

Medical Modeling and Simulation (MM&S) for Military Training and Education

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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 - Medical Modeling and Simulation (MM&S) for Military Training and Education

3. Program Name - Medical Modeling and Simulation (MM&S) for Military Training and Education Program

4. Research Opportunity Number - 12-013

5. Response Date -

White Papers: 8/30/2012

Full Proposals: 11/15/2012

6. Research Opportunity Description -

Background

The Assistant Secretary of Defense for Health Affairs (ASD(HA)) established the Defense Medical Research and Development Program (DMRDP) to advance the state of medical science in those areas of most pressing need and relevance to today's battlefield experience. The objectives of the DMRDP are to discover and explore innovative approaches to protect, support, and advance the health and welfare of military personnel, families, and communities; to accelerate the transition of medical technologies into deployed products; and to accelerate the translation of advances in knowledge into new standards of care for injury prevention, treatment of casualties, rehabilitation, and training systems that can be applied in theater or in the clinical facilities of the Military Health System (MHS). Several Joint Program Committees were established and assigned programmatic responsibility for various areas. Joint Program

Committee-1 (JPC-1) is responsible for Medical Training and Health Information Sciences.

As part of this ongoing and coordinated effort to ensure the most effective training, and with funding from the DMRDP, the Office of Naval Research (ONR) is interested in receiving technical proposals to develop and demonstrate modeling and simulation-based adaptive training systems for joint service medical applications. This research opportunity is driven by two key factors. The first is the recognition that modeling and simulation technologies, having achieved significant positive pay-off for the development, testing, and evaluation communities as well as the military and commercial aviation communities, can be applied to improve performance and reduce overall costs associated with training and education of medical practitioners throughout their careers. The second is the fact that advances in the human performance sciences, e.g., instructional systems design, informatics, computer sciences, artificial intelligence/machine learning, and human interfaces, have created a unique opportunity to develop more effective, robust M&S-based medical training approaches that enhance DoD's healthcare delivery capabilities. The desired technical capabilities must be able to develop and maintain key performance skills among the personnel in the military healthcare's operational system.

Introduction

Modeling and Simulation (M&S) technologies have been effectively used to improve and reduce the cost of ownership associated with the development, testing, and evaluation of operational capabilities. More recently, they have been used as part of a larger-scale approach for reducing training costs and enhancing the rate at which students progress from novice to expert problem solver across the Department of Defense, in domains such as aviation, surface and cyber warfare. While M&S tools have had considerable success, to date, their broad application to meet the increasing medical and health care challenges has been limited. The continued military operational conflicts, combined with emerging challenges across multiple continents and the associated cultural/language differences, have led to increased demands for medical care by professionals and "buddies" as well. These drivers have, in turn, led to greater demands for personnel who are trained to provide immediate care for a wide range of combat casualties and for technologies to enable patients to become "smarter consumers" of military medicine. These demands sometimes require training or immediate job aiding that is highly relevant to the operational conditions where combat casualties will be treated. The Joint Services are establishing medical simulation and training facilities employing the latest in modeling and simulation capabilities to augment the training currently offered to medical and healthcare personnel.

This BAA requests proposals that focus on Medical Skills Training and Patient Focused Rehabilitation and Education Technologies. These technical areas are expected to help the DoD address many of the current and anticipated challenges in military medical education and training. Specific S & T gaps to be addressed in developing solutions to either of these technical areas include:

- Computational cognitive models of student performance and expert instructor techniques
- Scenario development tools that create individualized instructional content and strategies
- Individually tailored, natural dialog-based, student-cognitive tutor interactions
- Scaling from individual to team and across different medical specialties to support the

continuum of medical treatment

- Data acquisition tools that capture and appropriately combine all relevant medical healthcare information and curriculum content into a common searchable and interoperable repository to allow quick time scenario development
- Ontologies that support re-use of medical information for a range of training sources as well as metric development for evaluating the effectiveness of chosen instructional strategy contents and student performance assessments
- Demonstrated effectiveness by comparing traditional teaching to simulation for the retention of learning and subsequent application of what has been learned
- Ensure the use of human factors design principles in the design of simulations/simulators to minimize learning time, enhance ease of use of the simulators for training.
- Multi-platform applicability, to support mobile learning through portable/hand-held technologies providing just-in time training, anywhere, anytime, and reach back capability.

Proposals to each of the two technical areas below must include a return-on-investment assessment of the resultant technologies, based on data collected through effectiveness evaluations. A given proposal may only address one technical area. All software and hardware and other deliverables should be clearly detailed in the body of the proposal. Deliverables should include, as applicable:

- Research data (if applicable)
- Presentation materials
- Technical and Financial Progress Reports
- Fully functional prototype system, with related hardware and software (if applicable)
- Final report

Technical Areas

1. Medical Skills Training

-Vision

-Improved training technologies that augment the medical provider training lifecycle between CONUS, deployment and back.

Scope:

The increased deployment, redeployment and reentry cycles of medical professionals from forward-based medical facilities back into the clinical military medicine environment has created a unique challenge for maintaining medical skills. Practitioners may experience decay of those skill sets not frequently used during periods of lengthy deployment. Equally likely, they may have missed opportunities to acquire new procedural and health management skills sets, due to "absence of practice" from their primary specialty. Technology applications developed under this challenge area will focus on:

1. Loss of Skills, Retraining & Competence

- Assessing performance in terms of military medicine competence
- Identifying area(s) and degrees of skill decay
- Linking skill loss with training remediation strategies to guide training
- Automated training scheduler that recommends specific course content or related actions based

on measures of skill decay

2. Educational content focusing on medical practice training scenarios, including high risk procedures / cases

3. Modeling and Simulation for Training/Retraining

- Replace standardized live patient teaching cases with reusable virtual human patients
- Enable team-based interactions with virtual surgical / diagnostic team members
- Provide continuous, enduring and tailored feedback through an agent-based military medical lifecycle counselor.

4. Combat Casualty Trauma Training

- Simulation systems with potential to reduce or replace use of animals as they are currently used for trauma training within the military. Areas of interest include, but are not limited to, simulation systems that teach/train skills related to cricothyroidotomy and hemorrhage control.
- Materiel solutions, innovative technologies and techniques to advance capabilities to conduct realistic combat trauma training.

TRL at completion: 6

2. Patient-Focused Rehabilitation and Education Technologies

Vision

Interactive and immersive stand-alone tools that a patient can use, off-site and at home for individualized, tailored rehabilitation

Scope:

Increasingly, the kinds of wounds today's warfighters are sustaining - both physical and cognitive - require prolonged rehabilitation protocols. Inpatient delivery of these treatments is expensive and manpower intensive, making it difficult to cost effectively meet the growing demand. Outpatient delivery relies on the patient being sufficiently motivated - and educated - to "self-administer" the required rehabilitation protocols. Technology applications developed under this challenge area will focus on:

1. Mobile/Portable Modeling and Simulation Technologies for Health & Training - to provide easy access to rehabilitation protocols anywhere, anytime

2. Virtual Human Patients & Coaches - to provide interactive guidance, mentoring and motivation during rehabilitation sessions

3. Advanced Interactive / Augmented Reality Training Technology - to provide a multi-modal interactive environment in which to carry out rehabilitation.

TRL at completion: 6

7. Point(s) of Contact -

Questions of a technical nature should be submitted to:

Technical Area 1
Dr. Ray Perez
Program Officer
ONR Code 341
Human and Bioengineered Systems Division
Office of Naval Research
875 N. Randolph Street
Arlington VA 22203-1995
ray.perez@navy.mil

Technical Area 2
CDR Joseph Cohn, PhD
Program Officer/Division Deputy
ONR Code 341
Human and Bioengineered Systems Division
Office of Naval Research
875 N. Randolph Street
Arlington VA 22203-1995
joseph.cohn@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 N. Randolph Street
Arlington, VA 22203-1995
Email Address: diana.pacheco@navy.mil

Questions of a business nature should be submitted to:

Name: Richard Pollack
Address: 875 N Randolph Street
ONR Code 254
Phone: 703-588-2837
Email: richard.pollack.ctr@navy.mil

Note: All UNCLASSIFIED communications shall be submitted via e-mail to the Technical Point of Contact (POC), with a copy to the designated Business POC.

CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any entity wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC

with a copy to both the Technical POC and the Business POC stating that the entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity and arrange

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>

8. Instrument Type(s)

Awards will be issued as Contracts. 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.

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

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-

- Total Anticipated Amount of Funding Available: \$5.5M over a two (2) year period
- Anticipated Number of Awards: 2-3 for each Technical Area
- Anticipated Range of Individual Awards Across Two (2) Year Period:
 - Technical Area 1: \$600K-\$1.0M
 - Technical Area 2: \$600K-\$1.0M
- Anticipated Period of Performance: Two (2) years

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.

IV. APPLICATION AND SUBMISSION INFORMATION

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

The due date for white papers is no later than 3:00 PM (EDT) on 30 AUG 2012. White papers are to be submitted as a searchable .pdf file via electronic mail (email) as follows: White papers addressing either Technical Area 1 or Technical Area 2 should be submitted to Ms. Elizabeth O'Neill at oneille@onr.navy.mil. If an Offeror does not submit a white paper before the specified due date and time, it is not eligible to participate in the remaining Full Proposal submission process and is not eligible for funding. Each white paper should state that it is submitted in response to this BAA and cite the particular technical area of the Research Opportunity Description above that the white paper is primarily addressing.

White Paper Evaluation/Notification:

The initial evaluation of the White Papers should give Offerors some indication of whether a Full Proposal would likely result in an award. Initial evaluations of the White Papers will be issued via email notification on or about 15 OCT 2012. Detailed technical and cost proposals will be subsequently encouraged from those Offerors whose proposed technologies have been identified through the above-referenced email as being of "particular value" to the Navy. However, any such encouragement does not assure a subsequent award. Any Offeror may submit a Full

Proposal even if its White Paper was not identified as being of "particular value" to the Navy.

The due date for receipt of Full Proposals is 3:00 PM (EDT) on 15 NOV 2012. It is anticipated that final selections will be made within 8 (eight) weeks after full proposal submission. As soon as the final full proposal evaluation process is completed, PI's will be notified via email of their project's selection or non-selection for FY12 funding. Full proposals received after the published due date and time will not be considered for funding in FY12. Full proposals to Technical Area 1 and Technical Area 2 should be submitted to Ms. Elizabeth O'Neill at oneille@onr.navy.mil.

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

White Papers and Full Proposals submitted under the BAA are expected to be unclassified.

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: 8 pages (excluding cover page, resumes, bibliographies, and table of contents)
- Copies - One (1) electronic copy in Adobe PDF or Word 2007 delivered via email. Electronic (email) submissions should be sent to the attention of the TPOC at: oneill@onr.navy.mil. The subject line of the email shall read "ONR BAA12-013 White Paper Submission."

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

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

White Paper Content

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER", and shall include the BAA number, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
- **Technical Concept:** A description of the technology innovation and technical risk areas.
 - One page summary of the technical ideas for the proposed research;
 - Two 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 the deliverables and the summary of the schedule and milestones for the proposed research;
 - One-half page summary of the deliverables associated with the proposed research;
 - One-half 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;
 - One page listing of key personnel along with the approximate percentage of time to be expended by each person during each contract year;
 - One page concise summary of the qualifications of key personnel.
- **Military Relevance:** Include in the two-page technical rationale and approach part of the white paper a description of potential Military relevance and contributions of the effort to the agency's specific mission.

b. FULL PROPOSALS

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

All proposals must include the following three documents:

- (1) Technical Proposal Template (pdf)*
- (2) Technical Content (word)*
- (3) Cost Proposal Spreadsheet (excel)*
- (4) Quad Chart (pdf)*

The first three documents can be found at: <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx>

All have instructions imbedded into them that will assist in completing the documents. Also, both

[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 also familiarize themselves with the new subcontract reporting requirements set forth in Federal Acquisition Regulation (FAR) clause 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards. From October 1, 2010 through February 28, 2011, any newly awarded subcontract must be reported if the prime contract award amount is \$550,000 or more. Starting March 1, 2011, any newly awarded subcontract must be reported if the prime contract award amount was \$25,000 or more. The pertinent requirements can be found in Section VII, Other Information, of this document.

Offerors should submit and one (1) electronic copy on CD-ROM. The electronic Technical 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 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.

3. Significant Dates and Times -

Event	Date	Time
White Paper Due Date	8/30/2012	3:00 PM Eastern Daylight Time
Notification of White Paper Evaluation*	10/15/2012	
Full Proposal Due Date	11/15/2012	3:00 PM Eastern Daylight Time
Notification of Selection: Full Proposals*	2/15/2013	
Awards*	6/15/2013	
Kick-Off Meeting*	7/3/2013	

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

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.

White Papers and Full Proposals for Contracts should be sent electronically to the Office of Naval Research at the following address: oneille@onr.navy.mil

V. EVALUATION INFORMATION

1. Evaluation Criteria -

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

- 1) Overall scientific and technical merits of the proposal;
 - Quality of research and/or technology development methods
 - Degree of innovation and creativity
- 2) Potential military relevance and contributions of the effort to the agency's specific mission;
 - How well does the research study solve the military problem identified in the respective Technical Area?
- 3) The offeror's capabilities, related experience, 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 proposal objects; 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, 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.

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

2. Commitment to Small Business (For Contract Awards Only)

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

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

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

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

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

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

b.) Small Business Participation Statement –

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

HUBZones, SDBs, and WOSBs concerns will have to the maximum practicable opportunity to participate in contract performance consistent with its efficient performance.

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

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

3. Options -

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

4. Evaluation Panel -

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

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements -

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

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

- Access to your Contract Award

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

EDA

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

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

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

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent

possible. Normally, work done under a grant does not require access to classified material. If it is determined that access to classified information will be required during the performance of an award, a Department of Defense (DD) Form 254 will be attached to the contract; and FAR 52.204-2 - Security Requirements will be incorporated into the contract. The Offeror must clearly identify such need by completing Section II, Block 11, DD 254 - Security Classification Specification in the technical proposal template.

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 AALAC 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 documentation, 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. 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. 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.fsr.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.
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- 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/excomp.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

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(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