



## **BROAD AGENCY ANNOUNCEMENT (BAA)**

### **Simulation Toolset for Analysis of Mission, Personnel & Systems (STAMPS)**

#### **INTRODUCTION:**

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016, the Department of Defense Grants and Agreements Regulations (DoDGARS) 22.315(a), and DoD's Other Transactions Guide for Prototype Projects, USD(AT&L), OT Guide, 21 Dec 2000. 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 select for award all some or none of the proposals in response to 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  
One Liberty Center  
875 N. Randolph Street

Arlington, VA 22203-1995

**2. Research Opportunity Title** – Simulation Toolset for Analysis of Mission, Personnel & Systems (STAMPS)

**3. Program Name** – Capable Manpower Future Naval Capability

**4. Research Opportunity Number** – ONR BAA 11-031

**5. Response Date** -

White Papers: November 1, 2011

Full Proposals: January 10, 2012

**6. Research Opportunity Description** -

The Office of Naval Research (ONR) is interested in receiving proposals to develop a set of tools for evaluating the manpower impacts of various platform designs, system enhancements, and Active Fleet deployments. The tool set – to be known as the Simulation Toolset for Analysis of Mission, Personnel and Systems (STAMPS) – will report on the training impacts of technology introduction; the effectiveness of proposed crew complements to operate and maintain the platform/system under a wide variety of realistic scenarios; and the effectiveness of manpower reduction features. STAMPS' objectives are: 1) to provide the Navy's decision authorities with realistic data on the effectiveness and cost implications of new platform/system designs and new deployments for existing assets, and 2) to identify where efficiencies can be achieved.

### Introduction

#### *Organizational Roles and Responsibilities*

Program Executive Office (PEO) Ships manages acquisition for all current and future non-nuclear U.S. Navy surface ships. As one of the Defense Department's largest acquisition organizations, PEO Ships is responsible for managing the development and procurement of a diverse array of shipbuilding programs, ranging from complex warships, such as frontline surface combatants and amphibious assault ships, to special mission and support ships, such as air-cushioned landing craft, oceanographic research ships and special warfare craft. As an acquisition office, PEO Ships reports to the Assistant Secretary of the Navy for Research, Development and Acquisition. The PEO is organized into acquisition program offices, each responsible for specific product lines, as well as an acquisition management support office. PEO Ships is currently managing the development and construction of 10 major ship classes and a wide range of small boats and craft. Since its creation in November 2002, PEO Ships has delivered 40 major warships and hundreds of small boats and craft from more than 20 shipyards and boat builders across the United States.

Program Executive Officer for Aircraft Carriers is responsible for cradle-to-grave support of all active and future aircraft carriers in the Department of the Navy. The specific programs under the purview of PEO Carriers are the CVN 68 Class Refueling Complex Overhaul (RCOH) Program, In-Service aircraft carrier maintenance and modernization program, and the CVN78 Program, which is an ACAT 1D major defense acquisition program. PEO Aircraft Carriers is responsible for all major technology development and risk reduction efforts that are critical for active and future aircraft carriers to meet required mission capabilities. The estimated cost of all the programs under the control of PEO Aircraft Carriers is over 30 billion dollars.

Program Executive Officer Submarines focuses on the design, construction, delivery, and conversion of submarines and advanced undersea and anti-submarine systems, including Special Operations Forces delivery systems; submarine rescue systems; torpedoes; towed acoustics sensors; and unique submarine sonar, control, imaging and electronic warfare systems.

The Department of Defense (DoD) has established four major doctrines that identify the objectives and requirements for manpower assessments.

Figure 1 depicts the acquisition phases identified in DoD 5000.02, the overarching requirements document for DoD acquisition programs. The following sections identify the manpower assessment requirements established during each phase of the acquisition process.

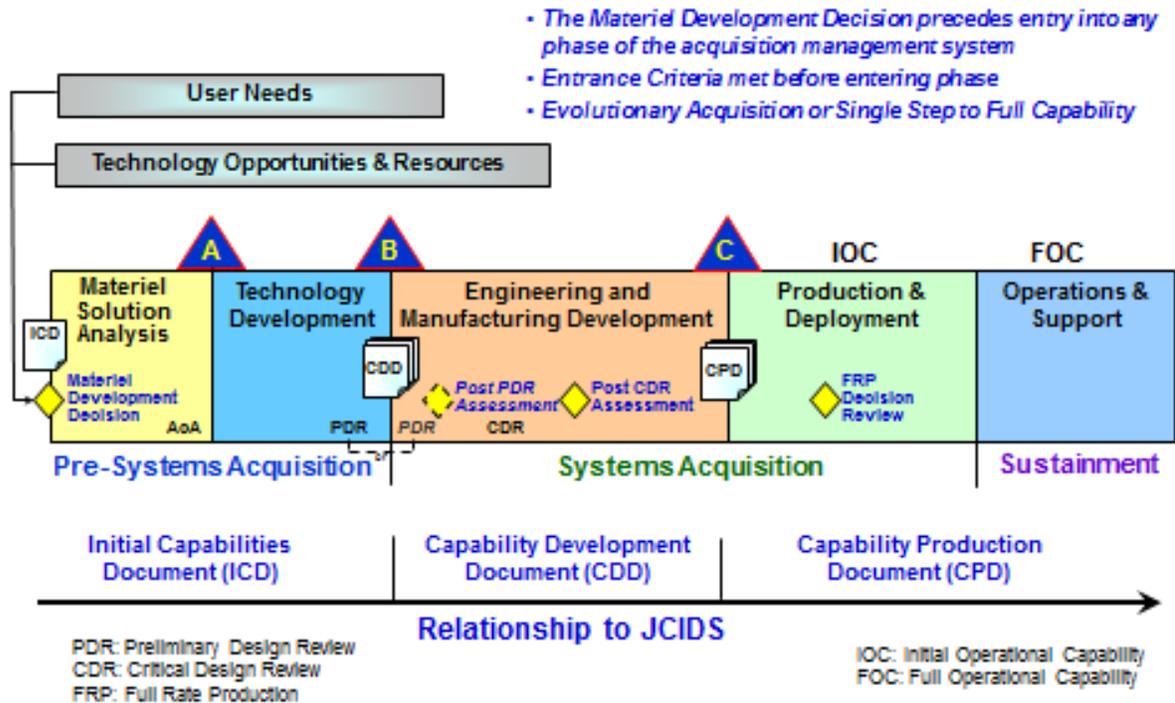


Figure 1 – Defense Acquisition Program Phases

### *Material Development Decision*

Acquisition program manpower assessments start at program initiation. As part of the Materiel Development Decision (MDD), acquisition programs are required to develop a preliminary Manpower Estimate Report (MER). Because the platform design is limited to a set of operating criteria, the MDD MER is written at a high level. It primarily identifies goals and methods that will be explored to achieve a workload balance, and provides preliminary indication of any workload concerns that should be addressed as the program progresses. The platform's Program Office is typically not established during MDD. Early MER analysis and documentation is handled at the OPNAV level.

### *Material Solution Analysis (MS A)*

During Materiel Solution Analysis (MSA), the Systems Engineering Plan (SEP) will be developed and delivered for Milestone A (MS A). At this phase, the platform design is expressed by high level system capabilities and technology components that will be explored to achieve the desired capabilities. Because the platform design is still very limited, the MSA SEP are also written at a high level, with minimal analysis to address manpower requirements. The MSA documentation may also be used to set standards for manpower totals/expectations, and establish the strategy for conducting manpower analysis throughout the follow-on phases.

### *Technology Development (MS B)*

During the Technology Development (TD), manpower assessments are performed on the evolving platform design and reported in the Capability Development Document (CDD), Acquisition Strategy, detailed SEP, and detailed MER. Each of these documents is required entrance criteria for MS B. Additionally, the manpower assessment strategy for Live Fire Test and Evaluation (LFT&E) will be identified in the Director of Operational Test and Evaluation (DOT&E)-approved Test and Evaluation Master Plan (TEMP). The LFT&E strategy identifies specific post-MS B tasking that will be performed to identify platform and crew survivability against threats likely to be encountered in combat, including the crew's ability to treat injured personnel, contain shipboard casualties (fire, flooding, smoke), and maintain/restore mission capabilities after sustaining realistic battle damage.

In accordance with the DoD acquisition process, the platform design risks are explored and mitigated during the TD period. A Preliminary Design Review (PDR) is conducted prior to close-out of the TD period, followed by the "lock down" of the acquisition program requirements in the CDD. However, the level of design available during TD can vary greatly from one platform program to the next, depending on the number and type of new technologies being explored for the design, and the schedule. The acquisition process has addressed this possible variation by allowing the PDR to occur after MS B, if warranted.

The type and fidelity of the manpower assessments performed during TD will be highly dependent on platform design detail and available manpower assessment experts and tools. Typically, TD manpower reviews employ Subject Matter Expert (SME) reviews of the design and operating guidelines to determine rate equivalencies for task assignments,

summation of workload estimates, and a complex sixty to ninety day underway period. Findings from these reviews form the basis of the manpower reporting contained in the Acquisition Strategy, detailed SEP, and detailed MER. They also support manpower requirements and Key Performance Parameters (KPPs) identified in the CDD.

#### *Engineering and Manufacturing Development (MS C)*

During Engineering and Manufacturing Development (EMD), the MER and Acquisition Strategy will be updated, and the final SEP will be delivered. These documents are required entrance criteria for MS C. Additionally, the LFT&E assessments are performed and reported in two to four progressive Vulnerability Assessment Reports (VARs).

During EMD, the platform build and construction specifications are developed down to the lowest level of detail required to ensure compliance with the CDD. The platform design will undergo several baseline development and evaluation phases, during which the various aspects of the design will be integrated into a single platform representation and evaluated to ensure appropriate intra-connectivity of distributed systems (e.g., power, air, network, cooling) and compliance with the CDD requirements.

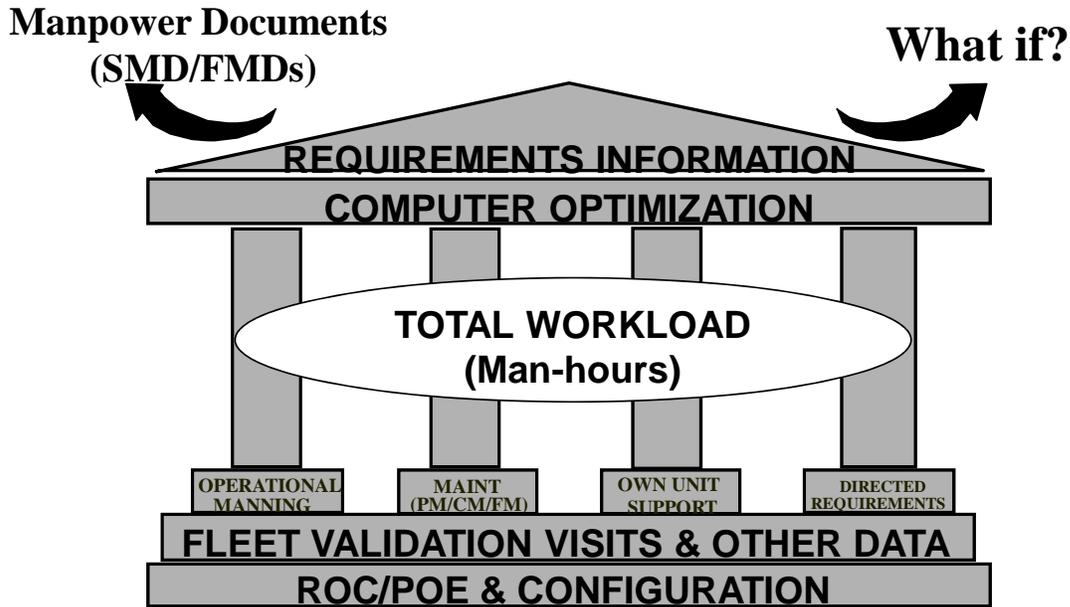
EMD manpower assessments conducted for requirements compliance are similar to those begun during TD. Updates incorporate additional information obtained from the design progression. Several LFT&E analyses are conducted to examine how the platform and crew respond to threats likely to be encountered in combat. Likely hit points are generated by modeling & simulation (M&S) along with predictions for onboard damage. M&S and engineering analyses are used to determine how the shipboard equipment and crew respond to the damage to: treat injured crew members, contain casualties (fire, flooding & smoke), and maintain/restore mission capabilities. A sample set of damage scenarios are selected for simulation onboard the first platform of the class, to validate predictive capabilities. Higher fidelity manpower assessments are typically achieved during EMD, as compared to TD, because more detail is available on the platform design and required manual work responses.

#### *Production & Deployment (P&D) and Operation & Support (O&S)*

The bulk of engineering and design support for the acquisition process typically ends at Full-Rate Production Design Review (FRPDR). Final version of the MER, Acquisition Strategy and VAR are developed and forwarded to the final approval authorities. The bulk of the manpower assessment effort will be integrating findings from shipboard suitability and operability testing into the results.

#### Manpower Methodology

The Navy has established standards for identifying the manpower requirements needed to design the platform for the intended mission. A general methodology for determining manpower requirements has been established and documented in OPNAV and NAVMAC instructions, and is depicted below.



The process starts by interpreting information contained in the platform's Operational Requirements Document (ORD) and Required Operational Capability/Projected Operational Environment (ROC/POE), which establish the conditions that the Navy will deploy the platform in support of wartime missions. The ROC/POE identifies specific platform operational capabilities required during deployments. The capabilities are reviewed and evaluated to determine the watch stations required to maintain the various operational capabilities over the sustained deployment. This capability reflects the first pillar in the above depiction.

The second, third and fourth pillars address personnel actions required to support non-wartime operational tasking. Although these tasks are not directly related to wartime activities, they are required to ensure the platform is capable and ready to engage in wartime tasking when the platform is called upon to do so. Manpower requirements for maintenance, own unit support, and directed requirements are established by assessing the tasks needed to ensure safe, effective and continuous operation of the platform. During the acquisition process, the manpower requirements established for these efforts are identified by Subject Matter Experts (SMEs), using a variety of data collection sources (i.e., work sampling, operational audits, and historical data).

Watch station requirements derived from the ROC/POE evaluation, and non-wartime tasks are entered into the Navy's Manpower Requirements System (NMRS) computer tool. NMRS applies a set of Navy standards (i.e., work-week allocations, unexpected/unplanned maintenance, degradation due to adverse environment/overwork conditions, etc.) to the platform's workload and watch station tasks. NMRS also provides access to historical data from existing platform watch station and workload requirements, to support billet selection and validation. The tools and data available through NMRS allow the platform developer to identify the minimum number of personnel required to be

assigned to the platform. The resulting manpower requirements are documented in the Ship Manpower Document (SMD) and the Fleet Manpower Document (FMD).

#### Current Manpower Assessment Limitations

The following limitations are identified for the current processes employed to address manpower assessments during PEO acquisition programs.

##### *MDD Phase Limitations*

- The platform detail available at MDD does not support an accurate manpower assessment or estimate. Information contained in the early MER is often subjective and speculative.

##### *MSA Phase Limitations*

- The platform detail available at MSA does not support an accurate manpower assessment or estimate. Information contained in the early SEP, like the MDD, is often subjective and speculative.

##### *TD Phase Limitations*

- Manpower requirements are highly dependent on the system design and specifications. The level of platform design and operational detail available during requirements generation (MS B CDD and KPP establishment) often does not support an accurate assessment of manpower needs. This leads to the establishment of manpower requirements without justification for optimization or total ownership costs.
- The current trend for determining manpower requirements is to establish total crew limits and/or configurations. This manner of requirements measure does not support design optimization for manpower reductions that support return on investments, and enable inefficiencies in the design process.
- Manpower requirements and KPPs are established at MS B. The level of design detail available at the end of TD can vary greatly from one platform program to the next, depending on the number and type of new technologies being explored for the design and the schedule. The acquisition process has addressed this possible variation by allowing the PDR to occur after MS B, if warranted. However, this only further hinders the use of design analysis for establishing manpower requirements.
- Current doctrine does not establish methodologies for the majority of objectives and requirements established for manpower assessments and reporting during the acquisition process. The lack of clear-cut methodologies has created a variety of approaches for performing manpower assessments. The lack of standardization increases cost and decreases the accuracy of manpower assessments across acquisition programs.
- Manpower assessment tools and methods are limited to conditions that are statistically insignificant for the number and type of real world conditions that the platform would face during deployment. Measuring manpower adequacy for a 60 or 90 day deployment does not ensure manning adequacy for a majority of realistic deployments, or identify deployment conditions where available

manpower would hinder retention of mission capabilities, or platform survivability.

#### *EMD Phase Limitations*

- Variations between manpower requirement and LFT&E assessment processes lead to varying, and often contradictory, results being reported for manpower adequacy.
- The EMD period provides the most accurate conditions for assessing manpower, due to the availability of detailed design, operating, maintenance and training data. However, implementing changes to the manning configuration or platform design can be difficult during this phase. The ship's requirements will have been locked down (in the CDD). Findings that can limit/optimize total ownership costs, but do not instigate deviations in the requirements, can be ignored due to the acquisition program's strong focus on requirements compliance.
- Methodology employed for requirements compliance and LFT&E only examines a small set of the realistic scenarios that the platform could face during deployment.
- LFT&E manpower assessments occur too late in the acquisition program to support manpower integration and balancing with the design development.

#### Technical Areas

STAMPS' goal will be to develop a single toolset that addresses Navy's manpower assessment needs for acquisition programs, manpower organizations, and the active fleet. This BAA announcement requests proposals that focus on three technical areas to overcome the limitations discussed above:

##### *1. Acquisition Organization Needs*

Evaluate preliminary system designs against a multitude of realistic ship deployment conditions/scenarios, and use results to optimize design for retention of system requirements. Use reporting criteria to establish cost-benefit rationale for manpower reduction features. Evaluate baseline designs (integration of system representations developed by various design teams) against a multitude of realistic ship deployments, and use results to optimize design for retention of mission capabilities. Use reporting criteria to ensure system and manpower optimization for TOC. Review reporting criteria to ensure CDD requirements for manning and system capabilities are maintained throughout the set of realistic deployments.

*a. S & T Issue* - Select realistic conditions/scenarios for assessment. Current system and manpower assessments are conducted on a limited set of scenarios, less than 1% of the realistic operating conditions that the ship can face during realistic deployments. There is a need to:

- Allow various evaluation/oversight organizations to specify the types of scenarios that should be assessed.

- Apply evolutionary computing algorithms (ECAs) to examine proposed system and manpower inputs, and identify specific scenarios that cover the breath of conditions specified for assessment.
- Apply ECA module to all other modules as they become available to allow automatic search of increasingly complex operating scenarios.

*Desired Outcome* - Reduce number of baseline design reviews required to optimize system design and manpower compliments – 15% reduction in design process (estimated savings to be \$25M/acquisition program, based on DDG 1000 baseline review teams arrangement and cost).

b. S & T Issue - Select platform operating conditions (e.g., GQ, Condition III, UNREP), manning arrangement, and system alignments that will be assessed. Current system and manpower assessments are conducted independent of each other, with a very different set of operating conditions. The limited set of operating conditions/alignments is a major contributor to the lack of coverage for assessment conditions/ representations. There is a need to:

- Allow system designers to identify the various operating conditions achievable for the system design, including damage responses.
- Survey current system modeling programs to identify the modeling method and data architecture best-suited to represent system functionality.
- Identify how to represent each system independently with the multiple degrees of freedom inherent in the various alignment and configuration conditions.
- Identify how to represent inter-dependent systems given the various flow-down, flow-up degrees of freedom and dependencies.
- Establish methodologies to incorporate variables for determining system based manual tasking requirements.
- Apply platform system representation method to all other modules as they become available to allow automatic search of system operating variations and representations.

*Desired Outcome* - Improve platform response to deployment scenarios not previously considered during the design development process

c. S & T Issue - Determine platform system responses to the conditions within different scenarios, and identify: a) Crew actions and response timelines required to ensure that the platform maintains mission critical capabilities throughout the scenario (Critical Response Times), b) System responses that degrade operation regardless of the crew responses (e.g., damage to single point failures in the system design or other non-recoverable conditions). Limited capabilities exist today that can integrate the system models into a single, coherent, representation of the platform. Existing system models

typically neglect the impact of the human element, or use assumed response times for each equipment task, regardless of the platform's manning complement, availability, or training levels. There is a need to:

- Develop methodology for extracting crew responses needed to ensure system maintains operational capabilities, from system models.
- Conduct human performance tests to define crew responses needed to ensure system maintains operational capabilities, from system models.
- Investigate critical response categories/times associated with equipment and system functionality for all operating conditions.
- Develop process for extracting critical response time from system design information inputs, based on specific system conditions/scenarios.
- Verify critical response time determination method against known critical response times for a sample set of platform systems and attempt to define associated levels of confidence.
- Determine system responses that degrade functionality independent of manpower.
- Develop model that will evaluate impact of system design changes on the overall ship response.

*Desired Outcome* - Improve ship response to deployment scenarios not previously considered during the design development process.

## 2. *Manpower Organization Needs*

Allow early identification (as early as MS) of new system design and technology development impacts on manpower requirements. Inclusion of manpower costs (e.g., required rates, training updates, recruitment & retention) & total ownership cost in design decisions to implement new equipment, systems or procedures. Use reporting criteria to ensure ship design and manpower complement are optimized for the ship's service life. Early identification of new training requirements and early training community involvement with system designers, to ensure adequate training materials are developed during the design development process.

*S & T Issue* - Determine if/how the crew will perform required system responses and other actions required during different scenarios, and identify: a) The probability of tasking being completed within the Critical Response Times, b) The value added for design investments that expedite manpower responses (e.g., autonomous responses, automation, remote operations). Existing manpower assessment tools do not have the capability to address system alignment or system responses. As a result, manpower assessments are based on a limited set of specific system tasks conducted during a pre-determined 60 or 90 day deployment timeline. These represent less than 1% of the possible manpower tasking required during realistic deployments. There is a need to:

- Develop methodology for determining probability of a specific task being completed, given all the realistic circumstances facing the individual performing the task (e.g., other workload requirements, fatigue, educational level, availability, accessibility)
- Develop agent-based models to simulate manpower behaviors under user-defined operating conditions & realistic equipment response conditions.
- Establish processes for identifying the impact of design investments in expediting crew responses

*Desired Outcome* - Early manpower impact assessment & cost-benefit evaluation during requirements and design development.

### Summary

The results of this effort will increase acquisition program managers and policy makers' awareness of the true costs and value associated with technology insertion on war fighting capabilities. It will accelerate the understanding of the key issues of a program manager's acquisition decision trade space when inserting technology into the acquisition life cycle framework. The practical knowledge will facilitate the development of TOC theoretical model that could simulate acquisition design decisions impact on maintenance, sustainment, and manning life cycle costs. For instance, the simulation could measure the design, maintenance, sustainment, and operation activities of specific submarine combat and weapon technologies embedded in the Virginia Block IV combat control room, including all personnel, departments, divisions, equipment, workloads, operating conditions, maintenance mean time between failures, and so on. By simulating the interactions between humans and certain key pieces of equipment, it is possible to identify "tipping points" and sensitivities that represent the most relevant factors contributing to monetary costs, performance, readiness, and so on. These outcomes will serve as the foundation for subsequent efforts, culminating in a set of best practices and analytical methodologies that will dramatically improve Navy-wide design and procurement, with reduced TOC and increased readiness.

### **References**

- Department of Defense. Instruction. *Operation of the Defense Acquisition System*. 12 May 2003. DoDI 5000.2.
- US Code, Title 10, Subtitle A, Part IV, Chapter 144, Section 2434
- Operation of the Defense Acquisition System, DODI 5000.02, 08 Dec 2008.
- Manpower Planning Systems, SECNAVINST 5312.10C, 29 Oct 1974
- Interim Policy and Procedures for Strategic Manpower Planning and Development of Manpower Estimates, 10 Dec 2003
- Navy Total Force Manpower Policies Procedures, OPNAVINST 1000.16, 22 Aug 2007
- Manpower Determination Methodology (The Process), December 2003

- US Code, Title 10, Subtitle A, Part IV, Chapter 139, Section 2366, Major systems and munitions programs: survivability testing and lethality testing required before full-scale production, 03 Jan 2007

## **7. Point(s) of Contact -**

Questions of a technical nature shall be directed to the cognizant Technical Point of Contact, as specified below:

Office of Naval Research  
ONR Code 342, Room 1045  
ATTN: William “Kip” Krebs, Ph.D.  
875 N. Randolph Street  
Arlington, VA 22203-1995  
e-mail: [william.krebs@navy.mil](mailto:william.krebs@navy.mil)

Questions of a business nature shall be directed to the cognizant Contract Specialist, as specified below:

Business Point of Contact:

Emily McLaughlin  
Senior Contracting Officer  
ONR Code BD 0254  
One Liberty Center  
875 North Randolph St.  
Arlington, VA 22203-1995  
Email Address: [Emily.j.mclaughlin@navy.mil](mailto:Emily.j.mclaughlin@navy.mil)

Questions of a security nature should be submitted to:

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](mailto:diana.pacheco@navy.mil)

Note: All UNCLASSIFIED communications shall be submitted via e-mail. All 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.

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 POCs 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.

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.

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

#### **8. Instrument Type(s) – Contract, Grants, and other Assistance Agreements**

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

#### **9. Catalog of Federal Domestic Assistance (CFDA) Numbers - 12.300**

#### **10. Catalog of Federal Domestic Assistance (CFDA) Titles - DOD Basic and Applied Scientific Research**

#### **11. 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 Category 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Category 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. 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. Potential Offerors should consult with the appropriate ONR POCs to determine whether the proposed effort would constitute basic research, applied research or advanced research.

As regards the present BAA, the R&D effort to be funded consists of basic and applied research. The funds available to support awards are Budget Categories 1 and 2.

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**

The amount and period of performance of each selected proposal may vary depending on the research area and the technical approach to be pursued by the selected offeror.

- Total Amount of Funding Program Office expects to Award through the Announcement: \$18,000,000
- Anticipated Number of Awards: 4-6 awards

- Anticipated Range of Individual Award Amounts per Annum: \$500,000 - \$1,500,000
- Anticipated Period of Performance: 5 years

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

### **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 are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contracts.

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

Some topics cover export controlled technologies. Research in these areas is limited to “U.S. persons” as defined in the International Traffic in Arms Regulation (ITAR) – 22 CFR § 1201.1 et seq. (See Section VII, Other Information)

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

#### **IV. APPLICATION AND SUBMISSION INFORMATION**

##### **1. Application and Submission Process -**

White Papers are required prior to submitting a Full Proposal. The Navy’s initial evaluation of the White Papers should give Offerors some indication of whether a Full Proposal would likely result in an award. Initial Navy evaluations of the White Papers will be issued via E-mail notification. Detailed technical and cost proposals will be subsequently encouraged from those Offerors whose proposed technologies have been identified through the above-referenced E-mail as being of “particular value” to the Navy. However, any such encouragement does not assure a subsequent award.

##### **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 proposals are permitted. Contracts or other instruments resulting from a classified proposal will be unclassified.

##### **Unclassified Proposal Instructions:**

Unclassified White Papers and Full Proposals shall be submitted in accordance with this 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 and marked in the following manner:

OUTSIDE ENVELOPE (no classification marking):

“Office of Naval Research  
Attn: Document Control Unit  
ONR Code 43  
875 N. Randolph St.  
Arlington, VA 22203-1995”

The inner wrapper of the classified White Paper and/or Full Proposal should be addressed to the attention of the TPOC, ONR Code 34 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)

Office of Naval Research  
ONR Code 342, Room 1045  
ATTN: William “Kip” Krebs, Ph.D.  
875 N. Randolph Street  
Arlington, VA 22203-1995  
e-mail: [william.krebs@navy.mil](mailto:william.krebs@navy.mil)

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 or double-spaced
- Font – Times New Roman, 12 point
- Number of Pages – No more than 9 single-sided pages (excluding cover page and resumes). White Papers exceeding the page limit may not be evaluated.

- Copies – Electronic (email) submissions should be sent to the attention of the TPOC at: ([william.krebs@navy.mil](mailto:william.krebs@navy.mil)). The subject line of the email shall read “ONR BAA 11-031 White Paper Submission.” The white paper must be a Microsoft Word or .PDF format attachment to the email.  
**NOTE: 1) Do not send hardcopies of White Papers (including facsimiles) as only electronic submissions will be accepted and reviewed; 2) Do not send .ZIP files; 3) Do not send password protected files.**

### **White Paper Content**

- Cover Page – The Cover Page shall be labeled “PROPOSAL WHITE PAPER,” and shall include the BAA number, proposed title, Offeror’s administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
- Technical and Operational Concept – One page summary of the technical ideas for the proposed research, the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
- Three page technical rationale and approach which contains arguments to substantiate claims made in the summary of technical ideas and is consistent with the summary of deliverables and the summary of the schedule and milestones for the proposed research. 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 should be included.
- Deliverables – One page summary of the deliverables associated with the proposed research.
- Schedule and Milestones – One page summary of the schedule and milestones for the proposed research, including rough estimates of cost for each year of the effort and total cost.
- Key Personnel – One page listing of key personnel along with the approximate percentage of time to be expended by each person during each contract year.
- Qualifications – Two page concise summary of the qualifications of key personnel.

## **b. FULL PROPOSALS**

### **INSTRUCTIONS FOR CONTRACT, COOPERATIVE AGREEMENTS AND OTHER TRANSACTION AGREEMENTS (Does not include Grants)**

*NOTE: Submission instructions for BAAs issued after FY2010 have changed significantly from previous requirements. Potential Offerors are advised to carefully read and follow the instructions below. The new format and requirements have been developed to streamline and ease both the submission and review of proposals. Both the Template and the Spreadsheet have instructions imbedded into them that will assist in completing the documents. Also, both the Template and the Spreadsheet require completion of cost-related information – both documents must be fully completed to constitute a valid proposal.*

*All proposals must use ONR's Technical and Cost Proposal Template and Cost Proposal Spreadsheet. The Template can be found by following this link: <http://www.onr.navy.mil/Contract-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx>.*

*Please note that all the attachments listed in Section III.8 of the Template can be incorporated into the Template file for submission.*

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.

For proposed subcontracts or interorganizational transfers over \$150,000, Offerors must provide a separate fully completed Cost Proposal Spreadsheet in support of the proposed costs. This spreadsheet, along with supporting documentation, must be provided either in a sealed envelope with the prime's proposal or via e-mail directly to both the Program Officer and the Business Point of Contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor. Offerors should also familiarize themselves with the new subcontract reporting requirements set forth in Federal Acquisition Regulation (FAR) clause 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards. Starting March 1, 2011, any newly awarded subcontract must be reported if the prime contract award amount was \$25,000 or more. The pertinent requirements can be found in Section VII, Other Information, of this document.

Offerors should submit one (1) original, plus two (2) hard copies and one (1) electronic copy on CD-ROM. Offerors shall follow the Technical and Cost Proposal Template. The

electronic Technical and Cost Proposal should be submitted in a secure, .pdf compatible format, save for the electronic file for the Cost Proposal Spreadsheet which should be submitted in a Microsoft Excel 2007 compatible format. All attachments should be submitted in a secure, .pdf compatible format.

The secure pdf compatible format is intended to prevent unauthorized editing of the proposal prior to any award. A password should not be required for opening the proposal document, but the Government must have the ability to print and copy text, images, and other content. Offerors may also submit their Technical and Cost Proposal 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 and Cost 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.

## **INSTRUCTIONS FOR GRANTS**

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

To attach the technical proposal in Grants.gov, download the application package

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

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

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

### **Full Proposal Content**

#### **Volume 1: Technical Proposal**

- **Cover Page:** This should include the words "Technical Proposal" and the following:
  1. BAA number BAA 11-031;
  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) and;
  6. Proposed period of performance (identify both the base period and any options, if included);
  7. Signature of Authorized Representative.
- **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.
- **Technical Approach and Justification:** The major portion of the proposal should consist of a clear description of the technical approach being proposed. This discussion should provide the technical foundation / justification for pursuing this particular approach / direction and why one could expect it to enable the objectives of the proposal to be met. Limit the number of pages for this section to 12.
  - **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
  - **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.

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

**Reports:** The following are sample data deliverables that are typically required under a research effort:

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

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

**Management Approach:** 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/subrecipient relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors/subrecipients (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.

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

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

- 1) Title of Proposal and Summary;
- 2) Source and amount of funding (annual direct costs; provide contract and/or grant numbers for current contracts/grants);
- 3) Percentage effort devoted to each project;
- 4) Identity of prime Offeror and complete list of subcontractors, if applicable;
- 5) Technical contact (name, address, phone/fax, electronic mail address)
- 6) Administrative/business contact (name, address, phone/fax, electronic mail address);
- 7) Duration of effort (differentiate basic effort);
- 8) The proposed project and all other projects or activities requiring a portion of time of the Principal Investigator and other senior personnel must be included, even if they receive no salary support from the project(s);

- 9) The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months or labor hours per year to be devoted to the project, regardless of source of support; and
- 10) State how projects are related to the proposed effort and indicate degree of overlap.

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

## **VOLUME 2: Cost Proposal**

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

**Part 1:** The itemized budget must include the following

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

Administrative and clerical labor – Salaries of administrative and clerical staff are normally indirect costs (and included in an indirect cost rate). Direct charging of these costs may be appropriate when a major project requires an extensive amount of administrative or clerical support significantly greater than normal and routine levels of support. Budgets proposing direct charging of administrative or clerical salaries must be supported with a budget justification which adequately describes the major project and the administrative and/or clerical work to be performed.

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

- Travel - The proposed travel cost should include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the 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 principals.
  
- Subawards - Provide a description of the work to be performed by the subrecipients. For each subaward, a detailed cost proposal is required to be submitted by the subrecipient(s). Fee/profit is unallowable. The subawardee's or subrecipient's cost proposal can be provided in a sealed envelope with the recipient's cost proposal or via e-mail directly to both the Program Officer and the business point of contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract. A proposal and supporting documentation must be received and reviewed before the Government can complete its cost analysis of the proposal and enter negotiations. Fee/profit is not allowable on any subawards made through assistance agreements. Fee is allowable on subcontract awards.
  
- Consultants - Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs, a copy of the signed Consulting Agreement or other documentation supporting the proposed consultant rate/cost, and a copy of the consultant's proposed statement of work if it is not already separately identified in the prime contractor's proposal.
  
- Materials & Supplies - Provide an itemized list of all proposed materials and supplies including quantities, unit prices, proposed vendors (if known), and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
  
- Recipient Acquired Equipment or Facilities - Equipment and/or facilities are normally furnished by the Recipient. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Allowable items normally would be limited to research equipment not already available for the project. General purpose equipment (i.e., equipment not used exclusively for research, scientific or other technical activities, such as personal computers, office equipment and furnishings, etc.) should not be requested unless they will be used primarily or exclusively for the project. For computer/laptop purchases and other general purpose equipment, if proposed, include a statement indicating how each item of equipment will be integrated into the program or used as an integral part of the research effort.
  
- Other Direct Costs - Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

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

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

**3. Significant Dates and Times -**

<b>Anticipated Schedule of Events</b>		
<b>Event</b>	<b>Date (MM/DD/YEAR)</b>	<b>Time (Local Eastern Time)</b>
White Papers Due Date	November 1, 2011	2:00 pm
Notification of Initial Navy Evaluations of White Papers*	November 17, 2011	N/A
Full Proposals Due Date	January 10, 2012	2:00 pm
Notification of Selection for Award *	February 23, 2012	N/A
Contract Awards*	July 20, 2012	N/A
Kickoff Meeting*	August 10, 2012	N/A

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

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

**4. Submission of Late Proposals (Applicable to White Papers and Full 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

- 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
- There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government’s control prior to the time set for receipt of proposals; or

(c) It was the only proposal received.

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

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

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

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

## **5. Submission of Grant Proposals through Grants.gov**

(NOT APPLICABLE TO PROPOSALS FOR CONTRACTS, COOPERATIVE AGREEMENTS AND OTHER TRANSACTION AGREEMENTS)

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

As stated in Section IV. 2, White Papers should not be submitted through the Grants.gov Apply process but rather should be sent directly to ONR. White paper submissions should be e-mailed directly to the Technical Point of Contact. White Paper format requirements are found in Section IV, item 2a above.

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

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

provider, and registering with Grants.gov. See [www.grants.gov](http://www.grants.gov), specifically [www.grants.gov/GetStarted](http://www.grants.gov/GetStarted).

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

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

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

#### **Proposal Receipt Notices:**

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

Number 1 - The applicant will receive a confirmation page upon completing the submission to [Grants.gov](http://www.grants.gov).

Number 2 - The applicant will receive an e-mail indicating that the proposal has been validated by [Grants.gov](http://www.grants.gov) within two days of submission (this means that all of the required fields have been completed).

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

### **6. Submission of White Papers and Full Proposals for Contracts, Cooperative Agreements, and Other Transaction Agreements**

Unclassified White Papers must be submitted via e-mail. These unclassified e-mail submissions are not to exceed 5MB and must be submitted to the following address: [william.krebs@navy.mil](mailto:william.krebs@navy.mil).

For unclassified Full Proposal submissions, use the following address:

Office of Naval Research  
Attn: Dr. William Krebs  
ONR Department Code 342, room 1045  
875 North Randolph St.  
Arlington, VA 22203-1995

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

## **V. EVALUATION INFORMATION**

### **1. Evaluation Criteria –**

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

- 1) Overall scientific and technical merits of the proposal;
- 2) Potential Naval relevance and contributions of the effort to the agency's specific mission;
- 3) The offeror's capabilities, related experience, past performance, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives;
- 4) The qualifications, capabilities and experience of the proposed Principal Investigator (PI), team leader and key personnel who are critical in achieving the proposed objectives; and
- 5) The realism of the proposed costs and availability of funds.

Overall, the technical factors (1-4 above) are significantly more important than the cost factor (5), with the technical factors all being of equal value.

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.

### **2. Commitment to Small Business**

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

For proposed awards to be made as contracts that exceed \$650K 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 \$650K, the statement of commitment to small business will be evaluated to ensure that it supports this policy.

### **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 contract 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. Similarly, support contractors may be utilized to evaluate cost proposals. 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.

NOTE: Central Contractor Registry (CCR), Subcontracting Plan requirements and Certification requirements are all set forth in the ONR Technical and Cost Proposal Template for those submitting contract proposals.

Grants, Cooperative Agreements and Normal Other Transaction Agreements (OTAs):

Grant and Cooperative Agreement awards greater than \$100,000, as well as OTAs not under Section 845, require a certification of compliance with a national policy mandate concerning lobbying. Grant, Cooperative Agreement and OTA applicants shall provide this certification by electronic submission of SF424 (R&R) as a part of the electronic proposal submitted via [Grants.gov](http://Grants.gov) (complete Block 17). The following certification applies likewise to each cooperative agreement and normal OTA applicant seeking federal assistance funds exceeding \$100,000:

**CERTIFICATION REGARDING LOBBYING ACTIVITIES**

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

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

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

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

Grants not through Grants.gov:

Proposers seeking grants or cooperative agreements who have received Grants.gov waiver approval for awards greater than \$100,000 shall complete and submit electronic representations and certifications at the Contracts and Grants Section of the ONR Home

## **2. Reporting -**

The following is a sample of deliverables that could be required under a typical research effort:

- Technical and Financial Progress Reports
- Presentation Material
- Other Documents or Reports
- Final Report

However, please note that specific deliverables (that may include software and hardware deliverables) may be proposed by each Offeror and finalized during negotiations.

## **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 and Cost 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 access to classified material will be required at any point during performance, the Offeror must clearly identify such need by completing Section II, Block 11, DD 254 – Security Classification Specification.

Normally, work done under a grant does not require access to classified material.

### **3. Use of Animals and Human Subjects in Research**

If animals are to be utilized in the research effort proposed, the Offeror must complete a DoD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and/or NIH assurance, IACUC approval, research literature database

searches, and the two most recent USDA inspection reports) prior to award. For assistance with submission of animal research related documents, contact the ONR Animal Use Administrator at (703) 696-4046.

Similarly, for any proposal for research involving human subjects, the Offeror must submit or indicate an intention to submit prior to award: documentation of approval from an Institutional Review Board (IRB); IRB-approved research protocol; IRB-approved informed consent form; proof of completed human research training (e.g., training certificate or institutional verification of training); an application for a DoD-Navy Addendum to the Offeror's DHHS-issued Federal wide Assurance (FWA) or the Offeror's DoD-Navy Addendum. In the event that an exemption criterion under 32 CFR.219.101 (b) is claimed, provide documentation of the determination by the Institutional Review Board (IRB) Chair, IRB vice Chair, designated IRB administrator or official of the human research protection program including the category of exemption and short rationale statement. This documentation must be submitted to the ONR Human Research Protection Official (HRPO), by way of the ONR Program Officer. Information about assurance applications and forms can be obtained by contacting [ONR\\_343\\_contact@navy.mil](mailto:ONR_343_contact@navy.mil). If the research is determined by the IRB to be greater than minimal risk, the Offeror also must provide the name and contact information for the independent medical monitor. For assistance with submission of human subject research related documentation, contact the ONR Human Research Protection Official at (703) 696-4046.

For contracts and orders, the award and execution of the contract, order, or modification to an existing contract or order serves as notification from the Contracting Officer to the Contractor that the HRPO has approved the assurance as appropriate for the research under the Statement of Work and also that the HRPO has reviewed the protocol and accepted the IRB approval or exemption determination for compliance with the DoD Component policies. See, DFARS 252.235-7004.

#### **4. Recombinant DNA**

Reserved

#### **5. Department of Defense High Performance Computing Program**

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & 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/>.

## **6. 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. 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 or mitigated, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

## **7. 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.

## **8. Executive Compensation and First-Tier Subcontract Reporting (APPLIES ONLY TO CONTRACTS)**

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.

## **9. Other Guidance, Instructions, and Information**

None