

IARPA

BROAD AGENCY ANNOUNCEMENT

IARPA-BAA-15-09



I A R P A  
BE THE FUTURE

SCIENTIFIC ADVANCES TO CONTINUOUS  
INSIDER THREAT EVALUATION (SCITE)  
PROGRAM

Office for Anticipating Surprise

IARPA-BAA-15-09

**Release Date: June 18, 2015**

# IARPA

## BROAD AGENCY ANNOUNCEMENT: IARPA-BAA-15-09

### SCIENTIFIC ADVANCES TO CONTINUOUS INSIDER THREAT DETECTION (SCITE) PROGRAM

#### TABLE OF CONTENTS

Part One: OVERVIEW INFORMATION.....	3
Part Two: FULL TEXT OF ANNOUNCEMENT.....	4
Section 1: Funding Opportunity Description.....	4
A: Program Overview.....	4
B: Program Structure, Metrics and Milestones .....	6
C: Program Timeline.....	14
Section 2: Award Information.....	18
Section 3: Eligibility Information.....	18
A: Eligible Applicants.....	18
B: U.S. Academic Institutions.....	20
C: Other Eligibility Constraints .....	20
Section 4: Application and Submission Information.....	20
A: Content and Format of Application Submission.....	20
B: Proposal Content Specifics.....	21
C: Submission Details.....	29
Section 5: Application Review Information.....	31
A: Evaluation Criteria.....	31
B: Evaluation and Selection Process.....	32
C: Negotiation and Contract Award.....	32
D: Proposal Retention.....	33
Section 6: Award Administration Information.....	33
A: Award Notices.....	33
B: Administrative and National Policy Requirements.....	33
Section 7: Agency Contacts.....	38
Appendix A: Academic Institution Acknowledgment Letter Template.....	39
Appendix B: Sample Cover Sheet for Volume 1 (Technical/Management Details).....	41
Appendix C: Sample Cover Sheet for Volume 2 (Cost Proposal).....	43
Appendix D: Organizational Conflicts of Interest Certification Letter Template	45
Appendix E: Volume 2 Prime Contractor Cost Element Sample Sheet.....	47
Appendix F: Volume 2 Subcontractor Cost Element Sample Sheet.....	49
Appendix G: Intellectual Property Rights .....	51

## PART ONE: OVERVIEW INFORMATION

This publication constitutes a Broad Agency Announcement (BAA) and sets forth research areas of interest in anticipating and/or detecting significant societal events. Awards based on responses to this BAA are considered to be the result of full and open competition.

- **Federal Agency Name** – Intelligence Advanced Research Projects Activity (IARPA), Office for Anticipating Surprise
- **Funding Opportunity Title** – Scientific advances to Continuous Insider Threat Detection (SCITE) Program
- **Announcement Type** – Initial
- **Funding Opportunity Number** – IARPA-BAA-15-09
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – Not applicable
- **Dates**
  - Posting Date: June 18, 2015
  - Proposal Due Date: The due date for the initial round of selections is August 10, 2015
  - BAA Closing Date: June 17, 2016
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** – Procurement contract
- **Agency Points of contact**
  - IARPA, Office for Anticipating Surprise
  - ATTN: IARPA-BAA-15-09
  - Office of the Director of National Intelligence  
Intelligence Advanced Research Projects Activity  
Washington, DC 20511
  - Fax: 301-851-7672
  - Electronic mail: dni-iarpa-baa-15-09@iarpa.gov
- **Program Manager:** Paul Lehner
- **Program website:** <http://www.iarpa.gov/index.php/research-programs/scite>
- **BAA Summary:** The SCITE Program seeks to develop and test methods to detect insider threats through two separate research thrusts. The first research thrust will develop a new class of insider threat indicators, called active indicators, where indicative responses are evoked from potential insider threats. The second research thrust will develop Inference Enterprise Models (IEMs) that forecast the accuracy of existing and proposed systems for detecting insider threats.
- **Questions:** IARPA will accept questions about the BAA until July 20, 2015. Unclassified questions about administrative, technical, or contractual issues must be submitted to the BAA email address at dni-iarpa-baa-15-09@iarpa.gov. If email is not available, fax questions to 301-851-7672, Attention: IARPA-BAA-15-09. All requests must include the name, e-mail address (if available), and phone number of a point of contact for the requested information. An unclassified consolidated question and answer response will be posted every few days on the Federal Business Opportunities (FedBizOpps) website (<http://www.fbo.gov>) and linked from the IARPA website, <http://www.iarpa.gov/index.php/research-programs/scite> no answers will go directly to the requestor. Do not send questions with proprietary content.

## **PART TWO: FULL TEXT OF ANNOUNCEMENT**

### **SECTION 1: FUNDING OPPORTUNITY DESCRIPTION**

The Intelligence Advanced Research Projects Activity (IARPA) often selects its research efforts through the Broad Agency Announcement (BAA) process. The use of a BAA solicitation allows a wide range of innovative ideas and concepts. The BAA will appear first on the FedBizOpps website, <http://www.fedbizopps.gov/>, then the IARPA website at <http://www.iarpa.gov>. The following information is for those wishing to respond to this Program BAA.

IARPA is seeking innovative solutions for the Scientific advances to Continuous Insider Threat Evaluation (SCITE) Program. The SCITE Program is envisioned to begin in December 2015 and end in December 2018.

The SCITE Program seeks to develop and test methods to detect insider threats, through two separate research thrusts. The first research thrust will develop a new class of insider threat indicators, called active indicators, where indicative responses are evoked from potential insider threats. The second research thrust will develop Inference Enterprise Models (IEMs) that forecast the accuracy of existing and proposed systems for detecting potential insider threats.

#### **1.A. Program Overview**

Insider threats are individuals with privileged access within an organization who are, or intend to be, engaged in malicious behaviors such as espionage, sabotage or violence. Current practice and research in the detection of potential threats examine both internal organizational data sources (e.g., intranet search patterns) and, where appropriate, external data sources (e.g., financial records), apply various tools to passively monitor the data sources to automatically detect instances of possible insider threat indicators, aggregate automated detections to generate an initial risk assessment, and, based on that automated risk assessment, select a small number of insiders who are further examined by insider threat analysts.

The SCITE Program will perform research to advance the practice of insider threat detection through two separate research thrusts.

The first research thrust will develop a new class of automated indicators, called active indicators, and associated automated detection tools that are designed to detect espionage activities.

Current practice and research is heavily focused on passive indicators that monitor existing data sources for indicative behaviors. Active indicators introduce stimuli into a user's environment that are designed to evoke responses that are far more characteristic of malicious users than normal users. For example, a stimulus that suggests that certain file-searching behaviors may be noticed is likely to be ignored by a normal user engaged in work-related searches, but may cause a malicious user engaged in espionage to cease certain activities.

The SCITE Program will develop and rigorously test a diverse array of theory-based active indicators that can be embedded in automated systems that monitor for evidence of espionage activities.

To meet the objectives of SCITE research on active indicators, performers must:

- Identify and empirically test active indicators that satisfy the following criteria:
  - **Discreet:** users are unaware that the stimulus is related to insider threat detection
  - **Indicative:** users engaged in espionage activities often respond differently than normal users
  - **Robust:** the indicative response must occur across different settings; whether or not the indicative response occurs should not be highly dependent on context or general knowledge of the existence of active indicators
  - **Noninvasive:** reacting to the stimulus does not negatively affect normal workflows
- Test each potential indicator in at least two contexts where positive results provide evidence that the indicative response would be robust in practice
- Make progress toward a theory of active indicators supporting generalizations beyond the specific indicators tested and provide a foundation for insider threat detection enterprises to develop and apply variations of the tested indicators
- Develop detectors that detect when an indicative response has occurred

The second research thrust will develop a methodology to build Inference Enterprise Models (IEM) that model the automated portions of insider threat detection enterprises and forecast the performance of those enterprises in detecting a diverse array of analyst-defined potential threats.

An inference enterprise is comprised of the data, tools, people and processes that are employed to make specific inferences -- in this case, inferences about whether a user is a potential threat. An Inference Enterprise Model (IEM) is a model of an inference enterprise that forecasts the performance of existing and hypothesized inference enterprises in making the correct inferences. In the case of SCITE, a correct inference is a correct determination of whether or not an individual is a potential threat.

The SCITE Program is focused on modeling and forecasting the performance of the automated portion of an insider threat detection enterprise (detectors, indicators and algorithms) in detecting users who satisfy analyst-specified definitions of potential threats (e.g., users who are substantially dissatisfied with work, strongly object to certain policies, actively engaged in espionage activities, proactively hiding undeclared sources of income, etc.).

To meet the objectives of SCITE research on IEMs, performers must develop and test a general methodology for developing and refining IEMs that addresses the following technical challenges:

- Represent the quantitative probabilistic relationships between organizational inferences and the ground truth of those inferences in a manner that supports accurate forecasting of enterprise performance
- Determine how to best elicit expert judgments and integrate those judgments with statistical data to parameterize the probabilistic relationships. The statistical data may come from diverse sources, including organizational surveys, frequency and pattern of user activity from internal infrastructure monitoring, experimental tests of detector performance, or other sources
- Determine how to represent a diverse array of indicators, detectors and down-select algorithms ranging in complexity from analyst-specified alert rules to context-dependent, complex statistical pattern detectors, to fusion algorithms that incorporate

an ensemble of simple rules, complex pattern detectors and other information sources

- Determine how to trade-off model fidelity (e.g., representing complex interactions among variables and high-fidelity representations of process and algorithms to ensure an accurate characterization of the insider threat operation) and parameter fidelity (e.g., avoid representing complex interactions and using low-fidelity abstractions of processes and complex algorithms so as to ensure more accurate estimation of fewer parameters) in a manner that best supports accurate forecasting of enterprise performance
- Determine how to employ IEMs to generate central tendency forecasts of enterprise performance (e.g., expected proportion of potential insider threats discovered)
- Determine how to account for model fidelity, elicitation and data collections methods, and other model development features so as to generate certainty intervals for the central tendency estimates that are calibrated (e.g., across multiple forecasts, 60% of the 60% certainty intervals contain the true values)

Note that while the research in the active indicators thrust is specifically focused on the detection of espionage behavior, the research in the IEM thrust applies broadly to the detection of any potential threat that an analyst may define.

Offerors must explain in detail how their approach for each thrust addresses the technical challenges described above.

### **Out of Scope**

The SCITE program is not investing in research into new passive monitoring tools or new passive indicators.

The SCITE program is not investing in research into new fusion or down-select algorithms.

The SCITE program is not investing in research to develop profiles of potential insider threats, such as the psychological predispositions or behavioral characteristics of insider threats, except when such research specifically contributes to the identification of possible active indicators of espionage behavior.

However, IEM researchers should be prepared to model and forecast the performance of insider threat detection enterprises that may include passive indicators, passive monitoring tools, down-select algorithms and/or profiles. This may include some new indicators, detectors, algorithms and/or profiles.

Commercialization of technology is out of scope.

### **1.B Program Structure, Metrics and Milestones**

The SCITE Program includes two research thrusts. Offerors may propose to one or both thrusts. Selected offerors who respond to both thrusts may be selected for funding to perform research on one or both thrusts. Furthermore, offerors selected to perform research on both thrusts may receive awards for one or both thrusts in each option year. Proposals should be structured so as to facilitate independent evaluation of the offeror's technical approach and costs for each thrust.

### **1.B.1 Thrust 1: Active Indicators Research Thrust**

The Active Indicators thrust is a three-year thrust composed of three one-year phases: an initial one-year phase and two optional one-year phases. Each year, performers will develop and test proposed active indicators, develop automated tools that detect whether or not users exhibit the indicative response of an active indicator, and periodically report results to IARPA.

Each performer is expected to provide its own test environment in which to test proposed active indicators. For example, the performer may have users on an existing information infrastructure engage in an “espionage game” where users are tasked to find, access and exfiltrate data from that infrastructure without being detected. Performers will then test how espionage players and normal users react to active stimuli. As another example, performers may create a gaming environment where some users will naturally engage in espionage behaviors (e.g., steal cheat codes). Yet another example may be to construct an in-laboratory test environment. Whatever the proposed test environment, the offeror should present a case for why results obtained from their test environment should generalize to practice.

Performers should test each active indicator in at least two different settings. Settings can differ in a variety of ways, including test environments, different tasks within a single test environment, different levels of knowledge about active indicators, or other variables. However they are created, the settings should be sufficiently different so as to provide evidence that the indicative response is robust and will generalize to diverse operational settings.

In addition to testing active indicators, performers must also implement detectors that detect whether or not the indicative response occurs. The detectors may be any mixture of software or hardware.

Every six months the performers will deliver to IARPA the specifications and experiment test results for at least two active indicators and associated detectors. The specifications should be sufficiently detailed to guide a functional re-implementation of the each active indicator or detector. Performers will also be required to deliver copies of any software developed per the Program Schedule in section 1.C below. Offerors should note that there are no requirements or constraints on how software is to be developed. Performers are free to use whatever programming language, development infrastructure, or data formats that they choose.

Performers are encouraged to submit additional active indicators, but the quantitative milestones described below apply to the top two indicators selected by each performer for each six-month period.

Table 1 summarizes the metrics and milestones for each phase of the active indicators research thrust.

Table 1: Metrics and Milestones for Active Indicators Research

	Month	Phase 1		Phase 2		Phase 3	
		6	12	18	24	30	36
Indicative response metrics	TP rate (R) >	20%	30%	30%	40%	40%	50%
	FP rate <	R/5	R/5	R/10	R/10	R/20	R/20
Detector accuracy metrics	TP rate (R) >	20%	40%	40%	60%	60%	80%
	FP rate <	R/5	R/5	R/10	R/10	R/20	R/20

The indicative response metrics in Table 1 refer to the frequency with which espionage and normal users respond to an active indicator stimulus by exhibiting the indicative response. Specifically:

**True Positive (TP) rate:** The percentage of users engaged in espionage behaviors who exhibit the indicative response. For example, “20%” implies that a minimum of 20% of users engaged in espionage exhibit this response.

**False Positive (FP) rate:** The percentage of normal users who also exhibit the indicative response. The milestone for this metric is defined with respect to the TP rate. For example, for FP rate < R/5, if the TP rate = 20% then the milestone is FP rate < 4%.

The detector accuracy metrics refer to the ability of a detector to correctly determine whether or not an indicative response has occurred: Specifically:

**True Positive (TP) rate:** The percentage of users who exhibit the indicative response where the response is positively detected by the detector.

**False Positive (FP) rate:** The percentage of users who do not exhibit the indicative response where the response is nevertheless positively detected by the detector.

Note that the TP rate and FP rate for the detectors do not depend on whether a user is engaged in espionage behavior. If a normal user exhibits the indicative response, but the detector fails to detect it, then that would count as a missed positive. Similarly if an espionage player does not exhibit the indicative response, but the detector detects it anyhow, then that would count as a false positive.

Testing of the detector does not need to be associated with testing for indicative responses. Indicative response testing and detection of indicative response testing could be separate tests derived from different experiments or data sets.

Some offerors may propose to build experiment infrastructures that are sufficiently complex as to require more than a few months to construct and pilot test; with the result that it would be infeasible to test the first two active indicators and detectors in the first six months. Offerors may propose, and explain the need for, a different schedule for delivery

of the first two active indicators and associated detectors that will still result in a delivery of the first two active indicators and detectors by Month 10.

The Government team may perform additional testing of active indicators and detectors after they have been submitted by the performers. Performers may not be informed of any specific results from these additional tests.

### **1.B.2 Inference Enterprise Modeling Research Thrust**

The IEM thrust is a three-year thrust composed of an initial one-year phase and two optional one-year phases. Each year the Government team will provide performers with a series of challenge problems. Each challenge problem will provide a redacted description of a subset of the automated portion of a real-life, operational insider threat detection system, sometimes with proposed enhancements to the system, along with a set of performance forecast questions. Performers will apply their IEM methodology to develop a model of that inference enterprise, and will use that model to generate performance forecasts. The Government team will provide feedback on the accuracy of the performance forecasts.

Performers who have access to an existing inference enterprise may choose to propose a research approach that includes building models of that enterprise. However, since the Government team will provide a series of challenge problems, performers are not required to develop or employ a separate inference enterprise as part of their research.

Each challenge problem provided by the Government team will include one or more potential insider threat definitions, a list of behaviors, indicators and detectors associated with each potential threat, and a description of the algorithms used to down-select to the individuals who potentially match each potential threat definition.

For example, a challenge problem might involve finding insiders who are defined as being “substantially dissatisfied” with work, the associated behaviors that they are disgruntled and angry, the indicators that they express disgruntlement and anger in their emails, the detector software tools that perform sentiment analyses to find emails with instances of the expressions of these emotions, algorithms that employ Bayesian inference to estimate a probability that a user is “substantially dissatisfied” and then apply a down-select rule that lists all insiders with a posterior probability  $> 0.2$ .

Included in the challenge problem description will be relevant quantitative information, such as estimates of the proportion of employees who are substantially dissatisfied, the proportion who are otherwise angry, the proportion of those who are angry who express anger in emails, the true positive and false positive rates of the sentiment analysis tools, along with the information on how the quantitative information was obtained (surveys, expert judgments, data drawn from insider threat monitoring system, experimental testing of detectors, or other data). In some cases the quantitative information will include time series data, such as when challenge problem reference behavior changes (e.g., someone who is becoming “increasingly dissatisfied”) with indicators and detectors that seek to identify those behavior changes. The challenge problems will not include any user-specific information. All quantitative information will be in the form of proportions and probability statements.

Performers will be allowed to request additional information and request how that information should be collected (e.g., protocols for asking subject matter experts for their probability judgments). The Government team will provide this additional information to the extent feasible.

A potential insider threat definition may include various complicating elements. For example, beyond simply “substantially dissatisfied” the definition may include a characterization such as “substantially dissatisfied employee who is generally knowledgeable of insider threat detection methods”. An IEM for the latter definition may include exactly the same elements (indicators, detectors and algorithms) as the IEM for “substantially dissatisfied” but would need to appropriately parameterize those elements to reflect the detection-avoidance behaviors of someone who is “generally knowledgeable of insider threat detection methods”. For example, someone who is aware of sentiment analysis tools may intentionally avoid expressing anger in their emails.

Potential offerors are reminded that the objective of an IEM is to forecast enterprise performance. An IEM forecast is still accurate if it correctly forecasts that the enterprise will fail to identify potential threats – for instance, when those potential threats are knowledgeable of insider threat detection activities.

The information in the challenge problems will not reveal any information about the organization from which the information came; and in some cases this may require providing redacted identifiers for the behaviors, indicators, and tools (e.g., “behavior#6” or “detector#34”). But in all cases the challenge problem descriptions will include quantitative information.

Based on the redacted description, the performer will be asked to answer questions such as the following:

1. What proportion of users who are in fact “substantially dissatisfied” will be in the down-selected group?
2. Of the users who are listed in the down-selected group, what proportion will in fact be “substantially dissatisfied”?
3. What proportion of all users will be in the down-selected group?

Performers will apply their IEM methodology to the challenge problem and provide quantitative forecasts for questions such as 1-3, above. For each quantitative forecast, performers will provide both an expected value estimate and a 60% certainty interval.

Performer forecasts will be compared to independent estimates of the answers to the forecast questions. These independent estimates will be generated by the Government team. These independent estimates will be derived using stratified sampling on the inference. To illustrate, imagine for the above example that there are 10,400 users in the organization, of whom 400 are included in the down-select “substantially dissatisfied” list and 10,000 are not. A sample of 100 from each stratum was randomly selected for analysis. Analysts reviewed all information available for each of the 200 users and made an independent blind determination as to whether or not each should be labelled as “substantially dissatisfied”. Imagine that the analyst review of the 200 cases yielded the results shown below in Table 2.

Table 2: Imagined results of analyst review of 200 users, 100 from each stratum.

		Insider Threat System Determination	
		In down-select list	Not in down-select list
Analyst Blind Assessment	Should be in down-select list	50	5
	Should not be in down-select list	50	95

Extrapolating these results to the entire population of 10,400 yields the following estimates:

Table 3: Extrapolation of Stratified Sampling Results to All Users

		Insider Threat System Determination	
		In down-select list	Not in down-select list
Analyst Blind Assessment	Should be in down-select list	200	500
	Should not be in down-select list	200	9,500

From Table 3 the independent estimates of questions 1-3 above are, respectively, 28.6% (200/700), 50% (200/400) and 3.8% (400/10,400). There would also be associated statistical confidence intervals for each estimate.

Embedded within some of the operational systems from which the challenge problems are derived may be some users who are tasked to “play espionage”. The identities of these espionage players will be known to the analysts providing the above mentioned analyst assessments in stratified sampling, so the analyst assessments will reflect a mixture of ground truth information (known espionage players) and best expert judgment (e.g., whether an individual is “substantially dissatisfied”). For instances where best expert judgment may show low inter-rater agreement, statistical procedures may be used to mitigate possible expert errors.

Since the challenge problems will only address the automated portions of an insider threat detection operation, new automated detectors and down-select algorithms can be embedded without impacting the current operation. Consequently, the independent estimation process described above will be applied to both existing insider threat detection operations and proposed modifications to an existing operation. These modifications may include active indicators and detectors for indicative responses.

In the first month of the program, and every three months thereafter, the Government team will provide the performers with challenge problems that describe portions of an enhancement to an existing insider threat detection system, along with a list of forecast questions for each portion described. After receipt of the redacted descriptions, performers will have two weeks to request additional information and a description of how they would like that additional information to be collected. The Government team will try to satisfy the information request to the extent feasible in the next two weeks. Performers will then have

one month to complete model development and generate forecasts. The Government team will provide feedback on the accuracy of the forecasts within one week of receiving the performer forecasts.

The metrics and milestones for the inference enterprise modeling research are summarized in Table 4.

Table 4: Metrics and Milestones for Inference Enterprise Modeling Research

	Phase 1		Phase 2		Phase 3	
	6	12	18	24	30	36
Number of potential threat types & detectors	2/10	4/20	10/50	20/100	20/200	40/400
Challenge elements	Existing detectors, indicators & algorithms		+ New indicators, detectors & algorithms		+ IEM-derived down-select rules	
Certainty interval calibration metric: Percent of ground truth within forecast 60% certainty intervals	n/a	60 ± 20%	60 ± 15%	60 ± 15%	60 ± 10%	60 ± 10%
Certainty interval precision metric: Average range of 60% certainty interval	n/a	±25%	±20%	±20%	±15%	±15%

In Table 4, the “Number of potential threat types and detectors” refers to the scale of the challenge problems.

During Phase 1 each challenge problem will include only a small number of potential threat types and detectors. Both the number of potential threat types and detectors will increase substantially during each phase. By Phase 3 the objective is to build inference enterprise models that encompass all threat types and detectors used in an operational automated insider threat detection system. Consequently, during Phase 1 performers will receive three challenge problems every three months; during Phase 2 performers will receive two challenge problems every three months; and during Phase 3 performers will receive one challenge problem every three months.

Some challenge problems may represent an expansion of a previously provided challenge problem. In such cases Performers will be able to use the Government team’s independent estimates on the earlier challenge problem as additional quantitative information.

In Table 4, “Challenge elements” refers to the content of the challenge problems.

Phase 1 challenge problems will include only detectors, indicators and algorithms that already exist within an operational insider threat detection enterprise.

Phase 2 challenge problems will focus on forecasting the added value of new proposed indicators, detectors and algorithms that may be added to an operational system. This will include indicators, detectors and algorithms that can be applied to user data, but are not yet included in the operational system. Phase 2 challenge problems will be substantially more challenging than the Phase I problems. This is because in many cases the proposed new indicators, detectors and algorithms will be far more complex than those included in the existing system. For example, the existing operational system may rely on a few analyst-specified down-select rules (e.g., “list all users for whom there were alerts on the following three detectors”), while the proposed new down-select algorithms may involve complex mathematical manipulations to aggregate the outputs of numerous detectors. Similarly an existing indicator may be as simple as any user who has more than tripled the number of print jobs in the last month compared to the previous month, while a new indicator and detector may reflect complex machine-learned statistical within-user anomaly detection. In some cases the challenge problem description will include quantitative information for a new indicator, detector or algorithm that is drawn from subjective judgments before the indicator, detector or algorithm was implemented. These would essentially be estimates of how well someone “thinks it will work”. In other cases the quantitative information will be drawn from test results on experimental data sets, including those within an operational environment.

Phase 3 challenge problems will also incorporate IEM-derived down-select algorithms. Performers will use their models to design down-select procedures that meet certain requirements and to forecast the expected performance of those procedures. For example, the down-select procedure for a type of potential threat may be limited to using just four indicators, no more than two detectors per indicator, and a simple decision tree that converts detector outputs into a down-select determination for each user. The objective is to develop inference enterprise processes that analysts, who may not have a strong background in quantitative methods, can understand. A second goal is to determine if careful IEM-guided engineering of simple processes can achieve nearly the same performance as more mathematically complex processes.

There are two program metrics for measuring the accuracy of IEM model forecasts:

Certainty interval calibration (CIC) is a metric that measures the accuracy of forecast certainty intervals. For each forecast question, performers will provide a forecast with a 60% certainty interval. The CIC metric measures, *across* forecasts, the proportion of outcomes that are within the forecast 60% certainty intervals. By the end of Phase 1 between 40% and 80% of the estimated ground truth values should be within the performer’s 60% certainty intervals. By the end of Phase 3 between 50% and 70% should be within the performer’s 60% certainty intervals.

Certainty interval precision (CIP) is a metric that measures the narrowness of certainty intervals. Over the course of the three phases, performer forecast certainty intervals should become narrower in range. As illustrated in forecast questions 1-3 above, all of the forecast questions will be on a 0-1 ‘proportion of’ scale. The forecast ranges reflect absolute plus or minus values truncated by 0 or 1. For example, if the answer to question 1 is a forecast of .8, or 80%, then the 25% range is [55%, 100%] and the 15% range is [65%, 95%].

Note that a reasonable certainty range should reflect the quality of the quantitative information provided with each challenge problem. If the quantitative information is drawn

primarily from subjective expert judgment, then the forecast certainty ranges should be wider than if the information was drawn from carefully collected statistical information from the operational environment. It is therefore the responsibility of the Government team to try to ensure that the challenge problem descriptions provided to the performers contain quantitative information of sufficient quality to justify the CIP milestones.

### 1. C. Program Timeline and Deliverables

The Government will use the following timelines with programmatic gates to help the Program maintain its three-year schedule. Offerors who propose to develop a complex experimental infrastructure for testing active indicators may delay the delivery of the Month 6 active indicators and detectors to as late as Month 10. These offerors must state in their proposals the alternative delivery schedule for the first two indicators and indicators; and must specify waypoints in infrastructure development that the Government can use to gauge progress.

#### Thrust 1: Active Indicators Research Timeline and Deliverables

<b>Date</b>	<b>Thrust 1 Events</b>	<b>Thrust 1 Description</b>
Month 1	Kickoff**	<ul style="list-style-type: none"> <li>Meeting in Washington DC area</li> </ul>
Month 3	IRB approval	<ul style="list-style-type: none"> <li>Performers should have received IRB approval for active indicators research</li> </ul>
Month 5	Site Visit	<ul style="list-style-type: none"> <li>Government team visits performer site to review status and discuss plans</li> </ul>
Month 6	Results for two active indicators and detectors delivered to Government	<ul style="list-style-type: none"> <li>Performers submit description of active indicators and test results</li> <li>Performers submit specifications and software for detectors and test results***</li> </ul>
Month 10	Principal Investigators Meeting**	<ul style="list-style-type: none"> <li>Meeting in Boston MA area</li> </ul>
Month 11	Results for two new active indicators and detectors delivered to Government	<ul style="list-style-type: none"> <li>Performers submit description of active indicators and test results</li> <li>Performers submit specifications and software for detectors and test results***</li> </ul>
Month 11	Option Year 1 award	<ul style="list-style-type: none"> <li>Performers are notified of Option Year 1 selection</li> </ul>
Month 12	Phase 1 Report	<ul style="list-style-type: none"> <li>Report summarizing Phase 1 activities and results.</li> </ul>
Month 13	Begin Option Year 1 (Phase 2)	

\*\* Joint event for both thrusts

\*\*\* Test results should not include any Personally Identifiable Information (PII).

<b>Date</b>	<b>Thrust 1 Events</b>	<b>Thrust 1 Description</b>
Month 16	Site Visit and Milestone Review**	<ul style="list-style-type: none"> <li>• Government team visits performer site to discuss results, comparison to milestones and future plans</li> </ul>
Month 18	Results for two new active indicators and detectors delivered to Government	<ul style="list-style-type: none"> <li>• Performers submit description of active indicators and test results</li> <li>• Performers submit specifications and software for detectors and test results***</li> </ul>
Month 22	Principal Investigators Meeting**	<ul style="list-style-type: none"> <li>• Meeting in Washington DC area</li> </ul>
Month 23	Results for two new active indicators and detectors delivered to Government	<ul style="list-style-type: none"> <li>• Performers submit description of active indicators and test results</li> <li>• Performers submit specifications and software for detectors and test results***</li> </ul>
Month 23	Option Year 2 award	<ul style="list-style-type: none"> <li>• Performers are notified of Option Year 2 selection</li> </ul>
Month 24	Phase 2 Report	<ul style="list-style-type: none"> <li>• Report summarizing Phase 2 activities and results.</li> </ul>
Month 25	Begin Option Year 2 (Phase 3)	
Month 28	Site Visit and Milestone Review	<ul style="list-style-type: none"> <li>• Government team visits performer site to discuss results, comparison to milestones and future plans</li> </ul>
Month 30	Results for two new active indicators and detectors delivered to Government	<ul style="list-style-type: none"> <li>• Performers submit description of active indicators and test results</li> <li>• Performers submit specifications and software for detectors and test results***</li> </ul>
Month 34	Principal Investigators Meeting**	<ul style="list-style-type: none"> <li>• Meeting in Boston MA area</li> </ul>
Month 36	Results for two new active indicators and detectors delivered to Government	<ul style="list-style-type: none"> <li>• Performers submit description of active indicators and test results</li> <li>• Performers submit specifications and software for detectors and test results***</li> </ul>
Month 36	Final Report	<ul style="list-style-type: none"> <li>• Report summarizing all program activities and results.</li> </ul>

Thrust 2: Inference Enterprise Modeling Research Timeline and Deliverables

<b>Date</b>	<b>Thrust 2 Events</b>	<b>Thrust 2 Description</b>
Month 1	Kickoff**	<ul style="list-style-type: none"> <li>• Meeting in Washington DC area</li> <li>• First Challenge Problems presented</li> </ul>
Month 3	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 5	Site Visit and Milestone Review	<ul style="list-style-type: none"> <li>• Government team visits performer site to discuss results, comparison to milestones and future plans</li> </ul>
Month 6	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 9	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 10	Principal Investigators Meeting**	<ul style="list-style-type: none"> <li>• Meeting in Boston MA area</li> </ul>
Month 11	Option Year 1 award	<ul style="list-style-type: none"> <li>• Performers are notified of Option Year 1 selection</li> </ul>
Month 12	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 12	Phase 1 Report and Software	<ul style="list-style-type: none"> <li>• Report summarizing Year 1 activities and results.</li> <li>• Deliver copy of all software developed during Phase 1</li> </ul>
Month 13	Begin Option Year 1 (Phase 2)	
Month 15	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 16	Site Visit and Milestone Review	<ul style="list-style-type: none"> <li>• Government team visits performer site to discuss results, comparison to milestones and future plans</li> </ul>
Month 18	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>

<b>Date</b>	<b>Thrust 2 Events</b>	<b>Thrust 2 Description</b>
Month 21	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 22	Principal Investigators Meeting**	<ul style="list-style-type: none"> <li>• Meeting in Washington DC area</li> </ul>
Month 23	Option Year 2 award	<ul style="list-style-type: none"> <li>• Performers are notified of Option Year 2 selection</li> </ul>
Month 24	Forecasts, feedback and new challenge problems	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problems posted</li> <li>• New challenge problems released</li> </ul>
Month 24	Phase 2 Report and Software	<ul style="list-style-type: none"> <li>• Report summarizing Phase 2 activities and results.</li> <li>• Deliver copy of all software developed during Phase 2</li> </ul>
Month 25	Begin Option Year 2 (Phase 3)	
Month 27	Forecasts, feedback and new challenge problem	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problem posted</li> <li>• New challenge problem released</li> </ul>
Month 28	Site Visit and Milestone Review	<ul style="list-style-type: none"> <li>• Government team visits performer site to discuss results, comparison to milestones and future plans</li> </ul>
Month 30	Forecasts, feedback and new challenge problem	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problem posted</li> <li>• New challenge problem released</li> </ul>
Month 33	Forecasts, feedback and new challenge problem	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problem posted</li> <li>• Final challenge problem released</li> </ul>
Month 34	Principal Investigators Meeting**	<ul style="list-style-type: none"> <li>• Meeting in Boston MA area</li> </ul>
Month 36	Forecasts, feedback and new challenge problem	<ul style="list-style-type: none"> <li>• Performers submit forecasts</li> <li>• Independent estimates for previous challenge problem posted</li> </ul>
Month 36	Final Report and Phase 3 Software	<ul style="list-style-type: none"> <li>• Report summarizing all activities and results.</li> <li>• Deliver copy of all software developed during Phase 3.</li> </ul>

## **SECTION 2: AWARD INFORMATION**

The SCITE Program is envisioned as a three-year effort that is intended to begin in December 2015. The Base Period is 12 months with two possible Option Years of 12 months each. Costs associated with the commercialization of technology are not covered under this solicitation.

This BAA will result in awards for the entire program. Funding for Optional Period(s) will depend upon performance during the Base Period, (and succeeding Optional Periods), as well as program priorities, the availability of funding, and IARPA priorities. Funding of Option Periods is at the sole discretion of the Government. Participants considered for funding in the Option Period(s) will be those performers that have made significant technical and programmatic progress in the Base Period (and succeeding Optional periods) and have correctly understood and contributed to the overarching goals of the Program. A performer that fails to demonstrate such progress, or that provides only minor improvements above the current state of the art will not be invited to continue with the program.

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 determines them to be necessary. Additionally, IARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for negotiations for award. In the event that IARPA desires to award only portions of a proposal, negotiations may be opened with that offeror.

Awards under this BAA will be made to offerors on the basis of the evaluation criteria listed in 5.A, program balance, and availability of funds. Proposals identified for negotiation may result in a procurement contract. However, the Government reserves the right to negotiate the type of award instrument it determines appropriate under the circumstances.

The Government will contact offerors whose proposals are selected for negotiations to obtain additional information required for award. The Government may establish a deadline for the close of fact-finding and negotiations that allows a reasonable time for the award of a contract. Offerors that are not responsive to Government-established deadlines communicated with the request may be removed from award consideration. Offerors may also be removed from award consideration should the parties fail to reach agreement on contract terms, conditions, and cost/price within a reasonable time

## **SECTION 3: ELIGIBILITY INFORMATION**

### **3.A. Eligible Applicants**

All responsible sources capable of satisfying the Government's needs may submit a proposal. 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 for exclusive competition among

these entities. Other Government Agencies, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and any other similar type of organization that has a special relationship with the Government, that gives them access to privileged and/or proprietary information or access to Government equipment or real property, are not eligible to submit proposals under this BAA or participate as team members under proposals submitted by eligible entities.

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.

### **3.A.1. Organizational Conflicts of Interest (OCI)**

"Organizational conflict of interest" means that because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the Government, or the person's objectivity in performing the contract work is or might be otherwise impaired, or a person has an unfair competitive advantage.

If a prospective offeror, or any of its proposed subcontractor teammates, believes that a potential conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with IARPA and submit a notification by e-mail to the mailbox address for this BAA at [dni-iarpa-baa-15-09@iarpa.gov](mailto:dni-iarpa-baa-15-09@iarpa.gov). All notifications must be submitted through the offeror, regardless of whether the notification addresses a potential OCI for the offeror or one of its subcontractor teammates. A potential conflict of interest includes, but is not limited to, any instance where an offeror, or any of its proposed subcontractor teammates, is providing either scientific, engineering and technical assistance (SETA) or technical consultation to IARPA. In all cases, the offeror shall identify the contract under which the SETA or consultant support is being provided. Without a waiver from the IARPA Director, neither an offeror, nor its proposed subcontractor teammates, can simultaneously provide SETA support or technical consultation to IARPA and compete or perform as a Performer under this solicitation.

All facts relevant to the existence of the potential conflict of interest, real or perceived, should be disclosed in the notification. The notification should also include a proposed plan to avoid, neutralize or mitigate such conflict. The offeror, or subcontractor teammate as appropriate, shall certify that all information provided is accurate and complete, and that all potential conflicts, real or perceived, have been disclosed. It is recommended that an offeror submit this notification as soon as possible after release of the BAA before significant time and effort are expended in preparing a proposal. If, in the sole opinion of the Government, after full consideration of the circumstances, the conflict situation cannot be resolved or waived, any proposal submitted by the offeror that includes the conflicted entity will be excluded from consideration for award.

As part of their proposal, offerors who have identified any potential conflicts of interest shall include either an approved waiver signed by the IARPA Director, an IARPA Determination letter stating that no conflict of interest exists, or a copy of their notification. Otherwise, offerors shall include in their proposal a written certification that neither they nor their subcontractor teammates have any potential conflicts of interest, real or perceived. A sample certification is provided in Appendix D.

If, at any time during the solicitation or award process, IARPA discovers that an offeror has a potential conflict of interest, and no notification has been submitted by the offeror, IARPA reserves the right to immediately exclude the proposal from further

Offerors are strongly encouraged to read “Intelligence Advanced Research Projects Activity’s (IARPA) Approach to Managing Organizational Conflicts of Interest (OCI)”, found on IARPA’s website at [http://www.iarpa.gov/images/files/IARPA\\_OCI\\_081809.pdf](http://www.iarpa.gov/images/files/IARPA_OCI_081809.pdf).

### **3.B. US Academic Institutions**

According to Executive Order 12333, as amended, paragraph 2.7, “Elements of the Intelligence Community are authorized to enter into contracts or arrangements for the provision of goods or services with private companies or institutions in the United States and need not reveal the sponsorship of such contracts or arrangements for authorized intelligence purposes. Contracts or arrangements with academic institutions may be undertaken only with the consent of appropriate officials of the institution.”

It is highly recommended that offerors submit with their proposal a completed and signed Academic Institution Acknowledgement Letter for each U.S. academic institution that is a part of their team, whether the academic institution is serving in the role of prime, or a subcontractor or consultant at any tier of their team. A template of the Academic Institution Acknowledgement Letter is enclosed in this BAA at Appendix A. It should be noted that an appropriate senior official from the institution, typically the President, Chancellor, Provost, or other appropriately designated official must sign the completed form. Note that this paperwork **must** be received before IARPA can enter into any negotiations with any offeror when a U.S. academic institution is a part of its team.

### **3.C. Other Eligibility Criteria**

#### **3.C.1. Collaboration Efforts**

Collaborative efforts and teaming arrangements among potential performers are strongly encouraged. Specific content, communications, networking and team formations are the sole responsibility of the participants.

## **SECTION 4: PROPOSAL AND SUBMISSION INFORMATION**

This notice constitutes the total BAA and contains all information required to submit a proposal. No additional forms, kits, or other materials are required.

### **4.A. Content and Form of Application Submission**

#### **4.A.1. Proposal Information**

Interested offerors are required to submit full proposals in order to receive consideration for funding. All proposals submitted under the terms and conditions cited in this BAA will be reviewed. Proposals must be received by the time and date specified in section 4.C.1 in order to be assured consideration during the initial round of selections. IARPA may evaluate proposals received after this date for a period of up to one year from the date of initial posting on FedBizOpps. Selection remains contingent on the evaluation criteria, program balance and availability of funds. The typical proposal should express a

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

Offerors should submit proposals for a Base Period of 12 months plus two possible 12-month Option Years.

The Government intends to use employees of TASC, Penumbra, MIT Lincoln Laboratory (MITLL), JHU Applied Physics Laboratory, OPS Consulting LLC, BRTRC Federal Solutions and Telecommunications Systems, Inc. (TCI) to provide expert advice regarding portions of the proposals submitted to the Government and to also provide logistical support in carrying out the evaluation process. These personnel will have signed and be subject to the terms and conditions of non-disclosure agreements. By submission of its proposal, an offeror agrees that its proposal information may be disclosed to employees of these organizations for the limited purpose stated above. Offerors who object to this arrangement must provide clear notice of their objection as part of their transmittal letter. If offerors do not send notice of objection to this arrangement in their transmittal letter, the Government will assume consent to the use of contractor support personnel in assisting the review of submittal(s) under this BAA.

Only Government personnel will make evaluation and award determinations under this BAA.

All administrative correspondence and questions regarding this solicitation should be directed by e-mail to [dni-iarpa-baa-15-09@iarpa.gov](mailto:dni-iarpa-baa-15-09@iarpa.gov). Proposals must be submitted in accordance with the procedures provided in Section 4.C.2.

#### **4.A.2. Proposal Format**

All proposals must be in the format given below. Non-compliant proposals may be rejected without review. Proposals shall consist of two volumes: "Volume 1 - Technical and Management Proposal" and "Volume 2 - Cost Proposal." All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point and at least one-inch margins on all sides. Foldout pages shall not be used. Font size for figures, tables and charts shall not be smaller than 10 point. The page limitation for full proposals includes all figures, tables, and charts. All pages must be numbered. Unnecessarily elaborate brochures or presentations beyond what is sufficient to present a complete and effective proposal are not acceptable and will be discarded without review.

#### **4.A.3. Proposal Classification**

The Government requires that proposals submitted under this BAA be unclassified. No classified information will be accepted in response to this BAA.

#### **4.B. Proposal Content Specifics**

Each proposal submitted in response to this BAA shall consist of the following:

##### **Volume 1 – Technical & Management Proposal**

Section 1 - Cover Sheet & Transmittal Letter

Section 2 – Summary of Proposal

Section 3 – Detailed Proposal

Section 4 – Attachments

1 – Academic Institution Acknowledgment Letter Template, if required

2 – Restrictions on Intellectual Property Rights

- 3 – OCI Waiver/Certification
- 4 – Bibliography
- 5 – Relevant Papers (up to three)
- 6 – Human Use Documentation, if required
- 7 – Consultant Letters of Commitment

## **Volume 2 – Cost Proposal**

- Section 1– Cover Sheet
- Section 2 – Detailed Estimated Cost Breakdown

### **4.B.1. Volume 1, Technical and Management Proposal (Limit of 30 pages if responding to just one thrust, 45 pages if responding to both thrusts)**

Volume 1, Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach on which the proposal is based. Copies of not more than three relevant papers can be included with the submission. The submission of other supporting materials along with the proposal is strongly discouraged and will not be considered for review. Except for the cover sheet, transmittal letter, table of contents (optional), and allowable attachments (see 4.B.1.a), Volume 1 shall not exceed 30 pages if responding to just one of the two thrusts, or 45 pages if responding to both thrusts. Any pages exceeding this limit will be removed and not considered during the evaluation process. Full proposals must be accompanied by an official transmittal letter. All full proposals must be written in English.

Offerors who respond to both thrusts should be aware that the Government will perform a separate review and evaluation of each thrust. Offerors should organize their technical and management and cost proposals so as to facilitate a separate evaluation of each thrust. For example, if an activity is intended to support both thrusts, then the contribution of that activity to each thrusts should be identified.

#### **4.B.1.1 Section 1: Cover Sheet and Transmittal Letter**

- A. Cover sheet: (See Appendix B for Cover Sheet Template)
- B. Official Transmittal Letter.

#### **4.B.1.2. Section 2: Summary of Proposal**

Section 2 shall provide an overview of the proposed work as well as introduce associated technical and management issues. This section shall contain a technical description of and technical approach to the research as well as a succinct portrayal of the uniqueness and benefits of the proposed work. It shall make the technical objectives clear and quantifiable and shall provide a project schedule with definite decision points and endpoints. Offerors must address:

- A. A technical overview of the proposed research and plan: This section is the centerpiece of the proposal and should succinctly describe the proposed approach and research. The overview should provide an intuitive understanding of the approach and design, technical rationale, and constructive plan for accomplishment of technical goals and deliverable production. The approach should be supported by basic, clear, calculations. Additionally, proposals should clearly explain the innovative claims and

technical approach(es) that will be employed to meet or exceed each program metric, and provide ample justification as to why the approach(es) is/are feasible. The use of non-standard terms and acronyms should be avoided. This section will be supplemented with a more detailed plan in Volume 1, Section 3 of the proposal.

- B. Summary of the products, transferable technology and deliverables associated with the proposed research results. Define measurable deliverables that show progress toward achieving the stated Program Milestones. Detail in Attachment 2 all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are no proprietary claims, this should be stated. Should no proprietary claims be made, Government rights will be unlimited.
- C. Schedule and milestones for the proposed research. Summarize, in table form, the schedule and milestones for the proposed research. Do not include proprietary information with the milestones.
- D. Related research. General discussion of other research in this area.
- E. Project contributors. Offerors must include a clearly defined organizational chart of all anticipated project participants.
- F. Cost breakdown table by task or deliverable, delineated by primes and major subcontractors, that summarizes:
  - Total direct technical labor hours, direct technical labor cost and indirect technical labor costs
  - Total direct management and administrative labor hours, direct management and administrative labor costs, and indirect management and administrative labor costs
  - Direct materials costs and indirect materials cost
  - Company cost share, if applicable
  - Travel, other direct costs, fee.

#### **4.B.1.3. Section 3: Detailed Proposal Information**

This section of the proposal shall provide the detailed, in-depth discussion of the proposed research. Specific attention must be given to addressing both the risks and payoffs of the proposed research and why the proposed research is desirable for IARPA to pursue. This part shall provide:

- A. Statement of Work (SOW) - In plain English, clearly define the technical tasks and sub-tasks to be performed, their durations and the dependencies among them. For each task and sub-task, provide:
  - A general description of the objective;
  - A detailed description of the approach to be taken, developed in an orderly progression and in enough detail to establish the feasibility of accomplishing the goals of the task;
  - Identification of the primary organization responsible for task execution (prime, sub-contractor, team member, etc.) by name;
  - The exit criteria for each task/activity, i.e., a product, event or milestone that defines its completion;
  - Definition of all deliverables (e.g., data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.

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

At the end of this section, provide a Gantt chart, showing all the tasks and sub-tasks on the left with the performance period (in years/quarters) on the right. All milestones shall be clearly labeled on the chart.

- B. A detailed description of the objectives, scientific relevance, technical approach and expected significance of the work. The key elements of the proposed work should be clearly identified and related to each other. Proposals should clearly detail the technical method(s) and/or approach(es) that will be used to meet or exceed each program milestone and should provide ample justification as to why the proposed method(s)/approach(es) is/are feasible. Any anticipated risks should be described and possible mitigations proposed. General discussion of the problem without specific detail about the technical implementation will result in an unacceptable rating.
- C. State-of-the-art. Comparison with other on-going research, highlighting the uniqueness of the proposed effort/approach and differences between the proposed effort and the current state-of-the-art clearly stated. Identify the advantages and disadvantages of the proposed work with respect to potential alternative approaches.
- D. Data sources. Identification and description of data sources to be utilized in pursuit of the project research goals. Explain clearly how the data selected will be an appropriate and adequate set for exploring the research topic being proposed. Offerors proposing to use existing data sets must provide written verification that all data were obtained in accordance with U.S. laws and, where applicable, are in compliance with End User License Agreements, Copyright Laws, Terms of Service, and laws and policies regarding privacy protection of U.S. Persons. Offerors shall identify any restrictions on the use or transfer of data sets being used, and, if there are any restrictions, the potential cost to the Government to obtain at least the Government Purpose Rights in such data sets.<sup>1</sup>

It is anticipated that the research will involve human subjects. Proposals that include such research must include the documentation required in 6.B.5 (Human Use). Documentation must be well written and logical; claims for exemptions from Federal regulations for human subject protection must be accompanied by a strong defense of the claims. The Human Use documentation is not included in the total page count.

---

<sup>1</sup> "Government Purpose Rights" (or "GPR") means the rights to use, modify, reproduce, release, perform, display, or disclose technical data and computer software within the Government without restriction; and to release or disclose technical data and computer software outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data or software for any United States Government purpose. United States Government purposes include any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software for commercial purposes or authorize others to do so.

The Government reserves the right to reject a proposal if it does not appropriately address all data issues.

E. Deliverables. Deliverables are identified in Section 1.C.

The Government requires at a minimum Government Purpose Rights for all deliverables; anything less will be considered a weakness in the proposal. However, if limited or restricted rights are asserted by the offeror in any deliverable or component of a deliverable, the proposal must identify the potential cost associated with the Government obtaining Government Purpose Rights in such deliverables. Proposals that do not include this information will be considered non-responsive and may not be reviewed by the Government.

In Attachment 2 of the proposal, offerors must describe the proposed approach to intellectual property for all deliverables, together with a supporting rationale for why this approach is in the Government's best interest. This shall include all proprietary claims to the results, prototypes, intellectual property or systems supporting and/or necessary for the use of the research, results and/or prototype, and a brief explanation of how the offerors may use these materials in their program. To the greatest extent feasible, offerors should not include background proprietary technical data and computer software as the basis of their proposed technical approach.

If offerors (including their proposed teammates) desire to use in their proposed approach, in whole or in part, technical data or computer software or both that is proprietary to offeror, any of its teammates, or any third party, in Attachment 2 they should: (1) clearly identify such data/software and its proposed particular use(s); (2) identify and explain any and all restrictions on the Government's ability to use, modify, reproduce, release, perform, display, or disclose technical data, computer software, and deliverables incorporating such technical data and computer software; (3) identify the potential cost to the Government to acquire GPR in all deliverables that use the proprietary technical data or computer software the offeror intends to use; (4) explain how the Government will be able to reach its program goals (including transition) within the proprietary model offered; and (5) provide possible nonproprietary alternatives in any area in which a Government entity would have insufficient rights to transfer, within the Government or to Government contractors in support of a Government purpose, deliverables incorporating proprietary technical data or computer software, or that might cause increased risk or cost to the Government under the proposed proprietary solutions.

Offerors also shall identify all commercial technical data and/or computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government's use of such commercial technical data and/or computer software. If offerors do not identify any restrictions, the Government will assume that there are no restrictions on the Government's use of such deliverables. Offerors shall also identify all noncommercial technical data and/or 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. If the offeror does not submit such information, the Government will assume that it has unlimited rights to all such noncommercial technical data and/or computer software. Offerors shall provide a

short summary for each item (commercial and noncommercial) 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.

Additionally, if offerors propose the use of any open source or freeware, any conditions, restrictions or other requirements imposed by that software must also be addressed in Attachment 2. Offerors should leverage the format in APPENDIX G for their response. (See also section 6.B.2. Intellectual Property). The technical content of Attachment 2 shall include only the information necessary to address the proposed approach to intellectual property; any other technical discussion in Attachment 2 will not be considered during the evaluation process. Attachment 2 is limited to four (4) pages.

IARPA recognizes only the definitions of intellectual property rights in accordance with the terms as set forth in the Federal Acquisition Regulation (FAR) part 27, or as otherwise defined in this BAA. If offerors propose intellectual property rights that are not defined in FAR part 27 or otherwise herein, offerors must clearly define such rights in Attachment 2 of their proposal. Offerors are reminded of the requirement for prime contractors to acquire sufficient rights from subcontractors to accomplish the program goals.

- F. Cost, schedule, milestones. Cost, schedule, and milestones for the proposed research, including estimates of cost for each deliverable delineated by the primes and major sub-contractors, total cost, and company cost share, if any. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. The milestones must not include proprietary information.
- G. Offeror's previous accomplishments. Discuss previous accomplishments and work in this or closely related research areas and how these will contribute to and influence the current work.
- H. Facilities. Describe the facilities that will be used for the proposed effort, including computational and experimental resources.
- I. Detailed Management Plan. The Management Plan should identify both the organizations and the individuals within those organizations that make up the team and delineate the expected duties, relevant capabilities and task responsibilities of team members and expected relationships among team members. Expected levels of effort (percentage time or fraction of an FTE) for all key personnel and significant contributors should be clearly noted. A description of the technical, administrative and business structure of the team and the internal communications plan should be included. Project/function/sub-contractor relationships (including formal teaming agreements), Government research interfaces, and planning, scheduling, and control practices should be described. The team leadership structure should be clearly defined. Provide a brief biography of the key personnel (including alternates, if desired) who will be involved in the research along with the amount of effort to be expended by each person during the year. Participation by key personnel and significant contributors is expected to exceed 25% of their time. A compelling explanation of any variation from this figure is required.

If the team intends to use consultants, they must be included in the organizational chart as well. Indicate if the person will be an “individual” or “organizational” consultant (that is, will the consultant represent himself/herself or his/her organization). In both cases, the organizational affiliation should be identified. The consultant should make a written commitment to be available to the team; the commitment should be attached to the Cost Volume.

A chart, such as the following (Table 4), is suggested.

**Table 4 Key Personnel**

<b>Participants</b>	<b>Org</b>	<b>Role</b>	<b>Unique, Relevant Capabilities</b>	<b>Specific Task(s) / Contributions</b>	<b>Time Commitment</b>
John Doe	ABC University	PI/Key Personnel	Cognitive Psychologist	Experimental Design, IRB and Human Subject Research	30%
John Doe, Jr.	ABC University	Key Personnel	Cognitive Neuroscientist	Mechanism assessment and analysis	50%
Jane Doe	ABC University	Significant Contributor	Physiologist	Intervention design	50%
Jane Roe	ABC University	Contributor	Psychometrics	Experimental Design, Outcome Measure	25%
John Doe, III	XYZ Co.	Co-PI/Key Personnel	Statistician	Analysis	25%
Wayne Roe	XYZ Co.	Significant Contributor	Psychologist	Intervention Design	40%
John Doe, IV	XYZ University	Consultant (Individual)	Human Subjects Research Expert	IRB and Human Subject Research	200 hours
Wayne Doe	Wayne Doe LLC	Consultant (Individual)	Electrical Engineer	Outcome Measure	200 Hours

- J. Resource Share. Include the type of support, if any, the offeror might request from the Government, such as facilities, equipment or materials, or any such resources the offeror is willing to provide at no additional cost to the Government to support the research effort. Cost sharing is not required from offerors and is not an evaluation criterion, but is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.
- K. The names of other federal, state or local agencies or other parties receiving the proposal and/or funding the proposed effort. If none, so state.

**4.B.1.4. Section 4: Attachments** [NOTE: The attachments listed below must be included with the proposal, if applicable, but do not count against the Volume 1 page limit.]

Attachment 1: Signed Academic Institution Acknowledgement Letter(s) (if applicable). Template provided as Appendix A. See paragraph 3.B, US Academic Institutions.

Attachment 2: Restrictions on Intellectual Property Rights (if applicable). Template provided as Appendix G. This attachment is limited to 4 pages.

Attachment 3: OCI Waiver, Determination, Notification or Certification. Template provided as Appendix D. See paragraph 3.A.1., Organizational Conflicts of Interest (OCI)

Attachment 4: Bibliography. A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas on which the proposal is based.

Attachment 5: Relevant Papers. Copies of not more than three relevant papers may be included in the submission. The proposers should include a one page technical summary of each paper provided, suitable for individuals who are not experts in the field.

Attachment 6: Human Use Documentation, if applicable.

Attachment 7: Consultant Commitment Letters (if applicable).

#### **4.B.2. Volume 2: Cost Proposal {No Page Limit}**

Section 1: Cover Sheet: See Appendix C for Cover Sheet Template]

Section 2: Estimated Cost Breakdown

(1) Cost element breakdown for the base period and each option period for the offeror and each subcontractor. See Appendices E and F for format. (Educational institutions and non-profit organizations as defined in FAR part 31.3 and 31.7, respectively (prime and subcontractor level), can deviate from the cost template in Appendix E and F when estimating the direct labor portion of the cost proposal to allow for OMB guided accounting methods that are used by their institutions. The methodology must be clear and provide sufficient detail to substantiate proposed labor costs. For example, each labor category must be listed separately; identify key personnel, and provide hours/rates or salaries and percentage of time allocated to the project.)

(2) Total cost broken down by major task

(3) Major program tasks by fiscal year

(4) Proposed subcontract costs and equipment purchases

(5) Proposed purchase of any information technology

(6) A summary of projected funding requirements by month

(7) The source, nature and amount of industry cost-sharing, if any

(8) Identification of pricing assumptions which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Experts, etc.).

The prime contractor is responsible for compiling and providing all subcontractor proposals. All subcontractor proposals shall include burdened rates in the cost breakdown listed above. If a proposal is selected for negotiations, both the prime and subcontractors must be prepared to present full cost proposals including all direct and indirect rates immediately upon request by the contracting officer. 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<sup>2</sup> and equipment purchases, include a letter stating why the offeror cannot provide the requested resources from its own funding.

Supporting cost and pricing information must be provided in sufficient detail to substantiate the summary cost estimates in Volume 1. Include a description of the method used to estimate costs and supporting documentation. *Key personnel must be listed by name for the prime and all subcontractors.* Note: "cost or pricing data" may be required if the offeror is seeking a procurement contract award of \$700,000 or greater unless the contracting officer approves an exception from the requirement to submit cost or pricing data.

If the offeror asserts limited or restricted rights in any deliverable or component of a deliverable, the cost proposal must separately identify the estimated cost associated with the Government obtaining Government Purpose Rights in such deliverables (reference sections 4.B.1.3.D and 4.B.1.3.E).

Consultant letter(s) of commitment should be attached to the Cost Volume and estimated costs should be included in the cost estimates.

#### **4.C. Submission Details**

##### **4.C.1. Due Date**

Proposals must be received by or before 5:00 p.m. Eastern time on August 10, 2015, in order to be assured consideration during the first round of selections. IARPA may evaluate proposals received after this date for a period of one year. Selection remains contingent on proposal evaluation, program balance and availability of funds. Failure to comply with the submission procedures may result in the submission not being evaluated.

---

<sup>2</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, is not information technology."

#### 4.C.2. Proposal Delivery

Proposals must be submitted electronically through the IARPA Distribution and Evaluation System (IDEAS). **Offerors interested in providing a submission in response to this BAA must first register by electronic means in accordance with the instructions provided on the following web site: <https://iarpa-ideas.gov>. Offerors who plan to submit proposals for evaluation in the first round are strongly encouraged to register at least one week prior to the due date for the first round of proposals.** Offerors who do not register in advance do so at their own risk, and IARPA will not extend the due date for the first round of proposals to accommodate such offerors. Failure to register as stated will prevent the offeror's submission of documents.

For submitting proposals in response to this BAA, IDEAS will have three thrust areas identified. One thrust area will be for submitting proposals to **only** the active indicators research thrust. A second thrust area will be for submitting proposals to **only** the IEM research thrust. A third thrust area will be designated for submitting proposals that address **both** research thrusts.

After registration has been approved, offerors should upload proposals, including Volume 1, Volume 2, scanned certifications and permitted additional information in 'pdf' format. Offerors are responsible for ensuring compliant and final submission of their proposals to meet the BAA submittal deadlines. Time management to upload and submit is wholly the responsibility of the offeror.

Upon completing the proposal submission the offeror will receive an automated confirmation email from IDEAS. IARPA strongly suggests that the offeror document the submission of their proposal package by printing the electronic receipt (time and date stamped) that appears on the final screen following compliant submission of a proposal to the IDEAS website.

Proposals submitted by any means other than the Proposal Submission Website at <https://iarpa-ideas.gov> (e.g., hand-carried, postal service, commercial carrier and email) will not be considered unless the offeror attempted electronic submission, but was unsuccessful. Should an offeror be unable to complete the electronic submission, the offeror must employ the following procedure. The offeror must send an e-mail to [dni-iarpa-baa-15-09@iarpa.gov](mailto:dni-iarpa-baa-15-09@iarpa.gov) prior to the first round proposal due date and time specified in the BAA, and indicate that an attempt was made to submit electronically but that the submission was unsuccessful. This e-mail must include contact information for the offeror. Additional guidance will be provided.

Proposals must be submitted by the time and date specified in the BAA in order to be assured consideration during the first round of selections. IARPA may evaluate proposals received after this date for a period up to one year from the date of initial posting on FedBizOpps. Selection remains contingent on proposal evaluation, program balance and availability of funds. Failure to comply with the submission procedures may result in the submission not being evaluated.

## **SECTION 5: APPLICATION REVIEW INFORMATION**

### **5.A. Evaluation Criteria**

The criteria to be used to evaluate and select proposals for this Program BAA are described in the following paragraphs. Because there is no common statement of work, each proposal will be evaluated on its own merits and its relevance to the Program goals rather than against other proposals responding to this BAA. The evaluation criteria in descending order of importance are: Overall Scientific and Technical Merit, Effectiveness of Proposed Work Plan, Contribution and Relevance to the IARPA Mission, Relevant Expertise and Experience, and Resource Realism. Specifics about the evaluation criteria are provided below, in descending order of importance.

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

Overall scientific and technical merit of the proposal is substantiated, including unique and innovative methods, approaches, and/or concepts. The offeror clearly articulates an understanding of the problem to be solved. The technical approach is credible, and includes a clear assessment of primary risks and a means to address them. The proposed research advances the state of the art.

#### **5.A.2. Effectiveness of Proposed Work Plan**

The feasibility and likelihood that the proposed approach will satisfy the Program's milestones and metrics are explicitly described and clearly substantiated along with risk mitigation strategies for achieving stated milestones and metrics. The proposal reflects a mature and quantitative understanding of the Program milestones and metrics, and the statistical confidence with which they may be measured. Any offeror-proposed milestones and metrics are clear and well-defined, with a logical connection to enabling offeror decisions and/or Government decisions. The schedule to achieve the milestones is realistic and reasonable.

The role and relationships of prime and sub-contractors is clearly delineated with all participants fully documented. Work plans demonstrate the ability to provide full Government visibility into and interaction with key technical activities and personnel; and a single point of responsibility for contract performance. Work plans must also demonstrate that key personnel have sufficient time committed to the Program to accomplish their described Program roles.

The requirement for and the anticipated use or integration of Government Furnished Property (GFP) including all equipment, facilities, information, etc., is fully described including dates when such GFP, GFE (Government Furnished Equipment), GFI (Government Furnished Information) or other similar Government-provided resources will be required.

The offeror's proposed intellectual property and data rights are consistent with the Government's need to be able to effectively manage the Program and evaluate the technical output and deliverables, communicate Program information across Government organizations and to support transition of the Program results to Intelligence Community users at a reasonable cost.

### **5.A.3. Contribution and Relevance to the IARPA Mission and Program Goals**

The proposed solution meets the letter and intent of the stated program goals and all elements within the proposal exhibit a comprehensive understanding of the problem. The offeror clearly addresses how the proposed effort will meet and progressively demonstrate SCITE Program goals. The offeror describes how the proposed solution contributes to IARPA's mission to invest in high-risk/high-payoff research that can provide the U.S. with an overwhelming intelligence advantage over its future adversaries. The proposed approach to intellectual property rights offers the best value to the Government.

### **5.A.4. Relevant Experience and Expertise**

The offeror's capabilities, related experience, facilities, techniques, or unique combination of these which are integral factors for achieving the proposal's objectives will be evaluated, as well as qualifications, capabilities, and experience of the proposed principal investigator, team leader, and key personnel critical in achieving the proposal objectives. Time commitments of key personnel must be sufficient for their proposed responsibilities in the effort.

### **5.A.5. Resource Realism**

The proposed resources are well justified and consistent with the unique technical approach and methods of performance described in the offeror's proposal. Proposed resources reflect a clear understanding of the project, a perception of the risks and the ability to organize and perform the work. The labor hours and mix are consistent with the Technical and Management proposal and are realistic for the work proposed. Material, equipment, software, data collection and travel, especially foreign travel, are well justified, reasonable and required for successful execution of the proposed work.

IARPA recognizes that undue emphasis on cost may motivate offerors to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. IARPA discourages such strategies and encourages approaches such as innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

### **5.B. Evaluation and Selection Process**

IARPA's policy is 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. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposals will only be evaluated against the evaluation criteria described under Paragraph 5.A above, and will not evaluate them against other proposals, since they are not submitted in accordance with a common work statement. For evaluation purposes, a proposal is the document described in Sections 4.A and 4 B. Other supporting or background materials submitted with the proposal will not be considered.

## **5.C. Negotiation and Contract Award**

Award of a contract is contingent on successful negotiations. After selection and before award, the contracting officer will determine cost/price realism and reasonableness, to the extent appropriate, and negotiate the terms of the contract.

The contracting officer will review anticipated costs, including those of associate, participating organizations, to ensure the offeror has fully analyzed the budget requirements, provided sufficient supporting cost/price information and that cost data are traceable and reconcilable. Additional information and supporting data may be requested.

If the parties cannot reach mutually agreeable terms, a contract will not be awarded.

## **5.D. Proposal Retention**

IARPA's policy is to treat all proposals and white papers as competitive information and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. Upon completion of the source selection process, the original of each proposal received will be retained at IARPA and all other non-required copies will be destroyed. A certification of destruction may be requested, provided that the formal request is sent to IARPA via e-mail within 5 days after notification of proposal results.

## **SECTION 6: AWARD ADMINISTRATION INFORMATION**

### **6.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 negotiations, or, 2) the proposal has not been selected.

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

#### **6.B.1 Proprietary Data**

It is the policy of IARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. 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.

The offeror may use their own data for development purposes as long as they follow the guidelines in 6.B.13 Lawful Use and Privacy Protection Measures.

#### **6.B.2. Intellectual Property**

##### **6.B.2.a. Noncommercial Items (Technical Data and Computer Software)**

Offerors responding to this BAA requesting a procurement contract to be issued under the FAR shall identify in Section 4 of their proposals 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, the basis for such restrictions, the potential cost to the Government to acquire GPR in all deliverables incorporating such noncommercial technical data and computer software, and the intended

use of the noncommercial technical data and computer software in the conduct of the proposed research and development of applicable deliverables. If offerors intend to incorporate noncommercial, proprietary technical data or computer software into any deliverable, offerors should also provide in Volume 1, Attachment 2 of their proposals all of the information regarding such proprietary technical data or computer software as described in 4.B.1.3(E), Deliverables, of this BAA.

In the event that offerors do not submit such information, 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). The Government will automatically assume that any such GPR restriction is limited to a period of five (5) years, at which time the Government will acquire unlimited rights unless the parties agree otherwise.

A sample format for providing this information is shown in Appendix G. If no restrictions are intended, then the offeror should state "NONE."

Offerors are advised that the Government will use this information 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.

For all technical data and computer software that the offeror intends to deliver with other than unlimited rights that are identical or substantially similar to technical data and computer software that the offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract, the offeror shall identify the contract number under which the data, software, or documentation were produced; the contract number under which, and the name and address of the organization to whom, the data and software were most recently delivered or will be delivered; and any limitations on the Government's rights to use or disclose the data and software, including, when applicable, identification of the earliest date the limitations expire.

#### **6.B.2.b. Commercial Items (Technical Data and Computer Software)**

Offerors responding to this BAA requesting a procurement contract shall identify in Section 4 (Attachment 2, template provided as in Appendix G) of its proposal all commercial technical data and commercial computer software that may be incorporated in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government's use of such commercial technical data and/or commercial computer software. In the event that 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 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 format for complying with this request is shown in Appendix G.

### **6.B.3.c. All Offerors – Patents**

Include documentation using the format provided in Appendix G, proving 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 the proposal for the IARPA program. If a patent application has been filed for an invention that the proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, the offeror 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 the offeror owns the invention, or 2) proof of possession of appropriate licensing rights in the invention.

If offerors intend to incorporate patented technology into any deliverable, i.e., if offerors intend for any deliverable to embody any invention covered by any patent or patent application the offerors list in Appendix G, offerors should also provide in Volume 1, Attachment 2 of their proposals all of the information described in 4.B.1.3(E), Deliverables, of this BAA.

### **6.B.3.d. All Offerors – Intellectual Property Representations**

Offerors shall provide a good faith representation that they either own or possess appropriate licensing rights to all other intellectual property that will be utilized under their proposal for the SCITE Program.

## **6.B.4. Meeting and Travel Requirements**

Performers are expected to assume responsibility for administration of their projects and to comply with contractual and Program requirements for reporting, attendance at Program workshops and availability for site visits.

### **6.B.4.a. Workshops**

The SCITE Program intends to hold a Program-level Kick-Off meeting during the first month of the Program and then yearly Principal Investigator Meetings. These 2-day workshops will focus on technical aspects of the Program and on facilitating open technical exchanges, interaction and sharing among the various Program participants. Program participants will be expected to present the technical status and progress of their projects as well as to demonstrate their technical capabilities to other participants and invited guests at these events. For costing purposes, the offeror should expect the Kick-Off and the Year 2 workshops to be in the Washington, D.C., area and the Year 1 and Year 3 workshops to be in the Boston, MA area.

### **6.B.4.b. Site Visits**

Site visits by the Contracting Officer Representative and the SCITE Program Manager will generally take place yearly during the life of the Program and will occur during the period between Program-level workshops. These visits will occur at the Performer's facility. Reports on technical progress, details of successes and issues, contributions to the Program goals and technology demonstrations will be expected at such visits.

## **6.B.5. 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, namely 45 CFR Part 46, *Protection of Human Subjects* (<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html>).

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 sub-contractors, must also have a valid Assurance.

For all proposed research that will involve human subjects, the institution must provide evidence of or a plan for review by an Institutional Review Board (IRB) on final proposal submission to IARPA. 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 (45 CFR Part 46).

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between one to three months. No IARPA funding can be used towards human subject research until ALL approvals are granted.

In limited instances, human subject research may be exempt from Federal regulations for human subject protection, for example, under Department of Health and Human Services, 45 CFR 46.101(b). Offerors claiming that their research falls within an exemption from Federal regulations for human subject protection must provide written documentation with their proposal that cites the specific applicable exemption and explains clearly how their proposed research fits within that exemption.

#### **6.B.6. Publication Approval**

It is anticipated that research funded under this Program will be unclassified research that will not require a pre-publication review. However, performers should note that pre-publication approval of certain information may be required if it is determined that its release may result in the disclosure of sensitive intelligence information. A courtesy soft copy of any work submitted for publication must be provided to the IARPA Program Manager and the Contracting Officer Representative (COR), as well as a copy of the publication.

#### **6.B.7. Export Control**

(1) The offeror shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the offeror shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The offeror shall be responsible for obtaining export licenses, if required, before utilizing non-U.S. persons (as defined in the ITAR and EAR, as applicable) 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 non-U.S.

person will have access to export-controlled technologies, including technical data or software.

(3) The offeror shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The offeror shall appropriately mark all contract deliverables controlled by ITAR and/or EAR.

(5) The offeror shall be responsible for ensuring that the provisions of this clause apply to its sub-contractors.

(6) The offeror will certify knowledge of and intended adherence to these requirements in the representations and certifications of the contract.

#### **6.B.8. Subcontracting**

It is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as sub-contractors to contractors performing work or rendering services as prime contractors or sub-contractors under Government contracts and to assure that prime contractors and sub-contractors carry out this policy. Each offeror that submits a proposal that includes sub-contractors; is selected for funding (pending negotiations); and has proposed a funding level above the maximum cited in the FAR, may be asked to submit a sub-contracting plan before award, in accordance with FAR 19.702(a) (1) and (2). The plan format is outlined in FAR 19.704. Offerors must declare teaming relationships in their proposals and must specify the type of teaming arrangement in place, including any exclusive teaming arrangements. IARPA neither promotes, nor discourages the establishment of exclusive teaming agreements within offeror teams. Individuals or organizations associated with multiple teams must take care not to over-commit those resources being applied.

#### **6.B.9. Reporting**

Fiscal and management responsibility are important to the SCITE Program. Although the number and types of reports will be specified in the award document, all performers will, at a minimum, provide the Contracting Office, Contracting Officer Representative and the SCITE Program Manager with monthly technical reports and monthly financial reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed upon before award. Technical reports will describe technical highlights and accomplishments, priorities and plans, issues and concerns; will provide evaluation results; and will detail future plans. Financial reports will present an on-going financial profile of the project, including total project funding, funds invoiced, funds received, funds expended during the preceding month and planned expenditures over the remaining period. Additional reports and briefing material may also be required, as appropriate, to document progress in accomplishing program metrics.

Performers will prepare an annual report of their work at the conclusion of each Phase. The annual report will be delivered to the Contracting Agent, Contracting Officer Representative and the SCITE Program Manager. The report will include:

- Problem definition
- Findings and approach
- System design and solution

- Possible generalization(s)
- Anticipated path ahead

#### **6.B.10. System for Award Management (SAM)**

Selected offerors not already registered in the System for Award Management (SAM) may be required to register in SAM prior to any award under this BAA. Information on SAM registration is available at <http://www.sam.gov>.

#### **6.B.11. Representations and Certifications**

Prospective offerors may be required to complete electronic representations and certifications prior to award at <http://www.sam.gov>. Contract specific certification packages may be provided to the contractor for completion prior to award.

#### **6.B.12. Wide Area Work Flow (WAWF)**

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

#### **6.B.13. Lawful Use and Privacy Protection Measures**

All data gathered by performers must be obtained in accordance with U.S. laws and in compliance with the End User License Agreement, Copyright Laws, Terms of Service, and laws and policies regarding privacy protection of U.S. Persons. Before using such data, the performer must provide proof that the data was acquired in accordance with U.S. laws and regulations.

### **SECTION 7: AGENCY CONTACTS**

Administrative, technical or contractual questions concerning this BAA should be sent via e-mail to [dni-iarpa-baa-15-09@iarpa.gov](mailto:dni-iarpa-baa-15-09@iarpa.gov). If e-mail is not available, fax questions to 301-851-7672, Attention: IARPA-BAA-15-09. All requests must include the name, email address (if available), and phone number of a point of contact for the requested information. Do not send questions with proprietary content. IARPA will accept questions about the BAA until its closing. A consolidated Question and Answer response will be periodically posted on the IARPA website ([www.IARPA.gov](http://www.IARPA.gov)); no answers will go directly to the submitter.

Agency contact Information:

ATTN: IARPA-BAA-15-09  
Office of the Director of National Intelligence  
Intelligence Advanced Research Projects Activity  
(IARPA) Washington, DC 20511  
Fax: (301) 851-7672  
E-mail: [dni-iarpa-baa-15-09@iarpa.gov](mailto:dni-iarpa-baa-15-09@iarpa.gov)

Program Manager: Paul Lehner, Office for Anticipating Surprise

All emails must have the BAA number (IARPA-BAA-15-09) in the Subject Line.

# **APPENDIX A**

## **Academic Institution Acknowledgement Letter Template**

**IARPA Broad Agency Announcement**

**IARPA-BAA-15-09**

-- Please Place on Official Letterhead --

<insert date>

To: Mr. Thomas Kelso  
Chief Acquisition Officer  
ODNI/IARPA  
Office of the Director of National Intelligence  
Washington, D.C. 20511

Subject: Academic Institution Acknowledgement Letter

Reference: Executive Order 12333, As Amended, Para 2.7

This letter is to acknowledge that the undersigned is the responsible official of <insert name of the academic institution>, authorized to approve the contractual relationship in support of the Office of the Director of National Intelligence's Intelligence Advanced Research Projects Activity and this academic institution.

The undersigned further acknowledges that he/she is aware of the Intelligence Advanced Research Projects Activity's proposed contractual relationship with <insert name of institution> through <insert solicitation #> and is hereby approved by the undersigned official, serving as the president, vice-president, chancellor, vice-chancellor, or provost of the institution.

---

<Name>

Date

<Position>

# **APPENDIX B**

## **SAMPLE COVER SHEET**

for

### **VOLUME 1: Technical/Management Details**

#### **BROAD AGENCY ANNOUNCEMENT (BAA)**

**SCITE Program**

**IARPA-BAA-15-09**

(1) BAA Number	
(2) Research Thrust or Thrusts	
(3) Lead Organization Submitting Proposal	
(4) Type of Business, Selected Among the Following Categories: "Large Business", "Small Disadvantaged Business", "Other Small Business", "HBCU", "MI", "Other Educational", or "Other Nonprofit"	
(5) Contractor's Reference Number (if any)	
(6) Other Team Members (if applicable) and Type of Business for Each	
(7) Proposal Title	
(8) Technical Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(9) Administrative Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(10) Volume 1 no more than 30 pages if responding to one thrust, 45 pages if responding to both thrusts?	Yes/No
(11) Restrictions on Intellectual property rights details provided in Appendix G format (Attachment X)?	Yes/No
(12) OCI Waiver or Waiver Request [see Section 3.A.1] Included?	Yes/No
(12a) If No, is written certification included (Appendix D)?	Yes/No
(13) Are one or more U.S. Academic Organizations part of your team?	Yes/No
(13a) If Yes, are you including an Academic Institution Acknowledgement Statement with your proposal for each U.S. Academic Organization that is part of your team (Appendix A)?	Yes/No
(14) Total Funds Requested from IARPA and the Amount of Cost Share (if any)	\$
(15) Date Proposal as Submitted.	

# **APPENDIX C**

## **SAMPLE COVER SHEET**

for

### **VOLUME 2: Cost Proposal**

**BROAD AGENCY ANNOUNCEMENT (BAA)**

**SCITE Program**

**IARPA-BAA-15-09**

(1) BAA Number	
(2) Research Thrust or Thrusts	
(3) Lead organization submitting proposal	
(4) Type of Business, Selected Among the Following Categories: "Large Business", "Small Disadvantaged Business", "Other Small Business", "HBCU", "MI", "Other Educational", or "Other Nonprofit"	
(5) Contractor's Reference Number (if any)	
(6) Other Team Members (if applicable) and Type of Business for Each	
(7) Proposal Title	
(8) Technical Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(9) Administrative Point of Contact to Include: Title, First Name, Last Name, Street Address, City, State, Zip Code, Telephone, Fax (if available), Electronic Mail (if available)	
(10) Award Instrument Requested: Cost-Plus-Fixed-Fee (CPFF), Cost-Contract—No Fee, Cost Sharing Contract – No Fee or Other Type of Procurement Contract (specify)	
(11) Place(s) and Period(s) of Performance	
(12) Total Proposed Cost Separated by Basic Award and Option(s) (if any)	
(13) Name, Address, Telephone Number of the Offeror's Defense Contract Management Agency (DCMA) Administration Office or Equivalent Cognizant Contract Administration Entity, if Known	
(14) Name, Address, Telephone Number of the Offeror's Defense Contract Audit Agency (DCAA) Audit Office or Equivalent Cognizant Contract Audit Entity, if Known	
(15) Date Proposal was Prepared	
(16) DUNS Number	
(17) TIN Number	
(18) Cage Code	
(19) Proposal Validity Period [minimum of 180 days]	
(20) Cost Summaries Provided (Appendices E and F)	
(21) Size of Business in accordance with NAICS Code xxxxxx	

**APPENDIX D**

**Letter Template**

**For**

**Organizational Conflicts of Interest Certification Letter  
Template**

**IARPA Broad Agency Announcement (BAA)**

**SCITE Program**

**IARPA-BAA-15-09**

(Month DD, YYYY)

Office of the Director of National Intelligence  
Intelligence Advanced Research Projects Activity (IARPA)  
Office for Anticipating Surprise  
ATTN: Paul Lehner  
Washington, DC 20511

Subject: OCI Certification

Reference: SCITE, IARPA-BAA-15-09, (Insert assigned proposal ID#, if received)

Dear Dr. Lehner,

In accordance with IARPA Broad Agency Announcement IARPA-BAA-15-09, Section 3.A.1, *Organizational Conflicts of Interest (OCI)*, and on behalf of \_\_\_\_\_ (offeror name), I certify that neither \_\_\_\_\_ (offeror name), **nor any of our subcontractor teammates** has as a potential conflict of interest, real or perceived, as it pertains to the SCITE Program.

If you have any questions, or need any additional information, please contact (Insert name of contact) at (Insert phone number) or (Insert e-mail address).

Sincerely,

(Insert organization name) (Must be signed by an official that has the authority to bind the organization)

(Insert signature)

(Insert name of signatory)

(Insert title of signatory)

## **APPENDIX E**

### **Sample Prime Contractor Cost Element Sheet**

**For**

### **VOLUME 2: Cost Proposal**

**IARPA Broad Agency Announcement (BAA)**

**SCITE Program**

**IARPA-BAA-15-09**

PRIME CONTRACTOR COST ELEMENT SHEET [SAMPLE]					
Complete a Cost Element Sheet for the Base Period and <u>each</u> Option Period					
COST ELEMENT	BASE	RATE	AMT		
DIRECT LABOR (List each labor category separately. Identify Key Personnel by name.)	Hrs	\$			
TOTAL DIRECT LABOR			\$		
FRINGE BENEFITS	\$	%	\$		
TOTAL LABOR OVERHEAD	\$	%	\$		
SUBCONTRACTORS, IOTS, CONSULTANTS (List Separately. See below table)			\$		
MATERIALS & EQUIPMENT(list each material and equipment item separately)	qty	\$ unit price	\$		
SOFTWARE & INTELLECTUAL Property (List separately. See table below.)	\$	\$	\$		
TOTAL MATERIALS & EQUIPMENT			\$		
MATERIAL OVERHEAD	\$	%	\$		
TRAVEL (list each trip separately)	# of travelers	\$ price per traveler	\$		
TOTAL TRAVEL			\$		
OTHER DIRECT COSTS (list each item separately)	qty	\$ unit price	\$		
TOTAL ODCs			\$		
G&A	\$	%	\$		
SUBTOTAL COSTS			\$		
COST OF MONEY	\$	%	\$		
TOTAL COST			\$		
PROFIT/FEE	\$	%	\$		
TOTAL PRICE/COST			\$		
GOVERNMENT SHARE, IF APPLICABLE			\$		
RECIPIENT SHARE, IF APPLICABLE			\$		
<b>SUBCONTRACTORS/INTERORGANIZATIONAL TRANSFERS (IOT) &amp; CONSULTANTS PRICE SUMMARY</b>					
A	B	C	D	E	F
SUBCOBTRACTOR IOT & CONSULTANT NAME	SOW TASKS PERFORMED*	TYPE OF AWARD	SUBCONTRACTOR, IOT& CONSULTANT QUOTED PRICE	COST PROPOSED BY PRIME FOR THE SUBCONTRACTOR, IOT & CONSULTANT	DIFFERENC E (Column D - Column E) IF APPLICABL E
TOTALS					
*Identify Statement of Work, Milestone or Work Breakdown Structure paragraph, or provide a narrative explanation as an addendum to this Table that describes the effort to be performed.					

**APPENDIX F**

**Sample Subcontractor Cost Element Sheet**

**For**

**VOLUME 2: Cost Proposal**

**IARPA Broad Agency Announcement (BAA)**

**SCITE Program**

**IARPA-BAA-15-09**

SUBCONTRACTOR COST ELEMENT SHEET [SAMPLE]			
Complete a Cost Element Sheet for each applicable period			
COST ELEMENT	BASE	BURDENED RATE	AMT
DIRECT LABOR (List each labor category separately. Identify Key Personnel by name.)	# hrs	\$	\$
TOTAL DIRECT LABOR			\$
SUBCONTRACTORS, IOTS, CONSULTANTS			\$
MATERIALS & EQUIPMENT (List each material and equipment item separately.)	qty	\$ unit price	\$
TOTAL MATERIALS & EQUIPMENT			\$
TRAVEL (list each trip separately)	# of travelers	\$ price per traveler	\$
TOTAL TRAVEL			\$
OTHER DIRECT COSTS (List each item separately.)	qty	\$ unit price	\$
TOTAL OTHER DIRECT COSTS			\$
TOTAL PRICE/COST			\$

Software and Intellectual Property Costs		
Item	Cost	Date of Expiration
(List)		

## **APPENDIX G**

### **Restrictions on Intellectual Property Rights**

**For**

**VOLUME 1: Technical and Management Proposal**

**(OPTIONAL)**

**IARPA Broad Agency Announcement (BAA)**

**SCITE Program  
IARPA-BAA-15-09**

### Noncommercial Items (Technical Data and Computer Software)

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

**Description of restrictions on Government’s ability to use, modify, reproduce, release, perform, display, or disclose technical data, computer software, and deliverables incorporating technical data and computer software listed above:**

**Potential cost to the Government to acquire GPR in all deliverables incorporating the technical data and computer software listed above:**

**Intended use of the technical data and computer software listed above in the conduct of the proposed research:**

### Commercial Items (Technical Data and Computer Software)

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

### Patents

PATENTS			
Patent number (or application number)	Patent name	Inventor name(s)	Patent owner(s)
(LIST)	(LIST)	(LIST)	(LIST)

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