



**OFFICE OF NAVAL RESEARCH  
BROAD AGENCY ANNOUNCEMENT (BAA)  
Detailed Design for a Solid Oxide Fuel Cell (SOFC)  
Based Auxiliary Power Unit**

**INTRODUCTION:**

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposal (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award all, some or none of the proposals in response to this announcement. 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.

All information presented during the industry day held 12 August 2008 will be posted for review. Any questions regards accessing this information should be directed to Mr. Shawn O'Donnell.

**I. GENERAL INFORMATION**

**1. Agency Name -**

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

## **2. Research Opportunity Title –**

Detailed Design for Solid Oxide Fuel Cell (SOFC) Based Auxiliary Power Unit

## **3. Program Name –**

Solid Oxide Fuel Cell (SOFC) Based Auxiliary Power Unit

## **4. Research Opportunity Number –**

ONR BAA 08-024

## **5. Response Date –**

See Section entitled ‘Significant Dates and Times’ for anticipated schedule of events. Proposals are due no later than 11 a.m. (Standard Time) on November 10, 2008.

## **6 Research Opportunity Description -**

### **6.1 Background:**

Fuel cells systems are a promising technology for the next generation of power plants with high efficiency and extremely low pollution. Due to the wide range of power outputs, fuel cells have many commercial and military applications including auxiliary power units (APU's). Among the many types of fuel cells, solid oxide fuel cells (SOFCs) have one of the highest efficiencies due to their thermal operating range, typically between 600 °C and 1000 °C. The high operating temperature enables the exhaust energy from the SOFC to be recovered by other components enabling efficiencies in excess of 50% depending upon fuel utilized and configuration.

Solid oxide fuel cells (SOFCs) require a fuel and an oxidant in order to generate electric power. Since the military utilizes logistics fuels such as JP8, JP5, Ultra Low Sulfur Diesel, or Zero Sulfur Synthetic Diesel, in the future fuel cell systems need to be flexible in design and capable of operating on such fuels. In order to achieve this goal, military fuel cell systems must contain sub systems capable of processing logistics fuels into the fuel cell's desired fuels; namely hydrogen or hydrogen rich reformat. Such systems can consist of a fuel processing unit (reformer), a catalytic burner, and auxiliaries associated with air, fuel, and water management. In addition, energy recovery subsystems can be utilized to increase overall system efficiency. This equipment is combined with the fuel cell itself, power electronics, and process control systems to create a fuel cell based APU. Energy storage can also be utilized to enhance electrical transient or start up capability.

Current military operations suffer from high and growing battlespace fuel demand. This demand degrades capability, increases force balance problems, exposes support

operations to greater risk, and increases support costs. More efficient platforms can enhance range, persistence and endurance. They can benefit the military not only by the direct savings in fuel costs, but also by increasing combat effectiveness through the redirection of resources currently utilized for resupply. The benefits of efficient platforms can allow for an increase warfighting capability.

According to the latest Defense Science Board Energy Report dated February 2008, for Army operations “during wartime, generators become the largest single fuel consumers on the battlefield”. A high efficiency, advanced power generation unit suitable for auxiliary power unit applications could help reduce the battlespace fuel burden and help meet the ever increasing power demands for our troops in the battlefield.

Advanced fuel cell APUs has the potential to significantly impact this logistics burden by providing this high efficiency regardless of electrical load. In addition, these systems enable a reduction in noise signature with respect to other generation methods such as turbines and diesels.

Through investment by the various entities within Department of Defense and Department of Energy, the fuel cell stack and integral sub system technologies have matured to a degree such that the potential for a robust, integrated fuel cell APU may now be realized. Information from the research effort funded through this BAA will be utilized for further development efforts in this technology area..

A detailed design of an integrated SOFC APU incorporating these military operational requirements is a critical step that increases this understanding of the technical solution set that successfully enables building APUs capable of in field military applications. This detailed design effort will additionally provide a better understanding of how the technologies operate with respect to startup, steady and transient operation. It will enable better insight into the optimal strategies for meeting the operational requirements of a battlefield generator. This is a critical learning area that will be of considerable value to various entities within DoD before these APUs can be transitioned.

## **6.2 Program Plan:**

The objective of this program is to obtain a detailed conceptual design (DCD) for a modular, compact solid oxide fuel cell system to provide high efficiency, silent power for US Marine Corps (USMC) and other DoD Auxiliary Power Unit (APU) applications. The Office of Naval Research desires to gather and evaluate the DCDs, with or without compatible energy storage, and energy recovery machinery that can perform the function of an Auxiliary Power Unit capable of operating with JP5, JP8, Ultra Low Sulfur Diesel, and zero sulfur synthetic diesel. The fuel cell based APU system design must meet or exceed the system metrics described at the end of this section. The system should be able to achieve Technology Readiness Level (TRL) 6 by January 2012 with capability of TRL 9 by 2015.

The program will require quarterly reports throughout the 12 month effort with a final report at completion. This final report will contain the DCD fuel cell APU system design that

meets or exceeds all of the system metrics described at the end of this section. The design should take into consideration the approach necessary to have a Technology Readiness Level 6 operational demonstrator complete by 2012 where TRL 6 is defined as a fully integrated combination of fuel processor, fuel cell, as well as auxiliaries, balance of plant, power electronics, energy storage and recovery. The system would be capable of being started and stopped as necessary, and demonstrated in a relevant but controlled environment. The DCD should also take into consideration subsequent modifications necessary to meet the system metrics described at the end of this section. This will provide the military with the in-depth understanding of the trade offs with respect to which sub system technologies make the best choices not only for a TRL 6 demonstrator but for a fully fielded application.

The interested parties should focus on any technology areas that are necessary to meet the goals of the requirements. The system should be capable of multi fuel operation and should meet the power quality, input, and outputs as defined in the specifications section. The system should be capable of self-start without assistance, and must be water neutral. The controls system approach should be explained in the DCD. It must address the methodology and operational approach.

The fuel cell APU system should be independent of vehicle application or fuel tank storage at this time. Follow on analysis for individual fuel cell APU system vehicle or towable applications will be performed within the DoD as necessary based on the results of the DCD. However, the DCD should account for all density requirements, environmental requirements, dimension limitations, package requirements, and others in the specifications below.

The DCD must provide all of the characteristic parameters, requirements, parts, layout and structure to take the sum of all of the components mentioned above, along with anything else deemed necessary by the designer. Military Specifications (MIL Spec.) compliance will be mandatory. However no certification of Mil Spec compliance will be necessary for the DCD. For any component technologies that have not received industry validation previously, an offeror must provide operational data and models to support those items as part of a complete proposal package. A Final DCD review, that validates the ability of the final system to be in compliance with the specifications listed at the end of this section, will be required as part of a successful DCD. Technology maturity will be considered, as well as feasibility and engineering suitability of components not previously demonstrated together. Specific allotments of space for specific subcomponents should be provided within the DCD to meet specifications below as deemed necessary by the designer.

<b>Attribute Parameter</b>	<b>Objective</b>
Output Power	10 kilowatts electrical (threshold), 15 kilowatts electrical (objective)
Electrical Connections	Regulated adjustable output: - 26.5 Volts Direct Current to 29.5Volts Direct Current
Electrical Performance	Mil-Std-1275, Mil-Std-1332
Volumetric Density	30 Watts/Liter
Gravimetric Density	35 Watts/kilogram

(dry)	
Height, not to exceed	37"
Length, not to exceed	62"
Width, not to exceed	32"
Start time	Achieve full operable capacity within 30 minutes.
Fuels	JP-5, JP-8, Ultra Low Sulfur Diesel, Zero Sulfur Synthetic Diesel
Efficiency - Lower Heating Value (LHV)	>30%
Water Requirement	Net producer or neutral
Operational Temperatures	-25F to 140F (threshold), -60F to 140F (objective)
Elevation	4000ft rated power (threshold) 6000ft rated power (objective)
Operational Gradient	15 degree incline
Mil-Std-810F Environmental Capability with respect to	Rain, Fog, Icing, Salt Fog, Solar Radiation Sand/Dust, Humidity, Cold Storage (-60F), Fungus
Start Cycle (cold start)	2 per week, 120 total
Noise	≤ 65 decibels at 7 meters (threshold), ≤ 60decibels at 7 meters (objective),
Fuel Cell System Package	Drip Proof Enclosure
Fuel Cell System Package Air Filtration	Internally or externally installed
System Life: Mean Time Between Overhaul (MTBO)	5000 hours
Fuel Cell System Package Interface	External fuel, electrical output, data acquisition.
Fuel Cell System Package Controls	Internally or externally installed. Volume and weight accounted for in total system volumetric, gravimetric density.
System Maintenance, Duty Cycle	>150 hours
System Safety	Mil-Std-882D

EMI	Mil-Std-461
Vibration	Mil-Std-810
Shock	Mil-Std-810
Other STD Compliance	Mil-Std-705

**7. Points of Contact**

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

Science and Technology Points of Contact:

Mr. Donald J. Hoffman  
Office of Naval Research, ONR 331, Suite 271  
875 N. Randolph Street  
Arlington, VA 22203-1995  
Telephone Number: (703) 696-0614  
Email Address: Donald.Hoffman@navy.mil

Business Point of Contact:

Mr. Shawn O'Donnell  
Contract and Grant Awards Management Division  
875 N. Randolph Street  
ONR Code 254  
Arlington, VA 22203-1995  
Telephone Number: (703) 696-0975  
Email Address: shawn.odonnell1.ctr@.navy.mil

**8. Instrument Types**

Awards will take the form of contracts

**9. Catalog of Federal Domestic Assistance (CFDA) Numbers – N/A.**

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

**II. AWARD INFORMATION**

The Office of Naval Research (ONR) plans to make awards that represent the best value to the Government in accordance with the evaluation criteria. ONR is seeking participants for this program that are capable of investigating and applying advances in S&T by completing a detailed conceptual design of the Solid Oxide Fuel Cell Auxiliary Power Unit required to achieve the goals described in this announcement. Offerors have the opportunity to be creative in the selection of the technical and management processes, either commercial or DoD practices, that best suit their approach. This announcement is restricted to applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts made under this BAA are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

**Anticipated Number of Awards:**

One or more awards, as described in the Research Opportunity Description. An Offeror may submit more than one proposal. ONR reserves the right to select for funding any, all, or none of the responses received.

**Anticipated Award Types:**

Awards will take the form of contracts. ONR will not issue grants, cooperative agreements, or other transaction agreements under this BAA.

**Anticipated Range of Individual Awards:**

Individual awards are not anticipated to exceed \$1.6M each. Total budget for this effort is estimated to be \$3.2M.

**Anticipated Period of Performance:**

Up to 12 months

**III. ELIGIBILITY INFORMATION**

All responsible sources from academia and industry may submit proposals under this BAA so long as they can overcome the export control limitations in this research area. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are

allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

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

Teams are encouraged to 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 aspects of SOFC design are export control technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) -22 CFR § 1201.1 et seq. In accordance with 22 CFR § 121.1 the following ITAR restrictions apply. Energy conversion devices for producing electrical energy from nuclear, thermal, or solar energy, or from chemical reaction that are specifically designed, developed, modified, configured or adapted for military application.

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

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

**Full Proposal Submission** - The due date for receipt of Full Proposals is **11:00 a.m. Eastern Daylight Time (EDT) on 10 November 2008**. It is anticipated that any final selections would be made tentatively by 15 December 2008. Offerors are encouraged to restrict their responses to this BAA to a maximum of two proposals from each corporate entity. As soon as the final proposal evaluation process is completed, the offeror will be notified via email or letter of its selection or non-selection for an award.

This BAA constitutes all the information to be provided regarding this solicitation.

##### **2. Content and Format of Proposals -**

Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified proposals are permitted. If a classified proposal is submitted, the resultant contract will be unclassified.

Unclassified proposals shall be submitted directly to the Technical Point of Contract (TPOC);  
Office of Naval Research



Attn: Mr. Don Hoffman  
ONR Code 331  
875 North Randolph Street  
Arlington, VA 22203-1995

Classified proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

Office of Naval Research  
Attn: Document Control Unit  
ONR Code 43  
875 North Randolph Street  
Arlington, VA 22203-1995

The inner wrapper of the classified proposal should be addressed to the attention of the Mr. Don Hoffman, ONR Code 331 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)  
"Program: ONR Detailed Design for a Solid Oxide Fuel Cell (SOFC) Based Auxiliary Power Unit"

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. The proposal shall include a severable, self-standing Statement of Work, which contains only unclassified information and does not include any proprietary restrictions.

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.

### **3. Full Proposals**

#### **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 – Full proposals exceeding the page limit may not be evaluated:
  - Technical Proposal: The total number of pages in Volume 1, 'Technical Proposal' should not exceed 40.

-Cost Proposal: The total number of pages in Volume 2, 'Cost Proposal' is unlimited.

- Copies - one (1) original, two (2) additional hard copies and one electronic copy on a CD-ROM, (in Microsoft Word or Excel 97 or 2003 compatible or PDF format).

## **Proposal Content:**

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

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

- **Cover Page (the Cover Page is not included in the Page Limitation)**

This must include the words "Technical Proposal" and the following:

- 1) BAA number;
- 2) Title of Proposal;
- 3) Identity of prime Offeror and complete list of subcontractors, if applicable;
- 4) Technical contact (name, address, phone/fax, electronic mail address)
- 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
- 6) Duration of effort (differentiate basic effort and any proposed options)

- **Table of Contents (the Table of Contents is not included in the Page Limitation)**

An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.

- **Statement of Work**

A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, the proposal must include a severable, self-standing SOW, without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.

- **Technical Concept**

The Technical Concept shall include thorough description of the concept of technology innovation and relevant technical risk areas. This section should

detail the S&T challenges, plan to address the challenges, and resultant benefits of performing this effort.

This section should also include a description of the potential Navy/Marine Corp relevance and contributions of the proposed effort to the goals of this BAA. This section should include a synopsis of the offeror's proposed conceptual detailed design along with system process diagrams.

Identification of the following should be included with respect to the conceptual detailed design:

- Exotic materials, hazardous materials, or materials requiring special storage or handling
- High risk areas associated with meeting Navy/Marine Corps needs identified in the Section 6.2 Program Plan of this BAA

• **Operational Naval Concept:** Describe how the proposed detailed conceptual design (DCD) for a modular, compact solid oxide fuel cell system will provide high efficiency, silent power for US Marine Corps (USMC) and other DoD Auxiliary Power Unit (APU) applications.

Explain also how this detailed design effort “will provide (1) a better understanding of how the technologies operate with respect to startup, steady and transient operation”, “and (2) better insight into the optimal strategies for meeting the operational requirements of a battlefield generator.”

- **Project Schedule and Milestones**

A summary of the schedule of events and milestones

- **Assertion of Data Rights and/or Rights in Computer Software:**

For a contract award an offeror may provide with its proposal assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014 and -7017. These clauses may be accessed at the following web address:

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

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

- **Deliverables**

The offeror must provide a detailed description of the results and products to be delivered inclusive of the timeframe in which they are to be delivered.

The Statement of Work should include a summary listing of these deliverables.

The offeror should provide quarterly design reviews with final detailed design report at the end of the contract.

Quarterly Review Material and Final Detailed Conceptual Design at the end of contract should provide enough detail for Navy technical experts to review the design and system modeling results.

- **Personnel Qualifications**

A discussion of previous accomplishments and work in this, or closely related, areas, and the qualifications of the investigators. Key personnel resumes shall be attached to the proposal and will not count toward the page limitations.

- **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.

- **Facilities**

Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment, Hardware, Software, or Information required, by version and/or configuration.

- **Other Agencies:**

Include the name(s) of any other agencies to which the proposal has also been submitted.

- **Past Performance**

Offeror shall provide all relevant past performance for similar or related work under contracts currently being performed or completed during the last three (3) years. The offeror may include Federal, State and Local Government and private sector contracts. Offeror that represent newly formed entities, without prior contract experience, should identify previous contract and subcontract experience for all key personnel identified in the proposal.

**The contractor shall provide the following information for each such contract:**

- 1. Contract Number**
- 2. Customer/Agency**
- 3. Contracting Officer and Technical Point of Contact (names and phone numbers)**
- 4. Brief Description of Scope of Work**
- 5. Contract Type**
- 6. Award Price**
- 7. Total Labor-Hours of Effort**
- 8. Period of Performance**
- 9. Contract Deliverables**

**Volume 2: Cost Proposal:**

The Cost Proposal shall consist of a cover page and two parts, Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar/fiscal year and Part 2 will provide a Cost breakdown by task/sub-task using the same task numbers in the Statement of Work. Options must be separately priced.

Although not required and provided for informational purposes only, detailed instructions, entitled “Instructions for Preparing Cost Proposals for Contracts and Agreements”, including a sample template for preparing costs proposals for contracts may be found at ONR’s website listed under the ‘Acquisition Department – Contracts & Grants Submitting a Proposal’ link at: [http://www.onr.navy.mil/02/how\\_to.asp](http://www.onr.navy.mil/02/how_to.asp)

**Cover Page:**

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

- BAA number
- Title of Proposal
- Identity of prime offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address)
- Duration of effort
- Cognizant DCAA and DCMA point of contact, address, phone/fax, electronic mail address (if available)

**Part 1 – Contract Costs:**

Detailed breakdown of all costs by cost category by calendar or Government fiscal year:

- Direct Labor – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates;
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate);
- Proposed Contractor-Acquired Equipment - such as computer hardware for proposed research projects should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Where possible, indicate purchasing method (competition, price comparison, market review, etc.);
- Travel – Number of trips, destination, duration, etc;
- Subcontract – A cost proposal as detailed as the offeror’s cost proposal will be required to be submitted by the subcontractor. The subcontractor’s cost proposal can be provided in a sealed envelope with the offeror’s cost proposal or will be obtained from the subcontractor prior to award; \*
- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;
- Materials - Should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's procurement method to be used (competition, engineering estimate, market survey, etc.);
- Other Directs Costs - particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor. (Justifications must be provided when Government funding for such items is sought). Include a brief description of the Offeror's procurement method to be used (competition, engineering estimate, market survey, etc.);
- Fee/Profit

**\*NOTE:** DoD Federal Acquisition Regulation (DFAR) provision 252.215-7003 (48 CFR § 252.215-7003) is incorporated into this solicitation by reference. The Offeror is to exclude excessive pass-through charges from Subcontractors. The Offeror must identify in its proposal the percentage of effort it intends to perform and the percentage to be performed by each of its proposed Subcontractors. If more than 70% of the total effort will be performed through subcontracts, the Offeror must include the additional information required by the above-cited clause.

## **Part 2:**

Cost breakdown by task/sub-task corresponding to the same task breakdown in the proposed Statement of Work.

### **3. Significant Dates and Times**

<b>Schedule of Events</b>		
<b>Event</b>	<b>Date (MM/DD/YEAR)</b>	<b>Time (ET Local)</b>
Full Proposals Due Date	11/10/08	11:00 a.m.
Notification of Selection for Award *	12/30/08	
Contract Award *	03/28/09	

**\*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:

- 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
- 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 Full Proposals –**

Office of Naval Research  
Attn: Donald Hoffman, Code 331  
875 N. Randolph Street, Suite 271  
Arlington, VA 22203-1995

**NOTE: 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;
  - Degree of innovation
  - Ability to meet desired performance metrics
  - Degree of ability to achieve Technology Readiness Level 6 by 2012
  - Scalability
  - Soundness of technical concept
  - Offeror's awareness of the state of the art and understanding of the scope of the problem and the technical effort needed to address it.
- 2) Potential Naval relevance and contributions of the effort to the agency's specific mission;
- 3) The offeror's capabilities, management ability, related experience (i.e. 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 proposal objects;
- 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.

For proposed awards to be made as contracts to large businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small



businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

## **2. Evaluation Panel**

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-5 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 North American Industry Classification System (NAICS) code for this announcement is “541710” with a small business size standard of “500 employees”.

- Central Contractor Registry (CCR) - Successful Offerors not already registered in the CCR will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>.
- In accordance with FAR 4.1201, prospective contractors shall complete and submit electronic annual representations and certifications at <http://orca.bpn.gov>. In addition to completing the Online Representations and Certifications Application (ORCA), proposals must be accompanied with a completed DFARS and contract specific representations and certifications. These "DFARS and Contract Specific Representations and Certifications", i.e., Section K, may be accessed under the Contracts and Grants Section of the ONR Home Page at [http://www.onr.navy.mil/02/rep\\_cert.asp](http://www.onr.navy.mil/02/rep_cert.asp).
- Subcontracting Plans - Successful contract proposals that exceed \$550,000, submitted by all but small business concerns, will be required to submit prior to award a Small Business Subcontracting Plan in accordance with FAR 52.219-9.

### **2. Reporting and Deliverables**

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

- Monthly Technical and Financial Progress Reports

- Quarterly Technical Review Presentation Material
- Computer model or Spreadsheet source code used for calculations
- Other Documents or Reports
- Final Report

## **VII. OTHER INFORMATION**

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

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities and operational military units are available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for any one specific program. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain as part of their proposals which of these facilities are critical for the project's success.

### **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 prominently in its proposal.

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

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

### **4. Protection of Proprietary and Sensitive Information**

The parties acknowledge that, during performance of the contract or grant agreement resulting from this BAA, the recipient may require access to certain proprietary and confidential information (whether in its original or derived form) submitted to or produced by the Government. Such information includes, but is not limited to, business practices, proposals, designs, mission or operation concepts, sketches, management policies, cost and operating expense, technical data and trade secrets, proposed Navy budgetary information, and acquisition planning or acquisition actions, obtained either directly or indirectly as a result of the effort performed on behalf of ONR. The recipient shall take appropriate steps not only to safeguard such information, but also to prevent disclosure of such information to any party other than the Government. The recipient agrees to indoctrinate company personnel who will have access to or custody of the information concerning the nature of the confidential terms under which the Government received such information and shall stress that the information shall not be disclosed to any other party or to recipient personnel who do not need to know the contents thereof for the performance of the contract/agreement. Recipient personnel shall also be informed that they shall not engage in any other action, venture, or employment wherein this information will be used for any purpose by any other party.

## **5. 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; however offerors should assume that a preponderance of the meetings will be at or near ONR, Arlington, VA and the remainder at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video teleconferences, telephone conferences, or via web-based collaboration tools.

Quarterly Review Material and Detailed Design Reports should provide enough detail for Navy technical experts to review the design and system modeling results.

Offeror may be asked to present non-proprietary findings at an industry day/workshop event on a semi-annual basis.

## **6. Disclosure of Information**

Due to the potential sensitivity of the release of unclassified information, regardless of the medium used, all information/data must be approved by the Program Officer before public release of any and all information generated resulting contracts and/or related to this program. DFARS Clause 252.204-7000 entitled "Disclosure of Information" will be incorporated into all contract award documents.

## **7. BAA Questions and Answers**

Questions pertaining to this BAA may be sent to Mr. Shawn O'Donnell at the following email address:

shawn.odonnell1.ctr@navy.mil

Questions concerning the BAA must be received before 1600 hrs **November 1, 2008**, in order to receive a response. All questions shall be submitted in writing by electronic mail. Questions received after this time will not be answered. The due date of for submission of proposal will not be extended.