BROAD AGENCY ANNOUNCEMENT (BAA)
Navigation and Timekeeping Technology

INTRODUCTION

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

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award all, some or none of the proposals in response to this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name

Office of Naval Research
Contract and Grants Awards Division (ONR Code 251)
One Liberty Center, Suite 1425
875 North Randolph Street
Arlington, VA 22203-1995

2. Research Opportunity Title

Navigation and Timekeeping Technology

3. Program Name

Navigation and Timekeeping Science and Technology

4. Research Opportunity Number

Broad Agency Announcement (BAA) Number 07-038

5. Response Date

White Papers: 4 October 2007
Full Proposals: 24 January 2008

6. Research Opportunity Description

Synopsis:

In accordance with the guidance promulgated by the Office of the Assistant Secretary of Defense (NII), concerning Navigation Warfare (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, 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 six years, ONR has been conducting a series of Navigation and Timekeeping 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 FY2009, 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. 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. The FY2009 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. Ships
b. Airborne
c. Guided munitions
d. Unmanned Aerial Vehicles (UAVs)
e. Ground vehicle mounted

f. Unmanned Underwater Vehicles (UUVs),
g. Sonobuoys and sonobuoy-like devices,
h. Mobile, littorially-based, and personnel-carried devices.
i. Operation in urban environments, underground, and in other environments that have signal propagation difficulties/deficiencies.
j. 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.
k. New Integrity monitoring to address Anti-spoofing. Standard Jamming, and Environmental noise.
l. Concentration on Modernized User Equipment (MUE): with information assurance and Anti-tamper approaches.
m. An effort is needed to develop embedded GPS/INS systems with a 2009 in-service date.
n. Personal navigation in enclosed areas such as aircraft carriers, large adversarial vessels (as would be used by boarding partys) and large buildings using various sensors including GPS.

Additionally, this work involves verification that the concepts developed in supported projects actually perform as intended.

II. Precision Time and Time Transfer Technology: The on-going areas of interest in this technology area has been concerned with the development of tactical grade (a size less than 10 cc and the power consumption of 1 watts 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 prohibiting 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.

1. The FY's 2009-2010 focus of this area has been in the development of more ruggedized, small-size, low cost, low weight, low power, atomic clocks of adequate accuracy (Allen Deviation of 10^{-9} to 10^{-10} in first 1 second integration) for use in GPS timekeeping back-up, GPS signal re-acquisition, and for incorporation into inertial navigation systems (INS's).
2. Approaches that mitigate the fusion of navigational and positional data with sensor data including that of common time reference, will also be considered for support.
3. The applications of Government Furnished Equipment (GFE) tactical grade atomic clock to various sensor systems, communications systems and UUV's and UAV's to provide precision time and/or external time synchronization.
4. Innovative ideas to transfer precise time from a reference clock to other platforms/systems via RF links and hardwired networks using protocols similar to those of the Institute of Electrical and Electronic Engineers (IEEE) 1588 standards.

III. Non-GPS Navigation Technology: The efforts in FY2006-2008 in this technology area were concerned with the development of a correlation navigation technique using earth maps of high precision (including bathymetric, magnetic and gravitometric data) that are now available or that are easily produced as a result of present earth satellite measurement capabilities.

The second effort has been concerned with gyroscope development. The focus of FY2009 efforts in this area is to develop compact all electro-optical approaches to INS (typically fiber optic in nature) and all Micro-Electro-Mechanical Systems (MEMS) approaches to INS.

The third effort has been concerned with the development of an automated Celestial Navigation System. The geo-location precision that is desired is 3 meters versus the 30 meters precision typically proposed.

1. The FY 2009 focus of this area is the development of small, low cost Inertial Navigation Systems, using either fiber optics or MEMS gyro technologies.
2. In FY 2009, also desired are navigation capabilities based upon dead-reckoning using a tactical grade atomic clocks and small, low cost inertial navigation systems that are GPS independent.
3. 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 is desired.

4. In FY 2009 ONR seeks new and innovative ideas of a correlation navigation technique using earth maps of high precision (including bathymetric, magnetic and gravito-metric data) that are now available or that are easily produced as a result of present earth satellite measurement capabilities. Also ONR seeks ideas of precise navigation in littoral sub-surface and surface navigation using various sensors such as sonar, radar and lidar.

7. Points of Contact

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

Dr. John C. Kim
Navigation and Timekeeping Science and Technology Program Officer
Surveillance, Communications and Electronic Combat Division
Code ONR 312
Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

Email: John_Kim@onr.navy.mil

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

Primary Point of Contact

Ms. Kenesha Y. Hargrave
Contract Specialist
Contract and Grant Awards Management
ONR 251
Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

Email: Kenesha_Hargrave@onr.navy.mil

Secondary Point of Contact

Ms. Vera M. Carroll
Contracting Officer/Branch Head
Contract and Grant Awards Management
ONR 251
Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

Email: Vera_Carroll@onr.navy.mil

***White Papers and Full Proposals are to be sent to the Submission Coordinator below specified below.

Ms. Sheila Richardson
Navigation and Timekeeping Science and Technology Program Analyst
Surveillance, Communications and Electronic Combat Division
Code ONR 312
Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite W1105D
Arlington, VA 22203-1995

Telephone: (703) 696-0113
Email: shelila_richardson@onr.navy.mil

Note: The Technical or Business Point of Contact will not accept any white papers or proposals

8. Instrument Type

It is expected that contracts will result from this solicitation.

9. Catalog of Federal Domestic Assistance (CFDA) Number

N/A

10. Catalog of Federal Domestic Assistance (CFDA) Title

N/A

11. Additional Information

N/A

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 (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 **30 May 2008** 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 domestic sources may submit a proposal, except as noted below. Historically Black Colleges and Universities (HBCU) and Minority Institutions (MI) 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 due to the impracticality of reserving discrete or severable areas of Navigation and Timekeeping Technology for exclusive competition among these entities.

Federally Funded Research and Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to bid on this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed as long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC. Only U.S. firms, U.S. based firms and universities are eligible to receive an award. Only "U.S. Citizens" and "U.S. Persons" as defined under the International Traffic in Arms (ITAR) regulations are permitted to work on this effort since the technology is export controlled.

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 **4 October 2007**. Each unclassified white paper should state that it is submitted in response to this BAA.

Evaluation/Notification: White Papers will be evaluated to determine an offeror is selected to make an oral presentation of its white paper through telephone conference call preceded with a prepared view graph presentation. After evaluations of the white papers, oral presentations will be scheduled for those offerors who have been notified by email on or about **25 October 2007** that their proposed technologies appear to be "particular value" to the Navy. However, any such encouragement does not assure a subsequent award. Those white papers not selected for oral presentations will not be considered further under this announcement.

(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 **3 December 2007**. 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 email invitation. Offerors whose white papers are selected for Oral Presentations will be notified by e-mail not less than **one (1) week prior** to commencement of the oral presentation event. After Oral Presentations, those successful offerors whose technology is still considered as having "particular value" to the Navy will be encouraged to submit detailed technical and costs proposals. However, such encouragement after oral presentations does not assure a subsequent award. Full proposals will not be considered under this BAA unless a white paper has been received by the due date specified above; and an oral presentation made during the Oral Presentation event. Encouragement to submit full proposals will completed by **9 December 2007.**

(C) Full Proposals:

The due date for receipt of Full Proposals is 2 p.m. Eastern Time (ET) on **24 January 2008**. It is anticipated that final selections will be made on or before **28 February 2008**. 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 their page limit may not be evaluated.

Submission of Full Proposal: 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.

2. Content and Format of White Papers and Full Proposals

The White Papers and Full Proposals submitted in response to this BAA are expected to be unclassified. However, confidential/classified proposals are permitted. The proposal submissions will be protected from unauthorized disclosure in accordance with FAR 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/proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

(A) WHITE PAPERS

Format – Technical portion: The technical part of the white paper should include those items required in the full proposals below, but should not exceed ten (10) pages and should focus on the proposed technical concept and approach within the areas of interest described above. White papers exceeding any of these page restrictions may not be reviewed.

Format – Cost portion: A two (2)-page cost proposal should be included with the white paper submission. The first page of the cost proposal should be a summary of costs segregated by task. The second page should be a summary of costs segregated by cost category. White papers exceeding any of these page restrictions may not be reviewed.

IMPORTANT NOTE: The cover page, table of contents, and resumes are excluded from the page limitations.

(B) ORAL PRESENTATIONS

Guidance on the context and format for the oral presentations shall be provided to offerors by email after receipt of white papers.

(C) FULL PROPOSALS

Format – Volume 1 (Technical Proposal) 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 ***(includes charts, graphs and diagram tables)***
- Number of Pages – Volume 1 is limited to no more than 30 pages. Volume 2 has no page limit. The cover page, table of contents, and resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.
- Copies – one (1) original, 5 copies and one electronic copy on CD-ROM, (in Microsoft® Word or Excel 97 compatible or .PDF format).

Content of Volumes 1 and 2

Volume 1: Technical Proposal

Volume 1 of the Full Proposal shall include the following sections, each starting on a new page. Please pay attention to the page limitations for each section as specified below.

1) Title Page: (Not included in page limitations.) This should include the words "Technical Proposal" and the

following:

(a) BAA number;

(b) Title of Proposal;

(c) Identity of prime Offeror and complete list of subcontractors, if applicable;

(d) Principal Investigator (PI) contact (name, address, phone/fax, electronic mail address);

(e) Business contact (name, address, phone/fax, electronic mail address); and,

(f) Duration of effort (one to three years)

2) Table of Contents: (Not included in page limitations.)

3) Executive Summary: (2 pages) Summarize the technology you are proposing and the expected improvements to the Navy.

4) Concept of Operation for the Navy: (2 pages) A summary of the way in which the proposal's product(s) would support the Navy in an operational context. Include quantitative specifications for how the products will improve operational performance.

5) Statement of Work: (5 pages) 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, such proposals must include a severable self-standing SOW without any proprietary restrictions. Include a detailed listing of the technical tasks/subtasks organized by year.

6) Project Schedule and Milestones: (1 page) A summary of the schedule of events and milestones.

7) Assertion of Data Rights and/or Rights in Computer Software (1 page). If seeking 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 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.

8) Technical Approach and Deliverables: (Not To Exceed 9 pages) A detailed description of the approach planned, results targeted and products to be delivered.

9) Operational Utility: (Not to Exceed 2 pages) A detailed plan for assessing the operational utility of the key products of this effort during a Fleet or Marine operational exercise, including proposed metrics.

10) Qualifications: (3 pages) 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.

11) Management Approach: (5 pages) 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 relationships, government research interfaces, and planning, scheduling and control practice. Identify which personnel and subcontractors (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.

Volume II: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts, Part 1 and Part 2. 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.

● Cover Page: The use of the SF 1411 is optional. This proposal should include the words "Cost 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);
6) Duration of effort (differentiate basic effort and options); and a
7) Summary statement of proposed costs

● Part 1: Detailed breakdown of all costs by cost category by calendar/fiscal year:

1) Direct Labor - Individual labor category or person, with associated labor hours and unburdened direct labor rates;

2) Indirect Costs - Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)

3) Proposed contractor-acquired equipment, such as, but not limited to, computer hardware for proposed research projects should be specifically itemized with costs or estimated costs, if it is being proposed as a direct cost. An explanation of any estimating factors, including their derivation and application, should be provided. Please include a brief description of the Offeror's procurement method to be used;

4) Proposed Government furnished equipment or facilities, if applicable.

5) Travel - Number of trips, number of days per trip, departure and arrival destinations, number of people, etc;

6) 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;

7) Consultant - Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;

8) Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Please include a brief description of the Offeror's procurement method to be used. Backup documentation should be submitted to support material costs;

9) Other Directs Costs should be itemized with costs or estimated costs. Backup documentation should be submitted to support proposed costs; and

10) The Offeror's proposed Fee/Profit, should also include a fee percentage.

- Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

2. **Significant Dates and Times**

Anticipated Schedule of Events		
Event	**Date**	**Time (Local Eastern Time)**
White Paper Due Date (Page Limit: 10)	**4 October 2007**	**2:00 PM ET**
Notification on Selection of White Papers & Oral Presentations	**25 October 2007**	**N/A**
Oral Presentation	**Week of 3 December 2007***	**TBD**
Full Proposals Due Date	**24 January 2008**	**2:00 PM ET**
Notification of Selection: Full Proposals	**28 February 2008***	**N/A**
Contract Awards	***30 May 2008****	**N/A**

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

ET= Eastern Time
TBD= To Be Determined
N/A= Non Applicable

3. 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. Eastern Standard Time (EST) 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 extend 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.

4. Address for the Submission of White Papers and Full Proposals

a. Address for the Electronic Submission of White Papers for Contracts.

Electronic copies of white papers for Contracts should be sent to the following address:

Ms. Sheila Richardson
Email: Sheila_Richardson@onr.navy.mil .

b. Address for Submission of Hard Copy Full Proposals.

Hard copies of full proposals for Contracts should be sent by regular U.S. mail, commercial mail (e.g., FedEx or UPS), or hand delivery to the following address:

Ms. Sheila Richardson
Navigation and Timekeeping Science and Technology Program Analyst
Code ONR 313
Office of Naval Research, Suite W1105D
875 North Randolph Street
Arlington, VA 22203-1995

***NOTE:* FULL PROPOSALS SENT BY FAX OR EMAIL; WILL NOT BE CONSIDERED.**

***NOTE:* DUE TO THE CHANGES IN SECURITY PROCEDURES SINCE SEPTEMBER 11, 2001, THE TIME REQUIRED FOR HARD COPY WRITTEN MATERIALS TO BE RECEIEVED 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.**

V. EVALUATION INFORMATION

1. Evaluation Criteria -

The following evaluation criteria apply to both the White Papers and the Full Proposals.

These submissions will be selected through a technical/scientific/cost decision process with technical and

scientific considerations being most important than cost. Even though cost is of less importance than any of the technical factors, it will not be ignored. The degree of its importance 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 technical superiority to the Government. The criteria A-D below are listed in descending order of priority. Any subcriteria listed under a particular criterion are of equal importance to each other.

A. Overall scientific and technical merits of the proposal
    1. The degree of innovation
    2. The soundness of technical concept
    3. The 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

B. Naval relevance, transition potential and anticipated contributions of the proposed technology to Navigation and/or Timekeeping Naval operations.

C. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed principal personnel
    1. The quality of technical personnel proposed
    2. The offeror's experience in relevant efforts with similar resources
    3. The ability to manage the proposed effort

D. The realism of the proposed cost
    1. Total cost relative to benefit
    2. Realism of cost levels for facilities and staffing

Subcontracting Plans - Successful contract proposals that exceed $550,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award. This requirement also applies to non-profits, including educational institutions.

Industry-Academia Partnering – ONR highly encourages partnering among industry and academia with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-academic partnering which enhances the development of novel S&T advances will be given favorable consideration.

Industry-Government Partnering – ONR highly encourages partnering among industry and Government with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-Government partnering which enhances the development of novel S&T advances will be given favorable consideration.

2. Evaluation Panel

Government technical experts from the Office of Naval Research and other naval and defense activities/agencies will participate in the evaluation of the White Papers, Oral Presentations, and Full Proposals. The Government may use selected support personnel to assist in providing both technical expertise and administrative support regarding any proposals ensuring from this announcement. These support contractors will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

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 solicitation is 541710 with a small business size standard of 500 employees.

● CCR - Successful offerors not already registered in the Central Contractor Registry (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 - Proposals should be accompanied by a completed certification package which can be accessed on the ONR Home Page at **Contracts.** For contract proposals, the certification package is entitled, "Representations and Certifications for Contracts" .

2. Deliverables

The following is a sample of deliverables that could be required under a research effort. The deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each offeror and finalized with the Contracting Officer.

- Detailed Technical Data
- Technical and Financial Progress Reports
- Presentation Material(s)
- Other Documentation or Reports as required
- Final Report

Research performed under contracts may also include the delivery of software, prototype and other hardware deliverables.

VII. OTHER INFORMATION

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

Each offeror 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 proposed to be purchased for this effort. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. 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.

Offerors are expected to provide all facilities (equipment and/or real property) necessary for the performance of the proposed effort. Any direct charge of facilities, not including deliverable items, must be specifically identified in the Offeror's proposal and approved by the Government prior to purchase. In addition, any request to use Government owned facilities must be included in the Offeror's proposal and approved in

advance by the cognizant Government official. After contract award, requests to use Government integration, test, and experiment facilities will be considered on a case by case basis based on availability and justification of need.

2. Security Classification

All proposals are expected to be unclassified. However, confidential/classified proposals are permitted.

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

If awardees use unclassified data in their deliveries and demonstrations regarding a potential classified project, they should use methods and conventions consistent with those used in classified environments. Such conventions will permit the various subsystems and the final system to be more adaptable in accommodating classified data in the transition system.

3. Project Meetings & 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.