



**DARPA-BAA-09-55**

**Persistent Stare Exploitation and  
Analysis System (PerSEAS)**

**Broad Agency Announcement (BAA)**

for

**Information Processing Techniques Office (IPTO)  
Defense Advanced Research Projects Agency  
(DARPA)**

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## Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Information Processing Techniques Office (IPTO)
- **Funding Opportunity Title** – Persistent Stare Exploitation and Analysis System (PerSEAS)
- **Announcement Type** – Initial Broad Agency Announcement (BAA)
- **Funding Opportunity Number** – DARPA-BAA-09-55
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – N/A
- **Key Dates**
  - Posting Date – see announcement at [www.fbo.gov](http://www.fbo.gov)
  - Proposal Due Date
    - Initial Closing – 12:00 noon (ET), 08 December 2009
    - Final Closing – 12:00 noon (ET), 17 September 2010
  - Industry Day – 15 October 2009. See Section VIII.B. for further information.
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Awards under this solicitation may be procurement contracts or other transactions. No grants or cooperative agreements.
- **Technical POC:** Dr. Mita Desai, Program Manager, DARPA/IPTO
  - EMAIL: [DARPA-BAA-09-55@darpa.mil](mailto:DARPA-BAA-09-55@darpa.mil)
  - FAX: 703-807-0999
  - ATTN: DARPA-BAA-09-55  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

**IMPORTANT NOTE:** The Government's obligation under this announcement and resulting contract award is contingent upon the availability of FY10 funds which, as of the date of publication of this BAA, have NOT been Authorized or Appropriated by the U. S. Congress. In order to expedite the process of providing this capability, DARPA has published the BAA in FY09 with the expectation that award will be made promptly if FY10 resources are approved and available.

## **Part Two: Full Text of Announcement**

### ***I. FUNDING OPPORTUNITY DESCRIPTION***

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

DARPA is soliciting innovative research proposals in the area of analysis and exploitation of wide area motion imagery. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

#### **Introduction**

Persistent Stare Exploitation and Analysis System (PerSEAS) is a software systems development and demonstration effort for automatically and interactively discovering actionable intelligence from wide area motion imagery (WAMI) of complex urban, suburban, and rural environments. Used in a forensic mode, the system will exploit hours and days of WAMI data to identify threat activities and the underlying threat indicators. Used in a near real time mode, the system will alert the user to developing threat activities in time to interdict. In addition to the electro-optical/infrared (EO/IR) data available from WAMI sensors, PerSEAS will receive/send information from/to other intelligence sources. The envisioned PerSEAS will significantly reduce the time required to perform many current exploitation tasks and greatly enhance an analyst's ability to exploit the burgeoning volume of WAMI data.

The primary information element in WAMI data are entities in the context of roads, buildings, and other scene features. Exploitation of these entities yields tracks but, in a complex urban environment, these tracks are severely fragmented due to occlusions, stops, and other factors. The PerSEAS program is looking for algorithmic solutions to associating these track fragments in order to identify localized events. Within these localized events, algorithms that discover relationships and anomalies that are indicative of suspicious behavior, match previously learned threat activity, or match user defined threat activity should also be incorporated. While the localized events may each occur over a small spatio-temporal window, the overall threat activity sequence may span a much larger spatio-temporal window. In essence, the PerSEAS program will take basic tracks of entities, associate tracks to find events, and then link events to discover potential threat activities.

Such an end-to-end system will require accurate probabilistic inferences from evidence at the track, event, and activity levels. The underlying inference engine must incorporate normalcy, motion, and contextual models. Significant advances have been made in constructing robust spatio-temporal models using techniques such as temporal logic,

stochastic grammars, dynamic Bayesian Networks, and Spectral Graph analysis. These probabilistic inference methods, extended to the space-time domain, allow for pooling of multiple, weak pieces of evidence to improve detection of potentially threatening activities. Utilizing these methods will require a multidisciplinary approach drawing on expertise from computer vision, probabilistic reasoning, machine learning and other related domains; therefore, offerors are strongly encouraged to include universities and other research institutes on their teams.

## Terminology

Terms and expressions used in this BAA are defined as follows:

*Activity* – a set or sequence of events which form a pattern, such as one car following another car.

*Cue* – an indication that an object, facility, track, event, or threat activity warrants further analysis.

*Entity* – A mover of interest that is in motion or stationary at any given point in time, such as a car that slows down and stops at a stop sign.

*Event* – a spatially and temporally localized action, such as a car making a u-turn.

*Node* – a location, facility, or entity of interest and associated with another node, event, entity, threat activity, or cue.

*Threat Activity* – a set or sequence of activities which together indicate a potentially hostile action.

*Track* – the record of an entity's position in time and space, possibly with a set of identifying attributes.

*TTPs* (tactics, techniques, and procedures) – a set or sequence of events that are performed to achieve specific operational goals.

*Wide Area Motion Imagery (WAMI)* – this is electro-optic (EO) and/or infra-red (IR) sensor information that is characterized by large fields-of-view viewed/recorded over long periods of time.

## Background

In recent years, the military has fielded several WAMI sensor systems (e.g., Constant Hawk and Angel Fire) and is in the process of acquiring newer, more capable systems. These systems persistently monitor fixed geographic locations for long periods of time using electro-optic sensors. Some store their WAMI data onboard and download it at

the end of each mission for post-event analysis and exploitation. Others provide operational support through real-time transfer of the WAMI data. Archived WAMI data is used mainly for post-event analysis or to perform network analysis of a facility of interest (as identified through other intelligence sources). In either case, analysts try to determine all the entities going to and from an event or facility of interest to ascertain the unique sources or destinations of those entities as a means to understand their participation in an event or their relationship in some network. Due to the manual techniques used, these analyses typically take many hours to many days to complete, and the end-product is text reports with simple graphics. These reports are not machine readable (analysts produce shapefiles for only a tiny fraction of reports) and therefore preclude additional automated analysis and exploitation. Typically, real-time WAMI is used to give the battle commander better situational awareness. However, only the most simplistic use of the imagery is possible because of the time-consuming and manual nature of the available analysis tools.

As part of the overall persistent surveillance mission, the military services are expanding the deployment and development of airborne, WAMI sensors. These sensors operate in predominantly urban settings, are capable of constantly monitoring many square kilometers for many hours and generate terabytes of data per mission. Operationally, WAMI data are exploited for events of interest, both forensically and in real-time. The real-time efforts, like Angel Fire, are limited to a small number of subframes and used primarily for force protection. Events of interest can include starting points and destinations of tracks and nodes for related entities within the persistent field of view. They can also include activity and event-based normalcy and anomaly detections such as unique driving behaviors occurring before the detonation of a suicidal vehicle. Other types of events can be used to discover or highlight “patterns-of-life” associated with a variety of network types, including social, political, regional, economic or military networks.

The challenge is to identify potential threats based on the accumulation and correlation of multiple events and anomalies, and issue timely alerts with a minimal number of false alarms. WAMI data are having an increasing impact on operational outcomes, but current efforts to exploit these data are mostly manual and require hours to days of painstaking analysis to produce results. The tedious nature of current exploitation capabilities limits the ability to fully utilize the available data. Consequently, critical battlefield questions go unanswered and timely threat cues are missed. PerSEAS will automatically discover potential threat activities in near real-time, as well as allow analysts to quickly validate the findings. Thus, PerSEAS will help shift analysts’ focus from the image domain to the activity domain where events, activities, and relationships can be queried.

## **Program Goals**

The PerSEAS system should support two types of end-users. The first are the intelligence analysts using the system in a forensic mode to unravel threat networks. One of their requirements is to be able to backtrack entities from an event (such as an attack); determine the movements and origins of the entities involved in the event; and,

ideally, expand their information and understanding of the relationships and interactions involved in preparing for and conducting such nefarious activities. PerSEAS will not solve the backtracking portion of the problem per se, however it will enable analysts to quickly detect other events that may be linked to the event of interest, allowing analysts to focus their forensic analysis efforts (including backtracking analysis). The second type of end-user is the operational staff using the system in a near real-time mode to receive alerts and warnings to react to and avert disasters. For both types of end-users, the PerSEAS system could also receive or generate cues from/to other sensor systems (e.g., SIGINT or HUMINT) to identify places or entities of interest for additional details or verification of a hypothesis.

A notional system concept is presented in Figure 1 below as a means to discuss and explain the goals and vision of the program. However, DARPA is soliciting a systems solution and offerors are encouraged to create their own system concept and architecture.

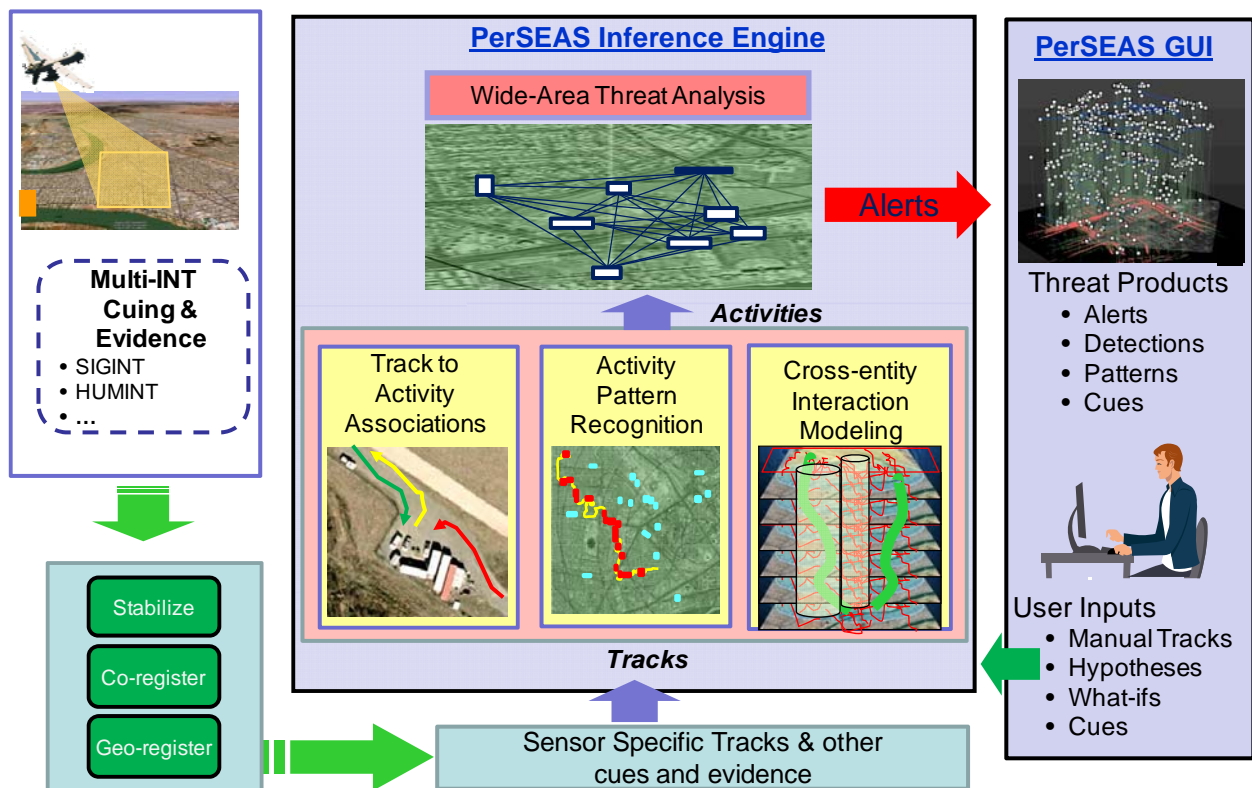


Figure 1. Notional System Concept  
**This is strictly a notional system concept and offerors are encouraged to develop a unique solution.**

As shown, the basic input to this notional system would be archival and real-time WAMI feeds which, in current practice, consists of a series of individual JPEG files. The system then stabilizes, ortho-rectifies, co-registers, and geo-registers the WAMI. Next, the entities are detected and feature and tracks are computed. Although these functions

are a necessary part of the system that will directly impact the algorithmic performance, the PerSEAS program will not invest in new algorithms on these data conditioning and low-level tracking technologies.

The major thrust of the program is the subsequent processing of the low-level tracks and other extracted features to yield events of interest, which in turn would be linked to form activities and then integrated to discover potential threat patterns. The discovery and identification of the potential threat patterns would then produce alerts and cues.

To this end, DARPA is interested in the following technical capabilities:

### **Track-to-Activity Associations**

A fundamental critical technology of the PerSEAS program is the ability to process track information from high clutter, low resolution, WAMI. These tracks will form a major technical information core of PerSEAS and must be easy to manipulate for higher level processing, analysis and exploitation. By the very nature of WAMI sensor systems, this technology must be robust to a wide variety of sensor performance variations and challenges, such as range, viewpoint, field-of-view, illumination, weather, atmospheric, vibration, platform motion, obscurations, etc. This technology could enhance track information by stitching the tracks of the same mover to create a longer, but non-contiguous track or by associating tracks of several different entities which have a unique relationship in position, appearance, and activity – merely building longer tracks is not the goal. However, associating tracks and tracklets based on appearance and a hypothetical context, not just kinematics, should help infer the activities of interest.

### **Activity Pattern Recognition**

Tactics, techniques, and procedures (TTPs) is a term used to describe a set or sequence of tracks/events/activities that are often performed to achieve specific operational goals. Many can be learned from post-event analyses of previous episodes. Many threats (ambushes and attacks) follow a similar pattern from one episode to the next. Basically, TTPs are a threat specific instantiation of events and activities. This technology should be able to recognize partial matches (since TTPs are not necessarily followed exactly the same each time) and provide the user with an alert. Based on partial recognition, this technology should include other outputs such as cues for searching for likely related events or cues which can be sent to other intelligence collectors for additional data.

### **Cross-entity Interaction Modeling (to include Normalcy Modeling and Anomaly Detection)**

Any threat detection system must be able to discern abnormal from normal patterns. Due to the transient nature of insurgent tactics, innovative techniques are needed to quickly learn/adapt/update what is normal and accurately identify and qualify what is abnormal. Hypothesis testing methods must be developed that allow accurate and efficient detection of outliers. This technology must be

robust to wide variations based on time, location, or region. This technology must also be able to deal with temporal issues such as normal variations due to time of day, day of week, or periodicity of the events. This technology should be able to build normalcy models based on observations over several days or hours, as appropriate, and then discover and identify anomalies as seen in subsequent WAMI sequences. These normalcy models would be either location specific or route specific and will include multiple entities. There is also a desire to be able to determine the functionality of a mover or location based on the modeling results. A progressive challenge for this subcomponent would be the development of normalcy models with less and less data i.e., less time to observe normal tracks and events.

#### **Wide Area Threat Analysis (PerSEAS Inference Engine)**

Rarely is a single event or anomaly sufficient to identify a threat, except for the final event in a sequence. Also note that not all anomalies represent a threat. A threat may, and often does, consist of a set or sequence of normal activities. A key goal of PerSEAS is to identify threats early enough to allow for either interdiction or avoidance of the threat. The key performance trade-off for this technology is to identify the threat with sufficient accuracy and early enough to make a difference without generating so many false alarms that it frustrates and disillusions the user. This technology should collect and integrate data to achieve complex activity recognition against multiple entities seen at multiple times and/or at multiple locations. Expressed another way, this component must understand how multiple movers interact, detect relational anomalies as well as find anomalies over disjointed and distributed areas of time and space. This technology should also be able to accumulate weak evidence to hypothesize a threat pattern or TTP.

#### **User Discernment of Actionable Intelligence (PerSEAS GUI)**

An indirect requirement of the PerSEAS system is a user experience which makes it easy to recognize the threat identified and simple to understand the accumulated evidence that generated the warning. How will the user know that those two vehicles highlighted were the probable attack vehicles in the suicide vehicle bombing? How will the user understand the significance of a highlighted facility which may represent a new meeting location for a terrorist group? Users should have full access to the hierarchy of information being exploited, thus allowing the analyst to drill down through the data to better understand the results and the implications. Users should also be able to inject data gathered from other sources, perform manual processing, or conduct hypothetical excursions. A basic user need is the ability to focus the automatic analysis on a specific space-time region of interest that was provided to the analyst by other intelligence sources (such as SIGINT or HUMINT). Likewise, as the system discovers items of interest, the user may then be able to focus the other intelligence assets on the space-time region identified by PerSEAS.

Specifically excluded from this solicitation is research that primarily results in minor,

evolutionary improvements to the existing state of practice. Also excluded are the development of new algorithms for stabilization, ortho-rectification, co-registration, geo-registration, and object recognition and tracking. While it is expected that such algorithms will be useful to PerSEAS, the systems should use existing capabilities in these areas. Offerors are reminded that DARPA is only interested in full system solutions in response to this BAA. Technology developers and universities with expertise in specific component areas are encouraged to team with an overall system developer.

The PerSEAS program will **NOT** fund or use any of the following technologies: face recognition, gait recognition, human identification or any form of biometrics. Proposals which use any of these technologies will be rejected.

## Program Structure

The PerSEAS program will focus on the PerSEAS software system design, development and implementation (including all internal algorithm development), independent system testing, and integration into a transition system. The PerSEAS program will be conducted in three phases (notionally 24, 18, and 6 months respectively):

- Phase I: Algorithm Development and System Design – focused on threat pattern discovery accuracy.
  - Algorithm Development (Track-to-Activity Association, Activity Pattern Recognition, Cross Entity Interactions, Multi-Entity Activity Templates)
  - System Development (System Design, Interface Specifications, Prototype Development), Initial GUI Development
- Phase II: Algorithm Refinement and System Implementation – focused on scaling up to real-world volumes and speed.
  - Algorithm Development (Multi-INT Track-to-Activity Association, Complex Activity Pattern Recognition, Deformable Activity Templates, and Refinement)
  - System Development (Final Integration, Full-scale GUI Development, Improved Prototype, Hands-on User Testing)
- Phase III: Demonstration to the User Community and Integration into a Transition System
  - System Transition

Each phase will progressively mature the design and technologies required to achieve the PerSEAS overall system performance goals and advance toward an operational system. Although, a notional schedule is provided by the Government, offerors should propose a schedule appropriate for the design maturity and risk reduction required for their PerSEAS system concept and transition to military use. Proposals shall address all three phases, however, initial funding shall only be provided for Phase I; therefore, costs for Phases II and III should be proposed as a Rough Order of Magnitude (ROM). Phases II and III of the program may be accomplished by soliciting proposals under a

new BAA or, prior to the end of Phase I, the Government may request proposals for Phases II and III to modify any existing contracts. Should the Government request proposals for Phases II and III, eligibility to continue to a subsequent phase will be based on meeting the Phase Metrics, funds availability and other program considerations.

DARPA will provide an independent evaluation team to measure performance against the Phase Metrics and other performance metrics listed below. This team may be a Federally Funded Research and Development Center (FFRDC). Multiple formal and informal evaluations will be conducted during each of Phases I and II and at the end of all three phases. Technical and/or programmatic decisions may be made based on the results of these evaluations. DARPA will also staff a team of subject matter experts from Government and support contractors to attend program reviews and provide feedback to the Program Manager. In addition to periodic program reviews, regular telecons will be encouraged to enhance communications with the Government team. Should important issues arise between program reviews, the Government team will be available to support informal interim technical interchange meetings.

DARPA will provide a limited amount of representative data, both annotated and un-annotated and classified and unclassified, to support developmental activities. Every attempt will be made to provide representative data with minimal restrictions. However, datasets have already been identified which are either classified or highly restrictive and controlled.

The basic PerSEAS program will be UNCLASSIFIED. However, use of operational data in the form of in-theater WAMI data or intelligence-based threat models will require the system to be operated in a classified mode, up to TS/SCI. Also, connection to and use of other intelligence data (such as SIGINT) will require the system to be operable in a TS/SCI mode. Proposals must address: 1) the availability of personnel with appropriate security credentials; and 2) facilities which can support classified processing at the appropriate levels. In addition, there is a classified addendum to this BAA containing specific program metrics as well as detailed examples of the types of events and threats of interest in the PerSEAS program. See Section IV.A. – Address to Request Application Package for instructions on receiving the classified addendum.

### **Transition Goals and Issues**

A major goal of DARPA is to transition the PerSEAS system to military end-users and a suitable operational application environment, such as the Distributed Common Ground System (DCGS) or an analysis center at the National Geospatial-Intelligence Agency (NGA). Both of these application environments use a service-oriented architecture, so offerors are strongly encouraged to write code which can be easily translated/transferred to such an environment. Although a variety of workstations already exist in the DoD which support processing and viewing of WAMI data, offerors are encouraged to develop an independent capability which is not reliant on a specific DoD workstation or specific combination of DoD hardware and software. Specific data formats (shapefiles, GML, KML, etc.) for output products, such as tracks, events, and

threats will be formally specified as part of the transition planning in Phase III. Specific data formats for input files will vary by source and will be provided as each source is introduced to the program. The Government expects Government Purpose Rights (GPR) on all software developed in the PerSEAS program. Offerors must provide strong justification for delivery of any code with less than GPR or with requirements for licensed software to run or modify delivered software.

The PerSEAS software system will be demonstrated to end-users periodically. End-users will subjectively and objectively evaluate PerSEAS and its capabilities. Tests will also be conducted to determine the effects of the PerSEAS system on the analyst's workload – measuring speed and accuracy in manual, interactive, and automatic modes of operation. Feedback and comments on functionality, design, accuracy, and ease of use will be incorporated into the ongoing system development. DARPA anticipates that end-users for transition partners will support quarterly meetings and design reviews and will assist the program in the development of concepts of employment and use cases.

## **Program Metrics**

Phase Metrics are the minimum performance requirements that must be achieved at the end of each phase. The specific values are listed in Table 1 of the classified addendum to this BAA, but are considered SENSITIVE UNCLASSIFIED information and have been marked as FOUO. They may be cited in the proposal, but are not publicly releasable.

Other Performance Metrics are metrics proposed by offerors and/or the evaluation team that may be used in assessing progress and performance.

## **Phase Metrics**

The Phase Metrics include both modes of PerSEAS operation: 1) forensic analysis; and 2) alerts on streaming WAMI. The metrics are as follows and apply to both modes except as noted:

*Probability of Detection ( $P_D$ )* – For a given threat activity, the number of threat activities correctly returned divided by the total instances of that threat activity in the archive or available in the stream. Higher  $P_D$  is better.

*False Alarm Rate (FAR) per  $Km^2$ -hr* – For a given threat activity, the number of non-matching threat activities that are reported per square kilometer per hour. Lower FAR is better.

*Normalized Time to Alert ( $T_A$ )* – Ratio of the time remaining from the time of alert to the conclusion of the threat activity divided by the total time of the threat activity. Higher  $T_A$  is better. (*Only applies to streaming WAMI*)

*Time to Exploit ( $T_E$ )* - Reduction in time to exploit, given a 4 hour mission and one named area of interest. How much quicker can an analyst perform a standard

exploitation task interacting with the PerSEAS system versus doing it manually? Higher percentage reduction is better.

*Number of Threat Activity Types* – This is the number of threat activity types that will be evaluated during the phase test.

Proposals must address how the offerors will ensure the attainment of the Phase Metrics in each phase as specified in the classified addendum. The PerSEAS evaluation team will design and conduct statistically significant experiments that quantitatively assess component and system performance in the middle and at the end of each phase. PerSEAS performers will be responsible for conducting self-assessments throughout the project to ensure adequate progress is being made toward these goals.

### **Other Performance Metrics**

In addition to the Phase Metrics, the PerSEAS evaluation team will also develop other performance metrics critical to evaluate both system level and subsystem performance. An initial list of these *potential* metrics is listed below. These and other potential performance metrics (to be determined) will be defined in more detail during Phase I. In addition, offerors are also encouraged to identify metrics that they feel are appropriate to the goals of the PerSEAS program or that will be used internally to assess progress and performance.

*Processing Speed* – time needed to perform a complete algorithmic analysis of the threats in a specified space-time volume. This involves automatically running a specified set of analysis tools against a given space-time volume and measuring the time needed to generate the correct results.

*Scaling (data volume)* – change in processing speed for increases in space-time volumes. This involves measuring the processing time for known volumes and comparing speed versus size. The speed should grow less than linearly as compared to the increase in volume.

*Scaling (density)* – change in processing speed for increases in entity and/or event density. This involves measuring processing time for known densities and comparing speed versus density. The speed should grow less than linearly as compared to the increase in density.

*Computer Memory Requirements* – RAM and hard drive storage use per Gbyte of WAMI input. Lower is better. This involves measuring the RAM and any temporary hard drive usage (such as swap files) required to process a given space-time volume.

$P_{D(\text{correct origin})}$  – probability of discerning the correct origin of an entity of interest. This involves a reverse spatio-temporal search for the last facility or edge of the FOV from where a specified entity of interest may have begun moving.

$P_{D(\text{correct relationship})}$  – probability of identifying relationships among entities and locations (moves from location1 to location2), arrivals/departures at a location, or entity meet entity. This involves using ground truth to determine if relationships identified by the algorithms (location-location, entity-location, or entity-entity) are accurate. Also evaluate the false alarm rate.

$P_{D(\text{cues})}$  – probability of initiating correct cues to other sensors or to the analyst. Also evaluate the false alarm rate. This involves cues for areas of interest that need more data or may need attention (i.e., indication of a threat is not strong enough to issue an alert or threat identification.)

$P_{D(\text{track signature})}$  – probability of correctly finding tracks or track sets with unique characteristics. This involves finding tracks that exhibit a specified behavior, such as a particular movement pattern.

$\text{Avg}T_{(\text{Learn})}$  – average time (hours of data) to learn and instantiate a normalcy model. This involves measuring the length of training time required by a system before it can correctly identify key attributes, such as density,

Workload Effectiveness – measure speed and accuracy of exploitation products under three conditions: a) analyst alone, b) analyst interactively using PerSEAS, and c) PerSEAS alone.

As with the Phase Metrics, there will be a similar expected increase in objective capability in each phase for these other evaluation parameters as each system is further developed. In Phase I, EO data collected from Constant Hawk and Angel Fire families of sensors will be the primary data used. Subsequent phases will introduce other sensors (e.g., MASIVS and WAAS) and other modalities, such as SIGINT and IR. Note, this is not a multi-sensor fusion program. The amount of data and time required to produce normalcy models is expected to decrease with each phase, while the entity density (average number of entities per  $\text{Km}^2$ ) will increase. Finally, the spatio-temporal window of interest will increase by phase with the Phase I window being  $< 4 \text{ Km}^2\text{-hr}$ .

## **Phase I Objectives**

Phase I will focus on algorithm development and system design. The objective of Phase I is to demonstrate an integrated system design with focus on accuracy - accuracy of linking events and detecting potential threat activities over a limited, yet useful spatial-temporal window. Both EO and SIGINT data will be used. Performers will need to build an end-to-end prototype during this phase to support the Phase testing.

## **Phase II and III Objectives**

Phase II will focus on algorithm refinement to meet scaled up data volume and speed requirements and system implementation. The objective of Phase II is to demonstrate that the system can scale to more threat activity types and threat activities defined over larger space-time regions. EO, IR, and SIGINT data will be used. The Phase I

prototype will be expanded and improved to progressively mature the design and technologies required to achieve the PerSEAS overall system performance goals.

Phase III will focus on demonstration to the user community and transition into a fielded system. The Phase II prototype will be improved and hardened to achieve the PerSEAS transition goals. The objective of Phase III is to meet or exceed the level of performance defined by end users.

These are preliminary Phase II and III objectives and may be updated based on emerging program results.

## **Deliverables**

The deliverables for each phase shall include, but are not limited to:

- Two system prototype deliveries for evaluation
  - First at mid-phase to evaluate progress to-date (except Phase III)
  - Second (an end-to-end prototype) at three months before the end-of-phase to evaluate against the Phase Metrics
- Monthly and quarterly reports as required (see Section VI.C.)
- Periodic program reviews (approximately quarterly)
- Progress and results slides describing accomplishments to-date (as requested)

In addition, there will be the following phase specific deliverables

- Phase I deliverables:
  - Concept Design
  - System Architecture
  - System Operational Concept
  - Functional Flow Analysis
  - Configuration Management Plan
  - Internal Testing Plan
  - White paper on each technology/algorithm under development
- Phase II deliverables:
  - Updates to Phase I deliverables, as applicable
- Phase III deliverables:
  - Updates to Phase II deliverables, as applicable
  - Software transition to an operational system
  - User training guide

## **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 offerors. 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 offeror. If the proposed effort is inherently divisible and nothing is gained from the aggregation, offerors 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 offerors on the basis of the evaluation criteria listed below (see Section V - Application Review Information), and program balance to provide overall value to the Government. Proposals identified for negotiation may result in a procurement contract 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. The Government reserves the right to remove offerors from award consideration should the parties fail to reach agreement on award terms, conditions and cost/price within a reasonable time or the offeror fails to timely provide requested additional information.

As of the date of publication of this BAA, DARPA expects that some research program goals for this BAA may be met by offerors 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. DARPA intends to fund Phase 1 of this program with 6.2 (Applied Research) funding. DARPA research funded with 6.2 and performed on-campus at a university is considered "fundamental research" except in those rare and exceptional circumstances where 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. If an offeror intends to subcontract any fundamental research that will be accomplished on-campus at a university, the offeror must clearly identify this aspect of the effort in their proposal. Any resulting contract will clearly specify what part of the effort is "fundamental research" and, therefore, not subject to restrictions on the dissemination of this information.

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.

Government-funded entities (Federally Funded Research and Development Centers (FFRDCs), Government/National laboratories) and Government entities (military educational institutions, etc.) are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity (as prime or sub) unless they meet the following conditions.

- FFRDCS must clearly demonstrate that the work is not otherwise available from the private sector AND they must 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 in compliance with the associated FFRDC sponsor agreement 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 offeror.**

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](http://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.). The DARPA Program Manager for this BAA is Dr. Mita Desai. Once the proposals have been received, and prior to the start of proposal evaluations, the Government will assess potential conflicts of interest in regards to the DARPA Program Manager, as well as those individuals chosen to evaluate proposals received under this BAA, and will promptly notify the offeror if any appear to exist. (Please note the Government assessment does NOT affect, offset, or mitigate the offeror's own duty to give full notice and planned mitigation for all potential organizational conflicts, as discussed below.)

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 a performer. Therefore, all offerors and proposed subcontractors must affirm whether they (their organizations and individual team members) 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 offeror, sub and/or individual 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 Government will make the final determination on what constitutes a conflict of interest. The disclosure shall include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. **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 offeror has any questions on what constitutes a conflict of interest (whether organizational or otherwise), the offeror should promptly raise the issue with DARPA by sending his/her contact information and a summary of the potential conflict by email to the mailbox address for this BAA at [DARPA-BAA-09-55@darpa.mil](mailto:DARPA-BAA-09-55@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 or 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 Technology Investment Agreement 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 Requirements**

#### **1. Ability to Support Classified Design and Development**

All offerors wishing to submit proposals against this BAA must currently have personnel and access to facilities with a minimum classification level of SECRET. Prior to execution of an award, offerors must have personnel and access to facilities at the TS/SCI level. Offerors proposing against this BAA must provide their CAGE code and security point(s) of contact in their proposals.

## **IV. APPLICATION AND SUBMISSION INFORMATION**

### **A. Address to Request Application Package**

This solicitation and its classified addendum, the PerSEAS Program Security Classification Guide (DARPA-CG-624) and the PerSEAS DD Form 254 (Contract Security Classification Specification) contain all information required to submit a proposal. No additional forms, kits, or other materials (other than those noted within this document) 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.

The classified addendum contains specific program metrics as well as detailed examples of the types of events and threats of interest in the PerSEAS program. To obtain a copy of the classified addendum, the PerSEAS Program Security Classification Guide and the PerSEAS DD Form 254, offerors must send a request to the BAA mailbox, [DARPA-BAA-09-55@darpa.mil](mailto:DARPA-BAA-09-55@darpa.mil).

**The request must include the following information:**

- Company Name
- Classified mailing address
- CAGE Code
- Facility Security Officer (FSO) name and phone number
- Technical POC name and phone number

***Note: DARPA will verify the facility clearance (including the ability to safeguard information) and the clearance of the recipient before mailing the classified***

**material. If the required clearances are not available, the classified addendum will NOT be sent!**

## **B. Content and Form of Application Submission**

### **1. Proposal Information**

DARPA will employ an electronic upload submission system for all **UNCLASSIFIED** responses to this BAA. Responding to this announcement requires completion of an online cover sheet for each proposal prior to submission. To do so, the offeror must go to <https://www.csc-ballston.com/baa/index.asp?BAAid=09-55> and follow the instructions there. Upon completion of the online cover sheet, a Confirmation Sheet will appear along with instructions on uploading proposals. The Confirmation Sheet will be used as the Cover Sheet for the proposal and will contain the information outlined below in Proposal Section 1.1. If an offeror intends to submit more than one proposal, a unique UserID and password must be used in creating each cover sheet. **Since offerors may encounter heavy traffic on the web server, they SHOULD NOT wait until the day the proposal is due to fill out a coversheet and submit the proposal!**

DARPA anticipates that proposals will be unclassified however, offerors may include a classified appendix (up to the SECRET level) to their proposal, if necessary. Offerors submitting classified appendices must provide two copies of the appendix on CD or DVD and mail them per the instructions in Section VI.B.1. – Security Classification and Proprietary Issues.

**DO NOT ENTER OR UPLOAD ANY CLASSIFIED MATERIAL AT [https://www.csc-ballston.com/baa/index.asp?BAAid=09-55!](https://www.csc-ballston.com/baa/index.asp?BAAid=09-55)**

### **2. Proposal Preparation and Format**

The proposal shall be comprised of two volumes, Volume 1 (technical proposal) and Volume 2 (cost proposal). Proposals not meeting the format described in this BAA may not be reviewed.

**All proposals must be zipped and encrypted using Winzip or PKZip with 256-bit AES encryption.** Only one zipped/encrypted file will be accepted per proposal. Proposals which are not zipped/encrypted will be rejected by DARPA. An encryption password form must be completed and emailed to [DARPA-BAA-09-55@darpa.mil](mailto:DARPA-BAA-09-55@darpa.mil) at the time of proposal submission. See [https://www.CSC-Ballston.com/baa/Encryption\\_Instructions.htm](https://www.CSC-Ballston.com/baa/Encryption_Instructions.htm) for the encryption password form and additional encryption information. 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 will leave the Government unable to access the proposal and, subsequently, the proposal not be evaluated.

## **Volume 1 – Technical Proposal**

The technical proposal shall include the following sections, each starting on a new page (where a "page" is 8-1/2 by 11 inches with type not smaller than 12 point, charts may use 10 pt font, margins not smaller than 1 inch, and line spacing not smaller than single-spaced). All submissions must be in English.

There is no page limit for the individual proposal sections listed below, unless otherwise noted. However, Sections 2.1 – 2.10 of Volume 1 shall not exceed a total of 60 pages, not including the attached bibliography.

Ensure that each 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.

### **Proposal Section 1. Administrative**

#### **1.1 Confirmation Sheet/Cover Sheet**

As described above, this cover sheet will contain the following information:

- BAA number;
- Proposal title;
- Technical point of contact including: name, telephone number, electronic mail address, fax (if available) and mailing address;
- Administrative point of contact including: name, telephone number, electronic mail address, fax (if available) and mailing address;
- Summary of the costs of the proposed research, including total base cost, estimates of base cost in each year of the effort, estimates of itemized options in each year of the effort, and cost sharing if relevant;
- Contractor's reference number (if any)
- Contractor's type of business, selected from among the following categories:
  - WOMEN-OWNED LARGE BUSINESS,
  - OTHER LARGE BUSINESS,
  - SMALL DISADVANTAGED BUSINESS [Identify ethnic group from among the following: Asian-Indian American, Asian-Pacific American, Black American, Hispanic American, Native American, or Other],
  - WOMEN-OWNED SMALL BUSINESS,
  - OTHER SMALL BUSINESS,
  - HBCU,
  - MI,
  - OTHER EDUCATIONAL,
  - OTHER NONPROFIT, OR
  - FOREIGN CONCERN/ENTITY.

#### **1.2 Table of contents**

## **Proposal Section 2. Technical Details**

### **2.1 PowerPoint summary chart {1 chart}**

Provide a one slide summary of the proposal in PowerPoint that effectively and succinctly conveys the main objective, key innovations, expected impact, and other unique aspects of the proposal.

### **2.2 Innovative claims for the proposed research**

This page is the centerpiece of the proposal and should succinctly describe the unique proposed approach and contributions. This section may also *briefly* address the following topics:

- a. Problem Description. Provide a concise description of the problem areas addressed. Make this specific to your approach.
- b. Research Goals. Identify specific research goals. Goals should address the technical challenges of the effort.
- c. Expected Impact. Describe the expected impact of your research.

### **2.3 Proposal Roadmap {1-2 Pages}**

The roadmap provides a top-level view of the content and structure of the proposal. It contains a synopsis for each of the roadmap areas defined below, which should be elaborated elsewhere. It is important to make the synopses as explicit and informative as possible. The roadmap must also cross-reference the proposal page number(s) where each area is elaborated. The roadmap areas that should be included are:

- a. Main goals of the proposed research.
- b. Tangible benefits to end users (i.e., benefits of the capabilities afforded if the proposed technology is successful).
- c. Critical technical barriers (i.e., technical limitations that have, in the past, prevented achieving the proposed results).
- d. Main elements of the proposed technical approach.
- e. Basis of confidence (i.e. rationale that builds confidence that the proposed approach will overcome the technical barriers).
- f. Nature and description of end results to be delivered to DARPA. In what form will results be developed and delivered to DARPA and the scientific community? Note that DARPA encourages experiments, simulations, specifications, proofs, etc. to be documented and published to promote progress in the field. Offerors should specify both final and intermediate products.
- g. Cost and schedule of the proposed effort.

### **2.4 Technical Approach**

Provide a detailed description of the technical approach. Teams may choose to allocate the pages among the program phases unequally; however, separate sections are required for each phase. This section will serve as the primary expression of the offerors' scientific and technical ideas.

### **2.5 Comparison with Current Technology**

Describe state of the art approaches and the limitations that relate to each area addressed by the proposal. Describe and analyze state of the art results, approaches, and limitations within the context of the problem area addressed by this research. Demonstrating problem understanding requires not just the enumeration of related efforts; rather, related work must be compared and contrasted to the proposed approach.

## **2.6 Statement of Work (SOW)**

In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. 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: The SOW should be developed so that each phase of the program is separately defined. Do not include any proprietary information in the SOW. Offerors should use a program work outline or Work Breakdown Structure (WBS) and common numbering system to integrate all proposal documents. The SOW and cost proposal numbering should be completed to at least level 4 and in detail sufficient to highlight the significant points discussed throughout the proposal and within the WBS budget allocation.

## **2.7 Deliverables Description**

List and provide by phase a detailed description for each proposed deliverable, including receiving organization and expected delivery date for each deliverable. Include in this section all proprietary claims to results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are no proprietary claims, this should be stated. The offeror must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. Offerors must provide strong justification for delivery of any code with less than GPR or with requirements for licensed software to run or modify delivered software. See section VI.B.2 – Intellectual Property for more information.

## **2.8 Management Plan**

Describe formal teaming agreements that are required to execute this program, a brief synopsis of all key personnel, and a clearly defined organization chart for the program team (prime contractor and subcontractors, if any). Provide an argument that the team size and composition are both necessary and sufficient to meet the program objectives. Provide detailed task descriptions, costs, and interdependencies for each individual effort and/or subcontractor. To the extent that graduate students and postdocs are involved in individual efforts, describe their role and contribution. Information in this section must cover the following information:

- a. Programmatic relationship of team members;
- b. Unique capabilities of team members;
- c. Task responsibilities of team members;
- d. Teaming strategy among the team members;
- e. Key personnel along with the amount of effort to be expended by each person during each year; and
- f. Government role in project, if any.

## **2.9 Schedule and Milestones**

This section should include:

- a. {1 Page} Schedule Graphic. Provide a graphic representation of project schedule including detail down to the individual effort level. This should include but not be limited to, a multi-phase development plan, which demonstrates a clear understanding of the proposed research; and a plan for periodic and increasingly robust tests over the project life that will show applicability to the overall program concept. Show all project milestones. Use “x months after contract award” designations for all dates.
- b. Detailed Task Descriptions. Provide detailed task descriptions for each discrete work effort and/or subcontractor in schedule graphic.
- c. Project Management and Interaction Plan. Describe the project management and interaction plans for the proposed work. If proposal includes subcontractors that are geographically distributed, clearly specify working / meeting models. Items to include in this category include software/code repositories, physical and virtual meeting plans, and online communication systems that may be used. Identify any potential risk in schedule and include mitigation plans, as applicable.

## **2.10 Personnel, Qualifications, and Commitments {NO MORE THAN ONE PAGE PER KEY PERSON}**

List key personnel, showing a concise summary of their qualifications. Provide a description of any previous accomplishments or similar efforts completed/ongoing in this or closely related research area, including identification of other Government sponsors, if any.

The process for obtaining TS/SCI clearances can be lengthy, therefore, offerors must provide a plan for obtaining the requisite clearances for personnel and for access to facilities at the TS/SCI level, prior to any award, if they do not currently possess them. Offerors should assume an estimated start date of 1 April 2010. Offerors that do not have the requisite clearances prior to award will be ineligible for an award.

Indicate the level of effort in terms of hours to be expended by each person during each contract year and other (current and proposed) major sources of support for them and/or commitments of their efforts. DARPA expects all key personnel associated with a proposal to make substantial time commitment to the proposed activity and the proposal will be evaluated accordingly. It is DARPA's intention to put key personnel clauses into

the contracts, so offerors should not bid personnel whom they do not intend to execute the contract.

Include a table of key individual time commitments as follows:

<b>Key Individual</b>	<b>Project</b>	<b>Pending/Current</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Jane Doe	PerSEAS	Proposed	ZZZ hours	UUU hours	WWW hours
	Project 1	Current	n/a	n/a	n/a
	Project 2	Pending	100 hours	n/a	n/a
John Deer	PerSEAS	Proposed			

**2.11 Cost Summaries {No Page Limit}**

Offerors should format their cost proposals as follows. Note that Phases II and III should be proposed as a Rough Order of Magnitude (ROM).

For Phase I, provide two tables: the first table must summarize the proposed costs, but break them down by project task, subtask, and phase, i.e., show the costs of each project task and subtask for each phase, by month, with the task and subtask labels on the y-axis and the three phases on the x-axis. It may be appropriate to create a subtotal under some closely related tasks. Table entries should contain the dollar figure and a percentage that specifies the percentage of that phase’s total costs that are allocated to said task.

The second table should show the costs broken down by prime/subcontractor by month, by phase, i.e., the labels of the prime/subcontractors should be on the y-axis and the three phases on the x-axis. Table entries should contain the dollar figure and a percentage that specifies the percentage of that phase’s total costs allocated to said prime or subcontractor.

**2.12 Organizational Conflict of Interest Affirmations and Disclosure {No page limit}**

Per the instructions in Section III.A.1 above, if the offeror or any proposed sub IS providing SETA support, as described, to any DARPA technical office(s) through an active contract or subcontract (regardless of which DARPA technical office is being supported), they must provide documentation: 1) stating which office(s) the offeror, sub and/or individual supports, 2) identify the prime contract numbers AND 3) include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate the conflict.

If the offeror or any proposed sub IS NOT currently providing SETA support as described, then the offeror should simply state “NONE.”

**Proposals that fail to fully disclose potential conflicts of interests or do not have acceptable plans to mitigate identified conflicts will be rejected without technical evaluation and withdrawn from further consideration for award.**

### **2.13 Intellectual Property {No page limit}**

Per section VI.B.3 below, offerors responding to this BAA shall identify any intellectual property restrictions. The Government will assume unlimited rights if offerors fail to identify any intellectual property restrictions in their proposals. If no restrictions are intended, then the offeror should state “NONE”.

### **2.14 Human use {No page limit}:**

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. For further information on this subject, see Section VI.B.4 below. If human use is not a factor in a proposal, then the offeror should state “NONE.”

### **2.15 Animal Use {No page limit}**

For submissions containing animal use, proposals must briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. For further information on this subject, see Section VI.B.5 below. If animal use is not a factor in a proposal, then the offeror should state “NONE.”

### **2.16 Statement of Unique Capability Provided by Government or Government-funded Team Member {No page limit}**

Per section III.A. – Eligible Applicants, proposals which include Government or Government-funded entities (i.e., FFRDC’s, National laboratories, etc.) as prime, sub or team member, shall provide a statement which clearly demonstrates the work being provided by the Government or Government-funded entity team member is not otherwise available from the private sector. If none of the team members belongs to a Government or Government-funded entity, then the offeror should state “Not Applicable.”

### **2.17 Government or Government-funded Team Member Eligibility {No page limit}**

Per section III.A. – Eligible Applicants, proposals which include Government or Government-funded entities (i.e., FFRDC’s, National laboratories, etc.) as prime, sub or team member shall provide documentation citing the specific authority which establishes they are eligible to propose to government solicitations: 1) statutory authority; 2) contractual authority; 3) supporting regulatory guidance; AND 4) evidence of agency approval. If no such entities are involved, then the offeror should state “None.”

**2.18 Participation Strategy for Classified Phases {2 pages}** All offerors and proposed subcontractors (including their parent entities, subsidiaries, and affiliates as that term is defined in FAR 2.101) must provide a brief description of their strategy either to participate in potential classified phases of PerSEAS or to transition their technology to other entities that can participate.

### **Proposal Section 3 (Optional) -- Additional Information**

Offerors may submit a bibliography and up to 3 papers showing previous work relevant

to this BAA. Note: This section is optional and will be considered for the reviewer's convenience only (i.e., it will not be considered as part of the proposal for evaluation purposes).

## **Volume 2 – Cost Proposal**

### **Cover sheet**

- BAA number;
- Lead Organization Submitting proposal;
- Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT";
- Contractor's reference number (if any);
- Other team members (if applicable) and type of business for each;
- Proposal title;
- 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);
- 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);
- 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;
- Place(s) and period(s) of performance;
- Total proposed cost separated by basic award and option(s) (if any);
- Name, address, and telephone number of the offeror's cognizant Defense Contract Management Agency (DCMA) administration office (*if known*);
- Name, address, and telephone number of the offeror's cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);
- Date proposal was prepared;
- DUNS number;
- TIN number; and
- Cage Code;
- Subcontractor Information; and
- Proposal validity period (*minimum of 180 days*).

### **Detailed cost breakdown**

For purposes of building your cost proposal, assume an estimated start date of 1 April 2010. Offerors should format their cost proposals as follows. Note that Phase II and Phase III should be proposed as a Rough Order of Magnitude (ROM). Offerors should use a program work outline or Work Breakdown Structure (WBS) and common numbering system to integrate all proposal documents. The SOW and cost proposal numbering should be completed to at least level 4 and in detail sufficient to highlight the

significant points discussed throughout the proposal and within the WBS budget allocation.

Provide for Phase I: (1) total program cost broken down by major cost items (direct labor, including labor categories; subcontracts; materials; other direct costs, overhead charges, etc.) and further broken down by task and phase; (2) major program tasks by fiscal year; (3) an itemization of major subcontracts and equipment purchases; (4) an itemization of any information technology (IT) purchase<sup>1</sup>; (5) a summary of projected funding requirements by month; and (6) the source, nature, and amount of any industry cost-sharing; and (7) 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.).

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. 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. NOTE: for IT and equipment purchases, include a letter stating why the offeror cannot provide the requested resources from its own funding.

Supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates 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 offeror is seeking a procurement contract award of \$650,000 or greater unless the offeror requests an exception from the requirement to submit cost or pricing data. "Cost or pricing data" are not required if the offeror proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other transaction.) All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic/email, etc.), either by the offeror or by the subcontractor organization.

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<sup>1</sup> 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."

All offerors requesting an 845 Other Transaction Authority for Prototypes (OTA) agreement 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 Phase Metrics as defined in the BAA and/or the offeror'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 offeror 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 offeror plans to request an 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.

### **C. Submission Dates and Times**

The full proposal and any appendices must be submitted per the instructions in Section IV.B - Content and Form of Application Submission above by 1200 noon (ET) on 08 December 2009 (initial closing), in order to be considered during the initial evaluation phase. While DARPA-BAA-09-55 will remain open until 1200 noon (ET) 17 September 2010 (final closing date/BAA expiration), offerors are warned that the likelihood of funding is greatly reduced for proposals submitted after the initial closing date.

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 - N/A**

### **E. Other Submission Requirements**

Proposals MUST NOT be submitted to DARPA via email or fax (see Submission instructions above in Section IV.B).

## **V. APPLICATION REVIEW INFORMATION**

### **A. Evaluation Criteria**

Evaluation of proposals will be accomplished through a scientific review of each proposal using the following criteria. While these criteria are listed in descending order of relative importance, it should be noted that the combination of all non-cost evaluation factors is significantly more important than cost.

#### **1. Overall Scientific and Technical Merit**

The offeror's proposal will be evaluated on the long term effects of the proposed research including the impact on technology, whether there is sufficient technical payoff to warrant any risk and the offeror's ability to meet program metrics. In addition, the proposed technical approach will be evaluated for feasibility, achievability, completeness and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. The expertise and experience of the offeror's proposed technical team will be evaluated based upon the qualifications of the key personnel proposed for the effort and their previous accomplishments on similar efforts.

#### **2. Potential Contribution and Relevance to 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.

#### **3. Plans and Capability to Accomplish Technology Transition**

The offeror will be evaluated on their capability to transition the technology to the research, industrial, and/or operational military communities in such a way as to enhance U.S. defense. In addition, the evaluation will take into consideration the extent to which intellectual property (IP) rights limitations creates a barrier to technology transition.

#### **4. Realism of Proposed Schedule**

The offeror will be evaluated on how realistic the proposed schedule is in relation to the performance metrics and on its understanding of the timeframe necessary to meet the performance metrics. It will also be evaluated on how well it identifies and mitigates any potential risk in schedule.

#### **5. 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 offeror'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 offeror'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 types of labor-hours and number of labor-hours proposed per task as well as the types and kinds of materials, equipment and fabrication costs, travel and other various elements proposed.

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

## **B. Review and Selection 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.

Each proposal will be evaluated on the merit and relevance of the specific proposal as it relates to the office rather than against other proposals for research in the same general area, since no common work statement exists. 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 above in IV.B. – Content and Form of Application Submission. 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.

Award(s) will be made to offerors 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 offeror whose proposal is determined selectable regardless of its overall rating.

Restrictive notices notwithstanding, offerors are advised that employees of commercial firms under contract to the Government may be used by DARPA to administratively process proposals, monitor contract performance, or perform other administrative duties requiring access to other contractors' proprietary information. These support contracts include nondisclosure agreements prohibiting their contractor employees from disclosing any information submitted by other contractors or using such information for any purpose other than that for which it was furnished. By submission of its proposal, each offeror agrees that proposal information may be disclosed to those non-Government personnel for the limited purposes stated above. In addition, these support contractors are prohibited from competition in DARPA technical research. 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.

## **VI. AWARD ADMINISTRATION INFORMATION**

### **A. Award Notices**

As soon as the evaluation of a proposal is complete, the offeror 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 US mail to the Technical POC identified on the proposal coversheet.

### **B. Administrative and National Policy Requirements**

#### **1. Security Classification and Proprietary Issues**

All offerors wishing to submit proposals against this BAA must currently have personnel and access to facilities with a minimum classification level of SECRET. Prior to execution of an award, offerors must have personnel and access to facilities at the TS/SCI level.

While the Government anticipates proposals submitted under this BAA will be unclassified, offerors may submit a classified appendix to their proposals per the instructions listed here. 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. 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. 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.

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. Offerors 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.

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 appropriately and conspicuously marked with the proposed classification level and declassification date. In addition, 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: Dr. Mita Desai, IPTO  
Reference: DARPA-BAA-09-55  
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 Offeror's responsibility to clearly define to the Government what is considered proprietary data.

**2. Intellectual Property**

**a. Procurement Contract Offerors**

**i. Noncommercial Items (Technical Data and Computer Software)**

Offerors 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. Offerors shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that offerors 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 offerors 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. **NOTE: 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 offeror, as may be necessary, to evaluate the offeror's assertions.** If no restrictions are intended, then the offeror 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)

**ii. Commercial Items (Technical Data and Computer Software)**

Offerors 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 (including open source software) that may be embedded in, or that may create linkages affecting distribution rights to, 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 offerors 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 source selection evaluation process to evaluate the impact of any identified restrictions and may request additional information from the offeror, as may be necessary, to evaluate the offeror's assertions. If no restrictions are intended, then the offeror 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)

**b. Non-Procurement Contract Offerors – Noncommercial and Commercial Items (Technical Data and Computer Software)**

Offerors responding to this BAA requesting an Other Transaction 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, offerors may use a format similar to that described 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 offeror, as may be necessary, to evaluate the offeror's assertions. If no restrictions are intended, then the offeror should state "NONE."

**c. All Offerors – 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.

**d. All Offerors – 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, offerors 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.

### **3. Meeting and Travel Requirements**

There will be a program kickoff meeting and all key participants are required to attend. Program-wide PI meetings will nominally occur at 6-month intervals at locations TBD. Major performance evaluation events will also occur at 6-month intervals at locations TBD. Performers should also anticipate periodic site visits at the program manager's discretion.

### **4. 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.dtic.mil/biosys/downloads/32cfr219.pdf>), 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/html2/d32162x.htm>).

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 for all investigators, should 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 for one to three months, followed by a DoD review that can last for three to six months. No DoD/DARPA funding can be used toward human subjects research until ALL approvals are granted.

## **5. 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.amedd.army.mil/AnimalAppendix.asp>

## **6. Publication Approval**

It is the policy of the Department of Defense for products of fundamental research to remain unrestricted to the maximum extent possible. Contracted fundamental research includes research performed under grants and contracts that are (a) Basic Research (6.1 funded), whether performed by universities or industry or (b) Applied Research (6.2 funded) and performed on-campus at a university. It is anticipated that the performance of research resulting from this BAA is fundamental research if performed on-campus at a university, whether as a prime contractor or subcontractor. 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.

Offerors 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.

If DARPA determines that performance of research IS “fundamental research” there is no requirement for prepublication review, as long as the proposed material to be published is consistent with the “fundamental research” scope as defined herein. If DARPA determines the research is NOT to be fundamental research, the following provision will be incorporated into any resultant procurement contract or other transaction:

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 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.

When submitting material for written approval for open publication, the Contractor/Awardee must submit a request for public release 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/Awardee'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](mailto:tio@darpa.mil) or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to [www.darpa.mil/tio](http://www.darpa.mil/tio) for information about DARPA's public release process.

Those aspects of the effort that are fundamental research and, therefore, not subject to restrictions on dissemination or publication are identified as follows:

Fundamental Research Effort (SOW para.)	Performer Name	Location of Performance

## **7. Export Control**

Should 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:

- 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 the contract or agreement. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports (including deemed exports) of hardware, technical data, and software, or for the provision of technical assistance.
- 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 data or software.
- The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.
- The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

## **8. 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 offeror 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.

## **9. Central Contractor Registration (CCR)**

Offerors selected, but 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>

## **10. On-line Representations and Certifications (ORCA)**

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

## **11. 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.

## **12. 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 offeror 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.

## **13. 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.

## **C. Reporting**

The number and types of reports will be specified in the award document, but will include as a minimum monthly/quarterly financial status reports. In addition, each performing contractor (including subs) on each team will be expected to provide monthly status reports to the Program Manager. Reports and briefing materials shall be prepared and submitted in accordance with the procedures contained in the award document. 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.

### **1. TFIMS**

The above reports may be electronically submitted by each awardee under this BAA via the DARPA Technical Financial Information Management System (TFIMS). The TFIMS URL and instructions will be furnished by the contracting agent prior to award.

### **2. I-Edison**

All required reporting shall be accomplished, as applicable, using the i-Edison.gov reporting website at <http://s-edison.info.nih.gov/iEdison>

## **VII. AGENCY CONTACTS**

DARPA will use electronic mail for all technical and administrative correspondence regarding this BAA, with the exception of selected/not-selected notifications.

Administrative, technical or contractual questions should be sent via e-mail to [DARPA-BAA-09-55@darpa.mil](mailto:DARPA-BAA-09-55@darpa.mil). If e-mail is not available, please fax questions to 703-807-0999, Attention: PerSEAS Solicitation. All requests must include the name, email address, and phone number of a point of contact.

Solicitation Web site: [http://www.darpa.mil/ipto/solicit/solicit\\_open.asp](http://www.darpa.mil/ipto/solicit/solicit_open.asp).

## **VIII. OTHER INFORMATION**

### **A. Collaborative Efforts/Teaming**

Collaborative efforts/teaming are encouraged. A website (<http://csc-ballston.com/baa/PerSEASteaming.htm>) has been established to facilitate formation of teaming arrangements between interested parties. Specific content, communications, networking, and team formation are the sole responsibility of the participants. Neither DARPA nor the Department of Defense (DoD) endorses the destination web site or the information and organizations contained therein, nor does DARPA or the DoD exercise any responsibility at the destination. This website is provided consistent with the stated purpose of this BAA.

### **B. Industry Day**

DARPA will hold an Industry Day as part of DARPA-BAA-09-55 for the PerSEAS program on 15 October 2009, in Arlington, VA. The purpose of this briefing is to outline the problems to potential offerors within the PerSEAS BAA technical areas. Attendance is not required to propose. DARPA will not provide reimbursement for costs incurred to participate in this Industry Day.

If you are interested in attending the Industry Day, please go to the following site, <https://www.schafertmd.com/conference/perseas> for further information. All pertinent information and materials presented at the PerSEAS Industry Day will be made available at [http://www.darpa.mil/ipto/solicit/solicit\\_open.asp](http://www.darpa.mil/ipto/solicit/solicit_open.asp), following the Industry Day.

### **C. Frequently Asked Questions (FAQs)**

The solicitation web page at [www.darpa.mil/ipto/solicit/solicit\\_open.asp](http://www.darpa.mil/ipto/solicit/solicit_open.asp) will have a Frequently Asked Questions list.