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BROAD AGENCY ANNOUNCEMENT

IARPA-BAA-11-04



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METAPHOR PROGRAM

Incisive Analysis

IARPA-BAA-11-04

Release Date: May 20, 2011

IARPA

BROAD AGENCY ANNOUNCEMENT: IARPA-BAA-11-04

METAPHOR PROGRAM

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PART ONE: OVERVIEW INFORMATION

This publication constitutes a Broad Agency Announcement (BAA) and sets forth research areas of interest in the area of metaphor analysis, cognitive linguistics, cultural diversity, computational linguistics, social science research methods, principles of story and narrative formulation. 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 of Incisive Analysis
- **Funding Opportunity Title** – Metaphor Program
- **Announcement Type** – Initial
- **Funding Opportunity** – IARPA-BAA-11-04
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – Not applicable
- **Proposal Due Date:** July 19, 2011
- **Anticipated individual awards** – Multiple awards are anticipated
- **Types of instruments that may be awarded** – Procurement contract
- **Agency Points of Contact**
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- **Program website:** http://www.iarpa.gov/solicitations_metaphor.html
- **BAA Summary:**

The Metaphor Program will exploit the fact that metaphors are pervasive in everyday talk and reveal the underlying beliefs and worldviews of members of a culture. In the first phase of the two-phase program, performers will develop automated tools and techniques for recognizing, defining and categorizing linguistic metaphors associated with target concepts and found in large amounts of native-language text. The resulting conceptual metaphors will be validated using empirical social science methods. In the second phase, the program will characterize differing cultural perspectives associated with case studies of the types of interest to the Intelligence Community. Performers will apply the methodology established in the first phase and will identify the conceptual metaphors used by the various protagonists, organizing and structuring them to reveal the contrastive stances.

Questions: IARPA will accept questions about the BAA until July 5, 2011. A consolidated Question and Answer response will be publicly posted every few days on the IARPA website www.iarpa.gov; no answers will go directly to the submitter. Questions about administrative, technical or contractual issues must be submitted to the BAA e-mail address at dni-iarpa-baa-11-04@ugov.gov. If e-mail is not available, fax questions to 301-851-7673, Attention: IARPA-BAA-11-04. All requests must include the name, e-mail address (if available) and phone number of a point of contact for the requested information. Do not send questions with proprietary content. Offerors are strongly encouraged to read the frequently asked questions found on IARPA's website at <http://www.iarpa.gov/faq.html> before submitting questions.

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 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 Metaphor Program. The use of a BAA solicitation allows a wide range of innovative ideas and concepts. The Metaphor Program is envisioned to begin in November 2011 and end by November 2016.

The Metaphor Program will exploit the fact that metaphors are pervasive in everyday talk and reveal the underlying beliefs and worldviews of members of a culture. In the first phase of the two-phase program, performers will develop automated tools and techniques for recognizing, defining and categorizing linguistic metaphors associated with target concepts and found in large amounts of native-language text. The resulting conceptual metaphors will be validated using empirical social science methods. In the second phase, the program will characterize differing cultural perspectives associated with case studies of the types of interest to the Intelligence Community. Performers will apply the methodology established in the first phase and will identify the conceptual metaphors used by the various protagonists, organizing and structuring them to reveal the contrastive stances.

1.A. Program Overview

1.A.1. Background

For decision makers to be effective in a world of mass communication and global interaction, they must understand the shared concepts and worldviews of members of other cultures of interest. Recognizing cultural norms is a significant challenge, however, because they tend to be hidden. Even cultural natives have difficulty defining them because they form the tacit backdrop against which members of a culture interact and behave. We tend to notice them only when they are in conflict with the norms of other cultures. Such differences may cause discomfort or frustration and may lead to flawed interpretations about the intent or motivation of others. If we are to interact successfully on the world stage, we must have resources that will help us recognize norms across cultures. The Metaphor Program will exploit the use of metaphors by different cultures to gain insight into their cultural norms.

Metaphors have been known since Aristotle (*Poetics*) as poetic or rhetorical devices that are unique, creative instances of language artistry (e.g., *The world is a stage*). Over the last 30 years, metaphors have been shown to be pervasive in everyday language and to reveal how people in a culture define and understand the world around them.

- Metaphors shape how people think about complex topics and can influence beliefs.
- Metaphors can reduce the complexity of meaning associated with a topic by capturing or expressing patterns.
- Metaphors are associated with affect; affect influences behavior.

- Research on metaphors has uncovered inferred meanings and worldviews of particular groups or individuals: Characterization of disparities in social issues and contrasting political goals; exposure of inclusion and exclusion of social and political groups; understanding of psychological problems and conflicts.

The program is designed to produce the following outcomes.

- A methodology, tools and techniques together with a prototype system that will identify metaphors that provide insight into cultural beliefs.
- A structured framework that organizes the metaphors associated with the various dimensions of an analytic problem.
- A metaphor repository in which all metaphors and related information are captured for future reference and access.

1.A.2. Program Structure

The Metaphor Program is divided into two phases (see Figure 1). In the first phase, the program will develop and test methodologies for the automated discovery, definition and categorization of linguistic metaphors found in large amounts of native-language text. These methodologies will produce conceptual metaphors that capture aspects of the tacit knowledge of the culture. The Program Manager (PM) of the Metaphor Program will select metaphor target concepts for Phase 1 analysis. The target concepts will be abstract concepts and social issues (e.g., the future, obesity) and will be increasingly challenging to analyze. In the second phase, the metaphor discovery methodology will be applied to case studies in order to reveal underlying cultural contrasts and similarities. Case studies in Phase 2 will represent contrastive views of events and validation or refutation of stated beliefs.



Figure 1: Program Overview

Phase 1 consists of a base period of 12 months (Phase 1a) with two option periods of 12 months each (Phase 1b and Phase 1c) for a total of 36 months. Phase 2 consists of two option periods of 12 months each (Phase 2a and Phase 2b) for a total of 24 months. Funding for the option periods will depend on progress toward the program goals, the availability of funds and IARPA priorities.

The phases are described in more detail in Sections 1.A.4. to 1.A.9. Offerors must address both phases of the program in their proposals.

1.A.3. Program Features

(1) Languages and Cultures

- The metaphor analysis and case studies will represent four languages/cultures: American English, Iranian Farsi, Russian Russian and Mexican Spanish.
- In Phase 1, all four languages/cultures will be addressed concurrently.
- In Phase 2, the case studies will address all four languages/cultures. However, any single case study may involve all or a subset of the languages/cultures.

(2) Program Definitions

- *Culture*
Culture is a set of values, attitudes, knowledge and patterned behaviors shared by a group. It can be transmitted through symbols (e.g., language) and social interaction.
- *Metaphorical Language*
Traditionally, a *metaphor* is a poetic or rhetorical device in which a word or phrase is used to refer to something that it does not literally denote in order to suggest a similarity. It is generally of the form X is Y: *The world is a stage*.

Metaphors have been shown to be pervasive in everyday talk and to reflect the underlying concepts and unconscious beliefs that people share. *Linguistic metaphors* are those that are used in everyday language. For instance, when we talk about time, we use metaphors like *You spend far too much time playing golf; that traffic jam cost me three hours; let me borrow just a couple of minutes*.

A *conceptual metaphor* represents a shared and conventional understanding of the relationship between a concrete concept and a more abstract concept. Based on the linguistic metaphors above, time can be said to be conventionally understood in terms of money and can be represented by the conceptual metaphor, *Time is Money*.

- *Target, Source and Mapping*
The *source* of the metaphor is the concept from which we draw metaphorical expressions (e.g., Life is a *Journey*). Sources are generally concrete and related to physical and bodily experience. The *target* is the concept that we are trying to understand (e.g., *Life* is a Journey). Targets are generally psychological/mental states, social groups/processes and personal experiences/events.

The relationship between the target and the source is defined by *mapping* principles. These mappings describe analogical reasoning and inference processes.

- *Metonymy*
Metonymy is the use of a different name for an item based on a recognized association of a feature with the whole, e.g., *The ham sandwich at Table 2 needs another cup of coffee*. Metonymy may be used in some cultures as a device similar to metaphor.

(3) Figurative Language

The only types of figurative language that are included in the program are metaphors and metonymy.

- Metonymy may be proposed in addition to but not instead of metaphor analysis. Those interested in metonymy must explain why metonymy is required, what metonymy adds to the analysis and how it complements the proposed work on metaphors.
- Offerors must describe how they will validate all metonyms discovered using empirical social science methods.
- Any metonyms that are analyzed must be included in the metaphor repository, which must be designed to differentiate metonyms from metaphors.
- Offerors must provide explicit reference to any approaches that involve metonyms or it will be assumed that metonyms are not included in the proposed research.

(4) Textual Data

- Performers are required to gather large amounts of textual data for development in each native language of interest. English translations are not acceptable.
- All textual data gathered must be approved for use by the appropriate authorities, taking into account Terms of Use, licensing, IRB issues and proprietary claims. See Sections 6.B.5., 6.B.13. and 4.B.1. (Section 3.D.).
- Excluded from the program are advertising and marketing products; graphics, photos, video; non-verbal communication; audio materials.

(5) Metaphor Repository

- Each performer team will design and develop a metaphor repository.
- Semantic frames that result from the analysis of the linguistic metaphors, their conceptual metaphor categories, their supporting evidence (i.e., the linguistic metaphor examples in context) and associated affect will be stored in the metaphor repository for future access, updating and comparison.

(6) Validation

During both phases, performers will be expected to employ empirical social science methods to validate their results. Offerors must describe how they plan to carry out these experiments and provide the preliminary information required for use of human subjects. See Human Use, Section 6.B.5. and Section 4.B.1. (Section 3.D.).

(7) Teams

Collaborative efforts and teaming among potential performers is strongly encouraged. It is anticipated that teams will be multidisciplinary with personnel with capabilities in such disciplines and research areas as cognitive linguistics, (cultural) anthropology, (social/cognitive) psychology, metaphorical language research, natural language processing, cultural analysis, semantics/ontologies, and multiple languages.

(8) Out of Scope

The following topics are not within scope for the Metaphor Program. Proposals that focus on these issues will be considered non-compliant.

- Attitudes and opinions: Excluded are opinion mining, sentiment analysis, viral spread of information and similar activities.

1.A.4. Phase 1: Metaphorical Language Analysis Methodology

The performer will define a methodology and develop the requisite tools to accomplish all of the tasks depicted and described below. In Phase 2, languages/cultures will be analyzed separately.

The outcomes of Phase 1 are:

- An automated methodology, tools, techniques and prototype system for discovery and definition of conceptual metaphors and affect associated with them.
- A metaphor repository that will support the definition of, capture of and access to validated conceptual metaphors.

For a given target concept (provided by the Government team), performers will automate the following tasks. The proposal will address how these tasks will be accomplished. (See Figure 2.)

- (1) Define and Gather Large Amounts of Textual Data
- (2) Identify and Gather Linguistic Metaphors from the Textual Data
- (3) Generate a Semantic Frame and Propose a Conceptual Metaphor
- (4) Identify Affect Associated with the Conceptual Metaphor
- (5) Populate a Metaphor Repository

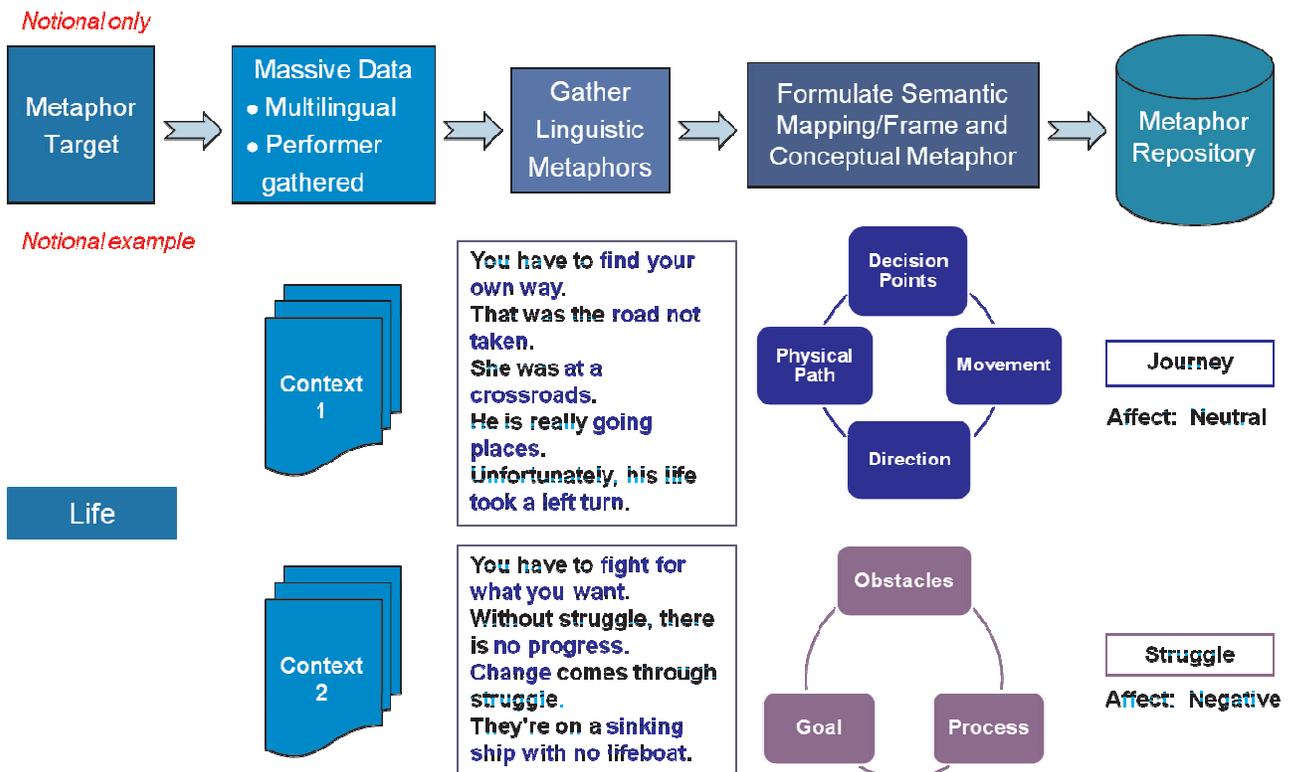


Figure 2: Metaphorical Language Analysis Process

1.A.5. Phase 2: Case Study Analysis

The goal of Phase 2 of the program is to apply the metaphorical language analysis methodology developed in Phase 1 to case studies that exhibit contrastive views of world events, that showcase events where different cultural perspectives are at odds or that involve situations in which claimed and underlying beliefs appear to be in conflict.

Case studies will yield metaphors that are specific to the case studies as well as metaphors general to the culture. Case study analysis will therefore be challenging.

Each case study will involve one or more of the languages/cultures analyzed in Phase 1.

The outcome of Phase 2 of the program is

- A refined methodology that addresses culture-, context- and sub-culture-specific use of metaphors.
- A constituent framework that structures and organizes the conceptual metaphors associated with the various dimensions of the case study.
- Enhanced definition of, augmented population of and improved access to the metaphor repository.

For a given case study (provided by the Government team), performers will carry out the following tasks. Offerors will define and develop an approach to accomplishing the tasks depicted and described below. (See Figure 3.)

- (1) Define and Gather Relevant Textual Data
- (2) Apply the Metaphorical Language Analysis Methodology (developed in Phase 1)
- (3) Develop and Populate a Constituent Framework
- (4) Revise and Populate the Metaphor Repository

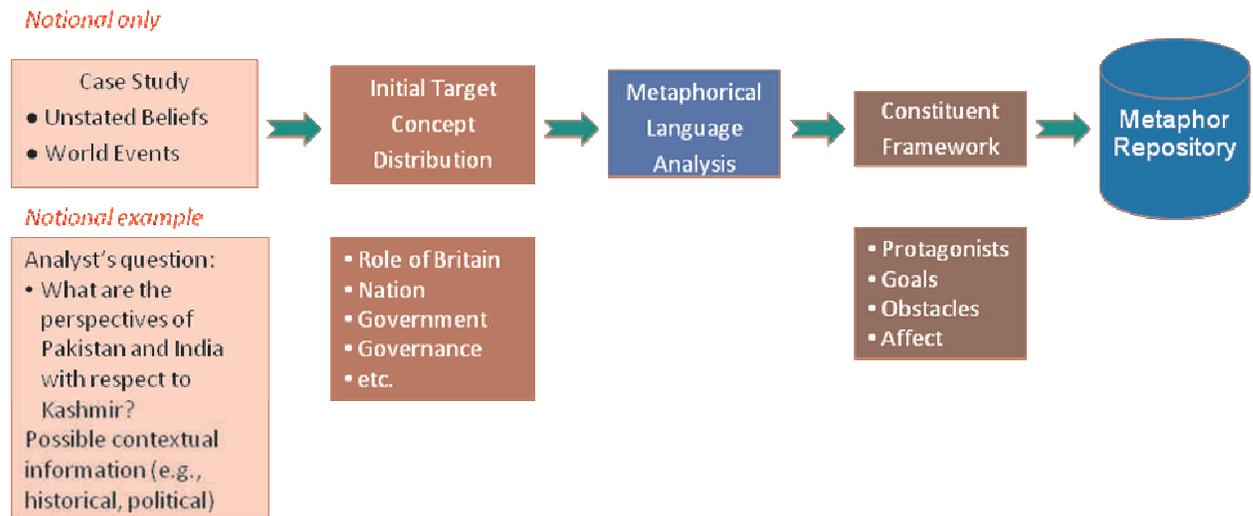


Figure 3: Case Study Analysis Process

1.A.6. Program Details - Phase 1: Metaphorical Language Analysis Methodology

Phase 1a of the Metaphor Program will establish the foundation for the metaphorical language analysis methodology. Phase 1b and Phase 1c will provide the opportunity to

enhance the methodology. Offerors will clearly define and describe their concept of the metaphorical language analysis methodology described in Section 1.A.4. and their approach to automation of the process. Required features of the metaphorical language analysis methodology are detailed below.

1.A.6.a. Metaphor Target Concepts

The Government will provide teams with target concepts for which each performer will develop its own end-to-end metaphorical language analysis methodology. The target concepts will be abstract or social concepts and will introduce various challenges in the development of the metaphorical language analysis methodology.

- All target concepts are to be interpreted abstractly (e.g., *democracy* as an abstract concept; *AIDS* as an abstract social issue).
- The targets may be constrained by specific contexts or sub-cultures.
- The analysis of each target concept will be on native-language data in all four languages concurrently.
- Four target concepts are anticipated for Phase 1.

One target concept will be supplied at the start of Phase 1a; the second at the beginning of Phase 1b and the third at the beginning of Phase 1c.

At the mid-point of Phase 1c, performers will receive a fourth target concept and other contextual information. The analysis of this target concept will foreshadow the work in Phase 2. Preliminary efforts to correlate conceptual metaphors with the protagonists and situation involved will be expected. Performers will complete the analysis of the fourth target concept by the end of Phase 1c.

The Phase 1 target concepts will be increasingly challenging (e.g., with fewer constraints or broader cultural occurrence) and will require enhancement of the methodology at each stage. (The Government leaves open the possibility that more than one target concept will be given to the researchers at one time, depending on the success of the teams at addressing the target concepts provided.)

1.A.6.b. Textual Data

Offerors must discuss how they will address the identification and gathering of significant amounts of textual data. Although the target concepts are not provided in this BAA, offerors must specify strategies for how relevant textual data will be selected, gathered and filtered. Data sets must be of sufficient size and diversity to ensure that multiple linguistic metaphor examples occur. Amounts of textual data are expected to be large but this may vary with the target. Offerors will also include a description of iterative data gathering efforts to anticipate the possibility that the data do not contain a sufficient number of linguistic metaphors for analysis.

- Once the program begins, performers will submit to the Government for review a textual data plan that defines and characterizes the data for the initial target concept, with revisions in the data plan submitted to the Government for each subsequent target concept. The plan will include a description of the amount of data; methods of data selection; diversity of the sources; cultures and or sub-cultures covered; language(s); likelihood of occurrence of linguistic metaphors;

relevance of the data topically and structurally; reasons for excluding data; data types; and other issues, like IRB approvals, Terms of Use, licensing status and approvals. All textual data gathered must be approved for use by the appropriate authorities, taking into account Terms of Use, licensing, IRB issues and proprietary claims. See Sections 6.B.5., 6.B.13. and 4.B.1. (Section 3.D.).

The Government team will undertake periodic and selective reviews of the performers' textual data for validation and verification purposes.

1.A.6.c. Linguistic Metaphors

The Government is seeking creative, automated solutions to identifying linguistic metaphors in textual data. Linguistic metaphors may be inferred from the context in which they occur; that is, not all linguistic metaphors will be explicitly or overtly mentioned. Strong inferencing tools and techniques are expected.

- All linguistic metaphors must be discovered in the textual data, not manually created.
- Multiple examples of linguistic metaphors are required for a conceptual metaphor. Multiple occurrences of the same linguistic metaphor that are duplicates or near-duplicates (e.g., ones occurring in the same newswire article appearing in multiple newspapers, on multiple websites) do not constitute multiple examples. Frequency of occurrence must be tracked but indication of duplication must be included.
- All linguistic metaphors must be stored with the textual context in which they occur.

1.A.6.d. Conceptual Metaphors and Their Mapping

The Government is seeking innovative solutions to the automatic construction of one or more conceptual metaphors based on the semantics of the linguistic metaphors discovered in the data. The target concept is the one we are trying to understand; the source concept is the one from which we draw metaphorical expressions. The conceptual metaphor is formed from the target and source and the semantic mapping between them.

1.A.6.e. Determination of Affect

Affect is important because it influences behavior; metaphors have been associated with affect. Offerors must specify how they will identify affect associated with any and all conceptual metaphors that they formulate and the affect values that they will use to differentiate affective characteristics.

1.A.6.f. Metaphor Repository

Offerors must creatively define the semantics and functionality of a metaphor repository that will accept, store and support various types of access to the results of the metaphor analyses. The metaphor repository will minimally include: all linguistic metaphors in context and their frequencies of occurrence; all conceptual metaphors derived from the linguistic metaphors; the semantic frame and mapping associated with the conceptual metaphor; correlations with other metaphors; various metadata (e.g., topic, language, country, time, source type, sub-culture); constraints on social, cultural, sub-cultural use; the affect associated with the conceptual metaphor; and access and updating strategies that support rudimentary searching and changes over time.

The initial version of the metaphor repository will be delivered at the end of Phase 1a. The metaphor repository will be enhanced and updated based on the research done in Phases 1b and 1c. A report of the features, enhancements and changes will be due at each delivery point. A review of the schema and functionality will take place at each delivery point.

1.A.6.g. Metaphor and Affect Validation

Performers will validate all conceptual metaphors identified in the metaphorical language analysis and their semantic frames using empirical social science methods, e.g., experimental design informed by priming, retelling, message framing. (See Section 1.B. for evaluation details.)

Offerors must describe the empirical social science methods that will be used to validate each conceptual metaphor and its semantic frame. At a minimum, approaches to validation must be clearly relevant to the validation of conceptual metaphors and must be general enough to apply to multiple cases. Experience in experimental design must be indicated.

Affect associated with each conceptual metaphor will be validated using empirical social science methods. Results will be stored with the conceptual metaphors in the metaphor repository.

Validation results will be delivered and evaluated according to the schedule in Table 2.

1.A.7. Program Work Products – Phase 1

Offerors will deliver all work products at the end of Phase 1a, 1b and 1c.

The outcome of Phase 1 of the program is NOT a highly engineered system but a methodology, a well-established and functioning prototype system and tools, techniques and technologies that can be used as the basis for a system in the future.

- Teams will produce and deliver a formal description of the methodology, prototype system and tools developed for the metaphorical language analysis and a functioning prototype.
- The teams will describe how the tools and techniques apply to the various stages of the metaphorical analysis, deliver these tools to the Government and describe the effectiveness of the tools, their extensibility and challenges that remain.
- The teams will deliver all experimental designs and results.
- The teams will deliver the metaphor repository with a description and definition of the repository design, the semantic principles that were used and all results from the analysis of the linguistic and conceptual metaphors. Discussion of the outstanding issues, lessons and future directions will be included.

1.A.8. Program Details - Phase 2: Case Study Analysis

Proposals must describe novel and efficient automated approaches to addressing all of the following Phase 2 tasks.

1.A.8.a. Case Studies

The Government will supply research teams with three case studies. (See Table 2 for case-study distribution, validation and delivery schedule.) The case studies will involve various cultures, sub-cultures, issues causing friction and contrasting views. Teams will apply the end-to-end metaphorical language analysis methodology developed in Phase 1. Analysis will require enhancement of the methodology at each stage.

For each case study, the Government will supply a basic question, issue or problem; initial target concept(s) that appear(s) to play a role in the problem statement; and brief, relevant contextual, historical, political information about the topic. This information may include features such as

- The principal protagonists (i.e., the central figures in the situation)
- The apparent stalemate or stance of each “side”
- Possible underlying differences in worldview

A list of references to sample conceptual metaphor studies is provided in Appendix E. These references are for example purposes only and should not be understood to contain a framework to be proposed. It is important for offerors to create and motivate their own approach and constituent framework.

1.A.8.b. Initial Target Concept Distribution and Metaphorical Language Analysis

Performers will be given a small set of target concepts that are relevant to the case study problem. They will be expected to expand that list as the problem understanding unfolds; how they will approach this expansion should be addressed in the proposal. Textual data relevant to the topic must be carefully defined, representing the topic but also the various perspectives on the topic. It may be that the data suggest an additional protagonist or a variety of concepts not initially identified, so additional, relevant data may be needed. All textual data gathered must be approved for use by the appropriate authorities, taking into account Terms of Use, licensing, IRB issues and proprietary claims. See Sections 6.B.5., 6.B.13. and 4.B.1. (Section 3.D.).

The research team’s metaphorical language analysis methodology will be applied in its entirety to the case study analysis. Performers will formulate conceptual metaphors for all target concepts that provide insight into the various dimensions of the problem. Both contrasts and similarities across cultural perspectives and beliefs are of interest.

1.A.8.c. Constituent Framework

Because the case studies are likely to result in several conceptual metaphors that reveal insights into different dimensions of a problem, it will be helpful to have a structure that can reduce the complexity of the problem. The constituent framework is such a structure. It will provide a way to organize the metaphors that are discovered into different dimensions of the problem. The performer system will assign the conceptual metaphors to the various aspects of the constituent framework.

Offerors will clearly define the constituent framework that can best capture the dimensions of case studies. The approach must result in a generalized construct that can be used for various case studies. Dimensions might include elements such as the

protagonists; protagonists' goals; obstacles to goals; and affect; but offerors must propose their own constituent framework.

1.A.8.d. Metaphor Repository

Offerors will make clear how the metaphor repository will be enhanced and altered to accommodate all constituent framework features resulting from the case study analysis.

The initial Phase 2 version of the metaphor repository will be delivered on completion of Phase 2a. The final version will be delivered at the end of Phase 2b. A report of the features and changes will be due on completion of each case study analysis.

1.A.8.e. Metaphor and Affect Validation

To measure the correspondence of the conceptual metaphor and its semantics with native-speaker knowledge, performers will use empirical social science methods to validate each conceptual metaphor and its semantic frame developed for each case study. Offerors must describe these methods. Approaches to validation must be clearly relevant to the validation of conceptual metaphors in the context of the case study. All results will be stored in the metaphor repository. (See Section 1.B. for evaluation details.)

Affect associated with each conceptual metaphor will be validated using empirical social science methods. Results will be stored with the conceptual metaphors in the metaphor repository.

Validation results will be delivered and evaluated at three points in Phase 2, as indicated in the schedule in Table 2.

To measure the overall value of a case study constituent framework, the Government team will undertake a thematic analysis of the metaphorical concepts proposed. A thematic analysis is a qualitative approach to data analysis. Data are gathered from human subjects using qualitative methods, such as structured interviews or focus groups. The resulting data are analyzed to identify common themes. In-country native speakers of a language will be the subjects. An expert panel selected by the Government team from multiple disciplines (e.g., cognitive linguist, sociolinguist, social psychologist, cultural anthropologist) will compare the constituent elements resulting from the metaphor analysis with the themes from the thematic analysis to determine the accuracy of the conceptual metaphors at defining the cultural view.

1.A.9. Program Work Products – Phase 2

Offerors will deliver all Phase 2 work products at the end of Phase 2a and Phase 2b. The outcome of Phase 2 of the program includes the following:

- Performers will produce and deliver a revised formal description of the methodology, a functioning prototype system and tools developed for the metaphorical language analysis and for its application to case study analysis.
- Performers will produce and deliver a formal description of a generalized constituent structure, defining its value as a construct that can organize and present contrasting and similar cultural perspectives through the distribution of conceptual metaphors.

- The performers will deliver all experimental designs and results.
- The performers will deliver a populated metaphor repository with a description and definition of the repository design, the semantic principles that were used and all results from the analysis of the linguistic and conceptual metaphors. Discussion of the outstanding issues, lessons learned and future directions will be included.

1.B. Program Milestones, Metrics, Waypoints and Timeline

The Government will use the following Program Milestones, Metrics and Waypoints to evaluate the effectiveness of proposed solutions in achieving the stated program objectives and to determine whether satisfactory progress is being made to warrant continued funding of the program. These metrics are intended to bound the scope of effort, while affording maximum flexibility, creativity, and innovation in proposing solutions to the stated problem.

1.B.1. Program Milestones and Metrics

In all periods of Phase 1 and Phase 2, performers will validate, using empirical social science methods, all conceptual metaphors identified in the metaphorical language analysis, their semantic frames (i.e., the mapping) and the affect associated with them. Evaluations will determine

- 1) The percentage of native speakers (by culture or sub-culture, as appropriate) that correlate the system-proposed source with the target of the conceptual metaphor: *An Argument is a Building*.
- 2) The percentage of native speakers that associate the semantic frame/categories (i.e., the mapping elements) proposed by the performer-system with the conceptual metaphor, e.g., *An Argument is a Building*: Construction (*build*), Structure (*framework, foundation*), and Strength (*strong, solid*). (See Figure 2.)
- 3) The percentage of native-speakers that assign the same system-determined affect value to the conceptual metaphor. *An Argument is a Building* is neutral.

Target metrics for each target concept in all four languages/cultures in all evaluations in Phase 1 and Phase 2 are listed below. As noted in 1.A., offerors must describe the empirical social science methods they will employ to accomplish the above evaluations.

In Phase 2, the Government will employ an expert panel to judge the degree to which the conceptual metaphors identified with the case study accurately correspond to the themes identified in the thematic analysis. (See Section 1.A.8.e.) The themes form the evaluation baseline. The percentage of conceptual metaphors identified by the performer system that correspond to the Thematic Analysis themes forms the Thematic Analysis Metric. For example, the performer system identifies the conceptual metaphor, *Work is a Burden*. The thematic analysis produced the same theme, so it is considered a match. An analysis of the outliers (i.e., disagreements or additions) will focus on identifying additional semantic issues and framing that were missed in the case study analysis or the thematic analysis. Thematic analysis target metrics for each case study addressed in the Case Study Analysis of Phase 2 are listed below.

PHASE 1 Program Metrics			
Metaphorical Language Analysis Methodology	Delivery of Results	Metaphor Metric	
Target concept #1	Month 11	65%	
Target concept #2	Month 23	75%	
Target concept #3	Month 29	80%	
Target concept #4	Month 35	80%	
PHASE 2 Program Metrics			
Case Study Analysis	Delivery of Results	Metaphor Metric	Thematic Analysis Metric
Case study #1	Month 47	65%	80%
Case study #2	Month 53	75%	80%
Case study #3	Month 59	80%	80%

Table 1: Program Metrics

The use of the metaphorical language analysis methodology and the population of the constituent framework with conceptual metaphors are time critical if they are to provide value to Intelligence Analysts. Time will, therefore, be an important principle throughout the program. Phase 1c and Phase 2b will each contain two tasks that will address the effectiveness of the performer prototype system within time constraints. (See Table 2 for schedule details.)

1.B.2. Program Waypoints

Program waypoints provide the opportunity for the Government to determine that progress toward program goals is being made. Government waypoints will occur at the mid-points of Phases 1a, 1b and 2a. (See (4) below for mid-point deliverables for Phases 1c and 2b.) Performer teams will test progress against these waypoints and present results to the Government team.

- (1) Phase 1a, each performer team will demonstrate its automated linguistic metaphor gathering process and will produce 10 distinct linguistic metaphors for the target concept in English and 10 distinct linguistic metaphors in one other language. The results will be presented at Month 5.
- (2) In Phase 1b, each performer team will demonstrate its metaphorical language analysis prototype (to date) and will produce 15 distinct linguistic metaphors for the target concept in each of the four languages. The results will be presented at Month 17.
- (3) In Phase 2a, each performer team will demonstrate its metaphorical language analysis prototype and will produce 15 distinct linguistic metaphors for each of two target concepts in each of the languages in case study #1. The results will be presented at Month 41.
- (4) At the mid-point of Phase 1c and Phase 2b, performers will deliver validation results for the metaphorical language analysis of target concept #3 and for the case study analysis of case study #2, respectively. Results will be presented at Month 29 and Month 53.

Offerors are expected to describe additional quantitative waypoints that will measure progress specific to a team's approach. For Phase 1, these waypoint metrics should demonstrate progress in the metaphorical language analysis methodology toward the

formulation of conceptual metaphors. For Phase 2, these waypoint metrics should demonstrate progress in applying the metaphorical language analysis methodology to the case studies and building the constituent framework. Offerors must include a clear description and definition of each waypoint, the metrics, and an evaluation plan. Results will be presented at the mid-point of Phases 1a, 1b and 2a (Months 5, 17 and 41).

1.B.3. Program Timeline

The Government will use the following timeline and milestones to help the program maintain its 60-month program schedule.

PROGRAM TIMELINE		
Month after Program Start	Description of Event	Purpose
PHASE 1: Metaphorical Language Analysis Methodology		
Phase 1a (Base Period)		
1	Kick-Off Meeting	Present Phase 1 project plan
1	Government team will distribute target concept #1 to performer teams	
2	Deliver to Government team textual data plan for review and approval and copy of IRB submission	
5	Site Visit #1	<ul style="list-style-type: none"> •Review project status: e.g., data plan, IRB status, methodology development. •Present Phase 1a program-defined and performer-defined waypoint results
6	Provide copy of IRB institutional and DoD approvals for experimental designs to Government team for review	
10	Site Visit #2	Review project status: e.g., data plan, IRB status, methodology development.
10	Review of experimental design and protocols by Government testing experts	
11	Deliver to Government team: 1) metaphor, semantic frame and affect validation results for target concept #1; 2) metaphorical language analysis methodology description and functioning initial proof of concept; and 3) description of initial, populated metaphor repository	
12	PI Meeting #1	Discuss, review approach to methodology development; issues and challenges
12	Deliver to Government team final Phase 1a reports	Detailed descriptions,

	and work products; demo of initial metaphorical language analysis methodology proof of concept; demo of initial, populated metaphor repository	tools, algorithms and functional prototype
12	Notification of Award to continue to Phase 1b	
PHASE 1b (Option Period #1)		
13	Government team will distribute target concept #2 to performer teams	
13	Submit to the Government team: 1) revised textual data plan; 2) copy of IRB institutional and DoD approvals for experimental design update	
17	Site Visit #3	<ul style="list-style-type: none"> • Review project status: e.g., data plan, IRB status, methodology development. • Present Phase 1b program- defined and performer-defined program-defined waypoint results
22	Site Visit #4	Review project status: e.g., data plan, IRB status, methodology development.
22	Review of experimental design and protocols by Government testing experts	
23	Deliver to Government team: 1) metaphor, semantic frame and affect validation results for target concept #2; 2) revised metaphorical language analysis methodology description and enhanced prototype; 3) description and enhanced, populated metaphor repository	
24	PI Meeting #2	Discuss, review approach to methodology development; issues and challenges
24	Deliver to Government team Phase 1b reports and work products: Final reports, tools, technologies, prototype of methodology, metaphor repository; demo of enhanced, populated metaphor repository; demo of Phase 1b prototype	Detailed descriptions, tools, algorithms and functional prototype
24	Notification of Award to continue to Phase 1c	
PHASE 1c (Option Period #2)		
25	Government team will distribute target concept #3 to performer teams	
25	Submit to the Government team: 1) revised textual data plan; 2) copy of IRB institutional and DoD approvals for experimental design update	
28	Review of experimental design and protocols by Government testing experts	
29	Deliver to the Government team: 1) metaphor, semantic frame and affect validation results for target concept #3; 2) revised metaphorical language analysis methodology description and enhanced prototype; 3) description and enhanced, populated	

	metaphor repository	
31	Government team will distribute target concept #4 to performer teams	
31	Site Visit #5	Review project status: e.g., data plan, IRB status, methodology development.
31	Submit to Government team: 1) revised textual data plan; copy of IRB institutional and DoD approvals for experimental design update	
34	Review of experimental design and protocols by Government testing experts	
35	Deliver to the Government team: 1) metaphor, semantic frame and affect validation results for target concept #4; 2) revised metaphorical language analysis methodology description and enhanced prototype; 3) description and enhanced, populated metaphor repository	
36	PI Meeting #3	Discuss, review approach to methodology development; issues and challenges
36	Deliver to the Government team final Phase 1c reports and work products: Final reports, tools, technologies, prototype of methodology, metaphor repository; demo of enhanced, populated metaphor repository; demo of final Phase 1 metaphor analysis methodology prototype	
36	Notification of Award to continue to Phase 2a	
PHASE 2a (Option Period #3)		
37	Government team will distribute case study #1 to performer teams	
37	Deliver to Government team: 1) revised textual data plan; 2) copy of IRB institutional and DoD approvals for experimental design update; 3) report on case study definition, any needed expansion of the problem, description and approach to the metaphor analysis; 4) initial constituent framework	
41	Site Visit #6	<ul style="list-style-type: none"> • Review project status: e.g., data plan, IRB status, methodology development; constituent framework • Present program- and performer-waypoint results for case study #1
46	Site Visit #7	Review project status: e.g., data plan, IRB status, methodology development; constituent framework
46	Review of experimental design and protocols by Government testing experts	
47	<ul style="list-style-type: none"> • Complete case study #1 analysis. • Deliver to the Government team: 1) metaphor, semantic frame and affect validation results for case study #1; 2) initial populated constituent framework 	

	and report on anticipated enhancements; 3) enhanced metaphor repository and report. • Thematic Analysis of case study #1 performed by Government team	
48	PI Meeting #4	Discuss, review approach to case study analysis, constituent framework definition and development; issues and challenges
48	Deliver final to Government team Phase 2a reports and work products: Final reports, tools, technologies, enhanced prototype of methodology, metaphor repository; demo of enhanced, populated metaphor repository; constituent framework prototype; demo of enhanced metaphor analysis methodology	
48	Notification of Award to continue to Phase 2b	
PHASE 2b (Option Period #4)		
49	Government team will distribute case study #2 to performer teams	
49	Deliver to the Government team: 1) revised textual data plan; 2) copy of IRB institutional and DoD approvals for experimental design update; 3) report on case study definition, any needed expansion of the problem, description and approach to the metaphor analysis; 4) revised constituent framework to Government team	
52	Review experimental design and protocols by Government testing experts	
53	•Complete case study #2 analysis. •Deliver to Government team metaphor, semantic frame and affect validation results for case study #2. •Thematic Analysis of case study #2 performed by Government team	
55	Government team will distribute case study #3 to performer teams	
55	Site Visit #8	Review project status: e.g., data plan, IRB status, methodology development; constituent framework
55	Deliver to Government team: 1) revised textual data plan; 2) copy of IRB institutional and DoD approvals for experimental design update; 3) report on case study definition, any needed expansion of the problem, description and approach to the metaphor analysis; 4) revised constituent framework	
58	Review of experimental design and protocols by Government testing experts	
59	•Complete case study #3 analysis. •Deliver to Government team: 1) metaphor, semantic frame and affect validation results for case study #3; 2) Phase 2c Case Study Analysis constituent framework; 3) Phase 2c metaphorical language analysis methodology; 4) demo of Phase 2c metaphorical language analysis methodology; 5)	

	Phase 2c enhanced, populated metaphor repository to Government team. • Thematic Analysis of case study #3 performed by Government team.	
60	PI Meeting #5	Discuss, review approach to case study analysis, constituent framework definition and development; issues and challenges
60	Deliver to Government team Program final reports and work products: Final reports, tools, technologies, final prototype of methodology, metaphor repository; demo of enhanced, populated metaphor repository; demo of final metaphorical language analysis prototype; final version constituent framework	Program end

Table 2: Program Timeline

SECTION 2: AWARD INFORMATION

The Metaphor Program is divided into two phases, totaling 60 months, and is intended to begin in November 2011. Phase 1 consists of a base period of 12 months with two option periods of 12 months each for a total of 36 months. Phase 2 consists of two option periods of 12 months each for a total of 24 months. Costs associated with the commercialization of technology are not covered under this solicitation. It is expected that external investment or company funds will be leveraged to accomplish final commercialization of technology. All aspects of Phases 1 and 2 are solicited under this BAA.

This BAA will result in awards for all phases of the program.

Funding for the option periods will depend on performance during the base period and any succeeding option periods as well as on 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 teams that have made significant progress in any and all preceding program periods and have correctly understood and contributed to the overarching goals of the program. Teams that offer only minor enhancements to 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 the Source Selection Authority determines them to be necessary. If the proposed effort is inherently divisible and nothing is gained from the aggregation, offerors should consider submitting it as multiple independent efforts. 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.

Offerors whose proposals are accepted for funding will be contacted before award 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 deadlines, established and 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. Procurement Integrity, Standards of Conduct, Ethical Considerations and 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 waiver request by e-

mail to the mailbox address for this BAA at dni-iarpa-baa-11-04@ugov.gov. All waiver requests must be submitted through the offeror, regardless of whether the waiver request 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 waiver request. The request 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 request 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, the request for waiver will be denied, and any proposal submitted by the offeror that includes the conflicted entity will be withdrawn 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 or a copy of their waiver request. 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 waiver request has been submitted by the offeror, IARPA reserves the right to immediately withdraw the proposal from further consideration for award.

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/IARPA_OCI_081809.pdf.

3.B. US Academic Organizations

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 organization that

is a part of their team, whether the academic organization 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 organization is a part of its team.

3.C. Cost Sharing/Matching

Cost sharing is not required and is not an evaluation criterion; however, cost sharing will be carefully considered and may be required where there is an applicable statutory or regulatory condition relating to the selected award instrument (e.g., for any other transactions under the authority of 10 U.S.C. § 2371). Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

3.D. Other Eligibility Criteria

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: APPLICATION 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 considered 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 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 4 option periods of 12 months each, for a total of 60 months. (See 1.A.2.)

The Government intends to use employees of Booz Allen Hamilton Inc. and its subcontractors, Tarragon Consulting Corporation, Strategic Analysis, and Dr. C.T. Adger, to provide expert advice regarding portions of the proposals submitted to the Government.

These entities will 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. If offerors do not send notice of objection to this arrangement, 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-11-04@ugov.gov. **Proposals must be submitted to the address provided in Section 4.C.2.** Proposals may **not** be submitted by hand, e-mail or fax; any such proposals received in this manner will be disregarded. See below for proposal submission instructions.

Offerors must submit two hard copies and one soft copy of their proposals: one original hard copy with original signatures; one hard copy with original or copied signatures; and 1 electronic copy with Volume 1, Volume 2 and any permitted, additional information (.pdf format preferred) on a CD-ROM. Both hard copies and the CD must be clearly labeled with the following information: IARPA-BAA-11-04, the offeror's organization, the proposal title (short title recommended), and copy # of #.

Please note that reviewers receive the electronic copy submitted by CD. Hard copies are primarily for archival purposes. In case of inconsistencies between the hard copy and the electronic copy, the electronic copy takes precedence.

4.A.3. Proposal Format

All proposals must be in the format given below. Nonconforming 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 margins not less than one inch on all sides. Smaller font may be used for figures, tables and charts. 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.4. Proposal Classification

The Government requires that proposals submitted under this BAA will 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 – Additional Information

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}

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), signed Academic Institution Acknowledgement Letter(s) if required, OCI waiver/certification, human use documentation if applicable, bibliography, and relevant papers, Volume 1 shall not exceed 30 pages. 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.

Section 1: Cover Sheet & Transmittal Letter

A. Cover sheet:

- (1) BAA number
- (2) Lead organization submitting proposal
- (3) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT"
- (4) Contractor's reference number (if any)
- (5) Other team members (if applicable) and type of business for each
- (6) Proposal title
- (7) 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)
- (8) 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)
- (9) OCI waiver or waiver request [see Section 3.A.1.] included? Yes/No
- (9a) If no OCI, a written certification must be included (see Appendix D letter template)
- (10) Are one or more U.S. Academic Organizations part of your team? Yes/No
- (10a) If Yes, are you including an Academic Institution Acknowledgement Statement with your proposal for each Academic Organization that is part of your team? Yes/No
- (11) Total funds requested from IARPA and the amount of cost share (if any)
- (12) Date proposal was submitted

B. Official Transmittal Letter.

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. Innovative claims for the proposed research. This section is the centerpiece of the proposal and should succinctly describe the uniqueness and benefits of the proposed approach relative to the state-of-the-art and alternate technologies and approaches.
- B. Summary of the products, transferable technology and deliverables associated with the proposed research results. Measurable deliverables should be defined that show progress toward achieving the stated Program Milestones. Include in this section all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are 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, including overall estimates of cost for each task. Summarize, in table form, the cost, schedule and milestones for the proposed research, including estimates of cost for each deliverable, total cost and company cost share, if applicable. Do not include proprietary information with the milestones.
- D. Overview of the technical approach and plan. Technical rationale, technical approach and constructive plan for accomplishing the technical goals that realize the innovative claims and deliverables. (This section will be supplemented with a more detailed plan in Volume 1, Section 3 of the proposal.)
- E. Related research. General discussion of other research in this area.
- F. Project contributors. Offerors must include a clearly defined organizational chart of all anticipated project participants and their roles in the project. Accompanying this chart, offerors will provide brief biographical sketches of key personnel and significant contributors and a detailed description of the roles that contributors (including Principal Investigator(s)) will play based on their qualifications and on their level of effort in each year of the Program. Discussion of the teaming strategy among team members shall be included. 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. (Interested parties are encouraged to leverage personnel that are dedicated to BAA requirements no less than 25% of their time. If any participant is scheduled for less than 25% of his/her time, the offeror will provide a clear and compelling justification

as to how benefit can be gained from that person's participation at the specified level of effort.)

A chart, such as the following, is suggested.

Participants	Org	Role	Unique, Relevant Capabilities	Specific Task(s) / Contributions	Time Commitment
John Doe	ABC University	PI/Key Personnel	Principal Investigator	Project Manager	25%
Arne Svenson	OPD University	Co-PI/Key Personnel	Metaphor Expert	Conceptual Metaphor Definition	100%
John Smith	HHH Co.	Co-PI/Key Personnel	Computer Programmer	Repository Designer	25%
Jane Doe	MNO University	Key Personnel	Experimental Designer	Validations	50%
Mary Land	ZZZ University	Significant Contributor	Social/Cultural Scientist	Case Study Analysis	75%
John Kim	LMN Co.	Contributor	Computer Programmer	Prototype Development	25%
Wayne Roe	Zhukov Co.	Significant Contributor	Metaphor Expert	Conceptual Metaphor Definition	40%
Kathryn Bond	STD University	Consultant (Individual)	Analytic Experience	Analytic Review	200 hours

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 it 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:
 1. A general description of the objective;
 2. 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;
 3. Identification of the primary organization responsible for task execution (prime, sub-contractor, team member, etc.) by name;
 4. The exit criteria for each task/activity, i.e., a product, event or milestone that defines its completion;
 5. Definition of all deliverables (e.g., data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities. At a minimum, offerors shall address the delivery of the following items:
 - a. Project plans
 - b. Metaphorical language analysis methodology definition and documentation
 - c. Design documents and specifications for the metaphor repository and prototype
 - d. The final version of the functioning prototype

- e. Tools, techniques and technologies applied to the methodology and case study analysis
- f. Constituent framework with documentation
- g. The final version of the populated, functioning metaphor repository
- h. Final textual data plan with details about data selection, processing and filtering
- i. Approved IRB documents
- j. Final reports for all efforts in Phases 1 and 2
- k. Program final report, delivered at end of Phase 2
- l. Any original software or code developed in the program
- m. All validation descriptions and results

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 should 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.

Textual Data Sources: Identification and description of textual data sources to be utilized in pursuit of the research goals. Provide a detailed discussion of the strategies to identify culture- and sub-culture-specific textual data, how sufficient numbers of linguistic metaphors will be achieved and how iterative data gathering will be addressed.

All textual data will be text in the native languages. English translations are not acceptable.

Textual data may be existing data sets, i.e., previously gathered, or new textual data sets, i.e., gathered under this program. In both cases, however, explain clearly how the textual data selected will be appropriate, relevant and adequate in size and diversity to support the research being proposed.

Offerors proposing to use existing textual data sets must provide written verification that all textual 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 proposing to obtain new textual data sets must ensure that their plan for obtaining the textual data complies with U.S. Laws and where applicable, with End User License Agreement, Copyright Laws, Terms of Service, and laws and policies regarding privacy protection of U.S. Persons.

Human Data Sources: It is anticipated that proposed research will involve human subjects for validation using social science methods. Offerors must include the documentation required in Section 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 Government reserves the right to reject a proposal if it does not appropriately address all data issues.

E. Description of the deliverables associated with the proposed research results, enhancing that of Volume 1, Section 2: Summary of Proposal.

Deliverables should be defined that show progress toward achieving the stated Program Milestones. Phase-end deliverables are to include all data, tool prototypes, evaluation analyses and documents (software documentation, methodology documentation, research reports, and publications). Other deliverables are to include research status reports including waypoint results, and significant completed tool prototypes, publications, and data. (See Table 2 for details.)

For all deliverables describe the proposed approach to intellectual property rights, together with supporting rationale of why this approach offers the best value to the Government. This section should include a list of technical data, computer software or computer software documentation associated with this research effort in which the Government will acquire less than unlimited rights. For all software deliverables, the offeror shall include all as delivered version source code produced in the course of software development. These deliverables must include source code and the appropriate scripting, subordinate libraries, release notes, and other necessary components, data, and documentation. These and all other deliverables developed as part of the IARPA Metaphor Program shall be delivered prior to the end of the contract Period of Performance. The Government desires Government Purpose Rights for all deliverables developed as part of the IARPA Metaphor Program, anything less will be considered a significant weakness in the proposal. (See also Section 6.B.3 (Intellectual Property)).

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. No funds from this effort will be used for building laboratory or any other testing facilities. All validation efforts must be done in researcher laboratories and facilities.
- 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. No individual, excluding consultants, should devote less than 25% of his/her time to the effort. A compelling explanation of a substantially lower time commitment is required.
- 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. Other Funding. 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.

Section 4: Additional Information

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas on which the proposal is based. Copies of not more than three (3) relevant papers may be included in the submission. This information does not contribute to the page count of Volume 1.

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

Section 1: Cover Sheet

- (1) BAA number;
- (2) Lead organization submitting proposal

- (3) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT"
- (4) Contractor's reference number (if any)
- (5) Other team members (if applicable) and type of business for each
- (6) Proposal title
- (9) 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)
- (10) Administrative point of contact to include: title, first name, last name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available)
- (11) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee
- (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 90 days]

[NOTE: See Appendix C for Cover Sheet Template]

Section 2: Detailed Estimated Cost Breakdown

- (1) Total cost broken down by major cost items (direct labor, including labor categories; sub-contracts; materials; other direct costs, overhead charges, etc.) and further broken down by major task and phase
- (2) Major program tasks by fiscal year
- (3) An itemization of major subcontracts and equipment purchases
- (4) An itemization of any information technology (IT¹) purchase
- (5) A summary of projected funding requirements by month
- (6) The source, nature and amount of any industry cost-sharing

¹IT 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."

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

The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). All subcontractor proposals shall also include the above listed cost breakdown. If any subcontractor does not wish to provide their direct and/or indirect rates to the prime contractor, their proposal may contain burdened rates; however, a copy of the proposal showing their unburdened rates shall be contained in the offeror's proposal as a sealed package to the Government. Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. NOTE: For IT and equipment purchases, include a letter stating why the offeror cannot provide the requested resources from its own funding.

Supporting cost and pricing information must be provided in sufficient detail to substantiate the summary cost estimates in Volume 1 above. Include a description of the method used to estimate costs and supporting documentation. Note: "cost or pricing data" shall be required if the offeror is seeking a procurement contract award of \$650,000 or greater unless the offeror requests an exception from the requirement to submit cost or pricing data. All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic/email, etc.), either by the offeror or by the subcontractor organization.

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 Dates

Proposals must be received by or before 5:00 p.m. local time on July 19, 2011, in order to be considered during the initial round of selections.

4.C.2. Proposal Delivery

The full proposal (one original hard copy with original signatures; one hard copy with original or copied signatures; and 1 electronic copy with Volume 1, Volume 2 and any permitted, additional information (.pdf format preferred) on a CD-ROM) must be delivered to:

ODNI/IARPA
Attention: Dr. Heather McCallum-Bayliss
Telephone Number: 301-851-7500
Gate 5
1000 Colonial Farm Road
McLean, VA 22101

IMPORTANT: Deliveries must be made using one of the following commercial delivery services: UPS, FedEx or DHL; NOT United States Postal Service (USPS). No hand delivery. Failure to use one of these methods may jeopardize or delay delivery of proposals. Note that under certain “same day delivery” options, UPS, FedEx and DHL may subcontract out their services to local delivery companies. These smaller local delivery companies will not be allowed access to this address to make deliveries. Offerors are cautioned that they assume the risk of untimely delivery of their proposal if they use one of these “same day delivery” options. Deliveries by hand, e-mail or fax will not be accepted.

Offerors must ensure the timely delivery of their proposals. The mail facility closes at 5 p.m. local time; delivery cannot take place after this time until the following day. IARPA will generally acknowledge receipt of complete submissions via e-mail within 24-48 hours and assign control numbers that should be used in all further correspondence regarding proposals. To be certain of delivery, however, it is suggested that a tracking number be obtained from the carrier.

Proposals must be received by the time and date specified in the BAA in order to be considered during the initial 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 availability of funds. Failure to comply with the submission procedures may result in the submission not being evaluated.

4.D. Funding Restrictions

Facility construction costs are not allowable under this activity.

4.E. Other Submission Requirements

Direct costs for equipment, development software and licenses should be clearly indicated and substantiated in the statement of work.

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. 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, including a well-conceived and detailed metaphorical language analysis methodology; clearly specified empirical social science methods; comprehensive and coherent textual data plan and approach; a well-thought-out metaphor repository design; and a clear discussion and characterization of the formulation of a constituent framework. The technical approach is credible, and includes

a clear assessment of primary risks and a means to address them. The offeror can expect the selection process to include an assessment of the proposal against the state-of-the-art.

5.A.2. Effectiveness of Proposed Work Plan

The feasibility and likelihood that the proposed approach will satisfy the Metaphor 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. All offeror-proposed milestones, waypoints 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 access to 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 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 the Metaphor 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. In addition to relevant technical capabilities, teams must include members

with high proficiency in the languages/cultures of interest. Time commitments of key personnel must be sufficient for their proposed responsibilities in the effort.

5.A.5. Cost Realism

The proposed costs are reasonable and realistic for the work proposed. Estimates are "realistic" when they are neither excessive nor insufficient for the effort to be accomplished. The proposal documents all anticipated costs including those of associate, participating organizations. The proposal demonstrates that the respondent has fully analyzed budget requirements and addressed resulting cost risks. Other sponsors who have funded or are funding this offeror for the same or similar efforts are identified. The Government shall evaluate how well all cost data are traceable and reconcilable.

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 cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection and before award, the Contracting Officer will negotiate cost/price reasonableness.

5.B. Review and Selection Process

It is the policy of IARPA 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 criteria described under Section 5.A above, and will not be evaluated 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 Section 4.A. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

5.C. Proposal Retention

It is the policy of IARPA to treat all proposals 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 funding pending contract negotiations, or, 2) the proposal has not been selected.

6.B. Administrative and National Policy Requirements

6.B.1. Security

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

6.B.2 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.

All data gathered by performers and researchers 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. Performers can use their own data for development purposes as long as it follows these guidelines.

6.B.3. Intellectual Property

6.B.3.a. Procurement Contract Offerors

6.B.3.a.1. Noncommercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a procurement contract to be issued under the FAR shall identify all noncommercial technical data and noncommercial computer software that it plans to generate, develop and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights and to assert specific restrictions on those deliverables. 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).² 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. 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. If no restrictions are intended, then the offeror should state “NONE.”

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

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)

6.B.3.a.2. Commercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a procurement contract to be issued under the FAR shall identify all commercial technical data and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that 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 list for complying with this request is as follows:

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)

6.B.3.b. All Offerors – Patents

Include documentation proving ownership of or possession of appropriate licensing

² “Government purpose rights” 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.

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.

6.B.3.c. All Offerors – Intellectual Property Representations

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

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. Principal Investigator (PI) Meetings

The Metaphor Program intends to hold a program-level Kick-Off meeting during the first month of the program and then hold program-level PI Meetings approximately every six months. These two-day meetings 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 four PI Meetings (including a Kick-Off Meeting) in Phase 1 and two PI Meetings in Phase 2. All meetings will be in the Washington, D.C., area.

6.B.4.b. Site Visits

Site visits by the Metaphor Program Manager, members of the management staff and the Contracting Officer Representative will generally take place about every six months during the life of the program. These visits will occur at the Contractor'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.htm>) and 32 CFR Part 219 *Protection of Human Subjects* (<http://www.dtic.mil/biosys/downloads/32cfr219.pdf>).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (<http://www.hhs.gov/ohrp>). All institutions engaged in human subject research, to include 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 and 32 CFR 219.116).

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

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between one to three months, followed by a DoD review that could last between three to six months. No 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 contracted fundamental research that will not require a pre-publication review. However, performers should note that the 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. One courtesy soft copy of all papers and/or charts submitted for publication or to be presented in any public forum should be submitted to the IARPA Program Manager and the Contracting Officer Representative (COR).

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 foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The 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 Metaphor 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 Metaphor-Program 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 a final report of their work at the conclusion of the performance period of the award (even if the research may continue under a follow-on vehicle). The final report will be delivered to the Contracting Agent, Contracting Officer Representative and the Metaphor Program Manager. The report will include:

- Problem definition
- Findings and approach
- Information on data acquired and used and their contribution to evaluation outcomes
- System design and solution
- Possible generalization(s)
- Lessons learned relating to the application of the methodology and case study analysis to new languages/cultures and issues
- Anticipated path ahead

6.B.10. Central Contractor Registration (CCR)

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

6.B.11. Representations and Certifications

Prospective offerors may be required to complete electronic representations and certifications at <http://orca.bpn.gov>. Successful offerors will be required to complete additional representations and certifications prior to award.

6.B.11.b. Certification for Contract Awards

Certifications and representations shall be completed by successful offerors prior to award. Federal Acquisition Regulation (FAR) Online Representations and Certifications Application (ORCA) is at website <http://orca.bpn.gov>. Defense FAR Supplement and contract specific certification packages will 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 will be required to submit invoices for payment directly via the Internet/WAWF at <http://wawf.eb.mil>. Registration to WAWF will be required prior to any award under this BAA.

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

All data gathered by researchers 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-11-04@ugov.gov. If e-mail is not available, fax questions to 301-851-7673, Attention: IARPA-BAA-11-04. All requests must include the name, email address (if available), and phone number of a point of contact for the requested.

Dr. Heather McCallum-Bayliss
IARPA, Office of Incisive Analysis
ATTN: IARPA-BAA-11-04
Office of the Director of National Intelligence
Intelligence Advanced Research Projects Activity (IARPA)
Washington, DC 20511
Fax: (301) 851-7673
E-mail: dni-iarpa-baa-11-04@ugov.gov

All emails must have the BAA number (IARPA-BAA-11-04) in the Subject Line.

APPENDIX A

Academic Institution Acknowledgement Letter Template

IARPA Broad Agency Announcement

IARPA-BAA-11-04

-- 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>
<Position>

Date

APPENDIX B

SAMPLE COVER SHEET

for

VOLUME 1: Technical/Management Details

BROAD AGENCY ANNOUNCEMENT (BAA)

Metaphor Program

IARPA-BAA-11-04

(1) BAA Number	IARPA-BAA-11-04
(2) Lead Organization Submitting Proposal	
(3) Type of Business, Selected Among the Following Categories: "Large Business", "Small Disadvantaged Business", "Other Small Business", "HBCU", "MI", "Other Educational", or "Other Nonprofit"	
(4) Contractor's Reference Number (if any)	
(5) Other Team Members (if applicable) and Type of Business for Each	
(6) Proposal Title	
(7) 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)	
(8) 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)	
(9) OCI Waiver or Waiver Request [see Section 3.A.1] Included?	Yes/No
(10a) If No, is written certification included?	
(10) Are one or more U.S. Academic Organizations part of your team?	Yes/No
(10a) If Yes, are you including an Academic Institution Acknowledgement Statement with your proposal for each Academic Organization that is part of your team?	Yes/No
(11) Total Funds Requested from IARPA and the Amount of Cost Share (if any)	\$
(12) Date Proposal as Submitted.	

APPENDIX C

SAMPLE COVER SHEET

for

VOLUME 2: Cost Proposal

BROAD AGENCY ANNOUNCEMENT (BAA)

Metaphor Program

IARPA-BAA-11-04

(1) BAA Number	IARPA-BAA-11-04
(2) Lead organization submitting proposal	
(3) Type of Business, Selected Among the Following Categories: "Large Business", "Small Disadvantaged Business", "Other Small Business", "HBCU", "MI", "Other Educational", or "Other Nonprofit"	
(4) Contractor's Reference Number (if any)	
(5) Other Team Members (if applicable) and Type of Business for Each	
(6) Proposal Title	
(7) 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)	
(8) 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)	
(9) Award Instrument Requested: Cost-Plus-Fixed-Fee (CPFF), Cost-Contract—No Fee, Cost Sharing Contract – No Fee, Other Type of Procurement Contract (specify)	
(10) Place(s) and Period(s) of Performance	
(11) Total Proposed Cost Separated by Basic Award and Option(s) (if any)	
(12) Name, Address, Telephone Number of the Offeror's Defense Contract Management Agency (DCMA) Administration Office or Equivalent Cognizant Contract Administration Entity, if Known	
(13) Name, Address, Telephone Number of the Offeror's Defense Contract Audit Agency (DCAA) Audit Office or Equivalent Cognizant Contract Audit Entity, if Known	
(14) Date Proposal was Prepared	
(15) DUNS Number	
(16) TIN Number	
(17) Cage Code	
(18) Proposal Validity Period [minimum of 90 days]	

APPENDIX D

Letter Template

For

**Organizational Conflicts of Interest Certification Letter
Template**

IARPA Broad Agency Announcement (BAA)

Metaphor Program

IARPA-BAA-11-04

(Month DD, YYYY)

Office of the Director of National Intelligence
Intelligence Advanced Research Projects Activity (IARPA)
Office of Incisive Analysis
ATTN: Dr. Heather McCallum-Bayliss
Washington, D.C. 20511

Subject: OCI Certification

Reference: <Insert Program Name>, IARPA-BAA-11-04, (Insert assigned proposal ID#, if received)

Dear Dr. McCallum-Bayliss,

In accordance with IARPA Broad Agency Announcement IARPA-BAA-11-04, Section 3.A.1, *Procurement Integrity, Standards of Conduct, Ethical Considerations, and 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 Metaphor 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

LIST OF REFERENCES TO EXAMPLE CASE STUDIES

BROAD AGENCY ANNOUNCEMENT (BAA)

Metaphor Program

IARPA-BAA-11-04

Below is a brief list of references to conceptual metaphor analysis studies that show how case studies might be defined. Offerors are cautioned to use these only as background information and should propose their own innovative constituent framework.

Aponte Moreno, Marco. 2008. "Metaphors in Hugo Chavez's political discourse: Conceptualizing nation, revolution, and opposition." Dissertation, The City University of New York.

Contrasting stated and tacit perspectives of Venezuela's Hugo Chavez in political discourse.

Cheng, Xiaojing. 2009. "Chinese metaphors in political discourse: How the government of the People's Republic of China criticizes the independence of Taiwan." Dissertation, Ball State University.

Different metaphors used by the PRC and Taiwan with respect to Taiwan's becoming a part of the PRC.

Lakoff, George. 2002. Moral Politics: How Liberals and Conservatives Think. Chicago: University of Chicago Press.

Conceptual metaphors expose different worldviews of liberals and conservatives in America. These metaphors allow people to understand the world around them through analogy with what they already know.

Musolff, Andreas. 2008. "What can critical metaphor analysis add to the understanding of racist ideology? Recent studies of Hitler's anti-Semitic metaphors." *Critical Approaches to Discourse Analysis across Disciplines*. Vol 2(2): 1-10.

Various researchers have analyzed the metaphors used by Hitler in his works and speeches. This is one discussion.