ONR BAA Announcement # 12-012

Date: 2 July 2012

Tools and Models for Predicting the Magnitude and Distribution of Forces on the Towed Array System

Table of Content

The following information presents the basic organization of this document as well as the location of significant information:

7. Organizational Conflicts of Interest
8. Project Meetings and Reviews
9. Executive Compensation and First-Tier Subcontracting Reporting
10. Other Guidance, Instructions, and Information

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016. 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 - Tools and Models for Predicting the Magnitude and Distribution of Forces on the Towed Array System

3. Program Name - Towed Array System Reliability Future Naval Capability

4. Research Opportunity Number - 12-012

5. Response Date -

White Papers: 8/16/2012
Full Proposals: 10/17/2012

6. Research Opportunity Description -

The Office of Naval Research under the Towed Array Reliability FNC program, is interested in receiving white papers (which will be down selected for requests for full proposals) that describe and provide innovative technology solutions for predicting the magnitude and distribution of stress and strain on towed array components during its life cycle including array storage, array deployment, array towed operation and array retrieval. Efforts will be required to characterize both handler and hydrodynamic forces. The tools and methods to be developed under this effort must permit the identification of high stress, high strain, high acceleration, and high cycle areas of the array. This information is critical for creating a reliability-informed towed array system design methodology.

6.1 Background and Approach

Tools for Predicting Array Operational Loading and Distribution:
Hydrodynamics and wake modeling tools may be developed or refined as part of this effort to develop a detailed understanding of hydrodynamic loading on the array during deployment,

stowing and retrieval. Concurrent with the development of the hydrodynamic loading, coupled models of the array structure and hydrodynamic field are required to predict hydro-elastic response and the natural modes and frequencies of the array. Structural modeling will require advanced analytical and computational approaches to incorporate the nonlinear materials, anisotropic construction, and complex loading of the array. Advanced modeling methods which improve computational efficiency and fidelity are of interest, but it is anticipated that most of the required advanced capability can be realized with existing software technology. The approach will not be limited to computational mechanics. The effort may establish measurements and signal processing approaches to identify key physics, and to determine scaling relationships for future testing and design efforts. A hybrid modeling approach to combine deterministic and stochastic prediction methodologies in a single tool is also of interest. The predictive tools must support the development of a reliability-informed design process under which designers can predict the effect of array system design iterations on both acoustic performance and system reliability. It must accommodate varying array physical dimensions, and allow description of the structural characteristics and components to a fidelity that would allow accurate measurement of internal feature response. It is anticipated that separate models will be needed to capture towing hydrodynamics and array handling forcing functions. The models should contain sufficient fidelity to predict the time dependent response of the array to external loads, and the manner in which cumulative stresses affect the internal components of the array over use and time.

The models would be exercised over known parameter ranges and operating frequency (towing, maneuvering, and handling) at extreme stresses to observe changes and degradation in system and component physical characteristics. Key outputs of the models would include:
- Summary of cumulative stresses (work),
- Measure of the strength of the major assemblies and array,
- Predicted change in characteristics of components,
- Predicted "global response" at the array level.

Ideally this would be a reliability distribution for the array and/or major subassemblies.

Experimentation efforts:

The model development effort will be supported by a series of experiments that will be conducted in parallel with the FNC. Experiments will be used to establish the parameters that will need to be measured in order to validate the predictive model. This information will inform the design of a highly instrumented “validation” towed array that will be towed by a submarine in another set of experiments needed to gather model validation data. This BAA is seeking proposals only for the FNC portion of this joint effort. Work supporting the validation effort, if desired by the government, would be solicited separately by NAVSEA 073R. However, proposals under this FNC program may address the integration of both the FNC and the validation effort in the context of a single integrated program.

Novel measurement approaches and advanced sensor concepts may be required. The Validation Towed Array, at a minimum, is envisioned to include array motion and tracking, hydrodynamics, tow-cable dynamic sensors, and stress sensors. Measurement and signal processing algorithms, graphical user interfaces or tools shall be developed and employed as needed to reduce the

experimental data sets to forms suitable for validation of the tools and methods.

Reliability Based System Design Process:

Validation of the relationship between internal response and external forcing will be conducted empirically and at the component level, potentially using a validation towed array subsection and/or accelerated reliability tests. The application of this modeling toolset would address several development and operational objectives and requirements. Significant information would be available to assist in assessing the impact of design changes under consideration. The models would also support health monitoring and condition-based maintenance application. An end to end block diagram for a towed array reliability model outlined here is shown in Figure 1.

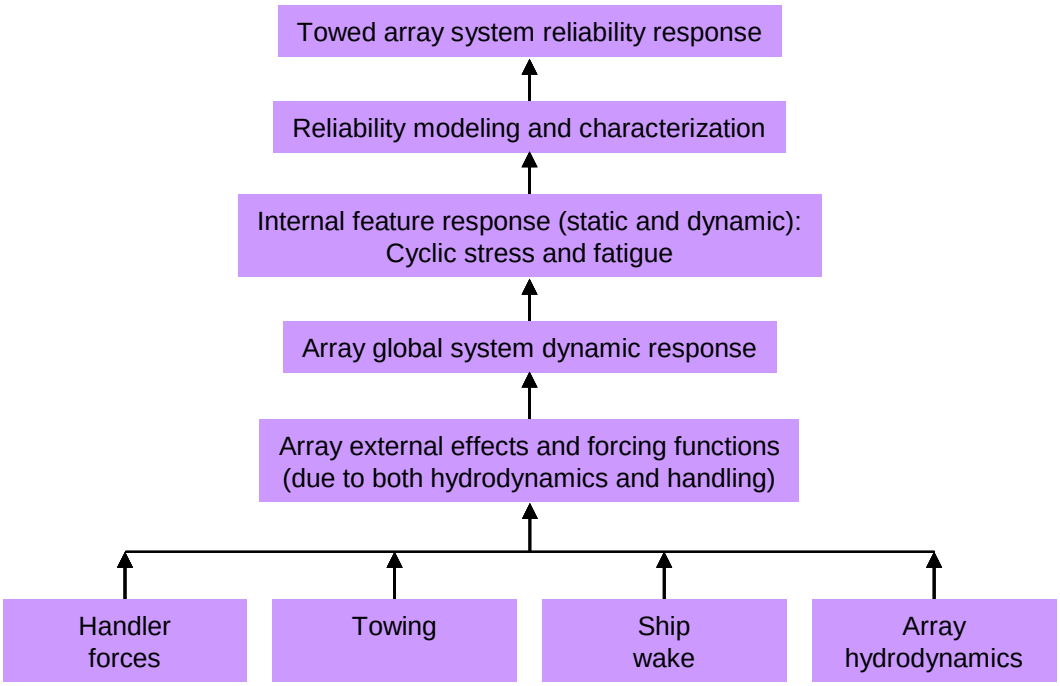

Figure 1 Notional end-to-end block diagram of environmental input and reliability response for a towed array reliability model.

6.2 Key Program Performance Objectives

White papers and full proposals submitted in response to this BAA should address approaches that would be pursued in support of the FNC in the following areas.

• A: Development of an enhanced materials database for Towed Arrays
The proposer(s) will plan and provide input and/or execute a testing and/or analytical program to establish material properties sufficient to support the analytical portions of this project. The proposer(s) will determine and validate constitutive models for the key materials in the towed arrays, including hose wall, reinforcements, and internal fluids or fill. These constitutive models

should include nonlinear elastic and failure effects.

• B: Physics-Based Analytical Model of Towed Array Stresses Under Tow
Proposer(s) should address proposed approach for developing a model for the towed array stresses under tow, with the characteristics listed below. This is intended as a highly resolved model, exercised by experienced users. The Analytical model shall predict:
1. The state of stress at any point in the array structure,
2. The effect of flow forces on the array due to cross-flow, turbulence, and ship wake,
3. The failure modes and locations in the array,
4. The effect of dynamic motions in the array structure, including waves and structural oscillations, interacting with the flow.

• C: Physics-Based Analytical Model of Towed Array Stresses in the Handling System
Proposer(s) should address proposed approach for predicting the towed array stresses in the handling system, with the characteristics listed below. This is intended as a highly resolved model, exercised by experienced users. The Analytical model shall predict:
1. The state of stress at any point in the array structure,
2. The effect of friction and other traction forces at all points in the handler,
3. The failure modes and locations in the array,
4. The effect of dynamic motions in the array structure, including waves and structural oscillations, caused by the handler under all modes of operation.

• D: Advanced Fluid Flow Models
Proposer(s) should describe how code development techniques would be applied in development of improved computational and/or analytical models of nearly incompressible fluid flow to support the needs of the Towed-Array Stresses Under Tow, Task D. Extremely high Reynolds numbers and interaction with ship wakes are a key feature of this flow modeling task. Task D's requirements include the capability to model shear and wall pressure on the moving, flexible array in these flows.

• E: Analytical Modeling of Array Electrical Components
Proposer(s) should describe the approach for modeling array electrical components under the use conditions, with the characteristics listed below. The Analytical model shall predict:
1. The state of electrical/thermal stress for any electrical component in the array structure,
2. The failure modes and locations in the array,
3. The effect of array operations on the electrical components.

Metrics for specific aspects of the modeling tasks are listed below:

Hydrodynamic Modeling Metrics:

1. Computation of the zero pressure gradient cylindrical turbulent boundary layer parameters (boundary layer thickness, displacement thickness, momentum thickness, and mean wall shear stress) at moderate to high Reynolds numbers based on momentum thickness. The purely axisymmetric and slightly non-axisymmetric cases should both be considered. The non-axisymmetric case is due to small angles of tow in the zero to ten degree range. This case involves

secondary flows and vortex shedding.

2. Computation of the fluctuating wall pressure and fluctuating wall shear spectra for the cases in item 1.

3. Computation of items 1 and 2 (above) for the case of larger angles of attack and array curvature relating to a towed array shape during a tow ship maneuver.

4. The models should be able to incorporate experimental data including the spatially averaged mean wall shear stress, the boundary layer momentum thickness at discrete locations, and wall pressure fluctuations at discrete locations.

Array, Cable, and Drogue Modeling Mechanics:

1. Computation of the array hosewall deformation due to hydrostatic pressure forces (related to depth of tow) and the mean drag load due to turbulent boundary layer skin friction. This should cover the cases of homogeneous hosewall material as a baseline, as well as hosewalls with internal strength members.

2. Computation of the dynamic low frequency (string-like) transverse responses due to distributed forcing.

3. Computation of the dynamic higher frequency responses consisting of bulge waves and extensional waves.

4. Computation of the effects of the layered construction of arrays (that is, internal electrical components, fill fluid, and internal strength members), on items 1 through 3 above.

Towed Array and Handler Model Metrics:

1. Computation of the stresses and strains on the towed array hose and internal array components (i.e., the ISM, sailcloth, telemetry cans, telemetry wires, power leads, and sensors) for various handler designs, deploy and retrieve speeds from 25 to 400 feet/minute, and inboard and outboard tension loads from 50 to 1000 pounds force.

2. Computation of the deformation, displacement, and rotation time history for the cases in item 1 for all components in the model.

3. The following handler components shall be able to be incorporated in the model: dual capstan, single capstan, pinch rollers, rollers, stowage drum, guide tube with straight and bent sections up to 90 degrees, and linear traction devices. For all of these handler components the geometry (such as multiple grooves in the capstan drums and roller profile), mass, inertia, stiffness, friction properties versus slip rate between the individual handler components and array, and the bearing friction for rotating components such as rollers shall be able to be varied in the model for all cases in item 1.

4. For all handler and array components linear elastic, hyperelastic, or plasticity material models shall be able to be used for all cases in item 1.

5. A fluid cavity shall be able to be defined in the array hose such that the pressure exerted by a fluid (compressible or incompressible) on the cavity boundary and the fluid mass are included in the model. The fluid cavity shall be able to be "inflated" by adding fluid to the cavity which would increase the fluid cavity pressure and then "sealed" simulating that fluid is no longer moving in or out of the cavity. Subsequent deformation of the cavity boundary could then cause a change in the cavity volume or pressure. The fluid cavity pressure and volume time history shall be output from the model for all cases in item 1.

6.3 Challenge Problems

The two Challenge problems listed in this section focus on the modeling of hydrodynamic array streaming conditions with cylindrical turbulent boundary layer flow-induced stresses at high Reynolds numbers. The modeling of array handler-induced stresses must be addressed by proposers in the areas of (1) array hydrodynamic forcing modeling and (2) handler forcing modeling —both being key components of towed array system reliability.

A. Challenge Problem:
Flow Induced Vibration and Fatigue of a Towed Array During Steady Tow

Background
Turbulent boundary layer wall pressure fluctuations are a source of vibration and fatigue in towed array internal components. The wall pressure field generated by the non-acoustic, turbulent velocity fluctuations in the boundary layer is transmitted across the array hose wall and fill fluid to the internal array components. Under normal operating conditions a fully developed cylindrical turbulent boundary layer exists over the entire array. During straight, steady-state tows, this wall pressure field is the dominant source of excitation. During maneuvers, secondary cross-flows are generated, leading to increased levels of excitation. However, the complexities of this situation will be excluded from this challenge problem.

Problem Outline
A hose wall is excited by a fully developed zero pressure gradient equilibrium turbulent boundary layer at moderate to high Reynolds numbers as shown in figure 2. Either flat-plate geometry or cylindrical symmetry is acceptable. The material can be modeled as a stiff plate, flexible plate, or anisotropic material with internal strength members. All necessary boundary layer parameters will be provided. For flat plate geometry, it is suggested that the wall pressure spectrum is modeled with the Chase (1987) model.1 This model could be modified for the cylindrical case.

Modeling Stage #1: Rigid Plate

Figure 2. Rigid Plate Case.

Apply a forcing function to a classical flat-plate problem, where the forcing function adequately

Modeling Stage #4:
Full Cylindrical Anisotropic Geometry

Figure 5. Cylindrical Anisotropic Case.

Apply a forcing function to a cylindrical geometry problem with a rigid, flexible, or anisotropic hose wall as shown in figure 5. The forcing function should adequately represent cylindrical

as guidance:
• Speed: Deployment/Retrieval rates up to 200 feet per minute.
• Tension: Outboard/Stowage Drum loads in the range of 150-500 pounds.

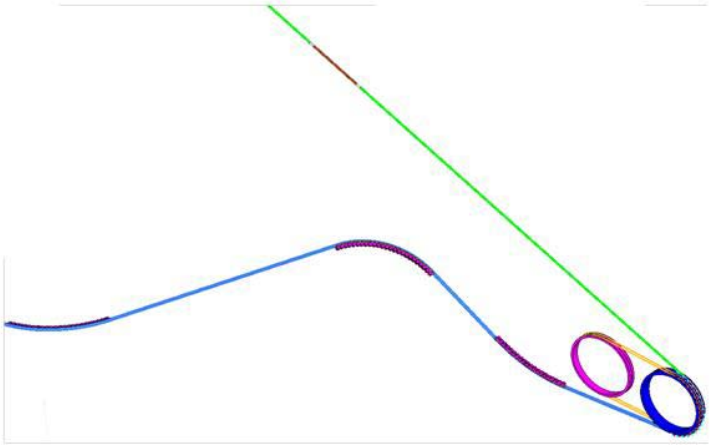

Figure 6. Schematic of Handler Geometry.

6.4 Program Plan

The three (3) planned phases, Phase I (Base), Phase II (Option I), and Phase III (Option II), are covered by this BAA, and the objectives for each phase are described below. White papers are being requested at this time with full technical and cost proposals for all three (3) phases to follow based on a down select. Full proposals are expected to address all areas in Section 6 above, however ONR reserves the right to award niche proposals. Decisions for continuation to Phase II and Phase III will be based on the degree to which Phase I results meet key objective metrics as described in the following section below and the proposed path to achieve objective metrics.

Phase I Base (15 months):

Phase I has a 15- month period of performance that must be capable of meeting at a minimum one or more of the listed objectives as well as addressing the solution to one or more challenge problems based on the area(s) being proposed.

Phase I efforts shall include but are not limited to the following key areas: array hydrodynamic forcing modeling, handler forcing modeling, constitutive component/material modeling (evaluating array material response including viscoelastic effects, stress relaxation, thermal effects, and fatigue), sensor concepts for model validation, component modules for laboratory model verification, experimentation inputs to guide/validate modeling efforts, and reliability modeling of complex systems. These models should have the ability to accept inputs in the form of measured quantities obtained from tow tests of experimental arrays.

Phase I Objectives:

• Develop towed array hydrodynamic forcing model

• Develop towed array handler forcing model
• Develop component constitutive material models
• Develop reliability model
• Demonstrate model capabilities
• Conduct model-based analyses
• Provide sensor concepts needed for modeling and validation
• Generate experimentation inputs for model validation

Phase I Base Deliverables:

• Monthly Technical Reports
• Monthly Financial Reports
• Preliminary Analysis and Model Results
• Final Report and Presentation
• Phase II Plan of Action; due 30 days prior to the end of the base period
• Model and Associated Software
• Model and Software Documentation
• Source Code and Executables
• User Manual

Phase II -Option I (18 months):

Phase II – Option I, has an 18- month period of performance. Performer(s) whose Phase II options are exercised by ONR must be capable of extending the modeling done in Phase I such that comprehensive, flexible, extensible, and adaptive hydrodynamic/handler models are developed and coupled such that they can predict the forces/stresses experienced by the towed array systems and underlying components under all conditions of operation, can predict the full towed array global system dynamic response, and can provide a total system reliability model of current arrays that can be easily extended to include and model alternative designs and future towed array systems that are envisioned. These models should have the ability to accept inputs in the form of measured quantities of data obtained from tow tests of experimental arrays.

Phase II efforts shall include but will not be limited to the following key areas: completion of Phase I modeling efforts and emphasis on coupled hydrodynamic/handler models, towed array global system dynamic response, reduced order models, validation and verification of modeling with field data sets, reliability and accelerated life modeling of complex systems based on physics based models, and revised experimentation and sensor module inputs.

Phase II - Option I Objectives:

• Complete towed array hydrodynamic forcing model
• Complete towed array handler forcing model
• Develop coupled model
• Develop reduced order model
• Conduct model verification and validation with field data sets
• Develop reliability and accelerated life models

• Demonstrate model capabilities
• Conduct model-based analyses

Phase II- Option I Deliverables:

• Monthly Technical Reports
• Monthly Financial Reports
• Preliminary Analysis and Model Results
• Final Report and Presentation
• Phase III Plan of Action; due 30 days prior to the end of the Option I period
• Models and Associated Software
• Models and Software Documentation
• Source Code and Executables
• User Manual

Phase III - Option II (15 months):

Phase III- Option II, has a 15- month period of performance. Performer(s) whose Phase III options are exercised by ONR must be capable of successful and complete validation and verification of the towed array system global response and reliability models using the field data sets. In addition, the ease and ability of the total system response model to be accurately used for "what- if" design change scenarios will strongly be considered.

Phase III efforts shall include but will not be limited to the following key areas: verification and validation of the coupled towed array system and reliability models with field test data sets under a full range of operating conditions, completion of the reliability model that encompasses the complete and complex towed array system, and parametric model-based study of potential design changes and their positive or negative impact on the total array system force structure, associated reliability, and service life prediction.

Phase III - Option II Objectives:

• Conduct model verification and validation with field data sets
• Completion of reliability model
• Perform reliability-based array module and handler parametric design study

Phase III - Option II Deliverables:

• Monthly Technical Reports
• Monthly Financial Reports
• Preliminary Analysis and Model Results
• Final Report and Presentation
• Model and Associated Software
• Model and Software Documentation
• Source Code and Executables
• User Manual

7. Point(s) of Contact -

Questions of a technical nature should be submitted to:

Dr. John Muench
Program Officer
Office of Naval Research
Sea Platforms and Weapons, Code 333
One Liberty Center
875 North Randolph Street
Arlington, VA 22203-1995
Email Address: john.muench@navy.mil

Questions of a business nature should be submitted to:

Ms. Tracie Simmons
Contract Specialist
Office of Naval Research
Contracts and Grants, BD 253
One Liberty Center
875 North Randolph Street
Arlington, VA 22203-1995
Email Address: tracie.simmons@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/
> 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:

Ms. 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

It is anticipated that awards will be in the form of cost-type contracts. (The specific type of Cost-Type contracts expected are Cost-Plus-Fixed-Fee (CPFF) or Cost Reimbursement as defined in the FAR under Part 16.306 and 16.302 respectively). 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 – N/A

10. Catalog of Federal Domestic Assistance (CFDA) Titles – N/A

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.

Regarding this BAA, the Research and Development efforts to be funded consists of applied research and advanced technology development. Therefore, the funds available to support awards are Budget Activities 2 and 3.

FAR Part 35 restricts the use of 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-

ONR anticipates that more than one contract award will result from this BAA. ONR is looking for best value with regards to this research. A total of approximately $10M is anticipated to be available over the 4 year span (FY13-16); however the overall period of performance can potentially span a total of 5 years (FY13-17) to allow for delays and/or additional testing/tasks. Although the amount of funds and period of performance for each proposal will vary depending on the technical approach to be pursued by the proposer, it is expected each proposal will be structured according to the Research Opportunity Description as stated above. (See Section 6.4, Program Plan, for period of performance)

Approximately $2.5M is available for Phase I (Base) awards.

ONR expects to make Phase II (Option I) awards to a subset of Phase I performer(s) whose products have met the key objectives and expectations described in this BAA. Approximately

$4M is available for Phase II awards; however if sufficient funds are not available to fund continued work by all performer(s), then ONR will exercise Option I only for the Phase I performer(s) that have best met or exceeded the expectations and objectives and have the best likelihood to meet the overall objectives described in the BAA.

ONR expects to make Phase III (Option II) awards to a subset of Phase II performer(s) whose products have met the key objectives and expectations described in this BAA. Approximately $3M is available for Phase III awards; however if sufficient funds are not available to fund continued work by all performer(s), then ONR will exercise Option II only for performer(s) that have best met or exceeded the expectations and objectives and have the best likelihood to meet the overall objectives described in the BAA.

2. 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.

Due to the uniquely governmental position of the Naval Undersea Warfare Center (NUWC) with regard to roles and responsibilities in this towed array system area, NUWC, as part of the core team, will perform the Technical Design Agent (TDA) function in order to help guide, structure, develop, assist, and evaluate each of the FNC-awarded proposal efforts throughout the ONR FNC in a fair and equal manner such that NUWC's expertise in this area is made available to all teams that are awarded a contract.

It is expected that throughout the course of the FNC the governmental role will become more substantive as the FNC enters Phase 2 and Phase 3, as critical testing and at sea experiments are conducted as the FNC product gets closer to transition to acquisition.

This BAA topic covers export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulation (ITAR) - 22 CFR § 1201.1 et seq. Additionally, since access to US Navy and other access controlled research facilities will be required, **All Key Personnel** for each proposer must be United States citizens.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process - White Papers, Oral Presentations, and Full Proposals

White Papers: The due date and time for receipt of white papers is 2:00PM (Eastern Daylight Time) on 16 August 2012. It is anticipated that white paper feedback will be provided by 17 September 2012. As soon as the final white paper review is completed, the proposers will be notified via email regarding whether their paper presents an approach or concept judged to be “of particular value” to the Navy. Only those proposers whose white papers are determined to be “of particular value” to the Navy are eligible to submit a full proposal or be further considered for an award.

White papers shall be mailed or hand delivered to the technical point of contact listed above in Section 1.7. If hand delivered, building security will contact the Technical Point of Contact (or Tracie Simmons at 703-696-7827) if the Technical Point of Contact is not available to receive the white paper in person. ONR accepts deliveries during normal business hours Monday through Friday, 8:00AM to 5:00PM. White papers received after the published due date and time will not be considered for funding.

Oral Presentations: ONR reserves the right to request that the Principal Investigators (PIs) of white papers determined to be “of particular value” to the Navy provide expanded presentations of their selected white papers. The purpose of the oral presentations is to provide additional information and address how the proposed technology will affect military applications. The time, location, and briefing format of the oral presentations, if requested, will be provided at a later date via email notification. Based on oral presentations received, the Navy will provide additional feedback to proposers, including whether the concept or approach presented remains of particular value to the Navy. Those oral presentations judged at this time to not be of particular value to the

Navy shall be ineligible to submit a full proposal under the BAA.

Full Proposals: The due date and time for receipt of full proposals is 2:00PM (Eastern Daylight Time) on 17 October 2012. It is anticipated that full proposal feedback will be provided by 19 November 2012. As soon as the final proposal evaluation process is completed, the proposers will be notified via email of their selection or non-selection for an award. It is anticipated that the actual contract awards will be issued on or about 1 May 2013. Full proposals shall be mailed or hand delivered to the technical point of contact listed above in Section 1.7. If hand delivered, building security will contact the Technical Point of Contact to receive the full proposal in person. ONR accepts deliveries during normal business hours Monday through Friday, 8:00AM to 5:00PM. Full proposals received after the published due date and time will not be considered for funding.

Please Note: Full technical and cost proposals for all three (3) phases will be required based on white paper down selection.

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 Muench, John (john.muench@navy.mil), ONR Code 333 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)
Program: Tools and Models for Predicting the Magnitude and Distribution of Forces on the Towed Array System

Office of Naval Research
Attn: Dr. John Muench
ONR Code: 333
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: **10 pages** (excluding cover page, resumes, bibliographies, and table of contents)
Copies - one (1) original, plus (5) hard copies and one (1) electronic copy in Adobe PDF or Word 2007 format on a CD-ROM.

White Paper Content – refer to Section I, paragraph 6.2 “Key Program Performance Objectives”

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. The page shall be signed by an authorized officer.
Technical Concept: A description of the technology innovation and technical risk areas as judged by the following guidelines:

1. Ability to meet program technical objectives, showing an innovative technical approach that is comprehensive, systematic and sound.

2. Extent to which technical elements are well integrated into a cohesive program.

3. Extent to which technical approach is feasible, achievable, and complete.

4. Ability to successfully address the approach to solve Challenge Problems.

5. Ability to understand critical technical issues and risks; providing a plan for mitigation of those risks.

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.
Other Requirements:

1. Ability to transition the Towed Array System Tools and Models.

2. Degree to which the proposer provides unrestricted rights to the government for all software, code, and products developed under this BAA.

3. Proposer's prior experience in similar efforts.

4. Deliverables

5. Funding plan showing requested funding per phase, as well as the total funding requested. (one page only)

b. FULL PROPOSALS

http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx

The format requirements for any attachments to the Technical and Cost Proposal Template 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
Max. Number of Pages: Required Technical Content Document (Word), Section III.1 of the Template entitled "Technical Approach and Justification" is **limited to a total of 20 pages**, to include supplementary attachments to further explain proposer's ability to meet program technical objective(s), proposer's ability to solve Challenge Problems, overall scientific and technical merit, and potential for technology to transition (excluding cover page, resumes, bibliographies, and table of contents).

Technical Content Document - In addition to the required information contained in The proposer's must also address their ability to meet program technical objective(s), their ability to solve Challenge Problems, overall scientific and technical merit, and potential for technology to transition. See the evaluation criteria in Section V, Evaluation Information, for information on how the proposal will be evaluated. This information can be incorporated into the or can be attached to the document as a supplementary attachment. Page limits apply as noted above.

Please Note: A cover page for the purpose of addressing proprietary markings may be included as an attachment within the Technical Proposal Template. The cover page must not exceed one (1) page and will not count towards the overall page count of the proposal packet.

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 and Cost Proposal Template, 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 submit one (1) original, plus 5 hard copies and one (1) electronic copy on CD-ROM. Offerors shall follow the Technical Proposal Template, Technical Content Template, and Cost Proposal Spreadsheet. The electronic Technical Proposal should be submitted in a secure,

pdf compatible format, and the Cost Proposal Spreadsheet 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 package in an electronic file that allows for revision (preferably in Microsoft Word) to facilitate the communication of potential revisions. Should an Offeror amend its Technical Proposal package, 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.

3. Significant Dates and Times -

Event	Date	Time
White Paper Due Date	8/16/2012	2:00 PM Eastern Daylight Time
Notification of White Paper Evaluation*	9/17/2012	
Full Proposal Due Date	10/17/2012	2:00 PM Eastern Daylight Time
Notification of Selection: Full Proposals*	11/19/2012	
Awards*	5/1/2013	

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. Address for the Submission of White Papers and Full Proposals for Contracts –

Hard copies of White Papers and Full Proposals for Contracts should be mailed or hand delivered to the Office of Naval Research at the following address:

Office of Naval Research
Attn: Dr. John Muench
ONR Department Code: 333
875 North Randolph Street
Arlington, VA 22203-1995

If hand delivered, building security will contact the Technical Point of Contact to receive the white paper and full proposal in person. ONR accepts deliveries during normal business hours Monday through Friday, 8:00AM to 5:00PM. White paper and full proposals received after the published due date and time will not be considered for funding.

V. EVALUATION INFORMATION

1. Evaluation Criteria (White Paper and Full Proposals) -

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

1. **Ability to Meet Program Technical Objectives:** The feasibility and likelihood of the proposed approach to meet the Key Program Performance Objectives identified above in I.6.2. The extent to which the proposal reflects a mature, substantiated, and quantitative understanding of the program technical objectives, the statistical confidence that products may be measured and successfully compared to measurement, and their usefulness and relationship to the concept of employment that will result from successful performance in the program. A proposal that fails to adequately address how it will meet Key Program Performance Objectives shall not be reviewed further. If the proposal is rated unacceptable in this category it shall not be reviewed any further.
2. **Ability to Solve Challenge Problems:** The likelihood that the proposed approach to solving the challenge problem(s) identified above in I.6.3 will be successful. Likelihood of success will be determined by the thoroughness and technical maturity of the proposed approach and demonstrated successful past experience solving similar issues at a similar level of technical maturity.
3. **Overall Scientific and 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. Proposers must demonstrate that their proposal is innovative; that the technical approach is comprehensive, systematic and sound; that they have an understanding of critical technical issues and risks; that they have 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.
4. **Potential for Technology to Transition:** The proposed technology's potential and likelihood of implementation on Navy systems. A concern for the government is the ability to transition the Towed Array System Tools and Models to acquisition once the technology is proven via validation and verification. Key to a successful transition is upfront planning, acknowledging and resolving all aspects of IP and data rights. The following criteria will be considered to evaluate best value and best fit to any future transition:

   • IP assertions are clearly delineated.

   • IP assertions are well substantiated.

   • Licensing terms are clear and enforceable.

   • The government's data rights are clearly defined and acceptable

The degree to which the proposer provides unrestricted rights to the government for all software, code, and products developed under this BAA is a key criterion for evaluation as is the degree to which the software, code, and products are open architecture and are of a non-proprietary nature.

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 be provided after contract award to improve the performance or reliability of its system. A demonstrated open-architecture approach and articulated commitment and ability to incorporate GFI/GFE or other improved component technologies will be a critical factor in the decisions on whether to exercise the options from Phase I (Base) through to Phase III (Option 2).

5. **Proposer's Capabilities and/or Related Experience:** 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. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors for past performance evaluation The qualifications, capabilities and experiences of the proposed principal investigator, team leader and other key personnel who are critical in achieving the proposal objectives.
6. **Cost:** The extent to which the proposed costs are realistic and reasonable for the technical and management approach offered and substantiate the proposer's practical understanding of the effort, as well as the availability of funds. Undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture costwise. ONR discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

   Award(s) will be made to proposers whose proposals are determined to be of best value to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort.

   Overall, the Technical Factors (Factors 1-5 above) are significantly more important than the Cost Factor (Factor 6), with Technical Factors (1, 3-5) all being of equal value and Technical Factor 2 weighted more than any one of the other 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-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. 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 a cost 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 Contracts Department to conduct a cost analysis, determine the offeror's responsibility, and 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. 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

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.

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. 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, DD 254 - Security Classification Specification in the Technical Proposal Template.

3. Use of Animals and Human Subjects in Research

RESERVED

4. Recombinant DNA

RESERVED

5. Use of Arms, Ammunition and Explosives

RESERVED

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