of Naval Research is strongly committed to providing meaningful

subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions through its awards. For proposed awards to be made as contracts (that exceed \$650,000) to other than small businesses, the offeror is required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9. For proposed awards made as contracts to Small Businesses at any value or to other than Small Businesses that are less than \$650,000, the offeror shall provide a statement which demonstrates how they intend to provide meaningful Subcontracting opportunities to support this policy.

VOLUME 2: Cost Proposal

Only submit a cost proposal for Task Order 0001

The following information is provided to assist offerors in preparing and submitting an adequate and compliant cost proposal. The purpose of the submission of cost or pricing data is to enable Government personnel to perform cost or price analysis and ultimately negotiate a fair and reasonable cost. Offerors are reminded that the responsibility for providing adequate supporting data and attachments lies solely with the offeror. Further, the offeror must also bear the burden of proof in establishing reasonableness of proposed costs; therefore, it is in the contractor's best interest to submit a fully supportable and well-prepared cost proposal. The basis and rationale for all proposed costs should be provided as part of the proposal so that Government personnel can place reliance on the information as current, complete and accurate. Further, FAR 15.403-4 sets forth those circumstances in which Offerors are required to submit certified cost or pricing data.

All Offerors shall use and submit the cost proposal format spreadsheet and the accompanying instructions Cost Proposal Format Instructions as the basis for the cost proposal. 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. This cost proposal format spreadsheet must also be submitted for subcontractors over \$150,000.

Options: Any proposed options that are identified in either Volume 1 or 2, but are not fully priced out, will not be included in any resulting contract or other transaction. If proposing options, the options must be separately priced and separate spreadsheets should be provided for the base period and each option period.

For pricing purposes, assume that performance will start no earlier than six (6) months after submission of the proposal.

The proposal should include a statement that the company has (or has not) done business with the Government before. If the company has done business with the Government before, the statement should indicate whether its accounting system was reviewed by the Government and determined to be adequate. If this will be the company's first Government contract, please download the Defense Contract Audit Agency's (DCAA) "Information for Contractors" pamphlet, which can be found at www.dcaa.mil and become familiar with the Federal Acquisition Regulation (FAR) Part 31.205 to ensure that a successful accounting system review can be completed prior to contract award.

DoD's Procurement Technical Assistance Centers (PTACs) provide a wide range of services including assistance with developing a cost-accounting system as well as preparing for an audit. The Defense Logistics Agency (DLA) administers the DoD Procurement Technical Assistance Program (PTAP). PTACs are located in basically every state of the union and provide assistance to businesses seeking to successfully compete in federal, state and local government contracting. A listing of PTACs by state may be accessed at: <http://www.dla.mil/db/procurem.htm>.

The cost proposal shall consist of a cover page and two parts: Part 1 will provide a detailed cost breakdown of all costs by cost category by offeror's fiscal year and Part 2 will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work and Government Fiscal Year (FY).

Cover Page: The use of the SF 1411 is optional. The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA number
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address)
- Proposed period of performance (identify both the base period and any proposed options)

Part 1: Detailed breakdown of all costs by cost category by calendar or Contractor fiscal year:

- **Direct Labor:** Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.
- **Indirect Costs:** Fringe Benefits, Overhead, G&A, FCCM, etc. and their applicable allocation bases. 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 organization's 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 principles.

- **Subcontracts/Interorganizational Transfers:** A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by all proposed subcontractors and for all interorganizational transfers. For subcontracts or interorganizational transfers over \$150,000, the subcontract proposal 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. A proposal and supporting documentation must be received and reviewed before the Government can complete its cost analysis of the proposal and enter negotiations. The prime contractor should perform and provide a cost/price analysis of each subcontractor's cost proposal.* Offerors are required to obtain competition to the maximum extent practicable when selecting subcontractors or interorganizational transfers; if the offeror has obtained competitive quotes, copies should be provided. If the Offeror has selected other than the low bid for inclusion in their proposal or intends to award the subcontract/interorganizational transfer on a sole-source basis, the offeror should provide rationale for their decision. Certified cost or pricing data may be required for subcontractor proposals over \$700,000. The Cost Proposal Spreadsheet must be used for subcontractors over \$150,000.

*Note: Federal Acquisition Regulation provision 52.215-22 is incorporated into this solicitation by reference. The offeror is to exclude excessive pass-through charges from subcontractors. The offeror must identify in its proposal the percentage of effort it intends to perform and the percentage to be performed by each of its proposed subcontractors. If more than 70 percent of the total effort will be performed through subcontractors, the offeror must include the additional information required by the above-cited clause.

- **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 for each year including quantities, unit prices, proposed vendors (if known), and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). If the total cost for materials and supplies exceeds \$100,000 per year, then select a sample of the items proposed and provide catalog price lists/quotes/prior

purchase orders to support the price for the items in the sample. All items with a unit price over \$10,000, regardless of the total cost for materials and supplies, must be supported with a copy of catalog price lists/quotes/prior purchase orders.

- **Contractor Acquired Equipment or Facilities:** Equipment and/or facilities are normally furnished by the Contractor. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided including: 1) a very specific description of any equipment/hardware that it needs to acquire to perform the work, 2) whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award, and 3) the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). The description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.
- **Other Directs Costs:** Provide an itemized list of all other proposed other direct costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- **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 contract or agreement.
- **Fee/Profit:** NOTE: Profit or fee will not be allowed on direct costs for plant equipment or general purpose equipment or in cost-sharing contracts.

Note: Indicate if you have an approved Purchasing/Estimating System and/or describe the process used to determine the basis of reasonableness (e.g., competition, market research, best value analysis) for subcontractors, consultants, materials, supplies, equipment/facilities, and other direct costs.

Part 2: Cost breakdown by Government Fiscal Year (FY) 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/sub-task.

3. 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.

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 it is strongly recommended that 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. Address for the Submission of Full Proposals -

All hard copies of full proposals shall be mailed or hand delivered to the Technical Point of Contact located in Section I.7 above. If hand delivered and the Technical Point of Contact is not available to receive the proposal, please contact Ms. Karen Brown at (703) 696-7745.

NOTE: PROPOSALS SENT BY FAX OR E-MAIL WILL NOT BE CONSIDERED.

V. EVALUATION INFORMATION

1. Evaluation Criteria -

The Office of Naval Research (ONR) plans to make awards that represent the best value to the Government in accordance with the 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:

A. Overall scientific and technical merits of the proposal. More specifically:

- (1) The soundness of technical concept with regard to meeting the “**Operating Environment**” requirements stated on pages 4-5 of this solicitation.
- (2) Extent proposed system uses an Open Architecture approach from the beginning of the program ensuring that different pieces can be incorporated across the life of the system design.
- (3) Ability to integrate with Government Furnished Information (GFI), and Government Furnished Equipment (GFE) that may improve the accuracy or reliability of the offeror’s system and the extent of the offeror's awareness of the state-of-the-art and understanding of scope of the problem and the technical effort needed to address it.

B. Capabilities, facilities, related experience, and past performance of the Offeror and the Offeror's team. More specifically:

- (1) The extent the resumes provided in the technical proposal reflect staff knowledge, skills, and experience necessary to successfully develop, test, and demonstrate the system in a relevant environment.
- (2) The extent the Offeror’s proposal describes an effective management approach.
 - a. Management Organization- Staffing, Teaming and Program Integration.
 - b. Program Control – Scheduling, Security/Information Control, POA&M, Configuration Management, Facility Requirements.
- (3) The extent, depth, and quality of recent and relevant organizational past performance.

- a. Experience in work efforts at similar levels of complexity, demonstrated prior performance in sub-contractor management,
- b. demonstrated prior methods for cost management/control and pertinent quality awards/certificates.

(4) The adequacy of the proposed facilities.

C. Cost Realism/Reasonableness

The technical factors (A & B above) are of equal value and are significantly more important than the cost factor (C). The sub elements listed under each technical factor will not be separately scored or rated. They provide additional guidance regarding what the evaluators will look to in determining the strength of the proposed under the technical factors.

The degree of importance of cost 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.

Industry-Government-Academic Partnering – ONR highly encourages partnering among industry, Government and academia, 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.

2. 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 (CCR) - Successful Offerors not already registered in will be required to register in CCR prior to award of any contract. Information on CCR registration is available at <https://www.bpn.gov/ccr/default.aspx>
- Online Representations and Certifications Application (ORCA) - In accordance with FAR 4.1201, prospective contractors must complete electronic annual representations and certifications. Information on ORCA is available at <https://orca.bpn.gov>
- ORCA will be supplemented with ONR-contract specific representations and certifications. Information on ONR-contract specific representations and certifications is available at <http://www.onr.navy.mil/en/Contracts-Grants/submit-proposal/contracts-proposal.aspx>

Subcontracting Plans – Successful contract proposals that exceed \$650,000, submitted by **all** but small business concerns will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9 prior to award.

VII. OTHER INFORMATION

1. Navy Warfare Centers

The Navy Warfare Centers will assist the Office of Naval Research (ONR) in the management, engineering, and administrative tasks and will provide government furnished equipment (GFE) and facilities.

2. 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 should explain as part of their proposals which of these facilities are critical for the project's success.

3. 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. If access to classified material will be required at any point during performance, the Offeror must clearly identify such need prominently in its proposal.

4. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD Science and Technology (S & T) and Research Development Test and Evaluation (RDT & E) communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.

5. 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 scientific, engineering, and technical assistance (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. 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 Contracting Officer after full consideration of the circumstances, any conflict situation cannot be effectively avoided or mitigated, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

6. 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.

7. Executive Compensation and First-Tier Subcontract Reporting

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. From October 1, 2010 through February 28, 2011, any newly awarded subcontract must be reported if the prime contract award amount is \$550,000 or more. Starting March 1, 2011, any newly awarded subcontract must be reported if the prime contract award amount was \$25,000 or more.

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.fsr.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.