



BROAD AGENCY ANNOUNCEMENT (BAA): Basic Research in Rotorcraft Technology

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2), the Department of Defense Grants and Agreements Regulations (DoDGARS) 22.315(a), and DoD's Other Transaction Guide for Prototypes Projects, USD(AT&L), OT Guide, Jan 2001. A formal Request for Proposals (RFP), other solicitation, or additional information regarding this announcement will not be issued.

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

1 General Information

SPECIAL NOTICE 1: All Grant Applications submitted under this BAA shall be submitted via the Grants.Gov "APPLY" function. No other form of paper or electronic submission will be accepted unless the prospective grantee organization applies for and receives a waiver in accordance with Section IV, Application and Submission Information, Paragraph 5 entitled 'Submission of Grant Proposals to Grants.gov' below.

SPECIAL NOTICE 2: All attachments to grant applications submitted through Grants.Gov must be in Adobe Portable Document Format. Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award. The grant Application Package Template to be used for submission of grant applications through Grants.Gov is based on the PureEdge Forms software. It is anticipated that this BAA will be amended before the end of 2008 to require the use of an Adobe Forms Package in place of the PureEdge Application Package Template. Once this amendment is issue, prospective grantees must download the new Adobe Application Package in order to be able to submit Grant Applications through Grants.Gov.

1.1 Agency Name

Office of Naval Research

1.2 Research Opportunity Title

Basic Research in Rotorcraft Technology

1.3 Program Name

Basic Research in Rotorcraft Technology

1.4 Research Opportunity Number

ONR BAA 09-007

1.5 Response Dates

White Papers Due: 12 December 2008

Full Proposals Due: 23 January 2009

1.6 Research Opportunity Description

The Office of Naval Research (ONR), Naval Air Warfare and Weapons Department (ONR 35) is interested in receiving technical and cost proposals for conduct of basic research in technology areas relevant to rotorcraft. As basic research, proposed projects should develop new scientific knowledge, improve theoretical understanding, and provide a basis for advances in rotorcraft technology. Research topics should focus on basic scientific issues inspired by rotorcraft technology needs and having the potential for making significant contributions towards Navy research thrusts and DoD goals and missions. Technology transfer and the partnering of this research with the US rotorcraft

industry, U.S. Navy, other Government organizations (*e.g.*, U.S. Army, NASA, FAA) and other academic institutions are encouraged.

The proposed research should emphasize innovative, creative basic research rather than application of existing technologies. Projects should not be directed at specific aircraft or systems, and need not offer immediate or specifically identifiable improvements in rotorcraft technology. Projects that merely apply engineering methods to develop or evaluate unusual vehicle configurations or components are not of interest under this Announcement. Although software development *per se* is not a goal of this announcement, projects demonstrating new methods via their software implementation will be considered.

Proposals are sought in the following three research thrust areas:

1. Advanced Aerodynamics for Ship/Aircraft Dynamic Interface
2. Aeromechanics
3. Structures

These research thrust areas are described below. In the first thrust area, Advanced Aerodynamics for Ship/Aircraft Dynamic Interface, proposals are sought only in the specific topic areas listed.

In the Aeromechanics and Structures thrust areas, sample topic areas are provided to illustrate the scope envisioned for research in that thrust area. These areas are of interest to the Navy; however, innovative proposals addressing other relevant topics not specifically listed will receive consideration as well.

1.6.1 Advanced Aerodynamics for Aircraft/Ship Dynamic Interface

The Navy seeks to understand and rectify the physical and numerical modeling deficiencies that prevent the use of current ship/aircraft Dynamic Interface (DI) simulations for the prediction of operational envelopes. The two fundamental deficiencies are considered to be: (1) predicting the fully-coupled, non-linear aerodynamic interaction between the ship and aircraft and (2) doing so at execution speeds that would allow the simulation to be used for design purposes (real-time speed is considered a minimum requirement). Ultimately, this requires capturing all the fidelity of current Computational Fluid Dynamics (CFD) simulations (with additional models to account for rotor/airwake coupling) at execution speeds one thousand times faster than current high performance computing (HPC) capabilities.

This thrust area seeks to develop advanced physics-based rotor modeling techniques that capture the full interaction of the rotor system with a time-varying, turbulent air stream. New and innovative numerical techniques that exploit the capabilities of extremely large scale parallel processing systems are required as well. Proposals are sought only in the following specific topics areas:

1. Helicopter rotor aerodynamics in the near field of structures with and without ambient wind.
2. Novel, efficient computational approaches to solving the Navier-Stokes equations, including turbulence modeling, mathematics for massively parallel computation, and possible incorporation of multiple disciplines such as structures and chemistry.

1.6.2 Aeromechanics

The Navy is interested in advancing the state of the art in rotorcraft technology in areas that will improve performance, safety and survivability, and operational costs. The technical disciplines associated with Aeromechanics have been identified as areas that present technical issues relevant to progress in these aspects rotorcraft technology. In the context of this Announcement, these disciplines include Dynamics, Aeroelasticity, Aerodynamics, and External Acoustics. Advances are sought in these areas that could lead to

- significant improvements in vehicle speed, range, payload, and/or high-altitude performance
- reduced vibration and dynamic component loads, and/or reduced weight penalty for vibration control measures
- improved handling qualities that may expand operational capabilities and/or provide improved safety and survivability

Sample topic areas include, but are not limited to:

1. Enabling technologies for variable-geometry, variable speed, and stoppable-rotor systems
2. Aerodynamic flow control and/or on-blade control actuation
3. Control algorithms for on-blade actuation
4. Unsteady aerodynamics and dynamic stall
5. Aircraft control systems for shipboard operations

6. Hub drag reduction
7. Fixed-system drag reduction and vibration control
8. Efficient, reduced-order modeling of rotor aerodynamics and aeromechanics

1.6.3 Structures

The Structures research thrust area addresses aspects of aircraft structures unique to rotorcraft, in particular those operating in the Naval environment such as maintainability, corrosion resistance, and crash safety. Advances in the Structures thrust area could lead to more efficient, lightweight, and durable structures with favorable fatigue and damage tolerance properties. Significant developments could also provide enabling capabilities for advanced vehicle and system concepts.

Sample topic areas include, but are not limited to:

1. Innovative, efficient methods for determining useful life remaining in rotorcraft dynamic components and principal structural elements
2. Fracture mechanics-based damage tolerance methodology for metallic and composite structures
3. Prediction of high strain rate, progressive failure of composite structures in high impact and crash events.
4. Methods for determining and improving the durability and damage tolerance of composite structures.
5. Analytical methods for evaluating defects in thick composite components.
6. Lightweight, corrosion resistant structural materials and systems suitable for rotorcraft operating in the marine environment
7. Composite structures with high (>6.0) post-buckled ratios

***Note: Work funded under this BAA will be fundamental research.**

1.7 Points of Contact

Questions of a scientific or technical nature should be submitted to:

Point of Contact Name: John Kinzer

Point of Contact Occupation Title: Program Officer, Air Vehicle Technology
Department Title: Naval Air Warfare and Weapons Department
Department Code: ONR 35
Address: Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington VA 22203-1995
E-mail address: john.kinzer@navy.mil

Questions of a business nature should be submitted to:

Point of Contact Name: Casey W. Ross
Point of Contact Occupation Title: Contract Specialist
Department Title: Contract & Grant Awards, Management Division
Department Code: ONR 0253
Address: Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995
E-mail address: casey.w.ross@navy.mil

1.8 Instrument Type(s)

Awards may take the form of contracts, grants, cooperative agreements, and other transaction agreements, as appropriate.

1.9 Catalog of Federal Domestic Assistance (CFDA) Numbers

12.300

1.10 Catalog of Federal Domestic Assistance (CFDA) Titles

Basic Scientific Research

1.11 Other Information

This announcement is restricted to basic research. Contracts, grants and other awards made under this BAA are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

2 Award Information

The total amounts to be awarded for basic research in rotorcraft technology in Fiscal Years 2009–2012 are estimated as follows:

FY09	FY10	FY11	FY12
\$700k	\$2M	\$2M	\$1M

ONR may award less than these amounts under this BAA. Additional projects may be solicited through subsequent announcement(s) in the out years.

Anticipated Period of Performance: 1-4 years

Anticipated Range of Individual Award Amounts: \$50-100k per year (first year)
\$50-300k (out years)

Funding Type: Research and Development Funding of Budget Activity 1 (Basic Research) only.

3 ELIGIBILITY INFORMATION

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

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

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

Teams are encouraged to submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.

Some topics cover export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 1201.1 et seq.

4 APPLICATION AND SUBMISSION INFORMATION

4.1 Application and Submission Process

White Papers are required prior to submitting a Full Proposal. The due date for White Papers is no later than 3 p.m. (Eastern Time) on 12 December 2008. Initial Navy evaluations of the White Papers will be issued via E-mail notification on or about 30 December 2008. Detailed technical and cost proposals will be subsequently encouraged from those Offerors whose proposed technologies have been identified through the above-referenced E-mail as being of "particular interest" to the Navy. However, any such encouragement does not assure a subsequent award. Any Offeror may submit a full proposal even if its white paper was not identified as being of "particular interest." However, full Proposals will not be considered under this BAA unless a white paper was received before the white paper due date specified above.

Full Proposals — The due date for receipt of Full Proposals is 3 p.m. (Eastern Time) on 23 January 2009. Proposals for grants and cooperative agreements must but submitted via Grants.Gov. only. Proposals for grants or cooperative agreements submitted by other methods will not be accepted. Foreign grantees may request a waiver if they are not registered in the DoD Central Contractor Registration (CCR) system.

It is anticipated that final selections will be made by 20 February, 2009. As soon as the final proposal evaluation process is completed, the Offeror will be notified via email of its selection or non-selection for an award. Proposals exceeding the page limit may not be evaluated.

4.2 Content and Format of White Papers/Full Proposals

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

Unclassified proposals shall be submitted directly to the Technical Point of Contract (TPOC).

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

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

The inner wrapper of the classified proposal should be addressed to the attention of the TPOC. An 'unclassified' Statement of Work (SOW) must accompany any classified proposal.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

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

IMPORTANT NOTE: Titles given to the White Papers and Full Proposals should be descriptive of the work they cover. Do not simply copy the title of this solicitation.

The proposal format and content identified below are applicable to the submission of proposals for contracts, cooperative agreements and other transactions. As noted in Paragraph 5 below, proposals selecting grant awards are to be formatted as required by Standard Form 424 (R&R), which is available via the internet at <http://www.grants.gov/>.

4.2.1 WHITE PAPERS

White Papers — General Requirements

- Paper Size: 8.5 x 11 inch paper
- Margins: 1 inch
- Spacing: single or double-spaced

- Text Font: Times New Roman, 12 point. A smaller font may be used for captions, legends, and sub- and superscripts.
- Number of Pages: Page count limits are described below for each of the elements of the White Paper. White Papers exceeding page count limits may not be evaluated.
- Copies: one (1) electronic copy in PDF format (preferred) or as a Microsoft Word file, submitted via E-mail. The entire White Paper shall be contained in a **single electronic file**.

White Papers — Content

White Papers will contain the following elements.

- **Cover Page:** This should include the words "Proposal White Paper" and the following:
 1. Prime Offeror name and address
 2. Contact information for Principal Investigator and Business Office Representative, including name, telephone and facsimile number, and E-mail address.
 3. BAA number and descriptive title of proposal (do not simply copy title of this solicitation).
 4. Complete list of subcontractors, if any.
 5. ONR Technical POC information (name, address, phone number, and E-mail address).
 6. Duration of effort
 7. Research Thrust Area addressed
 8. Signature(s) of authorized person in business office with date.
- **Technical Section:** A technical section of no more than five (5) pages that identifies the research thrust area being addressed, assesses the current state of scientific understanding in the proposed topic area, establishes the motivation for the proposed effort, compares proposed research with competing technological developments, discusses technical issues and an approach to their resolution, and identifies the relevance of potential outcomes to Naval requirements. This section should include references. The list of references will not be included when determining the page count.

- **Programmatic Section:** A one (1) page programmatic section that includes milestones and a timetable.
- **Resumes:** - Summary resumes, limited to one page each, for the Principal Investigator (PI) and other key personnel. Include previous relevant experience and pertinent publications.
- **Cost:** A one (1) page summary of costs segregated by task.

4.2.2 FULL PROPOSALS

Full proposals will be prepared in two Volumes. The first Volume will contain all material except the Cost Proposal. The second Volume will contain the Cost Proposal only.

Proposals for grants and cooperative agreements must be submitted via Grants.Gov. only. Proposals for grants or cooperative agreements submitted by other methods will not be accepted. Prospective grantee organizations may request a waiver if unable to comply or if the burden of this requirement is excessive. Foreign grantees may request a waiver if they are not registered in the DoD Central Contractor Registration (CCR) system.

Full Proposals — General Requirements

- Paper Size: 8.5 x 11 inch paper
- Margins: 1 inch
- Spacing: single or double-spaced
- Text Font: Times New Roman, 12 point. A smaller font may be used for captions, legends, and sub- and superscripts.
- Number of Pages: Page count limits are described below for each of the elements of the Proposal. Proposals exceeding page count limits may not be evaluated.
- Copies
 - one (1) paper original
 - four (4) paper copies
 - one (1) electronic copy in PDF format (preferred) or as a Microsoft Word file. Each Volume of the full proposal shall be contained in a **single electronic file**, submitted on a CDROM. The two files may be submitted on the same CDROM. If a grant or cooperative agreement is sought, the full proposal must be submitted electronically at <http://www.grants.gov/> as detailed below.

Full Proposals — Content

Full proposals will contain the following elements.

Volume I — Technical and Programmatic

- **Cover Page:** This should include the words "Technical Proposal" and the following:
 1. Prime Offeror name and address
 2. Contact information for Principal Investigator and Business Office Representative, including name, telephone and facsimile number, and E-mail address.
 3. BAA number and descriptive title of proposal (do not simply copy title of this solicitation).
 4. Complete list of subcontractors, if any.
 5. ONR Technical POC information (name, address, phone number, and E-mail address).
 6. Duration of effort
 7. Thrust Area addressed
 8. Signature(s) of authorized person in business office with date.
- **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers. No page limit.
- **Abstract:** This should be concise (no more than one (1) page) abstract of the proposed effort. It should include a discussion of how the proposed research effort will respond to the objectives of ONR.
- **Statement of Work:** A Statement of Work (SOW) clearly detailing the scope and objectives of the effort to be performed and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, the proposals must include a severable, self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year. Include a description of general and special facilities available for performing the proposed work, and the rationale for requested support of any facilities, equipment, or materials.
- **Assertion of Data Rights and/or Rights in Computer Software:** For a contract award an Offeror may provide with its proposal assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014 and -7017. These clauses may be accessed at the following

web address: <http://farsite.hill.af.mil/VFDFARA.HTM> The Government may challenge assertions that are provided in improper format or that do not properly acknowledge earlier federal funding of related research by the Offeror.

- **Deliverables:** A detailed description of the results and products to be delivered inclusive of the timeframe in which they will be delivered.
- **Management Approach:** A summary, limited to one (1) page, 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/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. Discuss how the proposed effort might be coordinated with Navy and industrial counterparts.
- **Technical Section:** This section shall detail the proposed research as follows. The first three narratives (“Background”, “Technical Approach and Expected Results”, and “External Interactions”) are together limited to a total of five (5) pages, excluding the list of references, if any.
 - **Background:** Describe the proposed research objectives in terms of specific physical phenomena, historical approaches to the problem, and current state-of-the art including technical barriers or challenges. Explain the uniqueness of the proposed research.
 - **Technical Approach and Expected Results:** Provide a detailed, coherent technical plan with an approach to completing each of the numbered tasks delineated in the Statement of Work (SOW). Describe specific techniques to be employed and identify unique aspects of the approach, as well as anything else the Offeror considers relevant to completing the SOW. The technical approach should indicate how the work will be performed, including the capabilities and resources which will be applied, what problem areas exist, the proposed solutions and a full explanation of the proposed disciplines, procedures and techniques to be followed. Emphasis should be placed upon the extent that the Offeror’s technical approach ensures timely delivery and successful completion of the tasks outlined by the SOW submission.
 - **External interactions**
 - **Project Schedule and Milestones**
 - **Relevant Publications by PIs:** List only directly publications directly relevant to the proposed research.
 - **Current and pending Federal support relevant to the proposed research**

- **Personnel:** The Offeror shall provide resumes of proposed key personnel (limited to one (1) page per individual) to be utilized by the contractor/subcontractor in the performance of this contract. The Offeror shall ensure that the proposed personnel are fully capable of performing in an efficient, reliable and professional manner.
- **Past Performance:** Past performance consists of a description of the Offeror's Government and commercial contracts (both prime and major subcontracts) received during the past three years for the performance of work similar to the effort being proposed. The Offeror may describe any quality awards or certificates that indicate the Offeror possesses a high quality process for providing desired research and development outcomes.

Volume II — Cost Proposal

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 and agreements, may be found at ONR's website listed under the 'Acquisition Department - Contracts & Grants Submitting a Proposal' link at: http://www.onr.navy.mil/02/how_to.asp.

The Cost Proposal should consist of a cover page and two parts. **Part 1** will provide a detailed cost breakdown of all costs by cost category by calendar or Government fiscal year, with a summary. **Part 2** will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work. Options must be separately priced,

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

- BAA number
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address) and
- Duration of effort (separately identify basic effort and any proposed options)
- Summary Statement of Costs

- Cognizant DCAA and DCMA point of contact, address, phone/fax and e-mail address (if readily available)

Part 1 — Contract Costs: Detailed breakdown of all costs by cost category by calendar or Government fiscal year:

- Direct Labor — Individual labor categories or persons, with associated labor hours and unburdened direct labor rates;
- Indirect Costs — Fringe Benefits, Overhead, F&A, etc. (Must show base amount and rate);
- Proposed Contractor-Acquired Equipment for proposed research projects should be specifically itemized with costs or estimated costs along with an explanation of the basis of the estimate. Where possible, indicate purchasing method (competition, price comparison, market review, etc.). For computer/laptop purchases, include a statement indicating that the computers/laptops will be integrated into the program or used as an integral part of the research effort.
- Travel — Provide number of trips, destination, duration, per diem, auto rental, POV etc., or other basis for estimate (e.g., past experience based on previous efforts).
- Subcontract — Detailed cost proposals for subawards submitted by the subcontractor. The subcontractor's or subrecipient's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be obtained from the subcontractor prior to award; The prime contractor should perform and provide a cost/price analysis of each subcontractor's cost proposal.*

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

- Consultant — Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate and associated hours;
- Materials — Should be specifically itemized with costs or estimated costs along with basis for estimate. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's procurement method to be used (competition, engineering estimate, market survey, etc.);
- Other Directs Costs

- Grant Specific Costs — Costs not normally associated with contracts, such as Graduate Assistant tuition, laboratory fees, report and publication costs will be presented on SF 424(R&R) as discussed under Paragraph 5 below;
- Options — the Base Period of Performance and Option Periods must be priced at the submission of the proposal. Any proposal containing unpriced options will not be included in the contract;
- Fee/Profit — Contract proposals only.

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

Part 2: Submit a cost breakdown by task/sub-task corresponding to the same task breakdown in the proposed Statement of Work. When options are contemplated, options must be separately identified and priced by task/subtask.

4.3 Anticipated Schedule of Events

Event	Date	Time (Eastern)
White Paper Due Date	12 December 2008	3 PM
Notification of Evaluations of White Papers*	30 December 2008	N/A
Full Proposal Due Date	23 January 2009	3 PM
Proposal Evaluations Complete*	20 February 2009	N/A

* Estimated dates

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

4.4 Submission of Late Proposals

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be

considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

- If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 P.M. one working day prior to the date specified for receipt of proposals; or
- There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or
- It was the only proposal received.

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

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

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

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

Grants and Cooperative Agreements: Any proposal submitted through 'Grants.gov' after the deadline for 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.

4.5 Submission of Grant Proposals to Grants.gov

Detailed instructions entitled “Grants.Gov Electronic Application and Submission Information” on how to submit a grant or cooperative agreement 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/02/how_to.asp

Grant and cooperative agreement proposals shall be submitted through [Grants.gov](http://www.grants.gov) using the [Grants.gov](http://www.grants.gov) forms from the application package template associated with the BAA on the [Grants.gov](http://www.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. Enter the Department Code that best relates to your proposal in Block 4 to ensure that it is properly routed to the correct Program Office. Only one Department Code may be selected. 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. If there is a specific ONR Program Officer to whom you wish to direct the proposal, enter the Department Code followed by the Program Officer’s name. Applicants who fail to provide a Department Code identifier may receive notification that their proposal submission has been rejected.

White Papers should not be submitted through the Grants.govApply process but rather should be sent directly to ONR. White paper submissions should be either mailed, faxed, or emailed directly to the appropriate ONR Program Officer/Program Manager.

By completing Blocks 18 and 19 the Grant Applicant is providing the certification on lobbying required by 32 CFR Part 28. Refer to Section VI, ‘Award Administration Information’ entitled “Certifications” for further information.

For electronic submission of grant and cooperative agreement full proposals, several one-time actions must be completed in order to submit an application through Grants.gov. These include obtaining a Dun and Bradstreet Data Universal Numbering System (DUNS) number, registering with the Central Contract Registration (CCR), registering with the credential provider, and registering with Grants.gov. See www.grants.gov, specifically www.grants.gov/GetStarted.

Use the Grants.gov Organization Registration Checklist at 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. The process should 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. Any questions 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.

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All attachments to grant applications submitted through Grants.Gov must be in Adobe Portable Document Format (i.e., .PDF files). Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format will not be considered for award.

The grant Application Package Template to be used for submission of grant applications through Grants.Gov is based on the PureEdge Forms software. It is anticipated that this BAA will be amended before the end of 2008 to require the use of an Adobe Forms Package in place of the PureEdge Application Package Template. Once this amendment is issue, prospective grantees must download the new Adobe Application Package in order to be able to submit Grant Applications through Grants.Gov.

Process to Obtain a Waiver from the Use of Grants.Gov for Submission of Full Grant Proposals: If a prospective grantee is unable to comply with the requirement to use Grants.Gov "APPLY" for submission of a grant application under this BAA or finds it would be an excessive burden to comply with this requirement, a waiver request may be submitted not less than 30 calendar days prior to the closing date for receipt of Full Proposals. Such request should be submitted by the Electronic Business Point of Contact listed in the CCR for the organization and should contain the Organization/Individual's 13 name, address, telephone number, and email address. The request should state the reason for the request in sufficient detail so a decision can be made. The Waiver Request should be submitted to the ONR Acquisition Department point of contact or Grants Officer listed in the BAA. Such request can be sent by registered mail or email. The "postmark" stamp on the envelope or the time annotated on the email will be used to determine timeliness of the request. A decision and response will be issued within 14 calendar days of receipt of the request by ONR. Foreign Grantees who are not registered in CCR may request a waiver on that basis since CCR registration is integral to the

Grants.Gov application process.4.6 Address for the Submission of White Papers and Full Proposals for Contracts and Other Transaction Agreements.

4.6.1 White Papers (electronic copy)

White papers should be submitted as electronic files in PDF format (preferred) or as Microsoft Word files in an email attachment to

john.kinzer@navy.mil

4.6.2 Hard copies of full proposals

Hard copies and media containing electronic copies of full proposals for Contracts or Other Transaction Agreements should be sent to the Office of Naval Research at the following address:

Office of Naval Research
Attn: John F. Kinzer
ONR Department Code: 35
875 North Randolph Street
Arlington, VA 22203-1995

FULL PROPOSALS SENT BY FAX OR EMAIL WILL NOT BE CONSIDERED

5 EVALUATION INFORMATION

5.1 Evaluation Criteria

The following evaluation criteria apply to both the White Papers and the Full Proposals. Proposals will be selected through a technical/scientific/business decision process with technical and scientific considerations being more important than cost. Criteria 1 and 2 are of equal importance, followed by criteria 3 and 4, in that order. All subcriteria listed under a particular criterion are of equal importance.

1. Overall scientific and technical merits of the proposal
 - (a) Uniqueness of and degree of innovation in the proposed research
 - (b) Soundness of technical concept
 - (c) Offeror's awareness of the state of the art and understanding of the scope of the problem and the technical effort needed to address it
2. Potential contribution to Thrust Area goals and Naval needs.

3. Qualifications, capabilities, related experience, and past contributions in the proposed research area of the Offeror, including principal investigators and key research personnel
 - (a) The quality of technical personnel proposed
 - (b) The Offeror's experience in relevant efforts with similar resources
 - (c) The ability to manage the proposed effort.
4. The amount and realism of the proposed costs, including costs of Government Furnished Equipment, if any.

For proposed awards to be made as contracts to large businesses, universities, and non-profits, 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.

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

5.2 Evaluation Panel

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Cost proposals will be evaluated by Government business professionals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. Similarly, support contractors may be utilized to evaluate cost proposals. However, proposal selection and award decisions are solely the responsibility of Government personnel. Unless subject to an equivalent contractual provision, each support contractor's employee will be required to sign a non-disclosure statement prior to obtaining access to technical and cost proposals submitted in response to this BAA.

6 AWARD ADMINISTRATION INFORMATION

6.1 Administrative Requirements

- The North American Industry Classification System (NAICS) code - The North American Industry Classification System (NAICS) code for this announcement is "541712" with a small business size standard of "500 employees".
- Central Contractor Registry (CCR) - Successful Offerors not already registered in the CCR will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>.
- 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.
- Certifications - Proposals for contracts and grants 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.

Contracts:

For contracts, in accordance with FAR 4.1201, prospective contractors shall complete and submit electronic annual representations and certifications at <http://orca.bpn.gov>. In addition to completing the Online Representations and Certifications Application (ORCA), proposals must be accompanied with a completed DFARS and contract specific representations and certifications. These "DFARS and Contract Specific Representations and Certifications", i.e., Section K, may be accessed under the Contracts and Grants Section of the ONR Home Page at http://www.onr.navy.mil/02/rep_cert.asp.

Assistance Agreements:

For grant proposals and proposals for cooperative agreements or other transaction agreements (other than for prototypes), the certification package is entitled Certifications for Grants and Agreements

Grant awards greater than \$100,000 require a certification of compliance with a national policy mandate concerning lobbying. Grant and Cooperative Agreement applicants must provide this certification by electronic submission of SF424 (R&R) as a part of an electronic proposal submitted via Grants.gov (complete Blocks 18 and 19).

The following certification applies to each applicant seeking federal assistance funds exceeding \$100,000:

CERTIFICATION REGARDING LOBBYING ACTIVITIES

1. No Federal appropriated funds have been paid or will be paid by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the applicant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The applicant shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

6.2 Required Reports and Reviews

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

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

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

7 OTHER INFORMATION

7.1 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 that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

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

7.2 Security Classification

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. If access to classified material will be required at any point during performance, the Offeror must clearly identify such need prominently in its proposal.

7.3 Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must complete a DOD Animal Use Protocol with supporting documentation (copies of AALAC accreditation and/or NIH assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. For assistance with submission of animal research related documentation, contact the ONR Animal/Human Use Administrator at (703) 696-4046.

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 research protocol; IRB-approved informed consent form; proof of completed human research training (e.g., training certificate or institutional verification of

training); an application for a DoD Navy Addendum to the Offeror's DHHS-issued Federalwide Assurance (FWA) or the Offeror's DoD Navy Addendum number. In the event that an exemption criterion under 32 CFR.219.101(b) is claimed, provide documentation of the determination by the Institutional Review Board (IRB) Chair, IRB Vice Chair, designated IRB administrator or official of the human research protection program. Information about assurance applications and forms can be obtained by contacting ONR_343_contact@navy.mil. If the research is determined by the IRB to be greater than minimal risk, the Offeror also must provide the name and contact information for the independent medical monitor. [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. Additional supporting documentation may be requested. For additional information on this topic, email ONR_343_contact@navy.mil] For assistance with submission of human subject research related documentation, contact the ONR Animal/Human Use Administrator at (703) 696-4046.

7.4 Department of Defense High Performance Computing Program

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

7.5 Protection of Proprietary and Sensitive Information

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

any other party or to recipient personnel who do not need to know the contents thereof for the performance of the contract/agreement. Recipient personnel shall also be informed that they shall not engage in any other action, venture, or employment wherein this information will be used for any purpose by any other party.

7.6 Project Meetings and Reviews

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, Offerors should assume that 40% of these meetings will be at or near ONR, Arlington, VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

7.7 Submission of Questions

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

Questions regarding **white papers** must be submitted by 3:00 P.M. Eastern Time on 8 December 2008. Questions after this date and time may not be answered, and the due date for submission of the white papers will not be extended.

Questions regarding **full proposals** must be submitted by 3:00 P.M. Eastern Time on 9 January 2009. Questions after this date and time may not be answered, and the due date for submission of the proposals will not be extended.