



BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

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

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 reserves the right to transfer contractual authority of the proposals to other government contracting offices, as needed to conduct technical efforts for all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs or travel to support proposal development or presentation. Technical and cost proposals (or any other supporting material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research,
Ballston Centre, Tower One
800 N. Quincy Street
Arlington, VA 22217-5660

2. Research Opportunity Title -

High Velocity Weapons Research, including Electromagnetic (EM) Rail Gun Technologies, in Medium to Large Caliber Direct and Indirect Gun Fire Systems

3. Program Name -

High Velocity Weapons Research, including Electromagnetic (EM) Rail Gun Technologies, in Medium to Large Caliber Direct and Indirect Gun Fire Systems

4. Research Opportunity Number -

BAA 05-003

5. Response Date -

This announcement will remain open until 31 December 2005. Proposals may be submitted at any time within the timeframes described below. Proposals may be selected and awards made at any time from the date of this announcement until 31 December 2005.

White Papers Due: White Papers may be submitted after the day of this announcement or any day thereafter until the close of the white paper acceptance period on 31 August 2005.

Full Proposals Due: Full Proposals may be may be submitted after the day of this announcement or any day thereafter until the close of this announcement at 2:00 p.m. (local eastern time) on 31 December 2005.

Offerors have a better chance of being considered if they submit earlier than 31 March 2005 due to programmatic and funding constraints. Offerors are strongly encouraged to contact government technical program representatives prior to any white paper or proposal submission to confirm that what they are considering for submission may have interest to the government.

6. Research Opportunity Description -

The Office of Naval Research (ONR), Code 351, in cooperation with the US Army, Army Research, Development and Engineering Command (ARDEC), as part of a collaborative effort, is interested in receiving "White Papers" and "Full Proposals" for new innovative Science & Technology (S & T) in areas pertaining to high speed projectile launch, delivery, lethality and other related EM launch applications. Specific Research Areas of Interest include (but are not limited to): Weapons systems research with applications of direct and indirect fire, in medium to large calibers bore sizes (1 inch to 6 inches, or 25mm to 155mm), such as those relating to accelerating a launch package by using Electromagnetic (EM) Rail Gun technologies to velocities greater than those

typically considered feasible with conventional energetic gun propellants. Examples of these technologies may include pulse forming networks, integrated launch package and/or projectile component research and development, and launcher research and development. For reference, typical kinetic energy levels for proposals under the technical efforts are expected to be between two (2) and sixty-four (64) mega-joules.

The objective of the Electromagnetic launch, delivery, and lethality S&T Program is to develop and demonstrate technologies that contribute to: (1) the neutralization of threat targets by increasing probability of kill in all scenarios, including countering enemy troops, emplacements, tanks, and artillery, (2) providing the ability to conduct long range strike engagements from off shore assets, (3) providing weapon-target matching/pairing studies, (4) and reducing costs.

This BAA addresses a broad spectrum of technologies related to Army and Navy Direct, Line of Sight (LOS) and beyond line of sight (BLOS)/Indirect Gun weapons systems and mission analysis.

7. Point(s) of Contact -

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

Point of Contact Name: Mr. Peter A. Morrison
Point of Contact Occupation Title: Program Manager, Weapons Technology
Division Title: Office of Naval Research, Strike Division
Division Code: 351
Address: 800 North Quincy Street, Arlington VA 22217
Telephone Number: 703-696-0553
Facsimile Number: 703-696-4274
Email Address: morrisp@onr.navy.mil

Specific technical questions relating to the Army's EM Gun program may alternately contact:

Point of Contact Name: Mr. Matthew V. Cilli
Point of Contact Occupation Title: EM Technology Manager
Division Title: US Army, ARDEC
Address: AMSRD-AAR-AEW-E(D), Building 382 , Picatinny Arsenal NJ 07806-5000
Telephone Number: 973-724-6655
email: mvcilli@pica.army.mil

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

Business Point of Contact:

Point of Contact Name: Mark Chadwick
Point of Contact Occupation Title: Senior Contracting Officer
Division Title: Contracts and Grants
Division Code: 0253
Address: Ballston Tower One, 800 N. Quincy Street, Arlington, VA 22217
Telephone Number: (703) 696-2599
Facsimile Number: (703) 696-0066
Email Address: chadwim@onr.navy.mil

8. Instrument Type(s) -

It is anticipated that awards resulting from this announcement will take the form of Contracts, Grants, or Cooperative Agreements as appropriate.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -

12.300

10. Catalog of Federal Domestic Assistance (CFDA) Titles -

DOD Basic and Applied Scientific Research

11. Other Information -

The National Defense Authorization Act for Fiscal Year 2004, Pub. L. No.108-136, section 211, provides that the Secretary of Defense shall establish and carry out a collaborative program for evaluation and demonstration of advanced technologies and concepts for gun systems that use electromagnetic (EM) propulsion for direct and indirect fire applications. Furthermore, section 211 provides that this program shall be carried out collaboratively pursuant to a memorandum of agreement (MOA) to be entered into among the Director of Defense Research and Engineering (DDR&E), the Secretary of the Army, the Secretary of the Navy, the Director of the Defense Advanced Research Projects Agency (DARPA), and other appropriate officials of the Department of Defense, as determined by the Secretary.

The Office of Naval Research (ONR), Army Research, Development and Engineering Command (ARDEC) and The Defense Advanced Research Projects Agency (DARPA), embody the current collaboration team agreement on Electromagnetic Rail Gun scientific research, development and technology assessment - under the direction of the Director of Defense Research and Engineering in the Office of the Secretary of Defense (OSD/DDR&E) and has organized its research programs into the following broad categories:

- Launchers
- Pulse Forming Networks (PFN)
- Integrated Launch Packages (ILP)

Launcher research is currently focused on the three mechanisms known to cause damage when accelerating high-speed launches of projectiles inside a gun bore: 1) excessive heating of the rail/armature interface; 2) hypervelocity gouging of rails by the passage of the armature; and 3) erosion of rails near the muzzle at projectile exit from the barrel. In these cases, increases to the launcher life over the currently demonstrated state of the art - for high speed Integrated Launch Package acceleration of the resulting lethal projectile is necessary.

Research and engineering issues which are desired to be immediately addressed as part of a notional launcher design, build, and test effort might be expected to include but are not limited to barrel issues of a) Method of assembly, b) Bore compression pressure, c) Stability of bore compression, d) Bore straightness, dimensional stability and overall barrel assembly stability, e) Rigidity for slewing, or training of gun barrel from mount, f) Barrel Electromagnetic Interference(EMI) and muzzle arc or blast management, and g) ILP-induced dynamic effects. Similarly, issues for Breech power feed might include concepts for a) Interleaved compact breech assembly, b) Flexible cables or slip ring for recoil and traverse of the mounted barrel, c) Breech swing arc in degrees (0 to plus/minus 360 degrees,) and d) Recoil management. Also, technical approaches relating to maintenance and repair, such as a) ability access to examine components in the field or at sea, and b) issues addressing lifetime component replacement needs are of great interest.

With respect to pulsed power technologies, two approaches are currently being considered to produce the high current pulses required over short time frames to accelerate the projectile primarily by magnetic Lorenz force generation. First, by developing pulsed alternator technology as the main energy storage device and second - high energy, dense capacitor storage. Because the Army is focused on a direct fire weapon mounted in an armored vehicle, the greatest technical challenge is achieving significantly higher energy and power densities. For the Navy, lower power densities are typically required, but over longer sustained rates of fire with requirements for quick recharging the pulse forming network from naval ship power is required to fulfill NSFS applications where gains in response time, range and magazine capacity provide new capabilities desired under the Naval Sea Power 21 objectives for Sea Strike and Sea Shield missions. Keen interest is noted for similar design methods, however differing technologies may be needed due to the disparate power requirements for the individual service mission requirements.

With respect to integrated launch packages (ILP's), the primary issue is to accelerate a projectile within the launcher, and maintain delivery of lethal performance. The performance of the electromagnetic armature, the sabot, and the projectile as one unit within the barrel is crucial. For longer ranges, guidance is required and includes critical survivability of projectile electronics through the high Gee acceleration profile, when high fluxing electromagnetic environments exist. After launch, Aero-stability, aero-thermal heating, effective and survivable guidance and control, and lethality issues will be crucial to determine feasibility of an EM weapon for both short direct and longer range indirect fire support missions.

The near term collaborative program will focus on the identification of technical objectives, quantified technical barriers, and enabling technologies associated with development of the objective EM gun systems. Academic and Commercial Industry collaborative ventures are requested to identify themselves and show the extents of their agreements as clearly and completely as possible. And while other complementary technologies may exist for other applications, and may be acceptable for risk reduction purposes, only those applications with a clearly defined relation to direct and indirect gun fire systems are under consideration in this announcement and are expected to be considered for award.

For purposes of clarity, direct fire engagements are typically considered line of sight (LOS) or near line of sight (NLOS). Engagements are from one to forty (1-40) kilometers in range and can be either defensive or offensive in nature and depending on application include a mix of fix and moving air, sea surface or land targets. Indirect fire, or non-line of sight for cannon (NLOS-C) or naval artillery systems, are typically distances starting from hundreds (100's) of kilometers or more and primary interest currently is in land based targets mobile or fixed target sets. The envisioned systems and potential solutions will help meet the needs of each of the Military Departments future war fighting needs and, in so doing, identify opportunities for development of common components or subsystems.

II. AWARD INFORMATION

Total anticipated amount of GFY05 Program Funding: It is expected that there will be over \$30M for the total OSD/Navy/Army development **program**, including a combination of Basic Research and Applied Research in FY05. While no specific funding is guaranteed by this broad agency announcement, it is anticipated that approximately ten million dollars (\$10,000,000.00 USD,) or more, in FY 05 dollars, may be contracted through this announcement. Total funding is directly dependant on the quantity and quality of the responses received.

Anticipated Period of Performance: It is anticipated that awards will be made in the form of a base period of performance (not to exceed 12 months) and, if proposed, option periods (no option period beyond 12 months). No contract will be awarded with a period of performance (base and options) beyond five years from the date of award.

III. ELIGIBILITY INFORMATION

Due to the likelihood of classified work being conducted as a result of this BAA, awards under this BAA may be limited to domestic U. S. firms and entities performing in the United States or their allies. Any non-US Firm proposal must identify the foreign military Program Agreement (PA) that exists with the United States of America and identify how it will be conducted under a specific weapons development Data Exchange Agreement (DEA) which is recognized by the Office of Secretary of Defense and/or the Navy International Programs Office. In such a case, all foreign agreements and resulting contracts shall be conducted under the agreed to limitations and auspices of the respective

State Departments. No costs or implied agreement to support any proposed and non-pre-existing PA or DEA will be accepted in such circumstances.

All responsible sources that fall within this category may still submit white papers and proposals in response to this BAA. White papers, oral presentations and cost or technical proposals submitted by foreign firms and entities will not be considered until Program Agreements and Data Exchange Agreements (DEA) are fully negotiated, signed, and clearance levels for data exchange and need-to-know verified by the responsible Departments of State.

Additionally, any proposal, domestic or international, must clearly identify foreign nationals by name and nationality and must include the specific duties which will be performed by that individual(s). This includes the identification of any professorial or graduate student position which is intended to have access to technical or programmatic data. Proposals that fail to address this issue shall risk being seen as non-responsive.

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 relating to Army Future Combat Systems and Naval Sea Strike Technologies for exclusive competition among these entities.

Teaming or collaborative arrangements with Government entities is permitted. If a Government Lab or Government Agency is included in a white paper or proposal as part of a team/consortium, then any costs associated with the Government Lab or Government Agency will, at the discretion of the sponsor, be funded separately and apart from the non-government team members.

White papers and proposals may include proposed cost sharing with the Government in cash or in-kind assets, however the proposed technology solutions shall have a viable commercial and military application. Also, all reserved intellectual property rights claimed by the offeror shall be clearly stated when proprietary information is submitted with a proposal. Such claim shall be updated regularly when proprietary information is subsequently submitted during performance of any resulting contract or agreement. Failure to do so may result in a deemed public disclosure of the affected information, and the Government shall be considered to have been granted a unrestricted license to use such disclosed data for any purpose.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

White Papers are encouraged prior to submitting a Full Proposal –

White papers may be submitted on the day of this announcement, or any day thereafter, until the close of the white paper acceptance period on 31 August 2005 at 2:00pm (local Eastern time). However, early white paper submission is strongly encouraged to allow ONR Program Officers sufficient time to evaluate white papers, provide feedback to offerors, and request full proposals as appropriate for potential financial coordination and support in GFY05.

The initial evaluation of the White Papers should give offerors some indication of whether a Full Proposal would likely result in an award. The Government will attempt to provide initial evaluations of the White Papers via E-mail notification within one (1) to four (4) weeks after receipt of the White Paper submission.

Optional Oral Presentations of White Papers

In some instances, and to increase comprehension of the contents provided, it may be necessary for the Government to request that an oral presentation of the data submitted in the White Paper be made. If an offeror is requested to provide an oral presentation of the information in the white paper, it should plan on a presentation of approximately forty five minutes, at a place and time to be agreed to between the “government technical point of contact” and the “offeror.”

Generally, such presentations will only be considered if the white paper has acceptable technical merit based on the written basic comprehension of intended program scope and proposed technical approach. This Oral Presentation may also be requested to facilitate understanding of the offeror’s capabilities and to discuss the materials provided in the White Paper and identify areas of specific technical capability by the Government technical representatives. This discussion, with the final discretion of the cognizant Contract Specialist and technical Contracting Officer Representative (COR), may also be scheduled via commercial teleconference means, if such means contain limited proprietary data and is unclassified in nature. If classified information will be included as part of the presentation material or any follow on discussion, it is expected that the offeror would bear the burden of travel costs to the Office of Naval Research in Arlington Virginia and would meet security requirements for clearance verification and need-to-know.

Detailed technical and cost proposals may subsequently be encouraged from those offerors whose proposed technologies or approaches have been identified through the above-referenced means in an e-mail or postal letter, as being of “particular value.” However, any such encouragement does not assure a subsequent award. Any offeror may submit a Full Proposal - even if its White Paper or Oral Presentation was not identified as being of “particular value.”

Full Proposals - Full Proposals may be submitted after the date of this announcement or any day thereafter, until the close of this announcement, 31 December 2005 at 2:00pm (local Eastern time). Again, early proposal submission is strongly encouraged to allow Program Officers sufficient time to evaluate proposals for fiscal year funding

consideration. Offerors have a better chance of being considered if they submit early because of programmatic and funding constraints. After an initial review, proposals deemed to have merit will be subject to a more formal review by Subject Matter Experts (SMEs) and other contracting and legal officers, as required. 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, and such award may potentially be made at any time during the effective life (date of announcement through 31 December 2005) of this BAA.

General Submission Information

Offerors, if required as part of their proposal, should submit their security clearance capabilities with their white papers/proposals. While some technologies under this BAA are unclassified, work on many systems' aspects will require the contractor to receive, generate, and store material up to the SECRET level.

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

Proposals submitted under the BAA are expected to be unclassified, however, classified proposals are permitted. If a classified proposal is submitted, the resultant contract will be unclassified. Offerors of classified proposals shall include an unclassified statement of work that can be incorporated into the contract. If the offeror plans to provide a classified proposal, they shall contact the Business Point of Contact for submission procedures. Classified proposals only, shall be submitted directly to the Science and Technology Point of Contact identified in Section 7 of this announcement. The Proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

White Paper Format

- Paper Size – 8.5 x 11 inch paper
- Margins – 1” inch (each: left, right, top, bottom)
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Black and White only, no color text or color graphics. Gray scale images or photographs suitable for standard office copy machine reproduction are acceptable.
- Number of Pages – No more than fifteen (15) single-sided pages (excluding cover page and resumes) White Papers exceeding the page limit may not be evaluated.
- Copies – One (1) electronic copy if submitted by e-mail to be followed up with one (1) original, three (3) copies, and two (2) CDs via mail or hand delivery. The copies and CDs are needed for dissemination among the Government Agency partners in this announcement.

Full Proposal Format – Volume 1 - Technical and Volume 2 - Cost Proposal

- Paper Size – 8.5 x 11 inch paper
- Margins – 1” inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Color text, graphics, illustrations accepted (but not required.)
- Number of Pages – Volume 1 is limited to no more than one hundred (100) pages. Volume 2 has no page limit. The cover page, table of contents, and resumes are excluded from the page limitations. A work breakdown structure, including what each effort or subeffort includes as the technical approach and method of maturation is expected to be fully disclosed. Full Proposals exceeding the page limit may not be evaluated.
- Copies – one (1) original, three (3) hard copies and two (2) electronic copies on CD-ROM, (in compatible .PDF format) No email copies of proposals will be accepted.

White Paper Content

- Cover Page – The Cover Page shall be labeled “WHITE PAPER”, and shall include the BAA number, proposed title, Offeror’s administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer. Classification markings, if necessary, should conform as per classification guidance of source organization.
- Research Initiative and/or Technical Concept – A description of the scientific research to be conducted, including potential technology capabilities, advancements, relationship to current state of the art, possible innovations and technical risk areas.
- Operational Concept - A description of the project objectives, the concept of operation for the new capabilities to be examined or delivered, and the expected operational performance improvements.
- Operational Utility Assessment Plan – A plan for demonstrating and evaluating the operational effectiveness of the Offeror’s products in Army or Naval exercises, including evaluation metrics and/or figures of merit.
- Work Breakdown Structure (WBS) – A WBS in accordance with the Department of Defense Handbook of Work Breakdown Structure (MIL-HDBK-881, Section 2.3 “SOLICITATION AND PROPOSAL”) shall be provided.
- Deliverables – A list of any deliverables for the effort, including but not limited to hardware, technical reports, specific demonstration tests, and final reports with the approximate date of expected delivery.
- Management Plan – Short resumes (**including previous relevant experience histories and bibliography of publications**) of the principal investigators and descriptions of partnering arrangements with points of contact for each organization within the partnering arrangement. The contract line items, configuration items, contract statement of work tasks, contract specifications, and contractor responses shall be expressed in terms of the work breakdown structure to enhance its effectiveness in defending and showing the proposal’s ability to

satisfy the objectives of the particular technical effort proposed. Note: While the relationship of the proposal WBS elements to the proposed statement of work taskings and the resulting contract line items should be clearly traceable, there may not be a one-to-one relationship, nor is it required.

- Past History – A short history of any previous work conducted in specific or related areas, including major contract actions resulting in
- Costs – A one-page summary of costs segregated by tasks by quarter and estimated government fiscal year.

Full Proposal Content

Volume 1: Technical Proposal

- **Cover Page:** This should include the words “Technical Proposal” and the following:
 - 1) BAA number;
 - 2) Title of Proposal;
 - 3) Identity of prime Offeror and complete list of subcontractors, if applicable;
 - 4) Technical contact (name, address, phone/fax, electronic mail address)
 - 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and;
 - 6) Duration of effort (differentiate basic effort and options clearly)
- **Table of Contents:** Section, Title, and page number are required.
- **Introduction:** This should be a short introductory explanation of the effort and how it relates to the science and technology challenges expected to be confronted. It should include a discussion on:
 - 1) Purpose, which includes the reason and aim for the proposed effort: this means expressing the knowledge of why the topic is included in the effort/curriculum, and the goals for its use.
 - 2) Process, which is how the effort will be conducted. Some questions that should be addressed in this section from an Offeror’s perspective are: How will the offeror use a vision or process to set objectives? How will the offeror develop a team? How will the leader of the proposed team or effort empower other effort members?
 - 3) Outcome, or what are the expected results?
- **Statement of Work:** An unclassified 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 attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.

- **Project Schedule and Milestones:** A summary of the schedule of events and milestones, and related back to the detailed listing of the technical tasks/subtasks organized by year through work breakdown structures (WBS) formatting.
- **Assertion of Data Rights:** Include here a summary of any proprietary rights to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any data rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the Offeror must explain how these affect its ability to deliver research data, subsystems and toolkits for integration. Additionally, Offerors must explain how the program goals are achievable in light of these proprietary limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.
- **Deliverables:** A detailed description of the results and products to be Delivered, and the expected delivery date.
- **Management Approach:** A discussion of the overall approach to the management of this effort, including brief discussions of the total organization, use of personnel; project/function/subcontractor relationships; government research interfaces; and planning, scheduling and control practice. Identify all task critical personnel and subcontractors (if any) which will be involved. Critical personnel and subcontractor technical points of contact must include phone numbers.
- **Government Facilitation:** Include a short description of the facilities that are required for the proposed effort with a separate and specific identifiable item listing or description of any Government Furnished Facility, Equipment, Hardware, Software, or Information required. This should include any version, condition, duration, and/or configuration information. If any separate government funding, facility or activity is required to complete a proposed task, a signed letter of availability and cost estimate from the cognizant government facility or supplier is required. The program officer(s) reserve the ability to separate, and if determined in the best interest of the government, fund separately any effort or delivery of a functional item or service from any governmentally controlled facility.

VOLUME 2: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts, Part 1 will provide a cost breakdown by task/sub-task corresponding to the task numbers in the proposed Statement of Work and Part 2 will provide a detailed cost breakdown of all costs by cost category by calendar or Gov't fiscal year. 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)

Part 1: Simplified Summary Chart

- A one page, simplified summary chart and table, showing individual category by previously provided work breakdown structure (WBS) given in technical proposal, against associated costs by month, for any proposed government fiscal year (GFY) and/or calendar year (CY). If, however, the proposal is provided on a “month-by-month cost after contract award date” basis rather than GFY, it is requested that the contractor still estimate a projected cost per government fiscal year for the purpose of decreasing requirements for additional final contract negotiations at a later date. The fiscal chart will show the ordinate as the date, and the abscissa as the cumulative cost to complete the proposal. If additional options are provided for consideration, additional charts should be provided for each option to the base contract.

Part 2: Detailed breakdown of all expected costs by cost category by calendar year (CY) and Gov't fiscal year (GFY) and if possible, by calendar month. Each effort should be associated with a specific Work Breakdown Structure and statement of work artifact, as identified from the technical proposal. The base and each option period must be separately priced and the period of performance for each must be clearly identified:

- Direct Labor – Individual labor category or person, with associated labor hours and unburdened direct labor rates by month, for any proposed government fiscal year (GFY) and calendar fiscal year (CY.)
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)
- Travel – Number of trips, destination, duration, etc. per month
- Subcontract – A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date
- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate
- Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's

procurement method to be used (Competition, engineering estimate, market survey, etc.)

- Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. (Justifications and written cost estimates must be provided when Government funding for such items is sought). Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.)
- Any Government Lab, Agency or facility proposed shall be accompanied by a complete breakdown of the usage costs. Costs associated with these entities will not be subject to Offeror indirect rates. Funding for these efforts will be provided directly from ONR to the respective Agency.
- Fee/Profit including fee percentage.

3. Significant Dates and Times -

| Anticipated Schedule of Events * | | |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------|
| Event | Date (MM/DD/YEAR) | Time (Local Eastern Time) |
| Initial White Papers Due Date | Any time after BAA announcement | N/A |
| Government Request for Oral Presentation of White Papers (optional) | Approximately 3 Weeks after receipt of White Paper | N/A |
| Notification of Evaluations of White Papers | Approximately 1 week after Oral Presentation or up to one month after receipt of hard copy white paper. | N/A |
| Final White Papers Due Date (Close) | No later than 31 August 2005 | 2:00 PM |
| Full Proposals Due Date | Any time after the date of this announcement, but no later than 31 December 2005 | 2:00 PM |
| Final Notification of Selection for Award | Approximately thirty (30) days after receipt of proposals | N/A |
| Kickoff Meeting | Approximately two (2) weeks after Contract Award | N/A |

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

4. Submission of Late Proposals –

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

- (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 extend to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

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

5. White paper and full proposal submission instructions:

White papers must be submitted to the following Point of Contact:

Office of Naval Research
Attn: Mr. Peter Morrison, ONR 351, Room 804-2
Ballston Centre Tower One
800 North Quincy Street
Arlington VA 22217-5660

Offerors may e-mail white papers. The e-mail addresses for submission of white papers are morrisp@onr.navy.mil. Faxed white papers will not be accepted.

If email copies are submitted, Offerors are requested to include electronic and hard copies of the white paper as specified in section IV.2.

ALL FULL PROPOSALS MUST BE SUBMITTED AS FULL HARD COPIES. FULL PROPOSALS MAY NOT BE SUBMITTED BY FAX OR E-MAIL TRANSMISSION. ONR requests that Offerors also provide two (2) electronic copies of their proposals on CD-ROM, (in .PDF format). Full Proposals shall be submitted to the following Point of Contact:

Office of Naval Research
Attn: Mr. Peter Morrison, ONR 351, Room 804-2
Ballston Centre Tower One
800 North Quincy Street
Arlington VA 22217-5660

V. EVALUATION INFORMATION

1. Evaluation Criteria –

Criteria A through E 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. Approach to reducing technical risk in relation to tactical objectives or goals
 - 2. 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
 - 3. The soundness of technical concept and approach
 - 4. The degree of innovation and uniqueness

- B. Potential relevance and contributions of the technical effort to the specific mission concept.

- C. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed principal investigator and 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.

- E. The socio-economic merits of each contract proposal, submitted by all but small business concerns, 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.

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 enhances the development of novel S&T advances will be given favorable consideration

2. Evaluation Panel -

The evaluation of White Papers and Full Proposals will be performed by the cognizant ONR, DARPA or ARDEC Program Officer and other defense activity/agency personnel, as needed. A minimum of three reviewers will be used on any one white paper or proposal.

The Government may use selected support contractor personnel to assist in the administrative processing of any White Papers and proposals arising from this announcement. These support contractors will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

- The North American Industry Classification System (NAICS) code – The North American Industry Classification System (NAICS) code for this 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 should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts & Grants, or provided other certifications from their respective contracting agency. 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](#)." For contract proposals and for other transaction proposals involving prototypes (Section 845 agreements), the certification package is entitled, "[Representations and Certifications for Contracts](#)."
- Subcontracting Plans - Successful contract proposals that exceed \$500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

2. Reporting -

a) Monthly Expenditure Reporting: A monthly listing of contractual expenditures and obligations must be made no later than ten working days after the first day of each month, for the previous month.

b) Monthly Technical Reporting: A monthly listing of technical progress must be submitted in standard textual format. Text distribution via electronic mail submissions (email) are acceptable, however, a paper copy must be submitted to the cognizant contracting officer each month labor expenditures accrue.

c) Annual Technical Reporting: It is expected that annual progress reports shall be required of any contract, which shall include a summary of all technical progress and the scientific method and metrics used to denote progress, technical readiness assessments, and achievements funded under any resulting contract. Five (5) full (color) copies of all reports shall be expected to be submitted in previously indicated or negotiated acceptable contractor formats. One copy must be submitted to each the following:

1) Office of Naval Research,
Code 351 (Attn: P. Morrison)
800 North Quincy Street
Arlington VA 22217

2) Naval Sea Systems Command,
PMS-405E (Attn: Mr. Fred Beach)
Washington Naval Yard
Washington DC 20376

3) Armament Research, Development and Engineering Command, US Army
EM Technology Manager
AMSRD-AAR-AEW-E(D)
Building 382
Picatinny Arsenal, NJ 07806-5000

4) One full (color) copy of all reports are required to be submitted to the Defense Technical Information Center (DTIC) , and information on submission may be found at their website (ref: <http://www.dtic.mil/dtic/submitting/>) as per [DFARS 235.010](#) and [252.235-7011](#)

VII. OTHER INFORMATION

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

Each cost proposal shall 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. Cost estimates and availability must be included and signed in letter form by the cognizant governmental official responsible for item issue or facility use. 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 acceptability and availability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals. Also early and clear documentation on any working or formal agreements is highly encouraged.

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 this program or any one specific contract award. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend, and document estimates to the best of their abilities any cost associated.

2. 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 assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal that involves the experimental use of human subjects, the Offeror must obtain approval from the Offeror's committee for protection of human subjects (normally referred to as an Institutional Review Board, (IRB)). The Offeror must also provide NIH (OHRP/DHHS) documentation of a Federal Wide Assurance that covers the proposed human subjects study. If the Offeror does not have a Federal Wide Assurance, a DoD Single Project Assurance for that work must be completed prior to award. Please see <http://www.onr.navy.mi./02/howto.htm> for further information.

3. 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 or other DoD contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if the cognizant 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/>.