



Broad Agency Announcement
Submersible Aircraft
STRATEGIC TECHNOLOGY OFFICE
DARPA-BAA-09-06

October 3, 2008

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Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Strategic Technology Office (STO)
- **Funding Opportunity Title** – Submersible Aircraft
- **Announcement Type** – Initial announcement
- **Funding Opportunity Number** – Broad Agency Announcement (BAA) 09-06
- **Catalog of Federal Domestic Assistance Numbers (CFDA)**– 12.910 Research and Technology Development

- **Dates**
 - Proposers' Day: October 17, 2008 (See DARPA-SN-09-01)
 - Last day for question submissions: November 7, 2008.
 - DARPA consolidated Questions and Answers posted: November 14, 2008
 - **Initial Full Proposals are due by 4:00 pm ET, Monday, December 1, 2008**
 - BAA closing date is one year from date of publication

- **Description of the funding opportunity:** DARPA is soliciting innovative research proposals on the topic of a Submersible Aircraft. In particular, DARPA is interested in a feasibility study and experiments to prove out the possibility of making an aircraft that can maneuver underwater. The proposal needs to outline a conceptual design along with identifying the major technological limitations that need to be overcome in order to maneuver an aircraft underwater. In addition to the conceptual design studies, performers need to outline experiments or computational models that will be used to demonstrate that the major technological limitations can be overcome.

- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** -- Procurement contract, grant, cooperative agreement, or other transactions
- **Agency contact**
 - Points of Contact:
The BAA Technical POC is Aaron Lazarus, PhD.

The BAA Administrator for this effort can be reached at:
Electronic mail: DARPA-BAA-09-06@darpa.mil
DARPA/STO
ATTN: BAA 09-06
3701 North Fairfax Drive
Arlington, VA 22203-1714

Part Two: Full Text of Announcement

1. FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will appear first on the FedBizOpps website, <http://www.fedbizopps.gov/>, and/or Grants.gov website at <http://www.grants.gov/>. The following information is for those wishing to respond to the BAA.

DARPA is soliciting innovative research proposals on the topic of a submersible aircraft. In particular, DARPA is interested in a feasibility study and experiments that would provide proof of concept for the realization of an aircraft that can maneuver underwater. The proposal needs to outline a conceptual design along with identifying the major technological limitations that need to be overcome in order to maneuver an aircraft underwater. In addition to the conceptual design studies, performers need to outline experiments and/or computational models that will be used to demonstrate that the major technological limitations can be overcome.

In order to assure that the U.S. maintains its tactical advantage for future coastal insertion missions, DARPA is interested in exploring radical new technologies that can provide a game changing DoD capability for inserting small teams, clandestinely, along coastal locations. One such technology is a submersible aircraft. A submersible aircraft would combine the key capabilities of three different platforms: 1) the speed and range of an aircraft; 2) the loiter capabilities of a boat; and 3) the stealth of a submarine. By combining the beneficial characteristics and the operating modes of each platform, DARPA hopes to develop a craft that will significantly enhance the United States' tactical advantage in coastal insertion missions.

Prior attempts to demonstrate a vehicle with the maneuverability of both a submersible and an aircraft have primarily explored approaches that would endow flight capability to platforms that were largely optimized for underwater operation. Unfortunately these prior attempts have been unsuccessful largely because the design requirements for a submersible and an aircraft are diametrically opposed. DARPA believes that, in order to overcome these diverging requirements, it is essential to properly formulate the problem statement. The Submersible Aircraft BAA is specifically designed to solicit innovative concept designs coupled with feasibility experiments and/or computational models that provide initial proof of concept for the technologies that would ultimately enable a submersible aircraft platform.

1.1. PROGRAM OVERVIEW

The Submersible Aircraft program is designed to explore the possibility of developing a single platform that is capable of both flying through the air and submerging below the water. The difficulty with developing such a platform arises from the diametrically opposed requirements that exist for an airplane and a submarine. While the primary goal for airplane designers is to try and minimize weight, a submarine must be extremely heavy in order to submerge underwater. In addition, the flow conditions for a submarine and an airplane are different, due to the order of magnitude difference in the densities of air and water. Platform velocities vary considerably as well and there are also significant differences in the design constraints that arise from the two radically different loading modes that need to be supported by the structural systems. An airplane's structure acts as a pressure vessel and as such the required skin thickness is relatively narrow, while a submarine is required to withstand enormous crushing loads and consequently the required skin thickness is an order of magnitude larger. Structural systems represent one third

of the total platform weight for both submersible and aircraft platforms. However, the weight of a submarine's structure precludes the possibility of flight. The geometry requirements for lifting surfaces capable of operating in air and water have different design drivers. The lifting surfaces on a submarine are small appendages that are placed in such a manner that they are always submerged even when the submarine is surfaced. In contrast, the wings on an amphibious aircraft are placed high on the structure to minimize any potential contact with the water. Finally the power plants of submarines and aircraft have radically different densities. Aircraft engines are relatively light weight because they operate in an environment where there is plenty of available oxidizer. Submarine power plants on the other hand must rely on a snorkel or be air independent and therefore must either carry their oxidizer or use batteries or nuclear power, neither of which is particularly light weight.

Given the list of diverging requirements and design considerations, the difficulties involved in developing a submersible airplane are clear. It is difficult to find a common solution space when the driving variables for each problem are diametrically opposed. Thus, it is extremely important to properly formulate the requirements for this design concept, because these design requirements will ultimately determine whether a solution space actually exists.

DARPA has identified five major concept design objectives that must be met in order to prove the tactical significance of a submersible aircraft platform as well as five major technical challenges that must be overcome in order to enable the development and demonstration of a submersible aircraft. The major concept design objectives include the following: 1) range; 2) loiter; 3) payload; 4) depth; and 5) speed. The major technical challenges involve the following design parameters: 1) weight; 2) fluid flow regime; 3) structure; 4) lifting surface geometry; and 5) power and energy storage. The major concept design objectives and technical challenges are described in greater detail in Section 1.2.1 Program Metrics. DARPA believes that the risks posed by these concept design objectives and technical challenges can be dramatically mitigated by properly posing the requirements for this platform. The design concept being evaluated here is for a submersible aircraft, not a flying submarine. It is expected that the platform will spend the bulk of its time in the air and will only spend short periods of time submerged. While it is hard to envision a propulsion system that could ever get a craft with the weight of a submarine airborne, it may be possible to submerge an extremely buoyant platform like an aircraft if the operating depths can be minimized. The goal is to reduce the vulnerability of an insertion mission by submerging the transport platform. The fact that the platform need only submerge to shallow depths to significantly reduce the vulnerability of the mission, allows for some flexibility in overall design constraints. The benefits of operating at shallow depths are a dramatic reduction in the crushing loads applied to the structure, along with the ability to supply air to the platform and power plant via a snorkel. DARPA has analyzed the design space and relevant technologies and believes that by focusing the design on submerging an aircraft at shallow depths for a short period of time, a tractable solution to the submersible aircraft challenge problem might be possible.

The development and demonstration of an innovative approach to a submersible aircraft that overcomes the five design objectives and technical challenge areas listed above would be a revolutionary advance in the DoD's ability to transport operators to coastal locations. Therefore, DARPA's Strategic Technology Office (STO) is soliciting innovative proposals that promise

proof of concept for technologies that can overcome these challenges. A responsive proposal will address the metrics, key program elements, and final deliverables as described in Section 1.2 below.

1.2 PROGRAM METRICS, KEY PROGRAM ELEMENTS, AND DELIVERABLES

1.2.1 Program Metrics

In order for the Government to evaluate the effectiveness of a proposed submersible airplane feasibility demonstration effort, the following program metrics will be used as benchmarks for determining whether satisfactory proof of concept has been demonstrated to warrant further consideration in a potential future phase of this DARPA initiative. Although DARPA is specifying the target program metrics for the submersible airplane future vision, proposers should note that the Government has identified these goals with the intention of bounding the scope of effort, while affording the maximum flexibility, creativity, and innovation in proposing solutions to the stated problems. For a proposal to be considered responsive it must address the five design objectives, and five technological limitations: if a particular requirement or technology is deemed not applicable to a particular platform concept, the proposer needs to provide an extremely detailed explanation, justifying that conclusion.

Concept Design Studies

The goal of the concept design is to evaluate at a system level whether it is feasible to develop a submersible aircraft and what component technologies need to be demonstrated in order to prove that the ultimate objective of this program is a realistic goal. In order to focus the concept design, DARPA has set some basic objective parameters for the platform that must be achieved in order for the system to be considered tactically significant. While it may be possible to design a notional submersible aircraft, if the design does not enable tactically significant range, loiter time, payload, depth, and speed it will have little relevance to any DoD mission. Thus, DARPA has identified the following concept design objectives in order to be able to discriminate platforms that would be considered tactically significant.

Range

There are three range objectives set for the platform that correspond to the anticipated three modes of operation: 1) airborne; 2) surface; and 3) subsurface. The minimal required airborne tactical radius of the platform is 1000 nautical miles (nm). The minimum surface tactical radius (defined as flight near the surface of the water which may or may not leverage the ground effect) is 100 nautical miles. The minimum subsurface tactical range is 12 nautical miles. Note that the ranges quoted are the tactical (i.e. one-way) ranges. The platform would need to be able to transit into theater, insert and extract personnel without refueling and this would require the total operational range to be 1000 nm airborne, 200 nm surface, 24 nm subsurface. The extraction is considered complete once the surface transit is finished. At that point in the mission the submersible airplane could meet up with additional air or sea support assets and refuel.

Loiter

The platform should be capable of loitering in a sea-state five, in theater between inserting and extracting personnel for up to 3 days (72 hours). The craft does not need to be submerged during loitering operations; it can operate at the surface.

Payload

The platform should be capable of transporting 8 operators, as well as all of their equipment, with a total cargo weight of 2000 pounds.

Depth

The operating depth of the platform will be constrained by balancing the need to reduce depth in order to minimize structural loads and snorkel complexity with the need to increase depth in order to minimize any potential signatures that could be generated by perturbing the free surface. The effect that the submerged platform will have on the free surface is exponentially proportional to the depth, therefore the platform should be able to operate at a relatively shallow depth and only have the snorkel affect the free surface.

Speed

The speed of the platform in each mode of operation must allow the system to complete a tactical transit (1000 nm airborne, 100 nm surface, 12 nm sub-surface) trip in less than 8 hours. This 8 hour time must include any time required by the platform to reconfigure between modes of operation.

Technology Demonstrations

The proposer must also outline in its submittal a series of experiments and/or computational models that will be used to demonstrate that the technical approach addresses the major technical challenges as discussed in this BAA. These experiments and/or models can be performed at a reduced scale in order to mitigate cost, and are meant to prove the soundness of the technical approach proposed in the concept design and must provide proof of concept that the platform design will meet the following weight, flow conditions, structure, wing geometry, and power generation/energy storage requirements.

Weight

Proposers need to demonstrate an ability to estimate the weight of their concept design and will need to propose an experiment or model that will demonstrate that a craft of the estimated weight and volume can fly and submerge.

Flow Conditions

Proposers need to demonstrate that the platform can operate as required in the anticipated dissimilar operating conditions. Successful proof of concept should include experiments and/or models that demonstrate the ability of a given geometry to function as desired in both air and liquid fluid flow regimes at different speeds.

Structures

Proposers need to demonstrate through a computational model and/or experiment that their concept for the platform structure can operate in the anticipated range of loading environments. When considering the pressure loading in the submerged condition, the proposers need to account for the fact that there will be a pressure gradient along the height of the hull which will be a function of depth. This pressure gradient will be unsteady because it is a function of the free surface elevation that will be constantly changing.

Wing geometry

Proposers need to demonstrate with a mockup or computational model all concepts for reconfiguration, retraction, and/or any other modification to the geometry of the platform that will be required in order to exhibit the desired operational envelope.

Power Generation/Energy Storage

The proposers need to demonstrate via experiment and or model based calculations that they can supply the required quantity and types of fuel and oxidizer to the engine during all modes of operation.

1.2.2 Key Program Elements

Proposers are expected to describe in detail a feasibility demonstration project that would provide proof of concept for achieving the Submersible Aircraft program metrics. The proposal must include the following Key Program Elements:

- A detailed technical description of the proposed concept, how it meets the Submersible Aircraft BAA metrics, and what technical discriminators differentiate their concept from other approaches.
- A discussion of all major technical barriers that prohibit the proposed concept from being implemented today.
- A detailed experimental or computational work plan that is intended to be executed during the proposed feasibility demonstration to test the degree to which the proposer's innovations can overcome the identified major technical barriers.
- Quantitative goals against which data produced by the proposed experimental, or numerical work plan can be measured. Proposers should clearly articulate why these goals were chosen as "proof of concept" for their feasibility demonstration and these goals should be justified in terms of their relation to the overall Submersible Aircraft BAA system metrics as detailed in Section 1.2.1.

1.2.3 Program Deliverables

A proposal will describe an aggressive feasibility demonstration effort that results in the following Program Deliverables:

- A conceptual system design showing how the proposed concept addresses the DARPA Submersible Aircraft BAA system metrics.
- A technical report detailing the experimental and or computational modeling data and analysis obtained during the proposed feasibility demonstration effort and how the data relates to the system design goals as well as the Submersible Aircraft BAA technical demonstration objectives.
- A summary presentation that discusses the degree to which the feasibility demonstration project has or has not provided “proof of concept” for the DARPA Submersible Aircraft program metrics and overall vision.

These deliverables can be combined into a single final report that would be submitted at the completion of any Submersible Aircraft effort awarded under this BAA.

2. AWARD INFORMATION

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation, and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if the Source Selection Authority later determines them to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, DARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that DARPA desires to award only portions of a proposal, negotiations may be opened with that proposer. If the proposed effort is inherently divisible and nothing is gained from the aggregation, proposers should consider submitting it as multiple independent efforts. The Government reserves the right to fund proposals in phases with options for continued work at the end of one or more of the phases.

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below (see section labeled “Application Review Information”, Sec. 5.) and program balance to provide overall value to the Government. Proposals identified for negotiation may result in a procurement contract, grant, cooperative agreement, or other transaction depending upon the nature of the work proposed, the required degree of interaction between parties, and other factors. The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications.

As of the date of publication of this BAA, DARPA expects that program goals for this BAA

cannot be met by proposers intending to perform 'fundamental research,' i.e., basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons. Notwithstanding this statement of expectation, DARPA is not prohibited from considering and selecting research proposals that, regardless of the category of research proposed, still meet the BAA criteria for submissions. In all cases, the contracting officer shall have sole discretion to select award instrument type and to negotiate all instrument provisions with selectees.

3. ELIGIBILITY INFORMATION

3.1 ELIGIBLE APPLICANTS

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

Federally Funded Research and Development Centers (FFRDCs) and Government entities (Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity, unless they can clearly demonstrate the work is not otherwise available from the private sector AND they also provide written documentation citing the specific statutory authority (as well as, where relevant, contractual authority) establishing their eligibility to propose to government solicitations. At the present time, DARPA does not consider 15 U.S.C. 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C. 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility. DARPA will consider eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer.

Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances.

Applicants considering classified submissions (or requiring access to classified information during the life-cycle of the program) shall ensure all industrial, personnel, and information system processing security requirements are in place and at the appropriate level (e.g., Facility Clearance (FCL), Personnel Security Clearance (PCL), certification and accreditation (C&A)) and any Foreign Ownership Control and Influence (FOCI) issues are mitigated prior to such submission or access. Additional information on these subjects can be found at: www.dss.mil.

3.1.1 Procurement Integrity, Standards of Conduct, Ethical Considerations, and Organizational Conflicts of Interest

Current federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 USC 203, 205, and 208.). The DARPA Program Manager for this BAA is Aaron Lazarus. As of the date of first publication of the BAA, the Government has not identified any potential conflicts of interest involving this program manager. Once the proposals have been received, and prior to the start of proposal evaluations, the Government will assess potential conflicts of interest and will promptly notify the proposer if any appear to exist. (Please note the Government assessment does NOT affect, offset, or mitigate the proposer's own duty to give full notice and planned mitigation for all potential organizational conflicts, as discussed below.) The Program Manager is required to review and evaluate all proposals received under this BAA and to manage all selected efforts. Proposers should carefully consider the composition of their performer team before submitting a proposal to this BAA.

All Proposers and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Proposer supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the Proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval or a waiver from the DARPA Director, a Contractor cannot simultaneously be a SETA and Performer. Proposals that fail to fully disclose potential conflicts of interests and/or do not have plans to mitigate this conflict will be rejected without technical evaluation and withdrawn from further consideration for award.

If a prospective Proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the Proposer should promptly raise the issue with DARPA by sending Proposer's contact information and a summary of the potential conflict by email to DARPA-BAA-09-06@darpa.mil, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration for the circumstances, any conflict situation cannot be effectively mitigated, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

3.2 COST SHARING/MATCHING

Cost sharing is not required for this particular program; however, cost sharing will be carefully considered where there is an applicable statutory condition relating to the selected funding instrument (e.g., for any Other Transactions under the authority of 10 U.S.C. § 2371). Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

4. APPLICATION AND SUBMISSION INFORMATION

4.1 ADDRESS TO REQUEST APPLICATION PACKAGE

This solicitation contains all information required to submit a proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total BAA. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

4.2 CONTENT AND FORM OF APPLICATION SUBMISSION

4.2.1 Security & Proprietary Issues

The Government anticipates that proposals submitted under this BAA will be unclassified. In the event that a proposer chooses to submit a classified proposal or submit any documentation that may be classified, the following information is applicable.

After reviewing the incoming proposals, if a determination is made that the award instrument may result in access to classified information; a DD Form 254 will be issued and attached as part of the award. Proposers choosing to submit a classified proposal must first receive permission from the Original Classification Authority to use their information in replying to this BAA. Applicable classification guide(s) should be submitted to ensure that the proposal is protected appropriately.

Classified submissions shall be in accordance with the following guidance:

Collateral Classified Information: Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority. Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) Registered Mail or U.S. Postal Service Express Mail. All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be address to:

Defense Advanced Research Projects Agency
ATTN: STO
Reference: (BAA09-06)
3701 North Fairfax Drive
Arlington, VA 22203-1714

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency
Security & Intelligence Directorate, Attn: CDR

3701 North Fairfax Drive
Arlington, VA 22203-1714

All Top Secret materials should be hand carried via an authorized, two-person courier team to the DARPA CDR.

Special Access Program (SAP) Information: Contact the DARPA Special Access Program Central Office (SAPCO) 703-526-4052 for further guidance and instructions prior to transmitting SAP information to DARPA. Top Secret SAP, must be transmitted via approved methods for such material. Consult the DoD Overprint to the National Industrial Security Program Operating Manual for further guidance. *Prior to transmitting SAP material*, it is strongly recommended that you coordinate your submission with the DARPA SAPCO.

Sensitive Compartmented Information (SCI) Data: Contact the DARPA Special Security Office (SSO) at 703-812-1994/1993 for the correct SCI courier address and instructions. All SCI should be transmitted through your servicing Special Security Officer (SSO). SCI data must be transmitted through SCI channels only (i.e., approved SCI Facility to SCI facility via secure fax).

Proprietary Data: All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Proposers' responsibility to clearly define to the Government what is considered proprietary data.

Proposers must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose. It is the policy of DARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. The original of each proposal received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided that the formal request is received at this office within 5 days after unsuccessful notification.

4.2.2 Proposal Information

Proposers are required to electronically submit full proposals by the time and date specified in the BAA in order to be considered during the initial round of selections. DARPA may evaluate proposals received after this date for a period up to one year from date of posting on FedBizOpps and Grants.gov. Selection remains contingent on availability of funds.

The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is prohibited from competition in DARPA

technical research and is bound by appropriate nondisclosure requirements. Proposals may not be submitted by fax or e-mail; any so sent will be disregarded.

Proposals not meeting the format described in the BAA may not be reviewed.

Proposers may elect to use the Grants.gov APPLY function if the applicant is seeking a grant or cooperative agreement. The APPLY function replaces the proposal submission process that other proposers follow. The APPLY function does not affect the proposal content or format. The APPLY function is electronic; proposers do not submit paper proposals in addition to the Grants.gov APPLY electronic submission.

All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal to this BAA, should be directed to one of the administrative addresses below; e-mail or fax is preferred.

Electronic mail: DARPA-BAA-09-06@darpa.mil
Fax: (709) 465-1070
DARPA/STO
ATTN: BAA 09-06
3701 North Fairfax Drive
Arlington, VA 22203-1714

DARPA intends to use electronic mail and fax for correspondence regarding BAA09-06. Proposals may not be submitted by fax or e-mail; any so sent will be disregarded. DARPA encourages use of the Internet for retrieving the BAA and any other related information that may subsequently be provided.

All BAA 09-06 proposal submissions not submitted through Grants.gov must be submitted through T-FIMS. Instructions on how to submit proposals via DARPA's T-FIMS BAA Submission System can be found at the following link:

<https://www.tfims.darpa.mil/baa/baalist.asp>. A thorough read of these instructions guarantees successful submission to T-FIMS and explains all the necessary steps to submitting proposals through T-FIMS. Because proposers using T-FIMS may encounter heavy traffic on the web server, and T-FIMS requires a registration and certificate installation for all proposers, proposers should not wait until the day the proposal is due to create an account in T-FIMS and submit the proposal. All proposers using T-FIMS must also encrypt the proposal, as per the instructions below.

All proposals submitted electronically via the T-FIMS BAA Tool (not including Grants.gov) must be encrypted using Winzip or PKZip with 256-bit AES encryption. Only one zipped/encrypted file will be accepted per proposal and proposals not zipped/encrypted will be rejected by DARPA. An encryption password form must be completed and emailed to DARPA-BAA-09-06@darpa.mil at the time of proposal submission. See <https://www.tfims.darpa.mil/baa/> for the encryption password form.

Note the word "PASSWORD" must appear in the subject line of the above email and there are minimum security requirements for establishing the encryption password. Failure to provide the encryption password may result in the proposal not being evaluated. For further information and instructions on how to zip and encrypt proposal files, see <https://www.tfims.darpa.mil/baa/>.

4.2.3 Restrictive Markings on Proposals

All proposals should clearly indicate limitations on the disclosure of their contents. Proposers who include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall-

(1) Mark the title page with the following legend:

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed-in whole or in part-for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this proposer as a result of, or in connection with, the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

Markings like "Company Confidential" or other phrases that may be confused with national security classifications shall be avoided. See Section 6.0, for additional information.

4.3 FORMATTING CHARACTERISTICS

4.3.1 Proposal Format

All proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals shall consist of two volumes. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for proposals includes all figures, tables, and charts. Volume I, Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers can be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. Except for the attached bibliography and Section I, Volume I shall not exceed {40} pages. Maximum page lengths for each section are shown in braces { } below. All proposals must be written in English.

4.3.2.1 Volume I, Technical and Management Proposal

Section I. Administrative

- A. Cover sheet to include:
- (1) BAA number
 - (2) Technical area
 - (3) Lead Organization Submitting proposal
 - (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”
 - (5) Contractor’s reference number (if any)
 - (6) Other team members (if applicable) and type of business for each
 - (7) Proposal title
 - (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
 - (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available), total funds requested from DARPA, and the amount of cost share (if any) and
 - (10) Date proposal was submitted.
- B. Official transmittal letter.

Section II. Summary of Proposal

- A. {1} Innovative claims for the proposed research. This section is the centerpiece of the proposal and should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art alternate approaches.
- B. {1} Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization (if any). Include in this section all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are not proprietary claims, this should be stated.
- C. {1} Cost, schedule and measurable performance metrics for the proposed feasibility demonstration, including estimates of cost for each task delineated by the prime and major subcontractors, total cost and company cost share, if applicable. **Note: Proposer should identify critical milestones after start of effort.** These milestones should enable and support a decision for the next part of the effort. Additional interim non-critical management milestones are highly encouraged at a regular interval.
- D. {3} Technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable production. (In the proposal, this section should be supplemented by a more detailed plan in Section III.)
- E. {1} General discussion of other research in this area.
- F. {1} A clearly defined organization chart for the program team which includes, as applicable: (1) the programmatic relationship of team member; (2) the unique capabilities of team members; (3) the task of responsibilities of team members; (4) the teaming strategy among the team members; and (5) the key personnel along with the amount of effort to be expended by each person during each year.

- G. {1} A one-slide summary of the proposal in PowerPoint that quickly and succinctly indicates the main objective, key innovations, expected impact, and other unique aspects of the proposal.

Section III. Detailed Proposal Information

- A. {6} Statement of Work (SOW) - In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The page length for the SOW will be dependent on the amount of the effort. For each task/subtask, provide:
- A general description of the objective (for each defined task/activity);
 - A detailed description of the approach to be taken to accomplish each defined task/activity);
 - Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
 - The exit criteria for each task/activity - a product, event or milestone that defines its completion.
 - Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.

Note: Do not include any proprietary information in the SOW.

- B. {2} Description of the results, products, transferable technology, and expected technology transfer path enhancing that of Section II. B.
- C. {7} Detailed technical rationale enhancing that of Section II.
- D. {7} Detailed technical approach enhancing and completing that of Section II.
- E. {2} Comparison with other ongoing research indicating advantages and disadvantages of the proposed effort.
- F. {2} Discussion of proposer's previous accomplishments and work in closely related research areas.
- G. {2} Description of the facilities that would be used for the proposed effort.
- H. {2} Detail support enhancing that of Section II, including formal teaming agreements which are required to execute this program.
- I. {1} Cost schedules and performance metrics for each task of the proposed feasibility demonstration, delineated by the primes and major subcontractors, total cost, and any company cost share. **Note: Proposer should identify critical milestones after start of effort.** These milestones should enable and support a decision for the next part of the effort. Interim non-critical management milestones are also highly encouraged at regular intervals. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. Additionally, proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach(es) is/are feasible.

Section IV. Additional Information

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas upon which the proposal is based. Copies of not more than three (3) relevant papers can be included in the submission.

4.3.2.2 Volume II, Cost Proposal – {No Page Limit}

Cover sheet to include:

- (1) BAA number;
- (2) Technical area;
- (3) Lead Organization Submitting proposal;
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
- (5) Contractor’s reference number (if any);
- (6) Other team members (if applicable) and type of business for each;
- (7) Proposal title;
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
- (10) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-award—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), or other transaction;
- (11) Place(s) and period(s) of performance;
- (12) Total proposed cost separated by basic award and option(s) (if any);
- (13) Name, address, and telephone number of the proposer’s cognizant Defense Contract Management Agency (DCMA) administration office (*if known*);
- (14) Name, address, and telephone number of the proposer’s cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);
- (15) Date proposal was prepared;
- (16) DUNS number;
- (17) TIN number; and
- (18) Cage Code;
- (19) Subcontractor Information; and
- (20) Proposal validity period
- (21) Any Forward Pricing Rate Agreement, other such approved rate information, or such other documentation that may assist in expediting negotiations (if available).

Detailed cost breakdown to include:

- (1) total program cost broken down by major cost items to include:
 - i. direct labor, including individual labor categories or persons, with associated labor hours and numbered direct labor rates
 - ii. If consultants are to be used, proposer must provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate
 - iii. Indirect costs including Fringe Benefits, Overhead, General and Administrative Expense, Cost of Money, etc. (Must show base amount and rate)

- iv. Travel – Number of trips, number of days per trip, departure and arrival destinations, number of people, etc.
 - v. Other Direct Costs – Should be itemized with costs or estimated costs. Backup documentation should be submitted to support proposed costs.
- (2) major program tasks by fiscal year
 - (3) an itemization of major subcontracts and equipment purchases, to include: a cost proposal as detailed as the Proposer’s cost proposal; the subcontractor’s cost proposal can be provided in a sealed envelope with the Proposer’s cost proposal. Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Please include a brief description of the Proposers’ procurement method to be used;
 - (4) an itemization of any information technology (IT) purchase¹ including subcontractor cost (NOTE: For IT equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding);
 - (5) a summary of projected funding requirements by month;
 - (6) the source, nature, and amount of any industry cost-sharing;
 - (7) and identification of pricing assumptions that may require incorporation into the resulting award instrument (e.g., use of Government Furnished / Facilities / Information, access to Government Subject Matter Expert/s, etc.); and
 - (8) Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements.

Supporting cost and pricing information must be provided in sufficient detail to substantiate the summary cost estimates in Section II C. above. Include a description of the method used to estimate costs and supporting documentation. Note: “cost or pricing data” as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of \$650,000 or greater unless the proposers request an exception from the requirement to submit cost of pricing data. “Cost or pricing data” are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other

¹ IT is defined as “any equipment, or interconnected system(s) or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency. (a) For purposes of this definition, equipment is used by an agency if the equipment is used by the agency directly or is used by a contractor under a contract with the agency which – (1) Requires the use of such equipment; or (2) Requires the use, to a significant extent, or such equipment in the performance of a service or the furnishing of a product. (b) The term “information technology” includes computers, ancillary, software, firmware and similar procedures, services (including support services), and related resources. (c) The term “information technology” does not include – (1) Any equipment that is acquired by a contractor incidental to a contract; or (2) Any equipment that contains imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, are not information technology.”

transaction.) All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, of which cannot be uploaded to T-FIMS, shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic / email, etc.), either by the Proposer or by the subcontractor organization.

All proposers requesting an 845 Other Transaction Agreement for Prototypes (OTA) must include a detailed list of payment milestones. Each such payment milestone must include the following: milestone description, exit criteria, due date, milestone payment amount (to include, if cost share is proposed, contractor and government share amounts). It is noted that, at a minimum, such payable milestones should relate directly to accomplishment of program technical go/no-go criteria as defined in the BAA and/or the proposer's proposal. Agreement type, fixed price or expenditure based, will be subject to negotiation by the Agreements Officer; however, it is noted that the Government prefers use of fixed price payable milestones to the maximum extent possible. If the proposer requests award of an 845 OTA as a nontraditional defense contractor, as so defined in the OSD guide entitled "Other Transactions (OT) Guide For Prototype Projects" dated January 2001 (as amended)(http://www.dau.mil/pubs/Online_Pubs.asp), information must be included in the cost proposal to support the claim. Additionally, if the proposer plans requests award of an 845 OTA, without the required one-third (1/3) cost share, information must be included in the cost proposal supporting that there is at least one non-traditional defense contractor participating to a significant extent in the proposed prototype project.

Where applicable (see Section 3.1.1 above), proposers must submit an OCI Mitigation Plan to detail what steps the contractor is performing to mitigate an actual or perceived conflict of interest.

4.4 SUBMISSION DATES AND TIMES

4.4.1 Proposal Date

The proposal (one electronic copy) must be submitted to <http://www.tfims.darpa.mil/baa> on or before 4:00 p.m., local time at Arlington, VA, Monday, December 1, 2008 in order to be considered during the initial round of selections; however, proposals received after this deadline may be received and evaluated up to one year from date of posting on FedBizOpps. Proposals may be submitted at any time from issuance of this announcement through the closing date or due date otherwise specified by DARPA; however, proposers are warned that the likelihood of funding is greatly reduced for proposals submitted after the initial closing date deadline.

DARPA will post a consolidated Question and Answer response after November 14, 2008, before final full proposals are due. In order to receive a response to your question, submit your question by November 7, 2008 to the DARPA-BAA-09-06@darpa.mil.

DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

Failure to comply with the submission procedures may result in the submission not being evaluated.

5. APPLICATION REVIEW INFORMATION

5.1 EVALUATION CRITERIA

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria, in order of descending importance: (5.1.1) Ability to Meet Program Metrics, (5.1.2) Overall Scientific and Technical Merit; (5.1.3) Potential Contribution and Relevance to the DARPA Mission; (5.1.4) Proposer's Capabilities and/or Related Experience; (5.1.5) Plans and Capability to Accomplish Technology Transition; and (5.1.6) Cost Realism. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

5.1.1 Ability to Meet Program Metrics

The feasibility and likelihood of the proposed approach for satisfying the program metrics, as described in Section 1.2.1, are explicitly described and clearly substantiated. The proposal reflects a mature and quantitative understanding of the program feasibility demonstration metrics, the statistical confidence with which they may be measured, and their relationship to the concept of operations that will result from successful performance in the program.

5.1.2 Overall Scientific and Technical Merit

The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks as referenced in Section 4.3.2.1, Sub-section III "Detailed Proposal Information" on page 18. Task descriptions and associated technical elements provided are complete, address the "Key Program Elements" described in Section 1.2.2, and in a logical sequence. All proposed deliverables are consistent with Section 1.2.3 "Program Deliverables" and are clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal clearly identifies major technical risks and planned mitigation efforts and provides ample justification as to why the approach (es) is / are feasible.

5.1.3 Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA's mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use.

5.1.4 Proposer's Capabilities and/or Related Experience

The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team's expertise to manage the cost and schedule will be evaluated. Similar

efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

5.1.5 Plans and Capability to Accomplish Technology Transition

The capability to transition the technology to the research, industrial, and operational military communities in such a way as to enhance U.S. defense, and the extent to which intellectual property rights limitations creates a barrier to technology transition.

5.1.6 Cost Realism

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed. The evaluation criterion recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection and before award the contracting officer will negotiate cost/price reasonableness.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort. Award(s) may be made to any proposer(s) whose proposal(s) is determined advantageous to the Government regardless of its overall rating.

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

5.2 REVIEW AND RECOMMENDATION PROCESS

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. Pursuant to FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. For evaluation purposes, a proposal is the document described in "Proposal Information", Section

4.2.2. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements.

Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants /experts who are strictly bound by the appropriate non-disclosure requirements.

It is the policy of DARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. Upon completion of the source selection process, the original of each proposal received will be retained at DARPA and all other copies will be destroyed.

6. AWARD ADMINISTRATION INFORMATION

6.1 AWARD NOTICES

As soon as the evaluation of a proposal is complete, the proposers will be notified that 1) the proposal has been selected for funding pending contract negotiations, or 2) the proposal has not been selected. These official notifications will be sent via mail to the Technical POC identified on the proposal coversheet.

6.2 MEETING AND TRAVEL REQUIREMENTS

There will be a program kickoff meeting and all key participants are required to attend. Performers should also anticipate periodic site visits at the Program Manager's discretion.

6.3 HUMAN USE

Proposals selected for contract award are required to comply with provisions of the Common Rule (32 CFR 219) on the protection of human subjects in research (<http://www.dtic.mil/biosys/downloads/32cfr219.pdf>) and the Department of Defense Directive 3216.2 ([http://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/BC325237-802E-D019-A78AF9A6F4DF4282/library/1-08%20-%20DODD%203216-2%20\(25%20Mar%202002.pdf\)](http://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/BC325237-802E-D019-A78AF9A6F4DF4282/library/1-08%20-%20DODD%203216-2%20(25%20Mar%202002.pdf))). All proposals that involve the use of human subjects are required to include documentation of their ability to follow Federal guidelines for the protection of human subjects. This includes, but is not limited to, protocol approval mechanisms, approved Institutional Review Boards, and Federal Wide Assurances. These requirements are based on expected human use issues sometime during the entire length of the proposed effort.

For proposals involving "greater than minimal risk" to human subjects within the first year of the project, performers must provide evidence of protocol submission to a federally approved IRB at the time of final proposal submission to DARPA. For proposals that are forecasted to involve "greater than minimal risk" after the first year, a discussion on how and when the proposer will comply with submission to a federally approved IRB needs to be provided in the submission.

More information on applicable federal regulations can be found at the Department of Health and Human Services – Office of Human Research Protections website (<http://www.dhhs.gov/ohrp/>). Any aspects of a proposal involving human use should be specifically called out as a separate element of the statement of work and cost proposal to allow for independent review and approval of those elements.

For all proposed research that will involve human subjects in the first year or phase of the project, the institution must provide evidence of or a plan for review by an Institutional Review Board (IRB) upon final proposal submission to DARPA. The IRB conducting the review must be the IRB identified on the institution's Assurance. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. Consult the designated IRB for guidance on writing the protocol. The informed consent document must comply with federal regulations (32 CFR 219.116). A valid Assurance along with evidence of appropriate training all investigators should all accompany the protocol for review by the IRB.

In addition to a local IRB approval, a headquarters-level human subjects regulatory review and approval is required for all research conducted or supported by the DoD. The Army, Navy, or Air Force office responsible for managing the award can provide guidance and information about their component's headquarters-level review process. Note that confirmation of a current Assurance and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between one to three months, followed by a DoD review that could last between three to six months. No DoD/DARPA funding can be used towards human subjects research until ALL approvals are granted.

6.4 ANIMAL USE

Any Recipient performing research, experimentation, or testing involving the use of animals shall comply with the rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Act of 1966, as amended, (7 U.S.C. 2131-2159); and (ii) the guidelines described in National Institutes of Health Publication No. 86-23, "Guide for the Care and Use of Laboratory Animals."

For submissions containing animal use, proposals should briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. Animal studies in the program will be expected to comply with the PHS Policy on Humane Care and Use of Laboratory Animals, available at <http://grants.nih.gov/grants/olaw/olaw.htm>.

All Recipients must receive approval by a DoD certified veterinarian, in addition to an IACUC approval. No animal studies may be conducted using DoD/DARPA funding until the USAMRMC Animal Care and Use Review Office (ACURO) or other appropriate DoD veterinary office(s) grant approval. As a part of this secondary review process, the Recipient

will be required to complete and submit an ACURO Animal Use Appendix, which may be found at <https://mrmc.amedd.army.mil/AnimalAppendix.asp>.

6.5 PUBLIC RELEASE OR DISSEMINATION OF INFORMATION

It is anticipated that the performance of research resulting from this BAA is not expected to be fundamental research. (But see discussion on p.11, Section 2.0)

Proposers are advised if they propose grants or cooperative agreements, DARPA may elect to award other award instruments. DARPA will make this election if it determines that the research resulting from the proposed program will present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Any award resulting from such a determination will include a requirement for DARPA permission before publishing any information or results on the program.

The following provision will be incorporated into any resultant contract:

(a) There shall be no dissemination or publication, except within and between the Contractor and its subcontractors (if any), of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the DARPA Technical Information Officer (DARPA/TIO). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the Contractor. Papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

(b) When submitting material for written approval for open publication as described in subparagraph (a) above, the Contractor must submit a request for public release request to the DARPA TIO and include the following information: 1) Document Information: document title, document author, short plain-language description of technology discussed in the material (approx 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle investigator meeting, article or paper), event date, desired date for DARPA's approval; 3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and 4) Contractor's Information: POC name, e-mail and phone. Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests can be sent either via e-mail to tio@darpa.mil or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to www.darpa.mil/tio for information about DARPA's public release process.

6.6 EXPORT CONTROL

Should, as expected, this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following apply:

- (1) The Contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.
- (2) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.
- (3) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.
- (4) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

6.7 SUBCONTRACTING

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan in accordance with FAR 19.702(a) (1) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

6.8 REPORTING

The number and types of reports will be specified in the award document, but will include as a minimum quarterly financial status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award.

6.8.1 Central Contractor Registration (CCR)

Selected proposers not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to any award under this BAA. Information on CCR registration is available at <http://www.ccr.gov>.

6.8.2 Representations and Certifications

In accordance with FAR 4.1201, prospective proposers shall complete electronic annual representations and certifications at <http://orca.bpn.gov>.

6.8.3 Wide Area Work Flow (WAWF)

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment direSAy via the Internet/WAWF at <http://wawf.eb.mil>. Registration to WAWF will be required prior to any award under this BAA.

6.8.4 T-FIMS

The award document for each proposal selected and funded will contain a mandatory requirement for four DARPA Quarterly Status Reports each year, one of which will be an annual project summary. These reports will be electronically submitted by each awardee under this BAA via the DARPA Technical – Financial Information Management System (T-FIMS). The T-FIMS URL and instructions will be furnished by the contracting agent upon award.

6.8.5 i-Edison

The award document for each proposal selected for funding will contain a mandatory requirement for patent reports and notifications to be submitted electronically through i-Edison (<http://s-edison.info.nih.gov/iEdison>) . Awardees will certify subject inventions by uploading Form DD882 into the i-Edison electronic interface.

6.9 AGENCY CONTACTS

E-mail is the preferred method of contact.

Administrative, technical or contractual questions should be sent via e-mail to DARPA-BAA-09-06@darpa.mil. If e-mail is not available, fax questions to (703) 465-1070, Attention: BAA09-06. All requests must include the name, email address, and phone number of a point of contact.

Points of Contact:

The technical POC for this effort is Aaron Lazarus, PhD.

Fax: (709) 465-1070

Electronic mail: DARPA-BAA-09-06@darpa.mil

DARPA/STO

ATTN: BAA09-06

3701 North Fairfax Drive

Arlington, VA 22203-1714

7. OTHER INFORMATION

7.1 INTELLECTUAL PROPERTY

7.1.1 Procurement Contract Proposers

7.1.1.1 Noncommercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS, shall identify all noncommercial technical data, and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has “unlimited rights” to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data, and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (GPR). In accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the Government will automatically assume that any such GPR restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire “unlimited rights” unless the parties agree otherwise. Proposers are admonished that the Government will use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

NONCOMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

7.1.1.2 Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS, shall identify all commercial technical data, and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit the list, the Government will assume that there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

COMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

7.1.2 NonProcurement Contract Proposers

7.1.2.1 Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting an Other Transaction for Prototype shall follow the applicable rules and regulations governing that instrument, but in all cases should appropriately identify any potential restrictions on the Government’s use of any Intellectual Property contemplated under that award instrument. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 1.a and 1.b above. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

7.1.3 All Proposers – Patents

Include documentation proving your ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under your proposal for the DARPA program. If a patent application has been filed for an invention that your proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, you may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation that you own the invention, or 2) proof of possession of appropriate licensing rights in the invention.

7.1.4 All Proposers-Other Intellectual Property Representations

Provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the DARPA program. Additionally, proposers shall provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.