

ONR BAA Announcement # ONR 07-018



BROAD AGENCY ANNOUNCEMENT (BAA)

Consolidated Satellite Communications Apertures

INTRODUCTION

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and the Department of Defense Grant and Agreements Regulations, 22.315(a).. 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.

Awards will take the form of contracts or grants. Therefore, proposals submitted as a result of this announcement will fall under the purview of the Federal Acquisition Regulations (FAR) or the Department of Defense Grant and Agreement Regulations (DoDGARs).

Potential offerors may obtain information on ONR programs and opportunities by checking the ONR website at <http://www.onr.navy.mil>. Specific information about BAAs and amendments and updates to this BAA will be found at that site under the heading "BAAs".

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

2. Research Opportunity Title

Consolidated Satellite Communication (SATCOM) Apertures

3. Program Name

Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)

4. Research Opportunity Number

BAA 07-018

5. Response Date

White Papers: Monday, 09 April 2007
Full Proposals: Monday, 18 June 2007

6. Research Opportunity Description

Synopsis

This program will be focused on the development of concepts and architectures for consolidating the number of satellite communications apertures to the minimum number necessary to accomplish the mission of a Naval surface warship.

ONR is also receptive to highly innovative proposals that are not definitively called out in the Objective and Areas of Interest but could revolutionize the affordability of satellite communications for all Naval platforms.

Objective and Areas of Interest:

Affordable, Consolidated Aperture for Shipboard Satellite Communications:

The Office of Naval Research (ONR-31) seeks innovative technology development proposals for architectural studies directed to reduce the size, weight, and power (SWAP), as well as

the cost of existing satellite communication antennas (including pedestals and radomes) on Naval Warships. The replacement of existing multiple satellite communications antennas with fewer apertures should be accomplished without impairing overall system performance. Both monostatic and bistatic concepts will be considered. The satellite communications links of interest for this program are provided in Table 1.

Table 1 - SATCOM System Frequencies

SYSTEM	UPLINK	DOWNLINK
UFO	290-320 MHz	240-270 MHz
MUOS	300-320 MHz	360-380 MHz
Commercial Ku Band	13.75 - 14.50 GHz	10.95 - 12.75 GHz
Global Broadcast Service (GBS)	N/A for ship	20.2 - 20.7 GHz
MILSTAR	43.5 - 45.5 GHz	20.2 - 21.2 GHz
Advanced Extremely High Frequency (AEHF)/EHF	43.5 - 45.5 GHz	20.2 - 21.2 GHz
Interim Polar System (IPS)	43.5 - 45.5 GHz	20.2 - 21.2 GHz
Wideband Global Satellite (WGS) (includes GBS)	7.9 - 8.4 GHz 30 - 31 GHz	7.25 - 7.75 GHz 20.2 - 21.2 GHz

Ultrahigh Frequency Follow On (UFO) satellites provide UHF service. The Mobile User Objective System (MUOS) will provide the UHF service in the future. Commercial satellites provide Ku-band service. Global Broadcast Service (GBS) and Extremely High Frequency (EHF) are payloads on some Ultrahigh Frequency Follow On (UFO) satellites. Whereas MILSTAR is an existing constellation, Wideband Global Satellite (WGS) (previously known as Wideband Gapfiller Satellite) is a forthcoming constellation. These satellites are initially placed in a geostationary (GEO) orbit. However, as time passes, the orbit is perturbed and the satellites can drift up to 5 degrees from the GEO orbit. These satellites can provide service to ships from equator to approximately 65 degrees of latitude. At higher latitudes, ships use the Interim Polar Satellite (IPS) which uses the EHF payload on satellites in a highly inclined orbit.

From Table 1, observe that MILSTAR, EHF and Interim Polar are the same links. Therefore, at any one time, a ship is required to set up only one of these three links. Also observe that the WGS will provide GBS service and also provide a new 2-way Ka-band service. Therefore, at any one time, a ship is required to set up a link with only WGS, but if that is not possible then the ship can link with GBS. Hence, a ship needs to link only with the following satellites simultaneously:

- 1) UFO or MUOS
- 2) Commercial Ku-band satellites,
- 2) MILSTAR or UFO satellites with EHF payload, and
- 3) WGS or UFO satellites with GBS payload if WGS is not visible

The developed technology must be capable of simultaneously linking with the satellites listed above and must also be capable of communicating with at least one satellite in a highly inclined orbit but not necessarily simultaneously with all the GEO satellites listed above. However, it is desirable to be able to communicate with one satellite in a highly inclined orbit and one GEO satellite simultaneously. In order to communicate with one GEO satellite from each of the constellations listed above simultaneously it is expected that the developed multi-beam antenna will need to scan at least an 80 degree arc of the GEO orbit.

The antenna must accomplish this in up to sea state 5 environment. Ship roll up to 30 degrees and pitch up to 10 degrees shall be considered. Also, bear in mind that the inclination angle of some of the satellite orbits may be as much as 5 degrees.

The inputs and outputs of the developed antenna system must address terminal solution and compatibility with current Navy SATCOM terminal programs.

It is also of interest to the Navy to know the impact and merits of including commercial Ka-band with an uplink frequency of 27.5 – 31 gigahertz (GHz), and a downlink frequency of 17.7 – 21.2 GHz.

The number of communication channels per SATCOM band is also an important parameter in system analysis. For purposes of this work, offerors should assume that no more than two communication channels per SATCOM band will be needed. Furthermore, the instantaneous null-to-null bandwidth of each of these channels will not exceed 150 megahertz (MHz).

The side lobes of the shipboard antenna need to be low to limit interference with other satellites. The existing side lobe level (SLL) requirements for satellite communications antennas were developed when only large parabolic reflector antennas were envisioned for use in satellite communications systems. Although there are several different specifications, the most stringent specification states that the gain of at least 90% of side lobe peaks cannot exceed

$$G(\theta) = 29 - 25 \log \theta \quad (\text{dBi}) \quad \text{for } 1^\circ \leq \theta \leq 20^\circ$$

where θ is the off-axis angle in the direction of the satellite referred to the main lobe axis. For array antennas, it is reasonable to assume that θ is the off-axis angle in the direction of the GEO orbit referred to the main lobe axis and that the SLL in the plane perpendicular to the GEO orbit can degrade somewhat, especially for sidelobes that fall outside of the GEO arc by more than 3 degrees.

Additionally, there must be sufficient isolation between transmit and receive functions, so that at full transmit power the receiver is not desensitized by more than 0.1 dB.

The weights for the SATCOM terminals and antenna systems are provided in Attachment 1 (SATCOM Specifications). It is important to note that the antenna system weight includes pedestal, antenna, power amplifier, low noise amplifier (LNA) or low noise block (LNB), and radome. The combined weight is 544 kg for each of the two military satellite links (MILSTAR/EHF and WGS). Due to ship superstructure blockage, Navy Program of Record SATCOM systems require two parabolic antennas for each link to provide unobstructed satellite coverage. The proposed system should address the number of consolidated apertures required to provide unobstructed coverage.

If mechanical stabilization is proposed, the proposal must include approaches to insure high reliability and good maintainability. This would be indicated by high (Antenna Unit level) mean time between failure (MTBF) and low mean time to repair (MTTR). Since reliability and maintainability will significantly effect the Operations and Support (O&S) cost of the system, goals of > 5,000 hours MTBF and < 1.0 hour MTTR have been established.

The studies shall develop satellite communications concepts/architectures that could provide, if further funded, a TRL-6 Advanced Development Model (ADM) by the fiscal year

12 timeframe and suitable for installation on the CG(X) platform (nominally a DDG 1000 hull altered for an open deckhouse design). The studies shall, at a minimum, address the following key issues:

- Size, Weight, and Power (SWAP)
- Modular Open Systems Architecture (MOSA)
- Electromagnetic Compatibility (EMC) – especially with X-band Multifunction Radar and S-band Volume Surveillance Radar
- Unit Cost – both for first unit and for a production run of 10 units
- Schedule
- Risks
- Number of simultaneous beams provided
- Reliability and Maintainability

Note: Size, Weight, and Power (SWAP) for existing systems are included in Attachment (1).

7. Points of Contact

**** Important Notices Regarding Questions ****

- ♦ All Questions (of a general programmatic, thrust specific or business nature) shall be submitted in writing by electronic mail.
- ♦ Questions presented by telephone call, fax message, or other means will not be responded to.
- ♦ Questions regarding **white papers** must be submitted by 2:00 p.m. Eastern Time on Friday, 23 March 2007. Questions received after this date and time may not be answered and the due date for submission of the white papers may not be extended.
- ♦ If invited to make an oral presentation, questions regarding **oral presentations** must be submitted by 2:00 P.M. Eastern Time one week prior to the scheduled presentation. Questions after this date and time may not be answered and the date and/or time of the oral presentation may not be changed.
- ♦ Questions regarding **full proposals** must be submitted by 2:00 P.M. Eastern Time on Tuesday, 15 May 2007. Questions after this date and time may not be answered and the due date for submission of the proposals will not be extended

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

Primary
Mr. James (Mike) Young
C4ISR Department; ONR-31
Email: james.m.young@navy.mil

Secondary
Mr. Douglas Crowder
C4ISR, Code ONR 312
Email: crowded@onr.navy.mil

Mailing address (all):
Office of Naval Research
One Liberty Place
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

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

Primary:
Ms. Lynn Christian
Contract Specialist
Contract and Grants Awards Management, Code ONR 0251
Office of Naval Research
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995
E-Mail: christl@onr.navy.mil

Secondary:
Ms. Vera M. Carroll
Contracting Officer/Branch Head
Contract and Grants Awards Management, Code 0251
Office of Naval Research
875 North Randolph Street, Suite 1425
Arlington VA, 22203-1995
Email: carrolv@onr.navy.mil

8. Instrument Type

It is anticipated that primarily contracts will result from this solicitation. However, ONR will consider awarding grants as appropriate.

9. Catalog of Federal Domestic Assistance (CFDA) Number

CFDA No.: 12.300

10. Catalog of Federal Domestic Assistance (CFDA) Title

CFDA Title: DoD Basic and Applied Scientific Research

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 research topics.

ONR anticipates a budget of approximately \$1,200,000 for this program. ONR plan to fund \$100,000 to \$500,000 per award using Applied Research (Budget Category 6.2). However, lower and higher cost proposals will be considered. The average funding level of past awards was approximately \$500,000 per year. The period of performance for the projects will be six (6) months with an estimated start date of 28 September 2007, 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

Only U.S. owned firms, U.S. based firms and U.S. Institutions of Higher Education will be considered for awards under this BAA. Only United States citizens are permitted to work on this effort due to export control restrictions. Performer access to classified data is anticipated. It is likely that a DD Form 254 (Contact Security Classification and Specification) will be incorporated into each of the contract awards.

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 Satellite Communications Technology for exclusive competition among these entities.

Independent organizations and teams are encouraged to submit proposals in any or 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.

Government Entities and Federal Funded Research and Development Centers (FFRDCs) are ineligible to apply to this BAA as prime contractors.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process

(A) White Papers: White papers are required prior to submitting full proposals. Each White Paper should state that it is submitted in response to this BAA. White papers received after the published due date will not be considered for funding in fiscal year 2008.

NOTE: White Papers and/or Full Proposals sent by fax or e-mail will not be considered.

Due Date: The due date for white papers is no later than 2:00 P.M. (Eastern Time) on Monday, 09 April 2007.

Evaluation/Notification: Initial Navy evaluations of the white papers will be issued via e-mail notification on or about Monday, 16 April 2007. An expanded oral presentation will be subsequently requested from those Offerors whose proposed technologies have been identified through the aforementioned e-mail as being of particular value "to the Navy". 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. However, any oral presentation request 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" to the Government. 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. A full proposal will not be considered under this BAA unless a white paper was received before the white paper due date specified above.

(B) Oral Presentations:

The purpose of the oral presentation is to better acquaint the Government with the Offeror's proposal, especially in its understanding of who the proposed technology will affect military applications. Offerors whose white papers are recommended for oral presentations will be invited by e-mail no less than five (5) working days before the scheduled event. Likewise, any Offeror whose technology was not identified as being of "particular value" to the Navy but who still want to present orally may do so, as long as the Contract Specialist is notified promptly.

Process: A detailed format presentation will be provided in the e-mail invitation. Each presentation will be no longer than twenty-five (25) minutes in duration. An additional fifteen (15) minutes will be allowed for questions (if any) from the panel of government reviewers.

Notification/Evaluation: Following the oral presentation, offerors will be notified by e-mail regarding the Navy's response to their oral presentation. Those offerors whose technology is still considered as having "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. If the Offeror receives notification that its technology was not considered as having "particular value" to the Navy, it can still submit a full proposal. Full proposals will not be considered under this BAA unless both a white paper was received by the due date specified above and a presentation made during the Oral Presentation event. The evaluation provided after white papers and oral presentations should give offerors some indication of whether a later full proposal would likely result in an award. Evaluation of oral presentations and subsequent encouragement to submit full proposals will be completed on or about Wednesday, 16 May 2007.

(C) Full Proposals:

The due date for receipt of full proposals 2:00 PM Eastern Time on Monday, 18 June 2007. ONR will select the efforts to be funded for FY07 start-up contingent upon the quality and completeness of the proposal and the level of available funding. It is anticipated that final selections will be made within sixteen (16) days after proposal submission. As soon as the final proposal evaluation process is completed, PIs will be notified via e-mail of their project's selection or nonselection for FY07 funding.

2. Content and Format of White Papers/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. 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/full proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

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 five (5) single-sided pages (excluding cover page and resumes). White papers exceeding the page limit may not be evaluated.
- Copies – one (1) original, five (5) copies, and one electronic copy on CD-ROM (in Microsoft ® Word or Excel 97 compatible or Adobe (.pdf format))

White Paper Content

- Cover Page: The cover page shall be labeled "WHITE PAPER" and shall include the BAA number (BAA 07-018), proposed title, technology area addressed, and technical points of contact with telephone numbers, facsimile numbers, and e-mail address.
- Main Body: There is considerable freedom to formulate the main body of the white paper (not to exceed 4 pages) as the offeror sees fit. Here is some general guidance on what may be included: a description of the project objectives, problem being solved, technical approach, what's new, relevance to Navy and the Marine Corps, the concept of operation for the new capabilities to be delivered and the expected operational performance improvements, a plan for demonstrating and evaluating the operational effectiveness of the Offeror's product in laboratory or simulated environment including evaluation metrics, transition potential to Navy communications networks, proprietary aspects of the project and any assertions of data rights applicable to the results of this effort.
- Costs: A one (1) page summary of costs segregated by both task and year. The task breakdown should enable the Government to determine which portion of the technology development costs are attributed to (1) the costs related to attaining the

claimed Naval Transformation Objective through development of the proposed technology deliverable (if possible), (2) the S&T project costs for technology integration into Naval systems' Spiral Development, and (3) the costs related to demonstration or other appropriate experimentation activities. Within the task summary there should be a top-level segregation of the loaded costs attributed to labor, material, and facilities (if applicable) for each task. A statement should also be made under each task in which the use of government facilities is proposed.

- **Resume:** Curriculum Vitae (CV) of the primary investigator and any co-investigators.

Full Proposal 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
- ♦ Copies – one (1) original, five (5) hard copies, and one (1) electronic copy on CD-ROM (in Microsoft ® Word or Excel 97 compatible or .pdf format)
- ♦ Number of pages – Volume 1 is limited to no more than twenty-nine (29) pages. Volume 2 has no page limit. The cover page, table of contents, resumes, and data rights assertions are excluded from the page limitations. Full proposals exceeding the page limitation may not be evaluated.

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.

- ♦ **Cover Page:** (Not included in page limitations). This page should include the words "Technical Proposal" and the following information:
 - 1) BAA Number (BAA-07-018);
 - 2) Title of Proposal;
 - 3) Identity of prime offeror and complete list of subcontractors, if applicable;
 - 4) Principal Investigator (PI) Contact (name, address, phone/fax, and e-mail address);
 - 5) Administrative/business Point of Contact (name, address, phone/fax, and e-mail address); and
 - 6) Duration of effort (differentiate basic effort and any options).
- ♦ **Table of Contents:** Not included in page limitations.
- ♦ **Executive Summary:** Summarize the technology you are proposing and the expected improvements to the Navy. Not to exceed two (2) pages.
- ♦ **Concept of Operation for the Navy:** 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. Not to exceed two (2) pages.

- ♦ 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, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be made an attachment to the resultant award. Include a detailed listing of the technical tasks/subtasks organized by year. Not to exceed five (5) pages.
- ♦ Project Schedule and Milestones: One (1) page summary of the schedule of events and milestones.
- ♦ Assertion of Data Rights: 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/VDFDARA.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. The table submitted in accordance with this clause should be a severable attachment to the proposal, which will not be counted towards the page limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.

- ♦ Technical Approach: A detailed description of the approach planned, with sufficient detail to address technical risks and risk mitigation strategy. Not to exceed eight (8) pages.
- ♦ Deliverables: Applicable to contracts only; this does not apply to grant instruments. A detailed description of the products to be delivered inclusive of the timeframe in which they will be delivered. Not to exceed one (1) page.
- ♦ Operational Utility: 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. Not to exceed two (2) pages.
- ♦ 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 towards the page limitations. Not to exceed three (3) pages.
- ♦ Management Approach: Applicable to contracts only; this does not apply to grant instruments. 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. Not to exceed five (5) pages.

VOLUME 2: Cost Proposal for Contracts

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 and Government 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

Cover Page: The use of the SF 1411 is optional. This proposal should include the words "Cost Proposal" and the following information:

- ♦ BAA Number (ONR BAA 07-018);
- ♦ Title of Proposal;
- ♦ Identity of prime Offeror and complete list of subcontractors (if applicable);
- ♦ Technical Point of Contact (name, address, phone/fax, e-mail address)
- ♦ Administrative/business Point of Contact (name, address, phone/fax, e-Mail address);
- ♦ Duration of Effort (differentiate basic effort and options); and
- ♦ Summary statement of proposed costs.

Part 1: Detailed breakdown of costs by cost category by offeror's calendar/fiscal year

- ♦ Direct Labor – Individual labor categories or person with associated labor hours and unburdened direct labor rates;
- ♦ Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (must show base amount and rate);
- ♦ Travel – Number of trips, number of days per trip, departure and arrival destinations, number of people, etc.;
- ♦ Subcontracts – 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 envelop with the Offeror's cost proposal or will be requested from the subcontractor prior to award;
- ♦ Consultant – Provide consultant agreement or other documentation which verifies the proposed loaded daily/hourly rate;
- ♦ Materials – Materials should be specifically itemized with a description of proposed items and associated number of units, unit costs and total amount. 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;
- ♦ Other Direct Costs – Other direct costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. (Justification must be provided when Government funding for such item is sought.) Include a brief description of the Offeror's procurement method to be used (competition, engineering estimates, market survey, etc.); and
- ♦ Proposed Fee/Profit, including fee percentage.

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

VOLUME 2: Cost Proposal for Grants

The cost proposal shall consist of a detailed breakdown of all costs for each year of the support requested for both the Recipient and all proposed subrecipients. Options must be separately priced.

Subrecipients must also provide a detailed breakdown of their proposed costs, which either may be submitted in a sealed envelope in conjunction with the Recipient's proposal or may be submitted directly to the cognizant Government Grant Specialist, or may be obtained at a later date prior to award.

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

Cover Page: The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA Number (ONR BAA 07-018);
- Title of Proposal;
- Identity of prime Recipient and complete list of subrecipients (if applicable);
- Technical Point of Contact (name, address, phone/fax, e-mail address)
- Administrative/business Point of Contact (name, address, phone/fax, e-Mail address);
- Duration of Effort (differentiate basic effort and options); and

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

- Direct Labor – Individual labor categories or person with associated labor hours and unburdened direct labor rates;
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (must show base amount and rate);
- Travel – Number of trips, number of days per trip, departure and arrival destinations, number of people, etc.;
- Sub-awards – A cost proposal as detailed as the Proposer's cost proposal will be required to be submitted by the subrecipient. The subrecipient's cost proposal can be provided in a sealed envelop with the Offeror's cost proposal or will be obtained from the subrecipient prior to award;
- Consultant – Provide consultant agreement or other documentation which verifies the proposed loaded daily/hourly rate;
- Materials – 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 Recipient's procurement method to be used (competition, engineering estimate, market survey, etc.);
- Other Direct Costs – Other direct costs, particularly any proposed such as facilities and administrative costs. Facilities and administration expenses are set forth in Section F of

OMB Circular A-21 as those costs incurred for common or joint objectives that cannot be readily identified to a particular project.

3. Significant Dates and Times

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

ANTICIPATED SCHEDULE OF EVENTS		
Event	Date	Time (Eastern Time)
BAA Released	08 March 2007	N/A
White Papers Due Date	09 April 2007	2:00 PM
Notification of Initial Navy Evaluations of White Papers	16 April 2007	2:00 PM
Oral Presentation Briefing Invitation Date	30 April 2007	2:00 PM
Oral Presentation	03 May 2007	TBD
Notification of Navy Evaluations of Oral Presentations	16 May 2007	2:00 PM
Full Proposal Due Date	18 June 2007	2:00 PM
Notification of Selection for Award	29 June 2007	2:00 PM
Issue Awards	28 September 2007	TBD
Kickoff Meeting	TBD	TBD

TBD = To Be Determined

4. Submission of Late Proposals

(a) Submitted via hardcopy: Any hardcopy proposal, modification, or revision for a contract or grant that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

(a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

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

(c) It was the only proposal received.

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

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

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

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

(b) Submitted via Grants.gov: Any proposal submitted through 'Grants.gov' where the time and date of submission is after the deadline for the proposal submission will be late and will not be evaluated unless the 'Grants.gov' website was not operational on the due date and was unable to receive the proposal submission. If this occurs, the time specified for the receipt of the proposals through Grants.gov will be extended to the same time of day specified in this BAA on the first workday on which the 'Grants.gov' website is operational.

5. Submission of Grant White Papers and Proposals to Grants.gov or by Hardcopy

Grant proposals may be submitted through Grants.gov or by hard copy. Regardless of whether Grants.gov is used or "hardcopy" submission, the Offeror must use the Grants.gov forms from the application package template associated with the BAA on the Grants.gov website.

To be considered for award, applicants must include the ONR Department Code in Block 4 entitled 'Federal Identifier' of the Standard Form (SF) 424 R&R. **Please be sure to enter the Department Code that best relates to your proposal in Block 4 (Federal Identifier) of the SF 424 R&R to ensure that it is properly routed to the correct Program Office. Only one Department Code may be selected.** Please choose at the sub-Department level wherever possible (i.e., for parent ONR Code 30, you should select at the 301, 302 or 303 level if possible). A list of the Department Codes can be found at <http://www.onr.navy.mil/> on the right side of the screen. Applicants who fail to provide a Department Code identifier may receive notification that their proposal submission has been rejected.

However, it should be noted that "white papers" should not be submitted through the Grants.govApply process; the only acceptable medium will be hard copy. White papers may be submitted in hard copy (either electronically or paper) directly to the cognizant ONR Science and Technology Department. White paper submissions may be either mailed, faxed, or emailed directly to the appropriate ONR Program Officer/Program Manager.

For electronic submission, there are several one-time actions that must be completed in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry

(CCR), register with the credential provider, and register with Grants.gov). See www.grants.gov, specifically www.grants.gov/GetStarted.

Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/assets/OrganizationRegCheck..doc> http://www.grants.gov/applicants/register_your_organization.jsp which will provide guidance through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called 'MPIN' are important steps in the CCR registration process. Applicants who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. Additionally, in order to download the application package, applicants will need to install PureEdgeViewer. This small, free program will allow applicants to access, complete and submit applications electronically and securely. For a free version of the software, visit the following website: www.grants.gov/DownloadViewer. If any questions that may arise relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

Detailed instructions entitled, "Grants.Gov Electronic Application and Submission Information", on how to submit a Grant proposal through Grants.gov may be found at the ONR website listed under the 'Acquisition Department – Contracts & Grants Submitting a Proposal' link at: http://www.onr.navy.mil/O2/how_to.asp

6. Address for the Submission of Hard Copy White Papers and Full Proposals for Contracts and Grants

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

Ms. Sheila Richardson
Communications and Networking Science and Technology Submission Coordinator
Surveillance, Communications and Electronic Division, Code ONR 312
Office of Naval Research
One Liberty Place
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

E-Mail: Sheila_Richardson@onr.navy.mil

* If using overnight courier, please use Room 1115 instead of Suite 1425. If a telephone number is required, please use 703-588-1036.

Important Notes Regarding Submission of White Papers and Proposals

If the Offeror is using USPS, please allow an additional five (5) business days for the package to be delivered to this address due to United States Postal Service (USPS) mail being sent to a central location for special processing before it is sent to this address.

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

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 more important than cost. Even though cost is of less importance than all of the technical factors combined, 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. Criteria A-C are listed in descending order of priority. Any sub-criteria 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 Electronic Warfare 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

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.

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 result in enhancements of novel S&T, will be given favorable consideration.

Offerors proposing to partner with Government Laboratories or Federally Funded Research and Development Centers (FFRDCs) should provide the "partnering proposal" from the Government or FFRDC entity with its proposal. However these partnering proposals must be severable from the Industry or Academia main proposal since ONR will fund these partnering proposals directly. As such, Industry/Academia cost proposals should not include any direct costs or pass-through fees (indirect costs or fixed fee) associated with the partnering proposal from the Government Laboratory or FFRDC.

Evaluation of Options: The Government will evaluate for award purposes by adding the total cost for all options to the total cost for the basic requirement. The evaluation of options will not obligate the Government to exercise the option(s).

2. Evaluation Panel -

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

The Government may use selected support personnel as subject matter expert technical consultants to assist in providing both technical expertise and administrative support regarding white papers, presentations, and full proposals issuing from this announcement. Similarly, support contractors may be utilized as subject-matter experts in the evaluation of cost proposals. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employees having access to technical or cost proposals submitted in response to this BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions. 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 announcement 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 for contracts and assistance agreements should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts & Grants located at http://www.onr.navy.mil/02/rep_cert.asp.

For contracts, in accordance with FAR 4.1201, prospective contractors shall and submit complete electronic annual representations and certifications at <http://orca.bpn.gov>. The Online Representations and Certifications Application (ORCA) must be supplemented by DFARS and contract specific representations and certifications found at http://www.onr.navy.mil/02/rep_cert.asp. This requirement is also applicable for other transaction proposals involving prototypes (Section 845 agreements).

For grant proposals the certification package is entitled "[Certifications for Grants and Agreements](#)."

- *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 -

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

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

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 access to classified material will be required at any point during performance, the offeror must clearly identify such need prominently in its proposal.

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.

4. Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must complete a DOD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and/or NIH OLAW Animal Welfare Assurance approval letter, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal for research involving human subjects the Offeror must submit prior to award: documentation of approval from an Institutional Review Board (IRB); IRB-approved informed consent form; IRB-approved research protocol; an executive summary of planned research (one-half to one page in length); proof of completed human research training (e.g., training certificate, institutional verification of training, etc.); an application for a DoD Navy Addendum to the Offeror's DHHS-issued Federalwide Assurance (FWA) or the Offeror's DoD Navy Addendum number. The forms for assurance applications can be found at http://www.onr.navy.mil/sci_tech/34/343/. If the research is determined by the IRB to be greater than minimal risk, the Offeror also must provide the name and contact information for the independent medical monitor. [Note: for research involving human subjects that is greater than minimal risk, administrative procedures to protect human subjects from medical expenses (not otherwise provided or reimbursed) that are the direct result of participation in a research project must be addressed. Documentation describing those procedures may be requested. For additional information on this topic please email 343_contact@onr.navy.mil.] For assistance with submission of animal and

human subject research related documentation, contact the ONR Animal/Human Use Administrator at (703) 696-4046.

5. Roles of the Navy Warfare Centers (Applicable only for contracts)

The Navy Warfare Centers will have the primary role for the integration and experimentation/demonstration process. They will also participate in the development of technologies where there are unique capabilities and facilities of interest to the Electronic Warfare Discovery and Invention program. They will also assist ONR in the management, engineering, and administrative tasks and will provide government furnished equipment (GFE) and facilities that will be used for system level integration and portions of experiment execution.

6. Department of Defense High Performance Computing Program

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

7. Protection of Proprietary and Sensitive Information

The parties acknowledge that, during performance of the contract or grant 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.