Navigation and Timekeeping Technology

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2), the Department of Defense Grants and Agreements Regulations (DoDGARS) 22.315(a), and DoD's Other Transaction Guide for Prototypes Projects, USD(AT&L), OT Guide, Jan 2001. 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 – Navigation and Timekeeping Technology

3. Program Name – Navigation and Timekeeping Technology

4. Research Opportunity Number – 09-004

5. Response Date – White papers: 19 December 2008
Full proposals: 25 March 2009

6. Research Opportunity Description -

The Office of Naval Research (ONR) is interested in receiving proposals for Navigation and Timekeeping Technology.

In concert with the guidance promulgated by the Office of the Assistant Secretary of Defense National Information Infrastructure (ASD - NII), concerning NAVWAR, which deals with the mitigation of denial of Positioning, Navigation and Timing (PNT), this effort is concerned with the first two of the three elements: Electronic Protection (EP) and Electronic Support (ES). Please note that this effort does not address Electronic Attack (EA).

Precision navigation and timekeeping are essential for many modern naval and maritime systems, and it is essential that navigation and timekeeping services be made available to platforms and weapons at the highest level of accuracy and with the highest possible confidence at reasonable cost. Lack of precise navigation and timekeeping technologies may jeopardize the success of military operations. For example, the Global Positioning System (GPS) provides highly accurate position/time information at low cost and, due to this, GPS has become the technology of choice for many users. Unfortunately, the GPS signal is a low-power signal that is susceptible to interference. Therefore there is a need for (1) affordable approaches to make GPS more reliable/robust, and (2) methods of quantifying threats to GPS performance that may be termed "situational awareness" and (3) affordable and reliable precision navigation/timing alternatives to GPS.

In the past eight years, ONR has been conducting a series of Science and Technology Projects in the following three technology areas; GPS Anti-Jam Technology, Precision Time and Time Transfer Technology, and Non-GPS Navigation Technology.

In FY2010, the ONR Navigation and Timekeeping Technology Program seeks new and innovative navigation technologies that will provide more accurate, reliable, maintainable and affordable systems for Naval air, surface, subsurface, and ground platforms and forces. The following paragraphs list areas of concentration in this program.

I. GPS Anti-Jam Technology: These efforts have initially been concerned with GPS antenna systems that are able to be steered electronically so that the antenna preferentially selects the intended satellite source and rejects spatially inhomogeneous noise and jammer sources. Present interest involves the development of these Controlled Radiation Pattern Antennas (CRPAs) for specific Navy platforms such as ships, airborne platforms, guided munitions, unmanned air vehicles and unmanned underwater vehicles, and sonobuoy devices. This effort is also concerned with the coupling of GPS with inertial systems. This latter association is beneficial because it draws upon the unique performance assets of each technology. In FY2006-2008, effort was concentrated in anti-spoof and other emergent threats. This work will continue into FY2009-2010. The FY2010 focus is in GPS Navigation in stressed environments and concerns the development of low cost Navigation Systems and enabling components for such systems suited to:

a. New concept of GPS Modernized User Equipment (MUE) Controlled Radiation Pattern Antennas (CRPA)

b. New concept of GPS Modernized User Equipment (MUE) Antenna Electronics (Multi-element antenna control, beamforming/null-steering and associated signal processing techniques such as Space-Time Adaptive Processing/ Space-Frequency Adaptive Processing (STAP/SFAP)
c. Special purpose monitoring of M-Code GPS signals with an M-Code receiver (this device would monitor all GPS channels and all GPS frequencies: L1, L 2, L5.
d. New Integrity monitoring to address anti-spoofing. standard jamming, and environmental noise.
e. Next generation GPS Modernized User Equipment (MUE) for anti-jam/ anti-spoof, which handles larger numbers of desired and interference signals; and an updated resource management of multiple trackers and correlators
f. New GPS MUE with Electronic Warfare (EW) situational awareness and electronic support measures (ESM)
g. Next generation GPS MUE with anti-tamper approaches.
h. New embedded GPS/INS systems
i. Personal navigation in enclosed areas such as aircraft carriers, large adversarial vessels (as would be used by boarding parties) and large buildings using various sensors including GPS).
j. The ability to have GPS receivers handle spot beam signals; the use of automatic gain control and the development of a concept of operations (the notification of deployment and removal of spot beams)
k. The ability to handle situations where the US may need to deny/degrade GPS use to friendly forces (signal fratricide)
l. The ability to incorporate communications functions along with GPS navigation functions.
m. The ability to incorporate blue force tracking.

II. Precision Time and Time Transfer Technology: The on-going areas of interest in this technology area have been concerned with the development of tactical grade (a size less than 10 cc and the power consumption of 1 watt or less) atomic clocks that possess unique long-term stability and precision. Having a precise clock provides a means to synchronize systems rapidly, enabling one to convey information at what would otherwise be prohibitive noise levels. The second effort has been concerned with the development of the capability of: (a) transferring GPS-derived 1 pps Universal Coordinated Time (UTC) via radio frequency links such as Joint Tactical Information Distribution System (JTIDS)/Link-16 and (b) maintaining a common reference time by tying together existing time standards distributed in the various systems.

a. The development of next generation robust, small-size (3 cubic centimeter or less), low power (100 m-Watt), atomic clocks of adequate accuracy (Allen Deviation of 10-11 to 10-12 in first 10 second integration) for use in GPS timekeeping back-up, GPS signal re-acquire, and for incorporation into inertial navigation systems.
b. Applications of ONR-developed tactical grade atomic clocks to various sensor systems (radars, sonars, communications systems, cryptos, navigation devices,

etc) to perform multi-static remote sensing and to provide an extended period of operations possible with low power consumption; the atomic clocks will be a Government Furnished Equipment (GFE) item.

c. The development of a time-scaling approach for the U.S. Naval Observatory (USNO) master clocks
d. The development of a time-scaling approach for multiple tactical atomic clocks aboard ships and other platforms
e. Innovative ideas to transfer precise time from a reference clock to other platforms/systems via RF links and hardwired networks.

III Non-GPS Navigation Technology:

The efforts in FY2006-2009 in this technology area were concerned with: (a) the development of a correlation navigation technique using earth maps of high precision (including bathymetric, magnetic, gravitometric data and celestial navigation systems) that are now available or that are easily produced as a result of present earth satellite measurement capabilities and (b) the development of compact all electro-optical approaches to Inertial Navigation System (INS) (typically fiber optic in nature) and all Micro-Electro-Mechanical Systems (MEMS) approaches to INS.

a. Precise navigation in littoral sub-surface and surface navigation using various sensors such as sonar, radar and lidar.
b. Navigation capabilities based upon dead-reckoning using tactical grade atomic clocks and small, low cost inertial navigation systems that are GPS independent.
c. Helicopters and Naval air cushion vehicles have an added problem in navigation and maneuvering, that of adapting to strong coupling effects of local wind and water motion. Speed sensors suited to making assessments of these parameters as input to methods of platform handling and navigation are desired.
d. Non-GPS based navigation system using commercial satellite image services such as synthetic aperture radar, visible, infra-red (IR), etc.).

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 26 June 2008. 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. Advanced technology development (ATD) is funded through Budget Activity 3. In conformance with the USD(AT&L) guidance and National Security Decision Directive 189, ONR will place no restriction on the conduct or reporting of unclassified fundamental research, except as otherwise required by statue, regulation or Executive Order. 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. Under this BAA most, if not all, of the research is anticipated to be ATD and not contracted fundamental research.

7. Point(s) of Contact –

Questions of a technical nature should be submitted to:

Name: Dr. John C. Kim
Address: One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995
Code: 312
Telephone: (703) 696-4214
Email: john.c.kim1@navy.mil

Questions of a business nature should be submitted to:

Primary:

Name: Kristin Fuller
Address: One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995
Code: 0251
Telephone: (703) 696-4591
Email: kristin.fuller@navy.mil

Secondary:

Name: Vera Carroll
Address: One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995
Code: 0251
Telephone: (703) 696-2610
Email: vera.carroll@navy.mil

8. Instrument Type(s) -

Awards will take the form of contracts. ONR will not consider awarding grants under this BAA.

II. AWARD INFORMATION

The Office of Naval Research (ONR) plans to award multiple technology development contracts (particularly cost plus fixed fee (CPFF) type contracts) that represent the best value to the Government in accordance with the evaluation criteria. The Office of Naval Research is seeking participants for this program that are capable of supporting the goals described in this announcement. Offerors have the opportunity to be creative in the selection of the technical and management processes and approaches to address the thrust areas.

The period of performance of the awards typically ranges from one to three years. There will be no options. ONR anticipates a budget of $3,000,000 for this program. ONR plans to fund up to $500,000 per year per award using Exploratory Development Funds (Budget Category 6.2) and Advanced Technology Funds (Budget Category 6.3). However, lower and higher cost proposals will be considered. The average funding level of past awards was approximately $400,000 per year. The period of performance for projects may be from one to three years, with an estimated start date on or before 01 October 2009, subject to date of final award and availability of new fiscal year funds.

ONR has funded related technology development under numerous programs. Proposals that build on current or previous DoD work are encouraged. If offerors are enhancing work performed under other ONR or DoD projects, they must clearly identify the point of departure and what existing work will be brought forward and what new work will be performed under this BAA.

III. ELIGIBILITY INFORMATION

All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

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

Teams are 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 topics cover export controlled 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.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

(A) White Papers:

Due Date: The due date for white papers is no later than 2 p.m. Eastern Time (ET) on 19 December 2008. Each white paper should state that it is submitted in response to this BAA. White papers shall be submitted by email to the Technical Point of Contact (para.I.7).

Evaluation/Notification: Navy evaluations of the white papers will be issued via E-mail notification on or about 16 January 2009. Detailed technical and cost proposals will be subsequently encouraged from those offerors whose proposed technologies have been identified through the above-referenced E-mail as being of "particular value" to the Navy. However, any such encouragement does not assure a subsequent award.

Submission of Full Proposal: Any offeror may submit a full proposal even if its white paper was not identified as being of "particular value". However, the Navy's initial evaluation of the white papers should give proposers some indication of whether a later full proposal would likely result in an award. Full proposals will not be considered under this BAA unless a white paper was received before the white paper due date specified above.

(B) Oral Presentation

Those White Papers that have been identified as being of "particular value" in (A) will be the subject of a follow-on Oral Presentation on or about 04 February 2009. This aspect of the selection process will be accomplished in a telephone conference call that will be preceded with a prepared viewgraph presentation provided to the ONR Program Officer, Dr. John C. Kim. A detailed format for the viewgraph presentation will be provided in the e-mail invitation. Offerors whose white papers are selected for Oral Presentation will be notified by e-mail not less than one (1) week prior to the commencement of the oral presentation event. After oral presentations, those successful offerors, whose technology is still considered as having "the particular value" to the Navy, will be encouraged to submit detailed technical and cost proposals. However, such encouragement, after Oral Presentations, does not assure a subsequent award. Any offeror may make an Oral Presentation even if its white paper was not identified as being of "particular value" to

the Navy. Any offeror in this category must contact the ONR Program Officer to arrange an Oral Presentation as soon as possible after receipt of White Paper feedback.

(C) Full Proposals:

The due date for receipt of Full Proposals is 2 p.m. Eastern Time (ET) on 25 March 2009. It is anticipated that final selections will be made within 20 days after proposal submission. As soon as the final proposal evaluation process is completed, each offeror will be notified via email from the Program Officer of its selection or nonselection for an award. Proposals exceeding the proposed page limit may not be evaluated.

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

White Papers and Full Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified proposals are permitted. 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).

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

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

The inner wrapper of the classified proposal should be addressed to the attention of the TPOC. 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."

The proposal format and content identified below are applicable to the submission of proposals for contracts.

a. WHITE PAPERS

White Paper Format

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Number of pages – No more than ten (10) single-sided pages (excluding cover letter and resumes). White papers exceeding the page limit may not be evaluated.
- Copies – one (1) electronic copy submitted by email as a .PDF attachment and sent to the ONR Program Officer (Dr. John C. Kim).

White Paper Content

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER" and shall include the BAA number, proposed title, technical points of contact, telephone number, facsimile number, and e-mail address.

- **Technical Objectives**

- **Technical Concept:** A description of the technology innovation and technical risk areas.

- **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.

- **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.

- **Principal Investigator Qualifications**

- **Organizational Qualifications**

b. 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 or double-spaced
- Font – Times New Roman, 12 point

• Number of pages – No more than fifty (50) single-sided pages (excluding cover page and resumes). There is no page limitation on Volume 2.
• Copies – one (1) original and one electronic copy on a CD-ROM (in .PDF format).

Full Proposal Content

Volume 1: Technical Proposal

• **Cover Page:** This should include the words "Technical Proposal" and the following:

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

• **Table of Contents:** 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 proposals must include a severable, self-standing SOW, without any proprietary restrictions, which can be attached to the contract award. Include a detailed listing of the technical tasks/subtasks organized by year.

• **Technical Objectives**

• **Technical Concept:** A description of the technology innovation and technical risk areas.

• **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.

• **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.

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

• **Principal Investigator Qualifications**

• **Organizational Qualifications**

• **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/VFDFARA.HTM

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

• **Deliverables:** A detailed description of the results and products to be delivered inclusive of the timeframe in which they will be delivered.

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

• **Other Agencies:** Include the name(s) of any other agencies to which the proposal has also been submitted.

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 or Government fiscal year, and Part 2 will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work. Options must be separately priced.

Although not required and provided for informational purposes only, adhering to the instructions delineated below may expedite contract or assistance award placement. Detailed instructions, entitled “Instructions for Preparing Cost Proposals for Contracts and Agreements”, including a sample template for preparing costs proposals for contracts and agreements, 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

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) and
- Duration of effort

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 or subrecipient'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;

*__Note__: DoD Federal Acquisition Regulation 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 percent of the total effort will be formed through subcontractors, the offeror must include the additional information required by the above-cited clause.

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

Part 2: Cost breakdown by task/sub-task corresponding to the same task breakdown in the proposed Statement of Work.

3. Significant Dates and Times –

Anticipated Schedule of Events		
Event	Date (MM/DD/YEAR)	Time (Local Eastern Time)
White Paper Due Date	19 December 2008	2:00 PM ET
White Paper Feedback and & Oral Presentations Notification *	16 January 2009*	N/A
Oral Presentation	Week of 04 February 2009*	TBD
Full Proposal Due Date	25 March 2009	2:00 PM ET
Notification of Selection: Full Proposals *	17 April 2009*	N/A
Contract Awards *	1 October 2009*	N/A

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

ET= Eastern Time
TBD= To Be Determined
N/A= Not Applicable

NOTE: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Thus it is recommended that any hard-copy proposal be mailed several days before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration

4. Submission of Late Proposals –

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is “late” and will not be considered unless it is received before award is made, the contracting officer

determines that accepting the late proposal would not unduly delay the acquisition and:

- 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 for Contracts.

Hard copies of full proposals for Contracts should be sent to the Office of Naval Research at the following address:

Office of Naval Research
Attn: Sheila Richardson
ONR Department 31
875 North Randolph Street
Arlington, VA 22203-1995

V. EVALUATION INFORMATION

1. Evaluation Criteria –

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

1) Overall scientific and technical merits of the proposal;
2) Potential Naval relevance and contributions of the effort to the agency's specific mission;
3) The offeror's capabilities, related experience, 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 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.

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 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Cost proposals will be evaluated by Government business professionals. 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.

• Certifications

Contracts:

For contracts, 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.

2. Reporting -

The following are samples of data deliverables that are typically required under a research effort:

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

Additional data deliverables may be proposed and finalized during negotiations. Research performed under contracts may also include the delivery of software, prototypes, and other hardware deliverables.

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 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. 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. 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.

6. Submission of Questions

Any questions regarding this solicitation must be provided to the Science and Technology Point of Contact and/or Business Point of Contact listed in this solicitation. All questions shall be submitted in writing by electronic mail.

`Questions regarding **white papers** must be submitted by 2:00 P.M. Eastern Time on 17 November 2008. Questions after this date and time may not be answered, and the due date for submission of the white papers will not be extended.

Questions regarding **full proposals** must be submitted by 2:00 P.M. Eastern Time on 02 March 2009. Questions after this date and time may not be answered, and the due date for submission of the proposals will not be extended