



Broad Agency Announcement
Office-Wide Broad Agency Announcement
Microsystems Technology Office
DARPA-BAA-10-35

2 March 2010

Amendment 03 – (as amended through 1 March 2011)

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Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Microsystems Technology Office (DARPA/MTO)
- **Funding Opportunity Title** – Office-Wide Broad Agency Announcement
- **Announcement Type** – Initial Announcement
- **Funding Opportunity Number** – DARPA-BAA-10-35
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – Not Applicable
- **Dates**
 - Posting Date: March 2, 2011
 - Abstracts and Proposals will be submitted on a rolling basis until 4:00 PM, local time, on **September 1, 2011**
- **Anticipated individual awards** – Multiple awards are anticipated
- **Types of instruments that may be awarded** -- Procurement contract, grant, cooperative agreement or other transaction
- **Any cost sharing requirements:** No Direct Requirements
- **Agency contact**
 - Mark Rosker, Ph.D.**
 - Acting Director, DARPA/MTO**
 - 3701 North Fairfax Drive
 - Arlington, VA 22203-1714
 - Fax: (703) 741-0086
 - Email: DARPA-BAA-10-35@darpa.mil

Part Two: Full Text of Announcement

I. 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 Grants.gov website at <http://www.grants.gov/>. The following information is for those wishing to respond to the BAA.

The Microsystems Technology Office's (MTO) mission is to exploit breakthroughs in materials, devices, circuits, and mathematics to develop beyond leading edge Microsystems components with revolutionary performance and functionality to enable new platform capability for the Department of Defense. To execute this mission, MTO supports revolutionary research in electronics, photonics, MEMS, algorithms, and combined Microsystems technology to deliver new capabilities to sense, communicate, energize, actuate, and process data and information for the war fighter.

MTO regularly publishes Broad Agency Announcements requesting responses to specific program topics. This announcement seeks revolutionary research ideas for topics not being addressed by ongoing MTO programs or other published BAA solicitations. This BAA is primarily, but not solely, intended for early stage research (Studies) that may lead to larger, focused, MTO programs in the future. Studies are defined as single phase efforts of short duration (< 12 months) costing less than \$1,000,000. Whereas proposers are strongly encouraged to submit Studies to this BAA, Multi-Phase Efforts will also be considered. Multi-Phase Efforts are efforts with more than one phase that may span longer than 12 months and that may cost more than \$1,000,000. Multi-Phase Efforts must also cover discernable research topic areas that lead to clearly defined, quantitative technical metrics.

Potential bidders are highly encouraged to review the current MTO programs listed on the MTO website at: <http://www.darpa.mil/mto/programs.html> and other MTO solicitations list at: <http://www.darpa.mil/mto/solicitations/index.html> to avoid proposing efforts to this BAA that duplicate existing activities or that are responsive to other published MTO BAAs. Contacting MTO program managers to discuss research interests is also encouraged. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

Research areas of current interest in MTO include, but are not limited to, the following topics:

- Heterogeneous Integration
- Emerging MEMs Technologies
- Non-Silicon Electronics
- Novel Photonic Devices
- Quantum Devices
- Hardware Assurance, Reliability & Validation
- Low Volume Microsystems Manufacturing
- Signal Processing Hardware
- Low Power Electronics
- Power Generation, Storage & Conversion
- Thermal Management
- Microsystems Complexity & Nonlinearity
- Advanced Imaging Architectures
- Photonic & Electronic Interconnects
- Microsystem Design & CAD
- Bio-Medical Microsystems
- Chip Scale Sensors
- Microsystems for Directed Energy
- Microsystems for Precision Navigation & Timing
- Microsystems for RF/Optical Transceivers
- Other Microsystems Technology Topic Areas

II. 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 it is later determined 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. 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. V.), 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 and/or supplemental cost information. The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions and cost/price within a reasonable time or the proposer fails to timely provide requested additional information.

As of the date of publication of this BAA, DARPA cannot identify whether or not the work under this BAA may be considered '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, while perhaps not qualifying as 'fundamental research' under the foregoing definition, 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.

III. ELIGIBILITY INFORMATION

A. 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 meet the following conditions. FFRDCs must clearly demonstrate that the work is not otherwise available from the private sector AND they also provide a letter on letterhead from their sponsoring organization citing the specific authority establishing their eligibility to propose to government solicitations and compete with industry, and compliance with the associated FFRDC sponsor agreement and terms and conditions. This information is required for FFRDCs proposing to be prime or subcontractors. Government entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority (as well as, where relevant, contractual authority) establishing

their ability 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.

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). Prior to the start of proposal evaluation, 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.)

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 the mailbox address for this BAA at DARPA-BAA-10-35@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 of 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.

B. 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.

C. Other Eligibility Criteria

1. Collaborative Efforts

Collaborative efforts/teaming are encouraged. Specific content, communications, networking, and team formation are the sole responsibility of the participants.

IV. APPLICATION AND SUBMISSION INFORMATION

A. 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.

B. Content and Form of Application Submission

1. Security and Proprietary Issues

NOTE: If proposals are classified, the proposals must indicate the classification level of not only the proposal itself, but also the anticipated award document classification level.

The Government anticipates proposals submitted under this BAA will be unclassified. However, if a proposal is submitted as "Classified National Security Information" as defined by Executive Order 12958 as amended, then the information must be marked and

protected as though classified at the appropriate classification level and then submitted to DARPA for a final classification determination.

Proposers choosing to submit a classified proposal from other classified sources must first receive permission from the respective Original Classification Authority in order to use their information in replying to this BAA. Applicable classification guide(s) should also be submitted to ensure the proposal is protected at the appropriate classification level.

Classified submissions shall be appropriately and conspicuously marked with the proposed classification level and declassification date. Submissions requiring DARPA to make a final classification determination shall be marked as follows:

CLASSIFICATION DETERMINATION PENDING. Protect as though classified (insert the recommended classification level: (e.g., Top Secret, Secret or Confidential)

Classified submissions shall be in accordance with the following guidance:

Confidential and Secret Collateral 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 be mailed via appropriate U.S. Postal Service methods (e.g., (USPS) Registered Mail or USPS 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: Microsystems Technology Office
Reference: DARPA-BAA-10-35
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: Top Secret information should be hand carried by an appropriately cleared and authorized courier to the DARPA CDR. Prior to traveling, the courier shall contact the DARPA CDR at 571 218-4842 to coordinate arrival and delivery.

Special Access Program (SAP) Information: SAP information must be transmitted via approved methods. Prior to transmitting SAP information, contact the DARPA SAPCO at 703-526-4052 for instructions.

Sensitive Compartmented Information (SCI): SCI must be transmitted via approved methods. Prior to transmitting SCI, contact the DARPA Special Security Office (SSO) at 703-248-7213 for instructions.

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 Proposer's responsibility to clearly define to the Government what is considered proprietary data.

Security classification guidance via a DD Form 254 will not be provided at this time since DARPA is soliciting ideas only. 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 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 the formal request is received at this office within 5 days after unsuccessful notification.

2. Abstract and Proposal Information

Proposers are strongly encouraged to submit a proposal abstract in advance of a full proposal. This procedure is intended to minimize unnecessary effort in proposal preparation and review. The time and date for submission of proposal abstracts is specified in Section C below. DARPA will acknowledge receipt of the submission and assign a control number that should be used in all further correspondence regarding the proposal abstract. (Note: Proposers using Grants.gov will not receive notification of a control number after submission.)

DARPA will respond to proposal abstracts with a statement as to whether DARPA is interested in the idea. DARPA will attempt to reply to proposal abstracts via letter within forty-five (45) calendar days of receipt. Should a proposer be discouraged from submitting a full proposal, the letter will contain feedback for the proposer regarding the

rationale for the Government's recommendation. Early submissions of proposal abstracts and full proposals are strongly encouraged because selections may be made at any time during the period of solicitation. Regardless of DARPA's response to a proposal abstract, proposers may submit a full proposal. DARPA will review all full proposals submitted using the published evaluation criteria and without regard to any comments resulting from the review of a proposal abstract.

Proposers are required to submit full proposals by the time and date specified in the BAA in order to be considered for selection. DARPA may evaluate proposals received after this date for a period up to one year from date of posting on FedBizOpps and Grants.gov.

The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed efforts should not be included into a single proposal.

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 and proposed abstracts may not be submitted by fax or e-mail; any so sent will be disregarded.

Proposals not meeting the format described in the BAA, or failing to provide the information required in the BAA, may not be reviewed.

For All:

All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal abstract or full proposal to this BAA, should be directed to the administrative address below or to DARPA-BAA-10-35@darpa.mil; e-mail is preferred. DARPA intends to use e-mail for correspondence regarding DARPA-BAA-10-35. Proposals and proposal abstracts may not be submitted by e-mail or fax; 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.

For Proposers Submitting Proposals Through T-FIMS (**required method for submission of proposals seeking other than a grant or cooperative agreement**):

Proposals sent in response to BAA 10-35 must be submitted through T-FIMS. See <https://www.tfims.darpa.mil/baa/> for more information on how to request an account, upload proposals, and use the T-FIMS tool. 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 by means of an Electronic Business Application Tool or proposal submission web site (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-10-35@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/>.

For Proposers Submitting Proposals Through Grants.Gov:

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.

Proposers must complete the following steps before submitting proposals on Grants.gov (these steps are also detailed at www.grants.gov/applicants/get_registered.jsp):

- Proposers must obtain a DUNS number
- Proposers must register their organization in the Central Contractor Registration (CCR) (<https://www.bpn.gov/CCRSearch/Search.aspx>)
- Proposers must obtain a user name and password with an E-Authentication provider
- Proposers must register the Authorized Organization Representative (AOR) in Grants.gov
- Proposers must have the organization’s E-BIZ point of contact authorize the AOR to submit applications.

Grant or cooperative agreement proposals may be submitted to DARPA through Grants.gov, through T-FIMS, or in hard copy. Proposers electing to submit grant or cooperative agreement proposals as hard copies must complete the SF 424 R&R form (Application for Federal Assistance, Research and Related) available on the Grants.gov website http://www.grants.gov/agencies/aapproved_standard_forms.jsp#2. If proposers intend to use Grants.gov as their means of submission, then they must submit their entire proposal through Grants.gov; applications cannot be submitted in part to Grants.gov and in part as a hard-copy. Proposals submitted in hard copy should be addressed to DARPA/MTO, 3701 Fairfax Drive, Arlington, VA 22203-1714 (Attn.: DARPA-BAA-10-35.)

3. Proposal Abstract Format

Proposal abstracts are encouraged in advance of full proposals in order to provide potential proposers with a rapid response to minimize unnecessary effort. Proposal abstracts should follow the same general format as described for Volume I under PROPOSAL FORMAT (see below), but include ONLY Sections I and II. (However, no formal transmittal letter is required.) The cover sheet should be clearly marked “PROPOSAL ABSTRACT” and the total length shall not exceed 5 pages, excluding cover page and official transmittal letter. 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 proposal abstracts includes all figures, tables, and charts. No formal transmittal letter is required. All proposal abstracts must be written in English.

Specifically the proposal abstract shall address:

1. The problem to be solved by the proposed research.
2. The current state-of-the-art of existing approaches.
3. How the proposed effort will quantitatively exceed existing capability with a description of what is new in the proposed approach.
4. How the proposed research will be performed with emphasis on what technical challenges must be overcome and the approach to same.
5. The impact the proposed research would have on a military relevant application.
6. The program schedule (period of performance) and budget.

If DARPA/MTO does not have any interest in your Proposal Abstract you will be notified by a formal letter. If DARPA/MTO is interested in your Proposal Abstract, you will be encouraged by a formal letter to submit a full proposal.

4. Full Proposal Format

All full 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 full 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 41 pages. Section II of Volume I, Technical and Management Proposal, shall not exceed 15 pages. Section III of Volume I, Technical and Management Proposal, shall not exceed 26 pages. Maximum page lengths

for each section are shown in braces { } below. All full proposals must be written in English.

5. Volume I, Technical and Management Proposal

Section I. Administrative

- A. Cover sheet to include:
 - (1) BAA number
 - (2) Research area(s) of current interest to MTO – Select from list at the beginning of this document: Section I – “Funding Opportunity Description.”
 - (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. (Note: An official transmittal letter is not required when submitting a Proposal Abstract.)

- C. Table of Contents. The Table of Contents should be keyed to the page numbers of the proposal sections.

- D. Proposal Summary Chart. PowerPoint-type slide(s) (i.e., landscape formatted for presentation) that succinctly highlights the major aspects of the proposal, including all program metrics (including proposer defined metrics, if applicable), in a manner suitable for presentation to DARPA management. The summary chart should indicate the proposal’s main objective, key innovations, expected impact, and other unique aspects of the proposal (Proposal Summary Chart Template provided in Appendix A or at www.darpa.mil/mto/solicitations/index.html).

Section II. Summary of Proposal

This section provides an overview of the proposed work as well as an introduction to the associated technical and management issues. Further elaboration will be provided in Section III.

- A. {4} 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. {3} Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization. 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. For forms to be completed regarding intellectual property, see Section VIII. There will be no page limit for the listed forms.
- C. {1} Cost, schedule and measurable milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the prime and major subcontractors, total cost and company cost share, if applicable. (Note: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.)
- D. {3} Technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable production. (In the full proposal, this section should be supplemented by a more detailed plan in Section III.)
- E. {2} General discussion of other research in this area.
- F. {2} A clearly defined organization chart for the program team which includes, as applicable: (1) the programmatic relationship of team members; (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.

Section III. Detailed Proposal Information

This section provides the detailed discussion of the proposed work necessary to enable an in-depth review of the specific technical and managerial issues. Specific attention must be given to addressing both risk and payoff of the proposed work that make it desirable to DARPA.

- A. {12} **Technical Rationale and Approach.** Detailed technical rationale and approach enhancing that of Section II. A concise section outlining the scientific and technical challenges, unique approaches, and potential anticipated technical solutions to the challenges that will be addressed. This section should demonstrate that the proposer has a clear understanding of the state-of-the-art; and

- should provide sufficient technical details so as to permit complete evaluation of the feasibility of the idea. Additionally, comparison with other ongoing research shall be provided indicating advantages and disadvantages of the proposed effort. Technical rationale and approach should be addressed for each research area listed on the cover sheet in Volume I, Section I, above.
- B. {1} **Teaming and Management Plan.** A clearly defined organization chart for the program team which includes the programmatic relationship and a summary of each member's roles and responsibilities. Additionally, a narrative discussing (1) the proposers teaming strategy/rationale; (2) the specific roles and responsibilities of the team members; (3) the unique capabilities of the team members; and (4) the proposer's team management approach.
- C. {3} **Technology Transition & Business Plan.** A description of the results, products, transferable technology, and expected technology transfer path enhancing that of Section II. B. See also Section VIII "Intellectual Property."
- D. {2} **Capabilities.** A section describing relevant prior work, the background, qualifications and relevant experience of team member organizations (prime and sub) and key individuals to be assigned to the program, and the facilities and equipment to be utilized. Please do not attach supporting material (CDs, movies, etc.) to the proposal, except as noted in Section IV below.
- E. {3} **Cost schedules and Measurable Milestones**, if proposed, for the proposed research including estimates of cost for each task in each phase and year of the effort delineated by the primes and major subcontractors, total cost, and any company cost share. (Note: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.) Measurable milestones (descriptions, exit criteria, etc.), if proposed, must not include proprietary information. For Multi-Phase Efforts, discrete tasks that can be reasonably partitioned must be separately priced. The Government reserves the right to fund any number of discrete tasks within each submitted proposal.
- F. {5} **Statement of Work (SOW)** - In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies amongst them. The SOW **must not** include proprietary information. 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 completion criteria for each task/activity - a product, event or milestone that defines its completion.
 - Define all deliverables (reporting, data, reports, hardware, software, etc.) to be provided to the Government.

For Multi-Phase Efforts, the SOW **must** be developed so that each phase of the program is separately defined. The SOW **must** include, for each phase, a table defining the program metrics to be achieved.

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.

6. Volume II, Cost Proposal – {No Page Limit}

Proposals shall be priced in U.S. dollars (\$).

Cover sheet to include:

- (1) BAA number;
- (2) Research area(s) of current interest to MTO – Select from list at the beginning of this document: Section I – “Funding Opportunity Description.”
- (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-fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), grant, cooperative agreement, 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.

The proposers, to include eligible FFRDCs, cost volume shall provide cost and pricing information, or other than cost or pricing information if the total price is under \$650,000, in sufficient detail to substantiate the program price proposed (e.g., realism and reasonableness). In doing so, the proposer shall provide a detailed cost breakdown by phase, task and month. The breakdown shall include, at a minimum, the following major cost items: direct labor (labor categories and labor hours per category); subcontracts (by subcontractor); material/equipment; other direct costs (travel, computer usage fees, etc.), and indirect charges (rates and factors such as Overhead, G&A, Fringe Benefits, etc.). Proposers are encouraged to provide the aforementioned cost breakdown as an editable MS Excel spreadsheet, inclusive of calculations formulae, with tabs (material, travel, ODC's) provided as necessary. Additionally, the proposer shall provide (1) a summary of total program costs by phase and task, (2) an itemization of major subcontracts, (3) a priced Bill-of-Materials (BOM) clearly identifying, for each item proposed, the source of the unit price (i.e., vendor quote, engineering estimate, etc.) and the type of item (i.e., material, equipment, special test equipment, plant equipment, information technology (IT), etc.); (4) the source, nature, and amount of any industry cost-sharing; and (5) identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.). 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.

For Multi-Phase Efforts, discrete tasks that can be reasonably partitioned must be separately priced. The Government reserves the right to fund any number of discrete tasks within each submitted proposal.

The proposer shall provide a detailed description of the methods used to estimate costs, to include, at a minimum: 1) substantiation of all rates and factors, and 2) labor and material estimates supported by a narrative basis-of-estimate (BOE) providing sufficient detail to substantiate cost estimates. The prime contractor is responsible for compiling and providing, as part of its proposal submission to the Government, subcontractor proposals prepared at the same level of detail as that required of the prime. Subcontractor proposals include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. If seeking a procurement contract, the prime contractor shall provide a cost reasonableness analysis of proposed subcontractor prices. Such analysis shall indicate the extent to which the prime contractor has negotiated subcontract prices. All proprietary subcontractor proposal documentation which cannot be uploaded to TFIMS or Grants.gov as part of the proposers submission, 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 – this does not relieve the proposer from the requirement to include, as part of their submission, subcontract proposals that do not include proprietary pricing information (i.e., rates, factors, etc.).

If seeking a procurement contract and items of Contractor Acquired Property are proposed, exclusive of material¹, the proposer shall clearly demonstrate that the inclusion of such items as Government Property is in keeping with the requirements of FAR Part 45.102.

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 \$700,000 or greater unless the proposer requests an exception from the requirement to submit cost or 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 transaction.) Those proposing a grant or cooperative agreement may follow/use the application instructions/form templates (i.e., DARPA BAA Form Package) provided as part of the BAA posting to grants.gov; however, the costing details requested above should be provided to the maximum extent possible.

The Defense Appropriations Act caps indirect cost rates for any procurement contract, grant or agreement using 6.1 Basic Research Funding at 35% of the total cost of the award. Total costs include all bottom line costs. For grants/agreement awardees subject to cost principles in 2 CFR part 220 (Educational Institutions), indirect costs are all costs of a prime award that are Facilities and Administration costs. For grant/agreement awardees subject to the cost principles in 2 CFR part 225 (State, Local, and Indian Tribal Governments), 2 CFR part 230 (Non-profit Organizations) or 48 CFR part 23 (Federal Acquisition Regulation), indirect costs refer to any cost not directly identified with a single final cost objective, but identified with two or more final cost objectives or with at least one intermediate cost objective. The cost limitations do not flow down to subcontractors.

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

C. Submission Dates and Times

1. Proposal Abstract Date

The proposal abstract must be submitted to DARPA on or before 4:00 p.m., local time, **September 1, 2011**. Proposal abstracts received after this time and date will not be reviewed.

¹Per FAR Part 45, Material means property that may be consumed or expended during the performance of a contract, component parts of a higher assembly, or items that lose their individual identity through incorporation into an end-item. Material does not include equipment, special tooling, and special test equipment.

2. Full Proposal Date

The full proposal must be submitted to DARPA on or before 4:00 p.m., local time, **September 1, 2011**. Proposals received after this time and date will not be reviewed.

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.

D. Intergovernmental Review

Not Applicable.

E. Funding Restrictions

Not Applicable.

F. Other Submission Requirements

Not Applicable.

V. APPLICATION REVIEW INFORMATION

A. Evaluation Criteria

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following mandatory criteria, listed in order of descending importance: (a) Overall Scientific and Technical Merit; (b) Potential Contribution and Relevance to the DARPA Mission; (c) Plans and Capability to Accomplish Technology Transition; and (d) 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.

The following are descriptions of the evaluation criteria:

(a) Overall Scientific and Technical Merit

The technical merit of the research and the soundness of the plan to perform it will be evaluated. The proposed research must be highly innovative and show promise of sufficient technical payoff to warrant the technical risk. The research must have the potential to make a radical impact on future technology. 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. Task descriptions

and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible.

(b) 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 and its relevance to DARPA's particular mission and methods assessed. Specifically, DARPA's mission seeks to maintain the technological superiority of the U.S. military and prevent technological surprise from harming U.S. national security. DARPA aims to accomplish this by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their ultimate military use.

(c) Plans and Capability to Accomplish Technology Transition

For Studies:

The capability to transition the technology to the research and industrial 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.

For Multi-Phase Efforts:

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.

(d) 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. The proposal will be reviewed to determine if the costs proposed are based on realistic assumptions, reflect a sufficient understanding of the technical goals and objectives of the BAA, and are consistent with the proposer's technical approach (to include the proposed Statement of Work). At a minimum, this will involve review, at the prime and subcontract level, of the type and number of labor hours proposed per task as well as the types and kinds of materials, equipment and fabrication costs proposed. It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation.

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

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

B. Review and Recommendation Process

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 selectable regardless of its overall rating. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

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 IV.B.. 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. After proposals have been evaluated and selections made, the original of each proposal received will be retained at DARPA and all other copies will be destroyed.

VI. AWARD ADMINISTRATION INFORMATION

A. Award Notices

As soon as the evaluation of a proposal is complete, the proposer 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 Electronic Mail to the Technical POC identified on the proposal coversheet.

B. Administrative and National Policy Requirements

1. Meeting and Travel Requirements

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

2. Human Use

All research involving human subjects, to include use of human biological specimens and human data, selected for funding must comply with the federal regulations for human subject protection. Further, research involving human subjects that is conducted or supported by the DoD must comply with 32 CFR 219, *Protection of Human Subjects* (http://www.access.gpo.gov/nara/cfr/waisidx_07/32cfr219_07.html) and DoD Directive 3216.02, *Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research* (<http://www.dtic.mil/whs/directives/corres/pdf/321602p.pdf>).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (<http://www.hhs.gov/ohrp>). All institutions engaged in human subject research, to include subcontractors, must also have a valid Assurance. In addition, personnel involved in human subjects research must provide documentation of completing appropriate training for the protection of human subjects.

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.

3. 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); (ii) the guidelines described in National Institutes of Health Publication No. 86-23, "Guide for the Care and Use of Laboratory Animals"; (iii) DoD Directive 3216.01, "Use of Laboratory Animals in DoD Program."

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-www.army.mil/index.cfm?pageid=Research_Protections.acuro&rn=1.

4. Publication Approval

It is the policy of the Department of Defense that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. The definition of Contracted Fundamental Research is:

“Contracted Fundamental Research includes [research performed under] grants and contracts that are (a) funded by budget category 6.1 (Basic Research), whether performed by universities or industry or (b) funded by budget category 6.2 (Applied Research) and performed on-campus at a university. The research

shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.” Such research is referred to by DARPA as “Restricted Research.”

Pursuant to DoD policy, research performed under grants and contracts that are (a) funded by budget category 6.2 (Applied Research) and NOT performed on-campus at a university or (b) funded by budget category 6.3 (Advanced Research) does not meet the definition of fundamental research. Publication restrictions will be placed on all such research.

As of the date of publication of this BAA, DARPA cannot identify whether or not the work under this BAA may be considered ‘fundamental research.’ See Section II “Award Information.” 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 and will be considered Restricted Research.

For certain research projects, it may be possible that although the research being performed by the Prime Contractor is Restricted Research, a subcontractor may be conducting Contracted Fundamental Research. In those cases, it is the Prime Contractor’s responsibility to explain in their proposal why its subcontractor’s effort is Contracted Fundamental Research.

The following same or similar provision will be incorporated into any resultant Restricted Research or Non-Fundamental Research procurement contract or other transaction:

- (1) At this time, DARPA expects the work performed under this contract will **NOT** be fundamental research, and it is, therefore, subject to the following publication restrictions:

There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval, which will be communicated to the Contractor by email through the DARPA Public Release Center (PRC) at PRC@darpa.mil. 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. These restrictions must be flowed down to all subcontractors. Any

publications shall incorporate an Acknowledgement of Support and Disclaimer in accordance with DFARs 252.235-7010.

- (2) 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 PRC 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 PRC@darpa.mil or via hard copy to 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to <http://www.darpa.mil/prc> for information about DARPA's public release process.

5. Export Control

The following clause will be included in all procurement contracts, and may be included in Other Transactions as deemed appropriate:

(a) *Definition.* "Export-controlled items," as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130). The term includes:

1) "Defense items," defined in the Arms Export Control Act, 22 U.S.C. 2778(j)(4)(A), as defense articles, defense services, and related technical data, and further defined in the ITAR, 22 CFR Part 120.

2) "Items," defined in the EAR as "commodities", "software", and "technology," terms that are also defined in the EAR, 15 CFR 772.1.

(b) The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR.

(c) The Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.

(d) Nothing in the terms of this contract adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, Executive orders, and regulations,

including but not limited to—

(1) The Export Administration Act of 1979, as amended (50 U.S.C. App.

2401, *et seq.*);

(2) The Arms Export Control Act (22 U.S.C. 2751, *et seq.*);

(3) The International Emergency Economic Powers Act (50 U.S.C. 1701, *et seq.*);

(4) The Export Administration Regulations (15 CFR Parts 730-774);

(5) The International Traffic in Arms Regulations (22 CFR Parts 120-130);

and

(6) Executive Order 13222, as extended;

(e) The Contractor shall include the substance of this clause, including this paragraph (e), in all subcontracts.

6. 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.

7. Electronic and Information Technology

All electronic and information technology acquired through this solicitation must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. 794d) and FAR Subpart 39.2. Each proposer who submits a proposal involving the creation or inclusion of electronic and information technology must ensure that Federal employees

with disabilities will have access to and use of information that is comparable to the access and use by Federal employees who are not individuals with disabilities and members of the public with disabilities seeking information or services from DARPA will have access to and use of information and data that is comparable to the access and use of information and data by members of the public who are not individuals with disabilities.

8. Employment Eligibility Verification

As per FAR 22.1802, recipients of FAR-based procurement contracts must enroll as Federal Contractors in E-verify and use E-Verify to verify employment eligibility of all employees assigned to the award. All resultant contracts from this solicitation will include FAR 52.222-54, "Employment Eligibility Verification." This clause will not be included in grants, cooperative agreements, or Other Transactions.

9. Central Contractor Registration (CCR) and Universal Identifier Requirements

Unless the proposer is exempt from this requirement, as per FAR 4.1403-a or DoDGARs Part 25.110, as applicable, all proposers must be registered in the Central Contractor Registration (CCR) and have a valid Data Universal Numbering System (DUNS) number prior to submitting a proposal. Information on CCR registration is available at <http://www.ccr.gov>. All proposers must maintain an active CCR registration with current information at all times during which they have an active Federal award or proposal under consideration by DARPA. All proposers must provide the DUNS number in each proposal they submit.

DARPA cannot make an assistance award to a proposer until the proposer has provided a valid DUNS number and has maintained an active CCR registration with current information.

10. Reporting Executive Compensation and First-Tier Subcontract Awards

The following clause will be used in all procurement contracts regarding the reporting of executive compensation and first-tier subawards. A parallel award term with the same requirements will be used in all grants and cooperative agreements.

Reporting Executive Compensation and First-Tier Subcontract Awards (Jul 2010)

(a) *Definitions.* As used in this clause:

"Executive" means officers, managing partners, or any other employees in management positions.

“First-tier subcontract” means a subcontract awarded directly by a Contractor to furnish supplies or services (including construction) for performance of a prime contract, but excludes supplier agreements with vendors, such as long-term arrangements for materials or supplies that would normally be applied to a Contractor’s general and administrative expenses or indirect cost.

“Total compensation” means the cash and noncash dollar value earned by the executive during the Contractor’s preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

(1) Salary and bonus.

(2) Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

(3) Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

(4) Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

(5) Above-market earnings on deferred compensation which is not tax-qualified.

(6) Other compensation, if the aggregate value of all such other compensation (*e.g.*, severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

(b) Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.

(c)(1) Unless otherwise directed by the contracting officer, by the end of the month following the month of award of a first-tier subcontract with a value of \$25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Contractor shall report the following information at <http://www.frs.gov> for each first-tier

subcontract. (The Contractor shall follow the instructions at <http://www.fsrs.gov> to report the data.)

(i) Unique identifier (DUNS Number) for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has a parent company.

(ii) Name of the subcontractor.

(iii) Amount of the subcontract award.

(iv) Date of the subcontract award.

(v) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.

(vi) Subcontract number (the subcontract number assigned by the Contractor).

(vii) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(viii) Subcontractor's primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(ix) The prime contract number, and order number if applicable.

(x) Awarding agency name and code.

(xi) Funding agency name and code.

(xii) Government contracting office code.

(xiii) Treasury account symbol (TAS) as reported in FPDS.

(xiv) The applicable North American Industry Classification System code (NAICS).

(2) By the end of the month following the month of a contract award, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for

the Contractor's preceding completed fiscal year at <http://www.ccr.gov> ,
if—

(i) In the Contractor's preceding fiscal year, the Contractor received—

(A) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(B) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(ii) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm> .)

(3) Unless otherwise directed by the contracting officer, by the end of the month following the month of a first-tier subcontract with a value of \$25,000 or more, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for each first-tier subcontractor for the subcontractor's preceding completed fiscal year at <http://www.fsr.gov> ,
if—

(i) In the subcontractor's preceding fiscal year, the subcontractor received—

(A) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(B) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(ii) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal

Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm> .)

(d)(1) If the Contractor in the previous tax year had gross income, from all sources, under \$300,000, the Contractor is exempt from the requirement to report subcontractor awards.

(2) If a subcontractor in the previous tax year had gross income from all sources under \$300,000, the Contractor does not need to report awards to that subcontractor.

(e) Phase-in of reporting of subcontracts of \$25,000 or more.

(1) Until September 30, 2010, any newly awarded subcontract must be reported if the prime contract award amount was \$20,000,000 or more.

(2) From October 1, 2010, until February 28, 2011, any newly awarded subcontract must be reported if the prime contract award amount was \$550,000 or more.

(3) Starting March 1, 2011, any newly awarded subcontract must be reported if the prime contract award amount was \$25,000 or more

11. Updates of Information Regarding Responsibility Matters

The following clause must be included in all contracts over \$500,000 where the proposer has current active Federal contracts and grants with total value greater than \$10,000,000.

Updates of Information Regarding Responsibility Matters (DEVIATION) (OCT 2010)

(a)(1) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIIS) on a semi-annual basis, throughout the life of the contract, by posting the required information in the Central Contractor Registration database at <http://www.ccr.gov> (see 52.204-7).

(2) At the first semi-annual update on or after April 15, 2011, the Contractor shall post again any required information that the Contractor posted prior to April 15, 2011.

(b) (1) The Contractor will receive notification when the Government posts new information to the Contractor's record.

(2) The Contractor will have an opportunity to post comments regarding information that has been posted by the Government. The comments will be retained as long as the associated information is retained, i.e. for a total period of 6 years. Contractor comments will remain a part of the record unless the Contractor revises them.

(3) Public access to information in FAPIIS.

- (i) Public requests for system information that was posted prior to April 15, 2011, will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.
- (ii) As required by section 3010 of Public law 111-212, all information posted in FAPIIS on or after April 15, 2011, except past performance reviews, will be publicly available.

C. 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, notwithstanding the fact that the research may be continued under a follow-on vehicle.

D. Electronic Systems

1. Representations and Certifications

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

2. Wide Area Work Flow (WAWF)

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

3. 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>).

VII. AGENCY CONTACTS

Administrative, technical or contractual questions should be sent via e-mail to DARPA-BAA-10-35@darpa.mil. If e-mail is not available, fax questions to (703) 741-0086, Attention: DARPA-BAA-10-35. All requests must include the name, email address, and phone number of a point of contact.

The technical point of contact for this effort is:

Mark Rosker, Ph.D.

Acting Director, DARPA/MTO

ATTN: DARPA-BAA-10-35

3701 North Fairfax Drive

Arlington, VA 22203-1714

Fax: (703) 741-0086

Email: DARPA-BAA-10-35@darpa.mil

VIII. OTHER INFORMATION

A. Intellectual Property

1. Procurement Contract Proposers

a. 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 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.” It is noted an assertion of “NONE” indicates that the Government has “unlimited rights” to all noncommercial technical data and noncommercial computer software delivered under the award instrument, in accordance with the DFARS provisions cited above. Failure to provide full information may result in

a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

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

NONCOMMERCIAL				
Technical Data Computer Software To be Furnished With Restrictions	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(NARRATIVE)	(LIST)	(LIST)	(LIST)

b. 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 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.” Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

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

COMMERCIAL				
Technical Data Computer Software To be Furnished With Restrictions	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(NARRATIVE)	(LIST)	(LIST)	(LIST)

B. Non-Procurement Contract Proposers – Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototype shall follow the applicable rules and regulations governing these various award instruments, but in all cases should appropriately identify any potential restrictions on the Government’s use of any Intellectual Property contemplated under those award instruments in question. 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 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." Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

C. 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.

1. All Proposers – 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

D. Other Transactions (OTs)

DARPA is able to obtain its research support through a variety of legal instruments and flexible arrangements, to include use of Other Transaction Agreements (OTAs). OTAs are potentially applicable to a wide variety of DARPA programs. They are likely to be particularly applicable to support dual-use technologies (those with commercial nonmilitary potential as well as potential military applications), consortia or multi-party agreements, and work supported by multiple funding sources. Because OTAs are not traditional procurement contracts, DARPA is not required to include the traditional FAR and DFARS clauses in these agreements, but is free to negotiate provisions that are mutually agreeable to both the Government and the consortium of companies entering into the agreement. Proposals may, but need not, state that an OTA rather than a contract or grant is desired. Furthermore, DARPA does not enter into OTAs when a contract or grant is feasible or appropriate. See FAR 35.003 for Government-wide policy on use of contracts for research and development. Potential proposers are encouraged to visit the DARPA Contracts Management Office home page (<http://www.darpa.mil/cmo>) for more information regarding the use of OTAs. Included at this site is a web version of the Institute for Defense Analysis study, "Participant Views of Advanced Research Projects

Agency ‘Other Transactions’” (<http://www.darpa.mil/body/d1793/index.html>). This study was published in November 1995, and released in January 1996. It presents the results of a survey of organizations that have participated in DARPA research projects conducted with “other transactions.”

There are two types of commonly used OTAs awarded pursuant to 10 U.S.C. 2371: Other Transactions for Research and Other Transactions for Prototype Projects (a.k.a. “845s”). Of these two types of OTAs, the one most pertinent to this BAA is referred to as a Technology Investment Agreement (TIA) and is issued in accordance with Part 37 of the Department of Defense Grant and Agreement Regulations (DoDGARs) (<http://www.dtic.mil/whs/directives/corres/html/321006r.htm>). TIAs are assistance instruments used to stimulate or support research designed to: (a) reduce barriers to commercial firm’s participation in defense research, to give the Department of Defense (DoD) access to the broadest possible technology and industrial base; (b) promote new relationships among performers in both the defense and commercial sectors of that technology and industrial base; and (c) stimulate performers to develop, use, and disseminate improved practices. As a matter of DoD policy, a TIA may be awarded only when one or more for-profit firms are to be involved either in the (1) performance of the research project; or (2) the commercial application of the research results (e.g. commercial transition partner). Also of importance is the requirement that, to the maximum extent practicable, the non-Federal parties carrying out a research project under a TIA are to provide at least half of the costs of the project – this being a statutory condition for any TIA, or Other Transaction Agreement in general, issued under the authority of 10 U.S.C. 2371. Such instruments can involve a single performer or multiple performers participating as a consortium (which are not required to operate as a separate legal entity) and the Generally Accepted Accounting Principle (GAAP) applies rather than the FAR or DFARS cost principles.

For information on 845 Other Transaction Authority for Prototypes (OTA) agreements, refer to http://www.darpa.mil/cmo/other_trans.html. All proposers requesting an 845 Other Transaction Authority for Prototypes (OTA) agreement must include a detailed list of milestones. Each such milestone must include the following: milestone description, completion criteria, due date, payment/funding schedule (to include, if cost share is proposed, contractor and Government share amounts). It is noted that, at a minimum, such milestones should relate directly to accomplishment of program technical metrics 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 milestones with a payment/funding schedule to the maximum extent possible. Do not include proprietary data. If the proposer requests award of an 845 OTA agreement 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.acq.osd.mil/dpap/Docs/otguide.doc>), information must be included in the cost proposal to support the claim. Additionally, if the proposer plans requests award of an 845 OTA agreement, 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.