Dynamic Tactical Communications Networks

INTRODUCTION:

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

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

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research

2. Research Opportunity Title – Dynamic Tactical Communications Networks (DTCN)

3. Program Name – DTCN S&T 1

4. Research Opportunity Number – ONR BAA 08-020

5. Response Date -

Industry Day	10 July 2008
Proposals	25 July 2008
Oral Presentations (if needed)	26 August 2008

6. Research Opportunity Description -

Synopsis

The Office of Naval Research (ONR) is seeking innovative solutions for enhanced capabilities for tactical level communications and networking for United States Marine Corps (USMC) and Navy networks. Offerors will be asked to develop technologies and products that address tactical level communications and networking challenges that require less operator intervention and provide greater and more seamless capabilities than exist in the current networks. Proposed solutions will enable greater horizontal connectivity between tactical edge platforms and users in order to improve the timely transmission of Command and Control (C2) information across the battlespace as well as supporting a shortened kill chain for tactical engagement missions. These tactical networks exhibit an essential dynamic nature and must support quick response entry and exit. The nodes on the network will have varying capabilities – with some both severely limited in bandwidth and constrained by operational and/or terrain features. Solutions offered should address one or more of the following broad thrust areas:

1. Dynamic Self-Organizing Networks
2. Assured Information Exchange

Thrust 1 – Dynamic Self-Organizing Networks
This thrust seeks technical solutions that enable tactical network access, provisioning and the delivery of critical data both inside the local network and through reachback gateway(s) to the deployed forces. Capabilities sought include (a) development of a decentralized, dynamic, mission-driven, policy-based network management effective in the command operations center, as well as deployed and detached operations, (b) auto-configuration and continuous network adaptation of mobile networks, and (c) secure mobility architectures.

Solutions offered may include new technology or the augmentation of existing technology, however, the focus must be on the development of capabilities outlined in this document which are capable of operating in the relevant tactical environment. Developed solutions may be deployed in and across various environments and so adaptability is a key consideration. Developed solutions must address: (a) operation over networks consisting of heterogeneous link types, (b) operation with limited service to (and occasionally in the absence of) reachback to the Continental United States (CONUS), (c) dynamic, competing demands for data transfer between communications nodes, and (d) the overhead of entry, exit, authentication, and authorization as the price of dynamic, self-organizing networks.

Thrust 2 – Assured Information Exchange
This thrust seeks technical solutions that utilize current and near-future communication systems to deliver a reliable communications grid to the tactical forces to enable the timely exchange of C2 and Situational Awareness (SA) information. Capabilities sought

include (a) the ability to rapidly and securely connect multiple autonomous routing and security domains, (b) the ability to effectively exchange data over, among, and across multiple heterogeneous Line-of-Sight (LOS), airborne, and Satellite Communication (SatCom) links, (c) tolerate loss, intermittent disruption and periods of disconnection.

Solutions offered to this thrust must address: (a) the exchange of routing information across heterogeneous protocols (OSPFv2, OSPFv3, PIM DM/SM, BGP4, OLSR, etc.), (b) the robust and rapid discovery and connection of network gateways, (c) opportunistic routing and (d) support for end-to-end mission-based Quality of Service (QoS) in support of tactical edge services. Such capabilities will cooperate with tactical edge service technologies that adapt to the underlying unreliability of the maritime communications environment conditions. The key issue here is that tactical communications networks must afford enterprise services the ability to respond to network conditions with sufficient awareness to insure critical tactical edge service continuity and information exchange.

This effort will develop S&T technologies and products that significantly enhance tactical edge communications networks. Solutions are to be delivered at a technology readiness level (TRL) suitable for transition to acquisition Programs of Record (nominally requiring a TRL of 6). Prior to transition to PORs, the technology and products developed here will first be evaluated via a fleet-lead government-coordinated experimentation process. The challenge is to develop innovative solutions that are sufficiently robust to provide to the warfighter. Potential PORs include, but are not limited to, the Navy Automated Digital Network System (ADNS), USMC Marine Air-Ground Task Force C2 (MAGTF C2), and US Army CERDEC and AFRL-related programs.

In order to maximize the usefulness and availability of the solutions and technology developed under this BAA, preference will be given to the development/maturation of open standards. Also, solutions that do not utilize developers' proprietary tookits are preferred.

The government may issue invitations to give oral presentations based on evaluation of the received Proposals.

Prior ONR BAAs have addressed network-aware and middleware application development. Proposers are encouraged to review current and recent BAAs to gain insight into network-application interactions.

Operational Requirements

The products of this Enabling Capability (EC) must support the critical demands of Net-Centric Warfare including:

- Timely exchange of SA and C2 information for the Naval Expeditionary Combatant forces in a network which is never fully connected

- Shortened kill chain for tactical engagement missions through the guaranteed delivery of critical information
- Provide for ad-hoc re-tasking and targeting of warriors, weapons and sensors with minimum human intervention.
- Enabling tactical edge services, internet access/delivery and a Service Oriented Architecture (SOA) afloat/ashore/in-flight proliferation through a reliable communications grid to support the naval operations with and without reachback to shore Network Operation Centers (NOCs).

Naval Net-Centric Warfare is unique as it includes aspects of the other services' aircraft, ground forces, and unmanned vehicles, with the added dimension of combat surface, sub surface, and amphibious vessels that conduct maritime and expeditionary warfare. It is imperative that Navy and USMC networks are fully integrated to support each other's power projection capabilities.

USMC networks are characterized by having numerous nodes, many heterogeneous lower bandwidth nodes (rifle squads, platoons, companies and battalions possessing armored amphibious vehicles, tanks, vehicles, helicopters, transport aircraft, and strike aircraft)) with limited SATCOM access and Beyond Line of Sight (BLOS). USMC forces egress from amphibious vessels, maneuver to an objective by air (helicopter or V-22 Osprey) or by sea and land in Expeditionary Fighting Vehicles to their objective. These USMC expeditionary elements must remain in contact with the USMC command element onboard the amphibious vessel to exchange C2 and ISR data and coordinate fires. Once fully established, USMC must maintain communications with Forward Operating Bases, Airfields, and echelon headquarters (at higher bandwidth) as well as conduct distributed operations at the company platoon and squad level (at lower bandwidth).

Navy networks can be characterized by having fewer numbers of more capable platforms (surface and subsurface ships of various classes, helicopters, and aircraft (strike, C2, antisubmarine) with a higher demand for bandwidth, spread over a greater area. Over the Horizon (OTH), BLOS and subsurface communication are issues due to SATCOM availability and physics. Navy strike groups in an Area of Operation (AOR) must be able to exchange critical C2 and targeting information amongst themselves and not be dependent on shore-based NOCs. Both USMC and Navy networks must operate seamlessly to support naval operation.

Following are notional metrics for illustrative purposes. They are not meant to be interpreted as requirements:

- Network Membership (Individual Join/Leave) (10 - 5 seconds in 200 node network)
- Multimember Network Size (200 – 300 nodes)
- Network Auto-Configuration (2 - 5 minutes [200 nodes])
- Network Auto-Reconfiguration (0.5 - 1 minute [200 nodes])
- Network Scalability (50 - 200 Routing Domains)
- Connections of Security Enclaves/Domains (8 - 32 Domains)

- Connections Between Routing Domains (2 – 4 connections between Routing Domains)
- Security Enclave Mobility (dynamically move between routing domains) (5 minutes - 20 seconds)

The desired capabilities (listed above) exist today in very limited ways. This BAA seeks to provide an operational context and usage in the scenarios and documentation described and listed as Additional Information.

ONR will employ a government/industry systems integrator (not part of this solicitation) to combine individual vendor products and government-owned technologies into DTCN technology sets. Successful vendors must allow the systems integrator to have access to their technologies and products in order to conduct successful technology demonstrations. Appropriate non-disclosure agreements will be executed in order to protect relevant intellectual property.

Detailed Description of Capabilities

This section provides additional details regarding the capabilities desired in the two thrusts identified above. While the discussions below are grouped into thrust areas, ONR recognizes that some of the capabilities described support multiple thrust areas. While offerors are free to propose solutions across thrust areas, they will be asked to summarize their cost and product deliverables into each individual thrust area.

Vendors may propose against one or more of the following prospective technologies or propose their own technology research area as long as it fits within the scope of this solicitation. It is expected that there will be significant interrelationships between these different technology areas, therefore vendors should identify approaches to integrate specific solutions to these other areas where applicable as well as in the context of a complete network system.

Thrust 1: Dynamic Self-Organizing Networks

Distributed, Dynamic Mission Driven Policy-Based Network Management
As events unfold in the battlespace, the network itself must adapt to the new configuration. This may require that some of the applications themselves be aware of network conditions so that their expectations of the supported QoS may adapt as well. Determination of the policies needed, and then the dissemination of the proper policies is at the heart of policy-based network management. Additional complications arise from the varying objectives at the tactical edge – different maneuvering elements have equally different QoS needs. To the extent possible, the tactical communication network must afford enterprise services the awareness required to support service continuity and continued information exchange.

Mobile Network Auto-Configuration and Self-Organization

Current network frameworks can be deployed and managed in different ways to achieve different functional goals. The approach used to deploy different parts of the objective Navy and Marine Corps tactical edge network systems and interoperate with infrastructure networks (e.g., the "GIG") or other tactical network systems (Army, Air Force, coalition partner, etc) has trade-offs of system performance, manageability, and functionality with respect to the network architecture employed just as there are with the specific network technologies (e.g. routing, etc) utilized. Combinations of different architectural approaches may be used in conjunction with different network technologies to achieve overall objectives however, processes and mechanisms to support interoperability, manageability and acquisition of these different approaches must also be identified and evaluated to generate acceptable combinations. Many prior auto-configuration and self-organization approaches still require substantial pre-configuration – vendors should seek to minimize any required hands-on requirements. Vendors must address utilization of existing military wireless products when addressing development of future network architectures. Of particular interest is service discovery over varied network topology needed to provide robust network operation and management.

It is required that such approaches result in the capability of platforms to operate independently of a centralized shore-based Network Operation Center (NOC-less) within an Area of Operation (AOR). Furthermore, such networks should be able to establish reachback as needed through a lily-pad approach (hop-to-hop-…to reachback to Shore) as required to maintain continuity of operations

Secure Mobility Management Solutions

While dynamic routing can address some aspects of mobile networking, it is not necessarily the only way to address networking issues associated with mobile users, devices, and networks. For example, it is possible that some form of route redistribution among routing domains may be employed to help resolve issues associated with a mobile node migrating from part of a fragmented routing domain to another. Alternatively, techniques that enable "address agility", or even separate node identification from addresses, as users, device, and even subnetworks move with respect to topology within a network system may have advantages for some use cases or with respect to overall system manageability or performance. In this case, auto-configuration or other mechanism(s) would be leveraged to dynamically assign new addresses and/or prefixes to end systems or routers as they detach and/or re-attach to a different or distinct part of the network topology. Proposers shall consider survivability (i.e., no single point of failure), when designing and developing mobility management solutions. Note that security considerations and impact to device operating systems and applications needs to be addressed for these different approaches to mobility management.

Thrust 2: Assured Information Exchange

Cross-domain routing, including the ability to address multiple, dynamic gateways and support domain partitions and merges

The emerging rich set of connectivity options available to tactical edge network systems will result in opportunities for multiple connections to infrastructure networks (e.g., the GIG) and/or other networks thus allowing for added robustness and enhanced capability. Note that the infrastructure networks may contain multiple Community of Interest (COI) enclaves (i.e., secret, unclassified, etc.) that share the network resources. There may be a mix of plaintext and ciphertext routing domains that require the ability to cross security gateways. Additionally, pragmatic network architectures involve the use of multiple logical and/or physical routing domains to create manageable systems to meet the needs of a particular area or set of users. These domains may have hierarchical or peered relationships depending upon the deployment in order to control the impact of nodal or link dynamics of one operating area upon the larger tactical edge or global network system. For robust, tactical edge systems, it is desirable to avoid single points of failure and it is expected that there may be multiple points of connection among tactical edge and other routing domains. Furthermore, the domains themselves may partition and merge depending upon operational scenarios and conditions.

Routing across heterogeneous links (Surface, Airborne, SATCOM)

Tactical communications networks must afford enterprise services the ability to respond to network conditions with sufficient awareness to insure critical tactical edge service continuity and information exchange. Tactical edge network systems will have a number of radio technologies available for use, each with different communication characteristics. Distributed network systems are required that are capable of supporting mission-based end-to end QoS for tactical edge services over a mixed variety of heterogeneous communication links or subnetworks. Due to platform motion and/or other environmental factors, the characteristics and availability of connectivity to other platforms may be quite variable. To realize an effective, cohesive network across a mesh of such dynamic, heterogeneous wireless links is challenging. The metrics, heuristics, and network routing mechanisms to support Navy and Marine Corps tactical edge network needs and meet data communication objectives and policies must be identified. Approaches to integrate these techniques into an effective system capable of robust distributed, autonomous links must be developed. This may include development of interfaces from routing functions to radio system device and/or subnetwork functions as well as the development of tools that provide for effective, dynamic load balancing across heterogeneous links to alleviate congestion and delays. The ability to pass metrics across network encryption devices must be considered in the optimum path selection process.

Disruption/Disconnection Tolerance and Intervention.

There are several approaches to development of disruption/disconnection tolerance due to the difficulty of modifying existing applications to better deal with the relatively poor

reliability and connection characteristics of wireless networks. Disruption Tolerant Networking (DTN) is an emerging form of mobile multi-hop networks that utilize a store-and-forward methodology to enable reliable delivery through, or in spite of, intermittent connections. In this way a DTN provides reliable delivery although there may never be a contemporaneous end-to-end path due to excessive delays and disruption. Our need here is a flexible policy engine that controls how traffic is scheduled and routed over the variety of media available, and does so in a manner that respects priority/urgency of messages, while utilizing scarce bandwidth optimally. Scheduling and routing occur without the user's involvement, while urgency is controlled by the application, and the policies in place would ensure the correct path. Other approaches could utilize the former and or re-routing of traffic around disruptions, and or improved forward error detection and correction, changing packet sizes, multiple transmissions or other methods to mitigate the effects of such short or long-term disconnections.

Transition

This effort seeks to develop innovative technology solutions while simultaneously delivering robust products to acquisition and experimentation. Transition consists of delivering mature S&T products to acquisition in an agreed upon manner. Offerors selected to perform research will be expected to work with other technology developers and also as members of government-lead teams that will coordinate the delivery of products to acquisition programs in a way that meets the schedule and performance requirements of the acquisition sponsor. Offerors should expect that the prototypes they develop will require modifications in order to properly integrate into the acquisition program or experimentation venue. The government will provide the guidance and coordination for interfacing and integrating products into acquisition programs and experimentation. The government may choose to provide the infrastructure to host selected Performer technology prototypes for transition testing and experimentation.

Full government rights to technology products - including intellectual property - is a necessary and important factor in the selection process.

Concept of Operations (CONOPS) Development

Performers selected to participate in the *DTCN* program are expected to contribute to the development of a concept of operations (CONOPS) that will be ultimately delivered to the acquisition transition partner. The government will integrate all performer inputs and produce the final CONOPS document. Performers will be asked to contribute to the CONOPS in areas corresponding to the technology products that they develop.

Performers will also actively participate in the experimentation process. This may include fleet experiments such as Trident Warrior, Valiant Shield, Annulex, and JEFX. The goals of experimentation in this Program are to: (a) support early evaluation of technology product capabilities in both laboratory and operational settings, and (b) validate and refine CONOPS, Tactics, Techniques and Procedures (TTP) and doctrine.

Laboratory based experiments are known as Limited Technology Experiments (LTEs). Fleet operational experiments are known as Limited Objective Experiments (LOEs). Experimentation will take place under the direction of a Fleet command, and coordinated by the Navy Warfare Development Command, (NWDC) as part of Navy Sea Trial.

Government facilities such as SPAWAR Systems Center-Charleston or San Diego or the Naval Research Laboratory (NRL) may provide the experimentation infrastructure to assess Performer's enterprise services. These facilities can be configured to operate in a distributed environment via networks such as DREN, S-DREN, and SIPRNET, providing operationally realistic environments to conduct both limited technical experiments (LTEs) and limited objective experiments (LOEs).

Offerors will be expected to support and work with an independent government experimentation and analysis team that sets objectives, defines key analytic questions, metrics, and data collection methodologies. The independent analysis team is typically aligned with NWDC and executing the approved Sea Trial analysis process. The experimentation and analysis team will develop a Data Collection and Analysis Plan (DCAP) and Control Plans to guide the experimentation and execution and analysis. An analysis report will be developed by this team following rigorous analysis and assessment of the collected data sets with recommended courses of action. Typically, a capability subjected to a fleet experiment or exercise will also undergo a military utility assessment (MUA).

Government Approach

ONR will employ a government/industry systems integrator (not part of this solicitation) to combine individual vendor products and government-owned technologies into DTCN technology sets. Successful vendors must allow the systems integrator to have access to their technology in order to have successful technology demonstrations.

Following is a notional approach to a three year program effort – comprised of a base period of performance followed by two option years. While most technology and product development is expected to occur in the Advanced Development stage of maturity, we will also consider less mature technologies on a case-by-case basis.

Phase 1: Design (Base)
This phase is expected to be the design phase for the selected technologies. Performers are expected to deliver requirements and software definition documentation, supporting analyses for their approach, and presentation materiel for the selected development environment. Phase 1 is expected to last for 9-12 months.

Phase 2: Prototyping (Option)
Upon review of the results from Phase 1, the Government may choose to award Phase 2, consisting of technology maturation and prototype development. Performers are expected to deliver software, source code, and manuals for their product. Vendors are expected to

make periodic software delivery to the government-selected test and emulation facility for integration into an operational environment. Phase 2 is expected to last for 12 months.

Phase 3: Demonstration (Option)
Upon review of the results from Phase 2, the Government may choose to award Phase 3, consisting of maturation, integration and demonstration in a relevant field environment. Performers are expected to deliver software, source code and manuals for their product. Vendors will make periodic software delivery to the government selected test and emulation facility for integration in an operational environment. Vendors will assist in the demonstration of their product(s) in a relevant exercise. Phase 3 is expected to last for 12 months.

Additional Information

Depending on the results of the proposal evaluation, there is no guarantee that any of the proposals submitted will be recommended for funding.

Proposers are encouraged to review prior and ongoing work in these areas before proposing completely new solutions.

Ongoing:

- Army CERDEC – TITAN
- Army CERDEC – Pilsner
- DARPA – CBMANET
- DARPA – IAMANET
- DARPA – ITMANET
- MITRE – NORM-DTN
- ONR – Emerging Next Generation Networking (ENGEN)
- ONR – RANGE
- ONR – SONOMA

Past:

- Army CERDEC – MOSAIC
- Army CERDEC – TWNA
- DARPA – DCAMANET
- DARPA – DTN
- NRL – MANET OSPF
- NRL – NORM
- NRL – SMF

Internet working documents:

- RFC 3940 – Negative-acknowledgement (NACK)-Oriented Reliable Multicast (NORM) Protocol
- RFC 3941 – Negative-acknowledgement (NACK)-Oriented Reliable Multicast (NORM) Building Blocks

- RFC 4423 – Host Identity Protocol (HIP) Architecture

MANE: http://cs.itd.nrl.navy.mil/work/mane/index.php
The Mobile Ad-hoc Network Emulator (MANE) is likely to be used in the evaluation of the successful proposers work product prior to deployment of any software or hardware combination into a field exercise.

Proposals that build on current or previous DoD work are encouraged. Offerors enhancing work performed under ONR or DoD projects must clearly identify the point of departure, what existing work will be brought forward, and what new work will be performed under this BAA.

Proposers Information Package (PIP)
ONR will make available a Proposers Information Package consisting of certain documentation relevant to this BAA. The PIP will contain:

- A naval scenario intended to encourage proposers to consider what technologies are needed and how and where those technologies might be implemented in deployed environments.
- Working documents from the OSD-chartered Joint Tactical Edge Network (JTEN) Working Group which has substantial background information on existing systems and their interconnection.
- Other relevant documentation.

The PIP will be available to Proposes upon request on computer media (CD) at the Industry Day. A log of PMP recipients will be maintained.

7. Point(s) of Contact –

Questions of a technical nature should be submitted to either:

Dr. Santanu Das
Program Officer
Communications and Networks, ONR 312
Office of Naval Research
875 North Randolph Street – Suite 1115
Arlington, VA 22203-1995
Telephone Number: (703) 588-1036
E-mail: Santanu.Das@navy.mil

or

Mr. John Moniz
Program Officer
USMC C4 Systems, Code 30
Office of Naval Research
875 North Randolph Street – Suite 1154
Arlington, VA 22203-1995

Telephone Number: (703) 696-2492
E-mail: John.Moniz@navy.mil

Questions of a business nature should be submitted to:

Name: David Hershey (Support Contractor)
Address: 875 N. Randolph Street
Code: ONR 253
Telephone: 703-696-6745
Email: hershed@onr.navy.mil

8. Instrument Type(s) -

Awards may take the form of contracts and grants, as appropriate.

ONR anticipates that applied research (6.2) and advanced technology development (6.3) funding will be available to make awards. It is anticipated that ONR will award one or more Cost Plus Fixed Fee (CPFF) contracts for this effort. Phase 1 will be the contract base period, with Phases 2 and 3 as options under the contract.

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 -

This announcement is restricted to basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. 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.

II. AWARD INFORMATION

The amount and period of performance of each selected proposal will vary depending on the research area and the technical approach to be pursued by the selected offeror.

The estimated total amount of awards under this BAA is $13M anticipated to be made available over a three year period. ONR may award less than $13M under this BAA and apply it elsewhere. One or more work orders in this subject area may be awarded to proposals from Navy laboratories received outside this BAA.

Estimated Total Amount of Funding Available ($M)

FY09	FY10	FY11	Total
$3M	$5M	$5M	$13M

Anticipated Number of Awards
3-6 awards

Anticipated Range of individual Award Amounts
As required to perform tasking.

Anticipated Period of Performance
Up to three (3) years.

III. ELIGIBILITY INFORMATION

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

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

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

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

Some topics cover export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 1201.1 et seq. For information regarding whether a particular topic may be ITAR restricted, contact one of the Technical Points of Contact (TPOCs) identified in Paragraph 7 above in this BAA.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process -

”White Papers” are not desired for this solicitation.

Each proposal should state that it is submitted in response to this announcement. Proposals shall be submitted directly to the Technical Points of Contract (TPOCs). Each proposal will be evaluated by the government to determine whether the technology advancement proposed appears to be of particular value to the Department of the Navy. The submitters of proposals judged to be of “particular value” to the Navy will be so identified in the initial response provided by ONR and encouraged to make oral presentations of their proposals on a specific date. The submitters of any proposals not judged by the ONR reviewers as being of “particular value” to the Navy are ineligible to make an oral presentation or submit a full revised proposal under this solicitation.

Following the oral presentations, the submitters will again receive written notice from ONR as to whether the proposed research is still judged to be of particular value to the Department of the Navy. The submitters of proposals and oral presentations still judged to be of “particular value” to the Navy will be asked to submit a full revised proposal by a specific date and time. Any oral presenter’s proposal subsequently judged to not be of “particular value” to the Navy is ineligible to submit a full revised proposal under this solicitation.

Any full revised proposal submitted can range from either a complete new proposal to simply a timely email notifying the Government that the original proposal as submitted is reaffirmed.

2. Content and Format of Proposals –

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). An ‘unclassified’ Statement of Work (SOW) must accompany any classified proposal.

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.

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 Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation."

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

PROPOSALS

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

- Paper Size – 8.5 x 11 inch paper
- Margins – 1inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Page limits for Volume I are as follows: Technical Approach – 20 pgs, Statement of Work – 3 pgs, Project Schedule and Milestones – 1 pg, Assertion of Data Rights – 1 pg, Deliverables – 1 pg, Management Approach – 10 pgs, Other Agencies – 1 pg. There are no page limitations to the other parts of Volume 1 listed below and to Volume 2.
- Copies – one (1) original, ten (10) hard copies, and one electronic copy on a CD-ROM (in Microsoft® Word or Excel 97 compatible or .PDF format). Please do not use three-ring binders to enclose your proposal.

If a grant is sought, the proposal is to be submitted electronically on Standard Form 424 (R&R) at http://www.grants.gov/ as delineated below.

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 any proposed options)

• **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.

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

• **Statement of Work:** A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, the proposals must include a severable, self-standing SOW without any proprietary restrictions, which can be attached to the contract 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:

• **Assertion of Data Rights and/or Rights in Computer Software:** For a contract award an Offeror may provide with its proposal assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014 and -7017. These clauses may be accessed at the following web address:

http://farsite.hill.af.mil/VFDFARA.HTM

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

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

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

description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration. Resumes of key personnel should be provided. Resumes will not count toward the page limitation for this section.

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

VOLUME 2: Cost Proposal

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

Although not required and provided for informational purposes only, detailed instructions, entitled "Instructions for Preparing Cost Proposals for Contracts and Agreements," including a sample template for preparing costs proposals for contracts and agreements, may be found at ONR's website listed under the 'Acquisition Department – Contracts & Grants Submitting a Proposal' link at: http://www.onr.navy.mil/02/how_to.asp

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

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

(APPLICABLE FOR "CONTRACTS ONLY" OR "CONTRACTS AND GRANTS")

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

- Direct Labor – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates;
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate);
- Proposed Contractor-Acquired Equipment - such as computer hardware for proposed research projects should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Where possible, indicate purchasing method (competition, price comparison, market review, etc.);
- Travel – Number of trips, destination, duration, etc.;

- Subcontract – A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's or subrecipient's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be obtained from the subcontractor prior to award;
- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;
- Materials - Should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the Offeror's procurement method to be used (competition, engineering estimate, market survey, etc.);
- Other Directs Costs - particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. (Justifications must be provided when Government funding for such items is sought). Include a brief description of the Offeror's procurement method to be used (Competition, engineering estimate, market survey, etc.);
- 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")

OR

Part 1 –Grant Applicant : If Proposer submits a Grant Cost/Budget Proposal via hardcopy in accordance with the Grants.gov format, the following information is provided as Cost/Budget proposal guidance. Detailed breakdown of all costs by cost category by calendar or Government fiscal year. The Cost Proposal/Budget should contain a detailed cost breakdown that includes:

*Direct Labor - Labor category with associate hours and unburdened labor rate;
*Graduate Assistant Tuition – Basis of estimate for Graduate Assistant Tuition;
*Indirect Costs – Fringe benefits, overhead, G&A, etc...;
*Equipment – Acquired equipment should be itemized with its associated cost along with the basis of estimate, i.e., quotes, invoices, catalog pricing;
*Laboratory Costs – Basis of estimate for Laboratory Costs, inclusive of an itemized list along with basis of estimate, i.e., quotes, invoices, catalog pricing;
*Report and Publication Costs – Basis of estimate for Report and Publication Costs;
*Recipient Share – i.e., Cost sharing
*Travel – Travel stating number of trips, destinations, duration, per diem, auto rental, privately owned vehicle (POV), etc.;

*Subrecipients – A cost budget proposal as detailed as the Recipient's cost proposal will be required to be submitted by the Subrecipient. The Subrecipient's cost budget proposal can be provided in a sealed envelope with the Recipient's cost budget proposal or will be obtained from the Subrecipient prior to Grant award;
*Consultants – Consultant agreements or other document which verifies the proposed loaded daily/hourly rate;
*Materials – Materials itemized with cost along with the basis of estimate;
*Conferences – if during the research effort, and Recipient requires a conference in support of the project, there should be a statement within the Recipient's cost budget proposal submission stating "the funds provided by ONR will not be used for food or beverages."

Part 2: 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.

3. Significant Dates and Times –

Anticipated Schedule of Events

EVENT	DATE	TIME (EASTERN DAYLIGHT TIME)
Industry Day	**10 July 2008**	**10.00 am**
Proposals Due	**25 July 2008**	**2:00pm**
Notification of oral presentation	**15 Aug 2008**	
Oral Presentation of Proposals	**26 Aug 2008**	
Notification of Navy Evaluations of Oral Presentations	**1 Sep 2008***	
Full Revised Proposal Due Date	**15 Sep 2008***	**2:00 pm**
Notification of Selection for Award	**30 Sep 2008***	
Issued Awards	**31 Dec 2008***	

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

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

4. Submission of Late Proposals –

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

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

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

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

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.
The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Submission of Grant Proposals to Grants.gov

Grant Proposals may be submitted electronically through Grants.gov or by hard copy. Electronic submission is preferred. Regardless of whether Grants.gov is used or "hardcopy" submission, the offeror must use the Grants.gov forms from the application package template associated with the BAA on the Grants.gov website. To be considered for award, applicants must include the ONR Department Code 30 in Block 4 entitled 'Federal Identifier' of the Standard Form (SF) 424 R&R.

For electronic submission of grant proposals, there are several one-time actions that must be completed in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See www.grants.gov, specifically www.grants.gov/GetStarted.

Use the Grants.gov Organization Registration Checklist at http://www.grants.gov/applicants/register_your_organization.jsp which will provide guidance through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called 'MPIN' are important steps in the CCR registration process. Applicants who are not registered with CCR and Grants.gov should allow at least 21 days to complete these requirements. It is suggested that the process be started as soon as possible. Additionally, in order to download the application package, applicants will need to install PureEdgeViewer. This small, free program will allow applicants to access, complete and submit applications electronically and securely. For a free version of the software, visit the following website:

www.grants.gov/DownloadViewer. Any questions that may arise relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

Detailed instructions entitled "Grants.Gov Electronic Application and Submission Information" on how to submit a Grant proposal through Grants.gov may be found at the ONR website listed under the 'Acquisition Department – Contracts & Grants Submitting a Proposal' link at: http://www.onr.navy.mil/02/how_to.asp

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

Hard copies of proposals for Contracts and Grants and Other Assistance Agreements should be sent to the Office of Naval Research at the following address:

Office of Naval Research
Attn:John Moniz
ONR Department Code 30
875 North Randolph Street
Arlington, VA 22203-1995

COGNIZANT ONR PROGRAM OFFICER/POINT OF CONTACT (POC)

(A LIST DESCRIBING EACH OF THE ONR DEPARTMENT CODES CAN BE FOUND AT HTTP://WWW.ONR.NAVY.MIL/ ON THE RIGHT SIDE OF THE SCREEN)

V. EVALUATION INFORMATION

1. Evaluation Criteria –

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

1) Overall scientific and technical merits of the proposal;
2) Potential Naval relevance and contributions of the effort to the agency's specific mission;
3) The offeror's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives;
4) The qualifications, capabilities and experience of the proposed Principal Investigator (PI), team leader and key personnel who are critical in achieving The proposal objects; and
5) The realism of the proposed costs and availability of funds.

Overall, the technical factors (1 – 4 above) are more important than the cost factor, with the technical factors all being of equal value. The degree of importance of cost will increase with the degree of equality of the
proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the proposal's technical superiority to the Government.

For proposed awards to be made as contracts to large businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

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.

2. Evaluation Panel -

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

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements –

• The North American Industry Classification System (NAICS) code – The North American Industry Classification System (NAICS) code for this announcement is "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.

• Certifications – Proposals for contracts 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. This requirement is also applicable for other transaction proposals involving prototypes (Section 845 agreements).

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 other assistance applicants may provide this certification in one of three (3) ways:

1) By signing and submitting the Standard Form (SF) 424 (R&R) as a part of a hard copy the grant proposal submission (complete Blocks 18 and 19);

2) By electronic submission of SF424 (R&R) as a part of an electronic proposal submitted via Grants.gov (complete Blocks 18 and 19); or

3) By hard copy submission of the full text lobbying certification found at http://www.onr.navy.mil/02/rep_cert.asp.

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.

• Subcontracting Plans - Successful contract proposals that exceed $550,000, submitted by all but small business concerns, will be required to submit prior to award a Small Business Subcontracting Plan in accordance with FAR 52.219-9.

2. Reporting -

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

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

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

VII. OTHER INFORMATION

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

Each proposer must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

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

2. Security Classification

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

3. 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.

4. Recombinant DNA

Proposals which call for experiments using recombinant DNA must include documentation of compliance with Department of Human and Health Services (DHHS) recombinant DNA regulations, approval of the Institutional Biosafety Committee (IBC), and copies of the DHHS Approval of the IBC letter.

5. 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/.

6. 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. 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.

8. 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 **proposals** must be submitted by 2:00 P.M. Eastern Time on **3 July 2008.** Questions after this date and time may not be answered, and the due date for submission of the proposals will not be extended. Questions regarding oral presentations and submission of full, revised proposals must be submitted at least one week before the presentation/proposal due date.