

**UNITED STATES ARMY RESEARCH INSTITUTE
FOR THE BEHAVIORAL AND SOCIAL SCIENCES (ARI)**

BROAD AGENCY ANNOUNCEMENT

FOR

**BASIC, APPLIED, AND ADVANCED
SCIENTIFIC RESEARCH**



**W911NF-13-R-0001
6 February 2013 – 5 February 2018**

ISSUED BY:

**U.S. Army Contracting Command-Aberdeen Proving Ground
Research Triangle Park Division
P. O. BOX 12211
Research Triangle Park, NC 27709-2211**

TABLE OF CONTENTS

I. OVERVIEW OF THE FUNDING OPPORTUNITY:	1
A. Required Overview Content	2
1. Agency Name	2
2. Research Opportunity Title	2
3. Announcement Type	2
4. Research Opportunity Number	2
5. Catalog of Federal Domestic Assistance (CFDA) Number and Title	2
6. Response Dates	2
II. DETAILED INFORMATION ABOUT THE FUNDING OPPORTUNITY	3
A. Funding Opportunity Description	3
1. BASIC RESEARCH	3
2. APPLIED RESEARCH AND ADVANCED TECHNOLOGY DEVELOPMENT	4
TRAINING	
1.1 Training for Full Spectrum Readiness	4
1.2 Training for New Military Technology	5
1.3 Enhancing Army Institutional Training	5
1.4 Simulation Tools for Learning, Practice, and Mission Rehearsal	6
1.5 Adaptive Training Technology	7
1.6 Tools for Training in a Technology-Enhanced, Learner-Centered Environment	7
LEADER DEVELOPMENT	
2.1 Leadership as an Influential Process	9
2.2 Developing Leadership Situational Awareness	9
2.3 Developmental Interventions for Effective Leadership in a Changing Army	10
TEAM AND INTER-ORGANIZATIONAL PERFORMANCE IN COMPLEX ENVIRONMENTS	
3.1 Joint, Interagency, Intergovernmental, and Multinational Multi-Team Systems	11
3.2 Networked Organizations	12
3.3 Multi-National and Cross-Cultural Operations	13
SOLDIER/PERSONNEL ISSUES	
4.1 Expanded Tools for Enlisted and Officer Selection	14
4.2 Improved Person-Job Match	14
B. Award Information	15
C. Eligibility Information	17
1. Eligible Applicants	17
2. Cost Sharing or Matching	18
3. Duns and Bradstreet Universal Numbering System (DUNS) Number and System	18
for Award Management (SAM)	

D.	Application and Submission Information	18
1.	Address to View Broad Agency Announcement	18
2.	Content and Form of Application Submission	19
3.	Submission Dates and Times	35
4.	Intergovernmental Review	35
5.	Funding Restrictions	35
6.	Other Submission Requirements	35
E.	Application Review Information:.....	35
1.	Criteria	35
2.	Review and Selection Process	36
3.	Recipient Qualification.....	36
F.	Award Administration Information	37
1.	Award Notices	37
2.	Administrative and National Policy Requirements	37
a.	Required Certifications	37
b.	Policy Requirements	38
3.	Reporting	40
G.	Agency Contacts	41
H.	Other Information	42
1.	SAMPLE- CONTRACT Proposals	42
	SAMPLE- GRANT and COOPERATIVE AGREEMENT Proposals	50
2.	Unsuccessful Proposal Disposition	54
3.	Acronyms	54
4.	Definitions	55

I. OVERVIEW OF THE FUNDING OPPORTUNITY:

INTRODUCTION

This Broad Agency Announcement, which sets forth research areas of interest to the United States Army Research Institute for the Behavioral and Social Sciences (ARI), is issued under the provisions of paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of proposals. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provisions of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments.

The U.S. Army Research Institute for the Behavioral and Social Sciences is the Army's lead agency for the conduct of research, development, and analyses for the improvement of Army readiness and performance via research advances and applications of the behavioral and social sciences that address personnel, organization, training, and leader development issues. Programs funded under this BAA include basic research, applied research, and advanced technology development that can improve human performance and Army readiness. Collaboration is encouraged among educational institutions, non-profit/not-for-profit organizations, commercial organizations, and the other U.S. Military Services.

Funding of research and development (R&D) within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle. Those contemplating submission of a proposal are encouraged to contact the ARI Technical Point of Contact (TPOC) identified in Part II Section G of this BAA or the responsible ARI Manager noted at the end of the technical area entry (Part II Section A of this BAA) to determine whether the R&D warrants further inquiry. If the R&D warrants further inquiry and funding is available, submission of a proposal will be entertained. The recommended three-step sequence is (1) telephone call to the ARI TPOC or responsible ARI Manager, (2) white paper submission, (3) full proposal submission. This sequence allows earliest determination of the potential for funding and minimizes the labor and cost associated with submission of full proposals that have minimal probability of being selected for funding. Costs associated with white paper or full proposal submissions in response to this BAA are not considered allowable direct charges to any resulting award. These costs may be allowable expenses to normal bid and proposal indirect costs specified in FAR 31.205-18. Offerors submitting proposals are cautioned that only a Government Contracting or Grants Officer may obligate the Government to any agreement involving expenditure of Government funds.

To be eligible for an award under this announcement, a prospective awardee must meet certain minimum standards pertaining to financial resources and responsibility, ability to comply with the performance schedule, past performance, integrity, experience, technical capabilities, operational controls, and facilities. In accordance with Federal statutes, regulations, and Department of Defense and Army policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from the Army.

A. Required Overview Content

1. Agency Name:

U.S. Army Research Institute for the Behavioral and Social Sciences (ARI)

Issuing Acquisition Office:

U.S. Army Contracting Command-Aberdeen Proving Ground, Research Triangle Park Division

2. Research Opportunity Title:

U.S. Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic, Applied, and Advanced Research (Fiscal Years 2013-2018)

3. Announcement Type:

Initial Announcement

4. Research Opportunity Number:

W911NF-13-R-0001

5. Catalog of Federal Domestic Assistance (CFDA) Number and Title:

12.630 – Basic, Applied, and Advanced Research in Science and Engineering

6. Response Dates:

This Broad Agency Announcement (BAA) is a continuously open five-year announcement valid throughout the period beginning 6 February 2013 and ending 5 February 2018. New start awards are normally obligated early within each fiscal year. Amendments to this BAA will be posted to <https://www.fbo.gov> (FedBizOpps) and <http://www.grants.gov> when they occur. Interested parties are encouraged to periodically check these websites for updates and amendments.

II. DETAILED INFORMATION ABOUT THE FUNDING OPPORTUNITY

II-A: FUNDING OPPORTUNITY DESCRIPTION

The funding opportunity is divided into two sections- (1) Basic Research and (2) Applied Research and Advanced Technology Development. The Applied Research and Advanced Technology Development Section is divided into four subsections- Training; Leader Development; Team and Inter-Organizational Performance in Complex Environments; and Solider/Personnel Issues.

II-A-1: BASIC RESEARCH

Basic Research is defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific application of processes or products in mind. The ARI's Foundational Science Research Unit manages the Basic Research Program and maintains close contact with ARI's applied scientists and other relevant agencies within the Army. These contacts help define issues that require fundamental research, ensure that the basic research program is coordinated across Services, and facilitate the transition of basic research results to applied programs for eventual use by the operational Army.

Topic areas of research interest include the following:

- ***Improving Training in Complex Environments:*** Research in this area focuses on developing concepts and methods for training complex tasks and for sustaining complex task performance.
- ***Improving Leader and Team Performance:*** The focus of this area is to develop leader adaptability and flexibility, and discover and test the basic cognitive principles that underlie the dynamics of small group leadership and effective leader-team performance in both face-to-face and distributed environments.
- ***Identifying, Assessing, and Assigning Quality Personnel:*** This research domain is concerned with identifying and measuring the aptitudes and skills that are unique to the human performance requirements of the Future Force and the sociological and psychological factors that could influence recruitment, retention, and Army performance.
- ***Understanding Organizational Behavior and Network Science:*** The focus of this area is on understanding and predicting large and small group behavioral processes in dynamic social networks, whether in simulations, games, or Army organizations.

For more information about ARI's Basic Research Program please contact the ARI Basic Research program manager, Dr. Jay Goodwin, at (703) 545-2410 or jay.goodwin@us.army.mil.

II-A-2: APPLIED RESEARCH AND ADVANCED TECHNOLOGY DEVELOPMENT

The ARI seeks Applied Research proposals that provide a systematic expansion and application of knowledge to design and develop useful strategies, techniques, methods, tests, or measures that provide the means to meet a recognized and specific Army need. Applied Research precedes system specific technology investigations or development, but it should have a high potential to transition into the Advanced Technology Development (ATD) Program.

The ARI ATD Program includes the development of technologies, components, or prototypes that can be tested in field experiments and/or simulated environments. Projects in this category have a direct relevance to identified military needs. These projects should demonstrate the general military utility or cost reduction potential of technology in the areas of personnel selection, assignment, and retention; training strategies and techniques; leader education and development; performance measurement; and team and inter-organizational mission effectiveness. These projects should be focused on a more direct operational benefit and if successful, the technology should be available for transition.

II-A-2: TRAINING (1.1-1.6)

1.1 Training for Full Spectrum Readiness

The Army's new field manual (FM 7.0) on training for full spectrum operations stresses that traditional training and education may not meet all the needs of an expeditionary Army (U.S. Department of the Army, 2008). Army units need more efficient and effective training and evaluation methods to achieve full spectrum readiness and balanced capabilities across offensive, defensive, stability, and civil support tasks. Units need better tools to develop unit training plans and training based on their individual unit needs. Units also need tools to rapidly convert lessons learned into training and to enhance training effectiveness and efficiencies through improved measurement of human performance.

Topic areas of research interest include the following:

- Identify and develop methods for addressing emerging human performance challenges and difficult to train skills and behaviors
- Develop and refine near real-time tools and techniques to rapidly develop training
- Design and develop methods for planning and managing training across the full spectrum of training requirements
- Design and develop measurement and feedback tools for assessing individual and collective skills and measuring performance

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1.2 Training for New Military Technology

As new technologies are developed and delivered to the U.S. Army, effective training of its Soldiers, leaders, and units to employ these technologies will be essential. Units may receive new technologies without adequate training. Units need guidance on how best to organize and integrate training on new technologies to achieve operational readiness as efficiently as possible. In particular, units need more efficient and effective methods on how best to employ new technologies to meet the ever-changing operational requirements of the Contemporary Operational Environment.

Topic areas of research interest include the following:

- Identify training strategies for new technologies that address full spectrum operations
- Develop methods and tools to organize and integrate training on new technologies
- Design and develop more efficient and effective methods to help Soldiers determine how to employ new technologies to meet the ever-changing Contemporary Operational Environment
- Determine the skill retention patterns associated with new technology insertions at individual and collective levels

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1.3 Enhancing Army Institutional Training

In an era of persistent conflict and increasing resource demands, the Army must produce trained and ready Soldiers for an increasingly stretched force despite reduced funding, fewer training developers and instructors, and the need to adapt to changing Army Force Generation (ARFORGEN) requirements. To do so, the Army is seeking to leverage breakthroughs in the behavioral sciences and the science of learning to enhance its institutional training strategies. The goals include: accelerating learning while maintaining effectiveness; exploiting new learning and simulation technologies; identifying and integrating relevant lessons from operational and training units; minimizing training resource requirements (time, cost, people); and minimizing the impact of training on quality of life. New training methods are needed that support these goals, along with tools to assess their effectiveness and efficiency.

Topic areas of research interest include the following:

- Cost-effective methods for exploiting emerging training technologies, to include distributed learning, blended learning, and simulation systems

- Methods and measures to support development of tactical and technical proficiency in the use of new technologies, particularly the employment of information technologies
- Ways to tailor training to the skills and experience of the Soldier population being trained
- Training interventions for initial entry training and Drill Sergeant School
- Techniques, tools, and measures to enhance aviation collective training

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1.4 Simulation Tools for Learning, Practice and Mission Rehearsal

Game-based and virtual technologies provide flexible training capabilities that have been shown to support local training of individuals and small units. Emerging training, doctrine, and force structures advocate the need for rapid deployment of units with personnel who may be unfamiliar with each other. There is no effective capability for distributed training with remote colleagues within the Army or across the Services. New mobile platforms such as high-end cellular phones may present a new flexible platform to provide training to Soldiers. Research is needed on methods to ensure effective training is delivered on these devices. In addition, further work is needed to develop methods for utilizing game and virtual technologies most effectively in general and to determine their effectiveness in a variety of training settings and for a range of tasks and skills.

Topic areas of research interest include the following:

- Develop training and After Action Review methods and procedures that provide effective means for training teams of individuals and small units when the trainees are not co-located
- Develop effective methods for using small mobile computing platforms
- Examine game technologies to determine characteristics (e.g., scenario building, replay, measurement/scoring capabilities) that are beneficial to training experiences for Contemporary Operating Environment missions and scenarios
- Develop methods for measuring performance of small units in virtual and game environments to determine what is being learned and at what rate

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1.5 Adaptive Training Technology

The effectiveness of training is maximized by providing one-on-one instruction by a human tutor who can tailor feedback and training experiences to the specific needs of the learner, but this kind of training is hardly efficient in terms of the number of students that can be trained, or the cost and time per student. Efficiency could be improved if the human tutor could be replaced with an automated tutor. Intelligent computer aided instruction (ICAI) could improve efficiency by allowing self-paced training available “anytime-anywhere.” The automated tutor must not only be able to evaluate student performance (diagnose strengths and weaknesses), but also to prescribe what training each individual needs and deliver that training. Research is needed to provide the means for automated diagnosis and tailored training delivery. The goal is to develop automated training capabilities which can provide both diagnostics and remediation based on each individual’s training needs, resulting in a more efficient training process. The application of adaptive training techniques could improve training delivery using serious games, distributed learning techniques, and embedded training.

Topic areas of research interest include the following:

- Implementation of training customization for the individual in the context of guided experiential learning scenarios
- Application of semantic web ontologies to domain modeling and intelligent cognitive agents
- Integration of tutoring, coaching, and remedial didactic training with game-based practice environments
- Application of psychometric approaches to performance measurement in the context of experiential learning
- Application of state-of-the-art learning science to develop pedagogical models
- Intelligent Tutoring using strong artificial intelligence models and agents (run-time models which can handle new scenarios without re-writing)
- Methods or approaches that allow pedagogical and domain models to be re-used/interoperable across education and training applications and platforms (e.g., virtual, gaming, mobile)

The ARI Manager is Dr. Joan Johnston, (407) 384-3980, joan.johnston@us.army.mil

1.6 Tools for Training in a Technology-Enhanced, Learner-Centered Environment

Emerging Army doctrine prescribes the transformation of the Soldier education and training process through the integration of advanced training methods such as

collaborative learning, tailoring training to meet individual needs, virtual classrooms, and the leveraging of multiple training platforms. To meet these training requirements, ARI requires research into the design, development, and delivery of individual and collective training across multiple technology-based platforms, including mobile, handheld devices and traditional laptop and desktop computers. Additionally, research is required into the effectiveness and delivery of individual and collaborative training using these devices, particularly in a distributed learning environment. Research into developing assessment capabilities across platforms is also required.

Topic areas of research interest include the following:

- Development of tools for rapid authoring of training content and skill assessments which can be delivered via multiple platforms (e.g., desktop, classroom, mobile device)
- Development of research-based best practices for training with new and innovative approaches and technology, such as mobile devices, virtual classrooms and gaming
- Leveraging tailored assessments to determine student placement within a program of instruction
- Methods for assessing individual and collective performance in a scenario-based training environment
- Methods for incorporating game-based training scenarios into individual and group training exercises

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II-A-2: LEADER DEVELOPMENT (2.1-2.3)

The Army's ongoing transformation includes a systematic rethinking of how Army leaders grow and how the Army's leadership development process facilitates and supports that growth. Leaders at all levels in the Army, including non-commissioned officers, pre-commissioning cadets, and junior and senior commissioned officers must develop the critical cognitive skills that underlie tactical and technical expertise. To be successful, however, leaders also will need to possess refined interpersonal and communication skills to mentor and build teams among diverse subordinates, effectively cooperate with interagency and coalition partners, and appropriately influence a variety of stakeholders (e.g., the media, local populations). This area of research addresses methods and techniques to identify, train, develop, and assess the requisite skills for successful leadership within the Army; attention is also given to self- and social awareness that supports leadership and leader development. Three areas of leadership research emphasis are outlined below.

2.1 Leadership as an Influence Process

The fundamental notion that leadership is an influential process has shaped the U.S. Army leadership doctrine and this research program. In particular, we need to refine and extend this notion to account for leader influence in a variety of contexts, within and outside of the chain of command. Army leaders must be able to influence both up and down the chain of command, as well as laterally. Additionally, Army leaders may need to influence others outside the Army (e.g., members from other services, individuals from other countries). Army leaders also need to rely on a variety of influence strategies to shape and direct the behavior of others. Such behaviors include use of effective proactive influence tactics, shaping the social context (e.g., climate, culture), that guide the behavior of others, targeting influence at collective levels as well as individual levels, and building “social capital” that amplifies influence attempts.

Topic areas of research interest include the following:

- Identification of the knowledge, skills, and abilities (KSAs) that underlie effective influence and interventions to build those KSAs
- Development of interventions to enhance a leader’s ability to build social capital
- Development of interventions to help leaders become more adept at influence during negotiations
- Development of tools to help leaders build positive climates, particularly ethical and command climates
- Methods for assessing influence-related concepts, particularly for self-development purposes
- Understanding the effective use of influence in cross-cultural settings
- Understanding leadership as a “collective” or multi-level social phenomenon that occurs at various levels of group and organizational analysis

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2.2 Developing Leadership Situational Awareness

Effective leaders are aware of the social/interpersonal situations within which they operate. They are able to utilize that situational awareness to make appropriate adjustments to influence strategies and tactics, just as the master strategist adjusts on the battlefield to take account of changing tactical conditions. Knowledge, skills, and abilities supporting leadership awareness include skills in perceiving and interpreting a variety of social cues.

Topic areas of research interest include the following:

- Assessment of the impact of leader self-identity and self awareness on influence processes and outcomes
- Development of interventions to increase self-awareness
- Development of interventions to enhance understanding of non-verbal cues
- Assessment of the relationship between situational awareness and strategic thinking
- Assessment of technologies that support strategic thinking through better situational awareness
- Methods for improving and/or assessing the use of critical thinking skills in interpersonal contexts
- Methods for improving and/or assessing the use of critical thinking skills in culturally complex settings and operations
- Development of methods to increase frequency and effectiveness of social perspective taking
- Understanding the use of emotion regulation (of self and others) and emotional labor as components of effective leadership

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2.3 Developmental Interventions for Effective Leadership in a Changing Army

Only those leaders exhibiting high levels of awareness and understanding of the relationships between their actions and the responses of those they wish to influence will be able to adapt to changes in the environment in which they are asked to perform. While situational awareness is critical to tactical effectiveness, self-awareness and social-awareness are equally critical to leadership effectiveness. Both individual factors (e.g. cognitive abilities, personality factors, self-monitoring behaviors) and external factors (e.g. situations which are ambiguous, emotionally laden, and/or present significant risk) may impact capabilities for requisite awareness. The objective of this element of the R&D program is to develop and demonstrate tools that will develop and sustain high levels of these leadership capabilities.

Topic areas of research interest include the following:

- Validated leader awareness model that accounts for individual and external factors

- Measures to quantify individual differences in self/social/situational knowledge and abilities
- Tools/resources to assist Army leaders in visualizing abstract concepts and representing abstract concepts in discourse/communications
- Methods to develop strategic thinking at low/mid-level officer training/education
- Methods for assessing and integrating planning processes and tools linking strategic goals/aims and tactical actions (e.g., Army Design Methodology)
- Training and assessment tools and techniques oriented to individual strategies in self/social/situational awareness
- Job aids that enhance the development of leadership skills during on-the-job activities

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II-A-2: TEAM AND INTER-ORGANIZATIONAL PERFORMANCE IN COMPLEX ENVIRONMENTS (3.1-3.3)

3.1 Joint, Interagency, Intergovernmental, and Multinational Multi-Team Systems

The United States military works with other government and non-governmental organizations both within and outside the United States to achieve their mission. These multicultural teaming arrangements are an adaptive response to the complexity of the problems encountered in counterinsurgency and stability operations. These teams are likely to be peer-based, heterogeneous, and often distributed (or partially distributed). Research efforts, focused below the strategic level of operations, are needed to determine how to compose, lead, train, and support multi-team systems to facilitate (1) intra/inter-team collaboration, negotiation, and consensus-building; (2) decision-making; (3) and self synchronization for agile performance in dynamic and ambiguous situations.

Topic areas of research interest include the following:

- Application or revision of concepts such as commander's intent, command intent, and unity of effort to train and support collaboration and decision-making by collocated and distributed teams
- Understanding the role of trust in multi-team systems
- Training and assessment tools and techniques for the development of collaborative capabilities for enhancing inter-organizational collaboration in coalition operations

- Development and application of qualitative and quantitative measures for assessing and enhancing multi- team performance

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3.2 Networked Organizations

Advances in information technology and networked systems are changing the way military teams and organizations form and operate. Military teams are socio-technical systems and are often ad hoc and diverse, formed to meet specific, complex mission requirements. Team members may be collocated, distributed, or partially collocated and partially distributed. Research is needed to identify strategies for organizational design, training, and performance support that leverages the advantages of distributed, networked teams and organizations while minimizing or eliminating barriers to collaboration.

Topic areas of research interest include the following:

- Identifying data from the network and patterns of human interaction that can be captured and used for dynamic, real-time team development, training, and performance assessment
- Use of network-enabled alerting to inform team operations
- Approaches to organization visualization comprised of network and non-network data that are most appropriate for military operations
- Extension of current approaches to cognitive work analyses to address socio-cognitive, socio-technical requirements of distributed, diverse teams
- Similarities and differences in trust among humans when applied to trust in teams comprised of both humans and technology; investigating how trust is established, maintained, broken, and reestablished in distributed socio-technical teams
- Application of a variable approach, one that combines both hierarchical and decentralized decision-making, to military organizational design and operations
- Examining processes of hybrid teams comprised of both collocated and distributed members to develop methods and tools or organizational design solutions to enhance performance

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3.3 Multi-National and Cross-Cultural Operations

Modern conflicts place a premium on the flexibility of force personnel to readily shift from major combat operations to stabilization and security force assistance operations as circumstances dictate. These latter forms of operations rely heavily on Soldiers and leaders to interact with host nation governmental and military personnel, local civilian leaders, and the local populace on a regular basis in order to effectively accomplish the mission. The knowledge, skills, and capabilities required to effectively interact with these groups are not within the traditional skill sets developed in U.S. Army personnel and additional research and development is required to gain this capacity.

Topic areas of research interest include the following:

- Learning models for the development of the knowledge, skill, and aptitude components of cross-cultural competence
- Measurement of the specific components of skills relevant to cross-cultural interaction, including interpersonal skills, perspective taking, and other relevant aspects of cross-cultural competence
- Developmental methods for training cross-cultural negotiation, communication, and collaboration skills outside formal education and training venues
- Theories, models, and approaches providing the conceptual linkages between cultural aspects of societies, groups, and individuals

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II-A-2: SOLDIER/PERSONNEL ISSUES (4.1-4.2)

The ARI Soldier R&D platform includes tools to attract, select, assign, promote, and retain enlisted and officer personnel, both Active and Reserve, whose abilities and interests will fit the Future Force's organizational and multi-skilled job demands. Soldiers must be properly matched with the jobs and assignments that best fit their capabilities and interests, both at initial entry and as they progress in their careers. Advances in the development of new tools for personnel management must be coordinated with ongoing changes in Army policies, missions, and organization. Our understanding of enlisted and officer job performance reflects a "whole person" approach, incorporating both the ability to perform and the motivation to perform. Our selection and classification system must incorporate both elements in a holistic fashion.

4.1 Expanded Tools for Enlisted and Officer Selection

In recent years, the challenges confronting enlisted Soldiers and officers have been changing. They must confront a more challenging, ambiguous, and uncertain environment. They must take on responsibilities at a more junior level. These changes raise a number of challenges for our future research and development.

Topic areas of research interest include the following:

- Comprehensive assessment of Soldiers and officers for selection purposes (for example, identification of important cognitive abilities that could be measured but currently are not part of the Armed Services Vocational Aptitude Battery (ASVAB) and existing standardized cognitive tests)
- Research-based innovations that could result in personnel assessments that improve the validity, efficiency, and domain coverage beyond current military accessions testing, while minimizing adverse impact
- Improved methods of ensuring that faking does not reduce the validity of personality tests when such tests are administered in operational conditions
- Development of personality tests which do not rely on the standard multiple choice format
- Identification of non-cognitive attributes, in addition to personality, which contribute to Soldier and officer performance and development of valid measures of these attributes

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4.2 Improved Person-Job Match

New missions, equipment, and doctrine will impact the types of jobs and Soldiers needed for the Future Force. Current tools for classifying Soldiers into jobs will need to be refined to meet the changing needs of the Army. These tools need to reflect the multiple requirements of future jobs, the realignment of the current job structure, and a broader view of Soldier performance which incorporates motivational as well as proficiency components.

Topic areas of research interest include the following:

- Development of improved job analysis methods which better support job clustering and generalization of validity findings across jobs
- Development of a person-job match model that emphasizes individual preferences and motivation as well as aptitudes

- Exploration of more dynamic and realistic, yet cost-effective, measures of individual job performance
- Development and demonstration of a performance competency concept that can facilitate meaningful and cost-efficient comparisons across jobs
- Modification of current personnel allocation systems to ensure maximum value for the Army given existing accession/training management constraints

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II-B: AWARD INFORMATION

The Army Contracting Command- Aberdeen Proving Ground, RTP Division has the authority to award a variety of instruments. The ACC (APG) RTP Division reserves the right to use the type of instrument most appropriate for the effort proposed. Offerors should familiarize themselves with these instrument types and the applicable regulations before submitting a proposal. The following are brief descriptions of the possible award instruments:

1. **Procurement Contract**: A legal instrument, which consistent with 31 U.S.C. 6303, reflects a relationship between the Federal Government and a State, a local government, or other recipient when the principal purpose of the instrument is to acquire property or services for the direct benefit or use of the Federal Government.

This instrument is appropriate for basic, applied, or advanced research awards when the principal purpose is to acquire property or services for the direct benefit or use of the Federal Government.

Procurement contracts awarded by the ACC (APG) RTP Division will contain, where appropriate, detailed special provisions concerning patent rights, rights in technical data and computer software, reporting requirements, equal employment opportunity, etc.

2. **Grant**: A legal instrument, that consistent with 31 U.S.C. 6304, is used to enter into a relationship in which-
 - a. The principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law or the United States, rather than to acquire property or services for the Department of Defense's direct benefit or use.
 - b. Substantial involvement is not expected between the Department of Defense and the recipient when carrying out the activity contemplated by the grant.
 - c. No fee or profit is allowed.

This instrument is appropriate for basic research awards when the principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law or the United States, rather than to acquire property or services for the Department of Defense's direct benefit or use. No substantial involvement is expected between the Department of Defense and the award recipient when carrying out the grant activity.

3. **Cooperative Agreement**: A legal instrument which, consistent with 31 U.S.C. 6305, is used to enter into the same kind of relationship as a grant (see definition "grant"), except that substantial involvement is expected between the Department of Defense and the recipient when carrying out the activity contemplated by the cooperative agreement. The term does not include "cooperative research and development agreements" as defined in 15 U.S.C. 3710a. No fee or profit is allowed.

This instrument is appropriate for basic, applied, or advanced research awards when the principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law or the United States, rather than to acquire property or services for the Department of Defense's direct benefit or use. Substantial involvement is expected between the Department of Defense and the award recipient when carrying out the cooperative agreement activity.

Grants and cooperative agreements are governed by the following regulations:

- a. 2 CFR Part 220, "Cost Principles for Educational Institutions"
(Formerly OMB Circular A-21)
- b. 2 CFR Part 225, "Cost Principles for State, Local and Indian Tribal Governments"
(Formerly OMB Circular A-87)
- c. OMB Circular A-102, "Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments"
- d. 2 CFR 215, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations"
(Formerly OMB Circular A-110)
- e. 2 CFR Part 230, "Cost Principles for Non-Profit Organizations"
(Formerly OMB Circular A-122)
- f. OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations"
- g. DoD Grant and Agreement Regulations (DoDGARs), DoD 3210.6-R

Copies of Office of Management and Budget (OMB) regulations may be obtained from:

Executive Office of the President
Publications Service
New Executive Office Building
725 17th Street, N.W., Room 2200
Washington, DC 20503

Telephone: (202) 395-7332
FAX Requests: (202) 395-9068
<http://www.whitehouse.gov/OMB/grants>

An electronic copy of the DoDGARs may be found at
<http://www.dtic.mil/whs/directives/corres/html/321006r.html>.

4. **Technology Investment Agreement (TIA) Assistance Transaction other than a Grant or Cooperative Agreement (see DoDGARs Part 37):** A legal instrument, consistent with 10 U.S.C. 2371, which may be used when the use of a contract, grant, or cooperative agreement is not feasible or appropriate for basic, applied, and advanced research projects. The research covered under a TIA shall not be duplicative of research being conducted under an existing DoD program. To the maximum extent practicable, TIA's shall provide for a 50/50 cost share between the Government and the Offeror. An Offeror's cost share may take the form of cash, independent research and development (IR&D), foregone intellectual property rights, equipment, or access to unique facilities, as well as others. Due to the extent of cost share, and the fact that an 'other transaction' does not qualify as a "funding agreement" as defined at 37 CFR 401.2(a), the intellectual property provisions of a TIA can be negotiated to provide expanded protection to an Offeror's intellectual property. No fee or profit is allowed.
5. **Other Transaction for Prototype (OTA):** A legal instrument, consistent with 10 U.S.C. 2371 (as authorized by Public Law 106-398, Section 803 and Public Law 103-160, Section 845), which may be used when the use of a contract, grant, or cooperative agreement is not feasible or appropriate for prototype projects directly relevant to weapons or weapon systems proposed to be acquired or developed by the DoD. The effort covered under an 'other transaction for prototype' shall not be duplicative of effort being conducted under an existing DoD program (please refer to the "Other Transactions" OT Guide for Prototype Projects at www.acq.osd.mil/dpap/Docs/otguide.doc).

II-C: ELIGIBILITY INFORMATION

1. Eligible Applicants:

Proposals are sought from educational institutions, non-profit/not-for-profit organizations, and commercial organizations, domestic or foreign, for research and development (R&D) in those areas specified in Part II Section A of this BAA. The U.S. Army Research Institute for the Behavioral and Social Sciences encourages Historically Black Colleges and Universities/ Other Minority Serving Institutions (HBCU/MI) (FAR Part 26.3) small businesses, and small disadvantaged businesses (FAR Part 19) to submit proposals for consideration. Historically Black Colleges and Universities and Other Minority Serving Institutions are determined by

the Secretary of Education to meet the requirements of Title III of the Higher Education Act of 1965, as amended (20 U.S.C. § 1061). Minority Serving Institutions are defined as institutions “whose enrollment of a single minority or a combination of minorities...exceeds 50 percent of the total enrollment.” [20 U.S.C. § 1067k (3) and 10 U.S.C. § 2323(a)(1)(C)]. Foreign owned, controlled, or influenced organizations are advised that security restrictions may apply that could preclude their participation in these efforts. Countries included on the U.S. State Department List of Countries that Support Terrorism are excluded from participation in these efforts.

Government laboratories, Federal Funded Research and Development Centers (FFRDCs), and U.S. Service Academies are not eligible to participate as prime contractors or recipients. However, they may be able to participate as subcontractors or subrecipients (eligibility will be determined on a case by case basis). If a proposal selected for award includes one or more subawards to a Government laboratory, Federally Funded Research and Development Center, or U.S. Service Academy, award funds allocated for Government laboratories, FFRDCs, and/or U.S. Service Academies will be provided via a Military Interdepartmental Purchase Request (MIPR). No award funds will be channeled directly from a prime awardee to a Government laboratory, FFRDC, or U.S. Service Academy subawardee.

2. Cost Sharing or Matching:

There is no required cost sharing, matching, or cost participation to be eligible under this BAA. However, Offerors are encouraged to consider cost sharing schemes in cooperation with ARI. Cost sharing requirements may exist if the Offeror is proposing the use of a TIA or an OTA as an award instrument.

3. Duns and Bradstreet Universal Numbering System (DUNS) Number and System for Award Management (SAM) Registrations:

Each applicant (unless the applicant is an individual or Federal agency that is exempt from those requirements under 2 CFR 25.110(b) or (c), or has an exception approved by the agency under 2 CFR 25.110(d)) is required to: (i) Be registered in the System for Award Management (SAM) <https://www.sam.gov> prior to submitting its application; (ii) provide a valid DUNS number in its application; and (iii) continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by an agency. An award will not be made to an applicant until the applicant has complied with all applicable DUNS (call 1-866-705-5711 toll free or visit <http://fedgov.dnb.com/webform>) and SAM requirements.

II-D: APPLICATION AND SUBMISSION INFORMATION

1. Address to View Broad Agency Announcement:

This BAA may be accessed from the following websites:

<https://www.fbo.gov>

<http://www.grants.gov>

<http://www.arl.army.mil/www/default.cfm?page=8>

2. Content and Form of Application Submission:

Section 1 – General Information:

Completeness of Information: Proposals must include all of the information specified in this BAA to prevent delays in evaluation. Be sure to specify the Commercial and Government Entity (CAGE Code), the DUNS Number, and the Taxpayer Identification Number (TIN) with your submission. Completion of the Representations and Certifications as well as registration in the System for Award Management (SAM) are prerequisites before receiving an award.

Classified Submissions: Classified proposals are not expected. However, in an unusual circumstance where an Offeror believes a proposal has the potential to be classified, contact the ARI Operations Security Officer, Ms. Pamela Butler, (703) 545-2418, pamela.l.butler8.civ@mail.mil prior to the proposal's submission.

Use of Color in Proposals: All proposals received shall be stored as electronic images. Electronic color images require a significantly larger amount of storage space than black-and-white images. As a result, Offerors' use of color in proposals should be minimal and used only when necessary for details. Do not use color if it is not necessary.

Government Property/Government Furnished Equipment and Facilities: Normally, title to equipment or other tangible property purchased with Government funds vests with non-profit institutions of higher education or with non-profit research organizations if vesting will facilitate scientific research performed for the Government. Commercial organizations are expected to possess the necessary plant facilities and equipment to conduct the proposed research. Deviations may be made on a case-by-case basis. Government equipment, research facilities, and operational military units may be available and may be considered as potential Government-furnished equipment/facilities. Offerors should explain as part of their proposals if any of these resources could be useful to the success of a proposed project.

Continuation Projects: A proposal for continuation of an existing ARI award will be considered on the same basis as proposals for new awards. The proposal should be submitted sufficiently in advance of the completion of the existing award so that if it is accepted, support may be continued without interruption.

Post Employment Conflict of Interest: There are certain post employment restrictions on former Federal officers and employees, including special Government employees (Section 207 of Title 18, U.S.C.). If a prospective Offeror believes a conflict of interest may exist, the

situation should be discussed with the ARI legal counsel, Ms. Peggy Giesecking, (410) 278-6487, peggy.l.giesecking.civ@mail.mil, prior to expending time and effort in preparing a proposal.

Statement of Disclosure Preference: Please complete Form 52 or 52A stating your preference for release of information contained in your proposal. Copies of these forms are available at <http://www.arl.army.mil/www/default.cfm?Action=29&Page=218#baaforms>. Additionally, proposals containing data that is not to be disclosed to the public for any purpose or used by the Government except for evaluation purposes shall include the following statement on their cover page:

The proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate this proposal. If, however, an award is made to this Offeror as a result of or in connection with the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting award. This restriction does not limit the Government's right to use information contained in these data if they are obtained from another source without restriction. The data subject to this restriction are contained in sheets _____.

The Offeror shall also mark each sheet of data it wished to restrict with the following legend:

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

Section 2 – Application Process Overview:

The application process is in three stages as follows:

Stage 1- Verify the accuracy of your Dun & Bradstreet (D&B) registration at the D&B website <http://fedgov.dnb.com/webform> before registering with the System for Award Management (SAM) Registration at <https://www.sam.gov>. Prospective Offerors must be registered in SAM prior to award.

Stage 2 - Prospective proposers are requested to submit white papers prior to the submission of a complete, more detailed proposal. The purpose of white papers is to minimize the labor and cost associated with the production of detailed proposals that have very little chance of being selected for funding. Based on assessment of the white papers, feedback will be provided to the proposers to encourage or discourage them to or from submitting full proposals.

Stage 3 - Interested Offerors are required to submit full proposals. All proposals submitted under the terms and conditions cited in this BAA will be reviewed regardless of the feedback on, or lack of, a white paper.

Section 3 – White Paper Preparation:

White papers should focus on describing details of the proposed research, including how it is innovative and how it could substantially increase the scientific state of the art. Army relevance and potential impact should also be described.

White papers should present the effort in sufficient detail to allow evaluation of the concept's technical merit and its potential contributions of the effort to the Army mission. White papers must reference the code number for the specific research area (e.g. II-A-2:1.1; II-A-2:2.1). Due to Government budget uncertainties, no specific dollars have been reserved for awards under this BAA.

Typical white papers are 3-5 pages in length. White papers are limited to five (5) pages plus the cover page and a three (3)-page addendum as discussed below. The cost portion of the white paper is included within the 5-page limitation. Combine all files and forms into a single PDF file before submitting. Evaluators will be advised that they are only required to review the white paper cover page and up to five pages plus the addendum.

TECHNICAL INFORMATION FOR WHITE PAPERS:

1. A detailed discussion of the effort's scientific research objectives, approach, relationship to similar research, and level of effort shall be submitted. Also, include the nature and extent of the anticipated results and, if known, the manner in which the work will contribute to the accomplishment of Army's mission and how this would be demonstrated.
2. The type of support, if any, that the Offeror requests of the Government (such as facilities, equipment, demonstration sites, test ranges, software, personnel or materials) shall be identified as Government Furnished Equipment (GFE), Government Furnished Information (GFI), Government Furnished Property (GFP), or Government Furnished Data (GFD). Offerors shall indicate any Government coordination that may be required for obtaining equipment or facilities necessary to perform any simulations or exercises that would demonstrate the proposed capability.
3. The cost portion of the white paper shall contain a brief cost estimate revealing all the component parts of the proposal, including research hours, burden, material costs, travel, etc.
4. As an addendum to the white paper, include biographical sketches (up to three pages) of the key personnel who will perform the research, highlighting their qualifications and experience.

RESTRICTIVE MARKINGS ON WHITE PAPERS:

1. Any proprietary data that the Offeror intends to be used only by the Government for evaluation purchases must be identified. The Offeror must also identify any scientific data contained in the white paper that is to be treated by the Government as limited rights data. In the absence of such identification, the Government will assume to have unlimited rights to all scientific data in the white paper. Records or data bearing a restrictive legend may be included in the white paper. It is the intent of the Army to treat all white papers as privileged information before the award and to disclose their contents only for the purpose of evaluation.
2. The Offerors are cautioned, however, that portions of the white papers may be subject to release under terms of the Freedom of Information Act, 5 U.S.C. 552, as amended.

EVALUATION AND DISPOSITION OF WHITE PAPERS:

1. Evaluation Process: Offerors are advised that invitations for complete proposals will be made based on the initial white paper submission and the availability of funding. As stated above, the white paper will be evaluated for the concept's scientific merit and potential contributions of the effort to the Army mission. Offerors whose white papers are evaluated as having significant scientific merit may be invited to submit a complete detailed proposal. Care must be exercised to ensure that classified, sensitive, critical technologies are not included. If such information is required, appropriate restrictive markings and procedures should be applied.
2. Disposition Process: After completion of the evaluation, the Offeror will be notified in writing of the results.

Section 4 – White Paper Submission:

1. If, as a result of any telephone contact, an R&D effort is determined to have sufficient interest, a white paper of the proposed effort should be submitted to:

Jay.Goodwin@us.army.mil with e-mail subject line “ARI BAA W911NF-13-R-0001 White Paper” with a copy furnished to the Technical Point of Contact (TPOC) of the relevant technical area (see Part II Section A of this BAA)

OR via U.S. Postal Service at:

U.S. Army Research Institute
ATTN: DAPE-ARI-FS (Dr. Jay Goodwin)
6000 6th Street
FT Belvoir, VA 22060-5610

Do NOT send any correspondence to the postal address above by any means other than the U.S. Postal Service, as it will not be delivered.

2. Offerors preparing a white paper for submission may follow any convenient format desired.

Section 5 – Preparation of Complete Research Proposals:

PROPOSAL PREPARATION INSTRUCTIONS:

1. **General Information:** The proposal is the only vehicle available to the Offeror for receiving consideration for award. The proposal must stand on its own merit; only information provided in the proposal can be used in the evaluation process leading to an award. The proposal should be prepared simply and economically, providing straightforward, concise delineation of capabilities necessary to perform the proposed work. The technical proposal must be accompanied by a fully supported cost proposal as cost and technical considerations are reviewed simultaneously.
2. **Proposal Format and Content:** To ensure all technical proposals receive proper consideration, the Government-recommended proposal format shown below (Volume I Technical Proposal) should be followed as closely as possible. This format can most easily be incorporated as the proposal table of contents and serves as a final checklist as well. Proposals must reference the code number for the specific research area (e.g. II-A-2:1.1; II-A-2:2.1).

Proposal documents (excluding illustrations, tables, and required forms) must use the following page format:

- Page Size – 8 ½ x 11 inches
- Margins – 1 inch
- Spacing – single
- Font – Times New Roman, 12 point

VOLUME I - TECHNICAL PROPOSAL

- i** Cover Page
- ii** Table of Contents
- iii** List of Illustrations/Tables
- iv** Executive Summary

- 1.0** Technical Approach
 - 1.1** Technical Discussion
 - 1.2** Technical Program Summary
 - 1.3** Risk Analysis and Alternatives
 - 1.4** References

- 2.0 Special Technical Factors
 - 2.1 Capabilities and Relevant Experience
 - 2.2 Previous or Current Relevant Independent Research and Development (IR&D) Work
 - 2.3 Related Government Contracts
 - 2.4 Facilities/Resources/Equipment

- 3.0 Schedule
 - 3.1 Time Line Chart by Task

- 4.0 Program Organization
 - 4.1 Organization Chart(s) with Key personnel
 - 4.2 Management and Technical Team
 - 4.2.1 Prime Contractor Responsibilities
 - 4.2.2 Subcontractor(s) Responsibilities
 - 4.2.3 Consultant(s) Responsibilities
 - 4.3 Resumes of Key Personnel
 - 4.4 Current and Pending Support

- 5.0 Appendices

NOTE: PLEASE USE THE ABOVE DECIMAL NUMBERING SYSTEM FOR PROPOSAL PREPARATION.

i. Cover Page: A cover page is required. Proposals will not be processed without either:

(1) A signed ARO FORM 51 cover page (required for procurement contract proposals submitted by e-mail) (see Section 6 – Submission of Complete Research Proposals)

OR

(2) A SF 424 R&R Form (required for grant/cooperative agreement proposals submitted online via Grants.gov (see Section 6 – Submission of Complete Research Proposals)

Note: If an Offeror elects to submit a contract proposal via Grants.gov instead of via e-mail, both the ARO FORM 51 and SF 424 R&R Form are required. Proposals for grants or cooperative agreements only require the SF 424 R&R Form.

The cover page should include the BAA number, R&D topic and reference number, name and telephone number for the principal points of contact (both technical and contractual), proposed project title, and any other information that identifies the proposal. The cover page should also contain the proprietary data disclosure statement, if applicable (ARO FORM 52 or 52A). The title of the proposed project should be brief, scientifically representative, intelligible to a scientifically literate reader, and suitable for use in the public domain.

Should the project be carried out at a branch campus or other component of the submitting organization, that branch campus or component should be identified in the space provided (Block 11 on the ARO FORM 51 and Block 12 on the SF 424 R&R).

The proposed duration for which support is requested should be consistent with the nature and complexity of the proposed activity. The Federal awarding agency reserves the right to make awards with shorter or longer periods of performance. Specification of a desired starting date for the project is important and helpful. However, requested effective dates cannot be guaranteed.

Pursuant to 31 U.S.C. 7701, as amended by the Debt Collection Improvement Act of 1996[Section 31001(I)(1), Public Law 104-134], Federal agencies shall obtain each awardee's Taxpayer Identification Number (TIN). This number may be the Employer Identification Number (EIN) for a business or non-profit entity or the Social Security Number for an individual. The TIN is being obtained for purposes of collecting and reporting on any delinquent amounts that may arise out of an awardee's relationship with the Government.

Offerors shall provide their organization's Data Universal Numbering System (DUNS) number. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services.

Offerors shall provide their assigned Commercial and Government Entity (CAGE) code. The CAGE code is a 5-character code assigned and maintained by the Defense Logistics Service Center (DLSC) to identify a commercial plant or establishment.

ii. Table of Contents: It is highly recommended that the Offeror follow the above table of contents (Volume I Technical Proposal) and use it for a final quality-control checklist.

iii. List of Illustrations/Tables: This list is a quick reference of charts, graphs, and other important information. A separate list of tables is recommended.

iv. Executive Summary/Project Abstract: The executive summary/project abstract allows the Offeror to present briefly and concisely the important aspects of its proposal to key management personnel. The summary/abstract should present an organized progression of the work to be accomplished, without the technical details, such that the reader can grasp the core issues of the proposed program. The summary/abstract shall include a concise statement of work and basic approaches to be used in the proposed effort, to include a statement of scientific objectives, methods to be employed, and the significance of the proposed effort to the advancement of knowledge. The abstract should be no longer than two (2) pages and be in a form suitable for release under the Freedom of Information Act, 5 U.S.C. 552, as amended.

1.0 Technical Approach: In this section, the Offeror should provide as much technical detail and analysis as is necessary or useful to support the technical approach it is proposing. One must clearly identify the core of the intended approach. It is not effective to address a variety of possible solutions to the technology problems.

1.1 Technical Discussion: No technical approach is without its limitations or shortcomings. Every issue should be identified and compared with the successes/failures of previous approaches. A trade-off analysis is a good way to make this comparison and should be supported by theory, simulation, modeling, experimental data, or other sound engineering and scientific practices. If the Offeror has a "new and creative" solution to the problem(s), that solution should be developed and analyzed in this section. The preferred technical approach should be described in as much detail as is necessary or useful to establish confidence in the approach. The technical discussion should include the following:

- A complete discussion stating the background and objectives of the proposed work, the scientific approaches to be considered, the relationship to competing or related research, and the level of effort to be employed; include the nature and extent of the anticipated results and how they will significantly advance the scientific state-of-the-art; if known, include the manner in which the work will contribute to the accomplishment of the Army's mission; ensure the proposal identifies any scientific uncertainties and describes specific approaches for the resolution of the uncertainties
- A brief description of your organization
- The names of other Government agencies or other parties receiving the proposal and/or funding the proposed effort (if none, so state); concurrent or later submission of the proposal to other organizations will not prejudice its review by ARI if we are kept informed of the situation
- A statement regarding possible impact, if any, of the proposed effort on the environment considering as a minimum its effect upon water, atmosphere, natural resources, human resources, and any other values
- The Offeror shall provide a statement regarding the use of Class I and Class II ozone-depleting substances. Ozone-depleting substances mean any substance designated as Class I by the Environmental Protection Agency (EPA), including but not limited to chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform and any substance designated as Class II by EPA, including but not limited to hydrochlorofluorocarbons. See 40 C.F.R. Part 82 for detailed information. If Class I or II substances are to be utilized, a list shall be provided as part of the Offeror's proposal. If none, so state.
- Requested support (if any) in the following areas: facilities, equipment, and materials

1.2 Technical Program Summary: This section summarizes the above technical discussion in an orderly progression through the program, emphasizing the strong points of the proposed technical approach.

1.3 Risk Analysis and Alternatives: Every technology has its limitations and shortcomings. The proposal evaluator(s) will formulate a risk assessment and it is in the best interest of the Offeror to have its own understanding of the risk factors presented. Critical technologies should be identified along with their impact on the overall program as well as fallback positions that could still improve on existing approaches.

1.4 References/Bibliography: Any good technology discussion must present the basis for and reference the findings cited in the literature. A bibliography of pertinent literature is required. Citations must be complete (including full name of author(s), title, and location in the literature).

2.0 Special Technical Factors: In this section, the Offeror should describe any capabilities it has that are uniquely supportive of the research and development to be pursued. This section should include the following:

- 2.1 Capabilities and Relevant Experience**
- 2.2 Previous or Current Relevant IR&D Work**
- 2.3 Related Government Contracts**
- 2.4 Facilities/Resources/Equipment**

3.0 Schedule: The schedule represents the Offeror's commitment to perform the program tasks in an orderly, timely manner.

3.1 Time Line Chart by Task: Each major task identified in the technical proposal must appear as a separate line on the program schedule. Planned meetings, such as kick-off, presentations (including final), technical interchange meetings, etc., must be included in the time line. The time line must also indicate the anticipated meeting site. Please coordinate with the respective ARI R&D topic scientific manager (see Part II Section A of this BAA) to prepare this section. The respective scientific manager will provide details on meetings as this will vary for each proposal.

4.0 Program Organization: In this paragraph, the Offeror should present its organization's ability to conduct difficult technical programs. Any pertinent or useful information may be included in this paragraph, but a minimum recommended response should address the following subparagraphs:

4.1 Organizational Chart(s) with Key Personnel: Include prime contractor and subcontractor organization charts.

4.2 Management and Technical Team: This should specifically identify what tasks will be performed by which party and why each subcontractor, if any, was selected to perform its task(s).

- 4.2.1 Prime Contractor Responsibilities**
- 4.2.2 Subcontractor(s) Responsibilities**
- 4.2.3 Consultant(s) Responsibilities**

4.3 Resumes/Curriculum Vitae of Key Personnel: Include the resumes/curriculum vitae of the prime contractor, subcontractor, and consultant key personnel to include the names, brief biography, and list of recent publications of the Offeror's key personnel. Documentation of previous work or experience in the field of the proposer is especially important. Key personnel information shall include the following:

- Primary Principal Investigator (PI): The "Primary" PI provides a single or initial point of communication between the sponsoring agency(ies) and the awardee organization(s) about scientific matters. If not otherwise designated, the first PI listed will serve as the "Primary" PI. This individual can be changed with the concurrence of the agency. The sponsoring agencies(ies) do not infer any additional scientific stature to this role among collaborating investigators.
- Co-Principal Investigator (s) (Co-PI): When an organization designates more than one PI, it identifies Co-PIs as individuals who share the authority and responsibility for leading and directing the research, intellectually and logistically. The sponsoring agencies(ies) do not infer any distinction in scientific stature among multiple PIs.
- Relevant experience and employment history including a description of any prior Federal employment within one year preceding the date of proposal submission
- List of up to ten (10) publications most closely related to the proposed project and up to ten (10) other significant publications, including those being printed; patents, copyrights, or software systems developed may be substituted for publications
- List of persons, other than those cited in the publications list, who have collaborated on a project or a book, article, report or paper within the last four (4) years; include pending publications and submissions; otherwise, state "none"
- Names of each investigator's own graduate or post graduate advisors and advisees; this information is used to help identify potential conflicts or bias in the selection of reviewers
- For the personnel categories of postdoctoral associates, other professionals, and students (research assistants), the proposal may include information on exceptional qualifications of these individuals that merit consideration in the evaluation of the proposal.
- The biographical sketches are limited to three (3) pages per investigator and other individuals that merit consideration

4.4 Current/Pending Support: All project support from whatever source must be listed. The list must include all projects requiring a portion of the Principal Investigator's and other senior personnel's time, even if they receive no salary support from the project(s). The

information should include, as a minimum: (i) the project/proposal title and brief description, (ii) the name and location of the organization or agency presently funding the work or requested to fund such work, (iii) the award amount or annual dollar volume of the effort, (iv) the period of performance, and (v) a breakdown of the time required of the Principal Investigator and/or other senior personnel.

5.0 Appendices: Appendices may include technical reports, published papers, and referenced material. A listing of these reports/papers with short descriptions of the subject matter is usually adequate. Do not provide commercial product advertising brochures.

VOLUME II – COST PROPOSAL

COST PROPOSAL PREPARATION:

1. **Cost Reimbursement or Fixed Price Award:** Selection of the type of award (cost reimbursement or fixed price) is based upon various factors, such as the type of award instrument selected, the type of research to be performed, the contractor's experience in maintaining cost records, and the ability to detail and allocate proposed costs and performance of the work. Cost type awards are most commonly used because of their suitability in supporting research and development efforts. They permit some flexibility in the redirection of efforts due to recent research experiment results or changes in Army guidance. Fixed-price type awards are used when the research project costs can be estimated accurately, the services to be rendered are reasonably definite, and the amount of property, if any, is fixed. The negotiated price is not subject to any adjustment on the basis of the Offeror's cost experience in performing the contract. Offerors may propose either cost reimbursable or fixed price arrangements, but the award type may vary in accordance with relevant factors as determined by the ACC (APG) RTP Division.
2. **Cost Proposal Content:** Cost proposals should represent an Offeror's best response to the solicitation. Any inconsistency, whether real or apparent, between promised performance and cost or price data must be fully explained in the proposal. Failure to explain any significant inconsistencies may demonstrate an Offeror's lack of understanding of the nature and scope of the work required. Accordingly, cost proposals must be sufficient to establish the reasonableness, realism, and completeness of the proposed cost/price. Further, any modifications made to the initial proposal must likewise be thoroughly supported in writing regardless of whether such changes are made during negotiations or at the time of a proposal revision. The estimate should be detailed for each task of the proposed work. The cost proposal should be limited to the minimum number of pages necessary to satisfy the specific requirements set forth herein. Submission of volumes of computer-generated data to support the cost proposal is not necessary or desired. If computer-generated data is essential to support the cost proposal, it may be submitted as an addendum and must be clearly cross-referenced to the material it supports in the cost proposal.

Each proposal must contain a budget for each year of support requested and a cumulative budget for the full term of requested support. The ARO budget form (ARO FORM 99) may be reproduced as needed. Locally produced versions may be used, but you may not make substitutions in prescribed budget categories nor alter or rearrange the cost categories as they appear on the form. The proposal may request funds under any of the categories listed so long as the item is considered necessary to perform the proposed work and is not precluded by applicable cost principles. In addition to the forms, the budget proposal should include no more than five (5) pages of budget justification narrative for each year.

A signed summary budget page must be included. The documentation pages should be titled "Budget Explanation Page" and numbered chronologically starting with the budget form. The need for each item should be explained clearly.

All cost data must be current and complete. Costs proposed must conform to the following principles and procedures:

Educational Institutions: 2 CFR Part 220 (formerly OMB Circular A-21)
Non-Profit Organizations: 2 CFR Part 230 (formerly OMB Circular A-122*)
Commercial Organizations: FAR Part 31, DFARS Part 231, FAR Subsection 15.403-5, and DFARS Subsection 215.403-5

* For those non-profit organizations specifically exempt from the provisions of 2 CFR Part 230, FAR Part 31 and DFARS Part 231 shall apply.

Sample itemized budgets and the information they must include for a contract and for grants and cooperative agreements can be found at Section II. H. (Other Information). Before award it must be established that an approved accounting system and financial management system exist.

The following specific information is required:

1. Summary by cost element and profit or fee for total proposal
2. Labor summary for total proposal by labor categories, proposed hours per labor category, and hourly rates per labor category
3. Explanation of how labor rates are computed including base rates (actuals), fringe, and escalation, if any
4. Interdivisional transfers (detailed breakout of costs), if applicable
5. Identification of indirect rates by fiscal year and explanation of how established and base to which they apply

6. Bill of materials detailing items by type, quantity, unit price, total amount, and source of estimate (provide vendor written quotes)
 7. Summary of all travel by destination, purpose, number of people and days, air fare, per diem, car rental, etc.
 8. Consultant(s) by name, hourly rate, and number of hours (furnish copy of consulting agreement and identify prior agreement(s) under which the consultant commanded proposed rate)
 9. Computer use by type, rate, and quantity
 10. Other direct costs by type, amount, cost per unit, and purpose (specifically identify any costs for printing or publication)
 11. DD Form 1861 (if proposing facilities capital cost of money)
 12. Forecast of monthly and cumulative dollar commitments for the proposed performance period
 13. Subcontractor's proposal, with prime Offeror's price/cost analysis of subcontractor's proposal (if subcontract was not competed, include justification)
3. Subcontractor Cost Proposals: Subcontractors' cost proposals must be similarly structured. All subcontracted work must be properly identified as such. If a subcontractor elects to submit an abbreviated proposal to an Offeror, it is Offeror's responsibility to see that the subcontractor simultaneously submits a complete detailed proposal properly identified directly to the Government Contracting or Grants Officer. An Offeror's proposal must:
1. Identify principal items/services to be subcontracted
 2. Identify prospective subcontractors and the basis on which they were selected (if non-competitive, provide selected source justification)
 3. Identify the type of contractual arrangement contemplated for each subcontract and the rationale for the same
 4. Identify the cost or pricing data or information other than cost or pricing data submitted by each subcontractor
 5. Provide an analysis concerning the reasonableness, realism, and completeness of each subcontractor's proposal; if the analysis is based on a comparison with prior research efforts, identify the basis on which the prior costs or prices were determined to be reasonable

Section 6 – Submission of Complete Research Proposals:

Proposals must be submitted through the Offeror's organizational office having responsibility for Government business relations. The proposal must contain the signature of an authorized official. All signatures must be that of an official(s) authorized to commit the organization in business and financial affairs. The cover of the proposal should be marked with the BAA Solicitation Number W911NF-13-R-0001 (ATTN: Maria D. Nelson) along with the name of the scientific point of contact responsible for the topic (see Part II Section A of this BAA). Offerors are requested to provide their e-mail addresses upon submission of a proposal and also the name, address, and telephone number of their cognizant Defense Contract Audit Agency (DCAA) office, if known.

Proposals must be submitted electronically via e-mail or Grants.gov. The proposal format and content will remain the same whether using e-mail or Grants.gov. Proposals for contracts may be submitted via e-mail or via Grants.gov. Proposals for grants or cooperative agreements (assistance) MUST be submitted online via Grants.gov.

CONTRACT PROPOSAL SUBMISSION:

Proposals for contracts may be e-mailed directly to usarmy.rtp.aro.mbx.baa@mail.mil or submitted online via Grants.gov, <http://grants.gov>.

Requests for waiver of electronic submission may be submitted as follows:

- 1) via e-mail to usarmy.rtp.aro.mbx.baa@mail.mil or
- 2) via regular mail at the following address:

Army Research Office
ATTN: RDRL-RO (Proposal Processing)
P.O. Box 12211, RTP, NC 27709-2211

E-MAIL SUBMISSION (for contract proposals only)

- a. Proposals for contracts may be e-mailed directly to usarmy.rtp.aro.mbx.baa@mail.mil. Do not e-mail full proposals to the ARI technical point of contact or the ACC (APG) RTP Division contractual point of contact.

All e-mailed proposals must contain the information outlined in Section II, D, 2 (Section 5- Preparation of Complete Research Proposals) including the electronic forms as follows: (1) ARO Form 51, Proposal Cover Page; (2) ARO Form 52 or ARO Form 52a Disclosure Statement Form; (3) ARO Form 99 Summary Proposal Budget Form(s); (4) ARO Current and Pending Support (unnumbered form).

These forms may be accessed at <http://www.arl.army.mil/www/default.cfm>. Under the 'Business' section, select 'Broad Agency Announcements' and then 'Forms- BAA.'

- b. All forms requiring signature must be completed, printed, signed, and scanned into a PDF document. All documents must be combined into a single PDF formatted file to be attached to the e-mail.

GRANT AND COOPERATIVE AGREEMENT PROPOSAL SUBMISSION:

GRANTS.GOV SUBMISSION (mandatory submission portal for grant and cooperative agreement proposals; optional submission portal for contract proposals)

- a. Grants.gov registration (see Section 7 below) must be accomplished prior to application through this process.

Note: All web links referenced in this section are subject to change by Grants.gov and may not be updated here.

- b. Specific forms are required for submission of a proposal via Grants.gov. The forms are contained in the Application Package available through the Grants.gov application process. To access these materials, go to <http://www.grants.gov>, select "Apply for Grants," and then select "Download Application Package." A Grant Application Package and Application Instructions are available for download through the Grants.Gov Apply portal under CFDA Number 12.630 /Funding Opportunity Number W911NF-13-R-0001. The following documents are mandatory: (1) Application for Federal Assistance (Research and Related) (SF 424 (R&R)), and (2) Attachments Form.

- (1) The SF 424 (R&R) Form is to be used as the cover page for all proposals. Authorized Organization Representative (AOR) usernames and passwords serve as "electronic signatures" when your organization submits applications through Grants.gov. By using the SF 424 (R&R), Offerors are providing the certification required by 32 CFR Part 28 regarding lobbying. The SF 424 (R&R) must be fully completed. Block 11, "Descriptive Title of Applicant's Project," must reference the research topic area being addressed in the effort by identifying the specific paragraph from Part II Section A of this BAA (e.g. II-A-2:1.1; II-A-2:2.1)

- (2) The Attachments Form must contain the information outlined in Section II, D, 2 (Section 5- Preparation of Complete Research Proposals) including the electronic forms as follows: (1) ARO Form 51, Proposal Cover Page; (2) ARO Form 52 or ARO Form 52a, Disclosure Statement Form; (3) ARO Form 99, Summary Proposal Budget Form(s); (4) ARO Current and Pending Support (unnumbered form).

These forms may be accessed at:

<http://www.arl.army.mil/www/default.cfm>

Under the 'Business' section, select 'Broad Agency Announcements' and then 'Forms- BAA.'

The fillable PDF forms may be saved to a working directory on a computer and opened and filled in using the latest compatible Adobe Reader software application found at this Grants.Gov hot-link:

http://www07.grants.gov/help/download_software.jsp#adobe811

- (3) All documents must be combined into a single PDF formatted file titled "W911NF-13-R-0001 Proposal" and uploaded into the mandatory Attachments Form.
- (4) The training demonstration at <http://www07.grants.gov/assets/CompletingaGrants.govApplication.html> will assist AORs in the application process. Remember that you must open and complete the Application for Federal Assistance (Research and Related) (SF 424 (R&R)) first, as this form will automatically populate data fields in other forms. If you encounter any problems, contact customer support at 1-800-518-4726 or at support@grants.gov. If you forget your user name or password, follow the instructions provided in the Credential Provider tutorial. Tutorials may be printed by right-clicking on the tutorial and selecting "Print."
- (5) As it is possible for Grants.gov to reject the proposal during this process, it is strongly recommended that proposals be uploaded at least two days before any deadlines established in the BAA so that they will not be received late and be ineligible for award consideration. It is also recommended to start uploading proposals at least two days before the deadline to plan ahead for any potential technical and/or input problems involving the applicant's own equipment.

Section 7 – Grants.Gov Registration:

Each organization that desires to submit applications via Grants.Gov must complete a one-time registration. There are several one-time actions your organization must complete in order to submit applications through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the System for Award Management (SAM), register with the credential provider, register with Grants.gov, and obtain approval for an Authorized Organization Representative (AOR) to submit applications on behalf of the organization).

To register, please see http://www07.grants.gov/applicants/get_registered.jsp.

Please note the registration process for an organization or an individual can take between three to five business days or as long as four weeks if all steps are not completed in a timely manner.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process should be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

3. Submission Dates and Times:

White papers and full proposals will be considered through the methods noted previously until and including 5 February 2018.

4. Intergovernmental Review:

Not Applicable

5. Funding Restrictions:

There are no funding restrictions associated with this BAA.

6. Other Submission Requirements:

Information to be Requested from Successful Offerors: Offerors whose proposals are accepted for funding will be contacted before award to provide additional information required for award. The required information is normally limited to clarifying budget explanations, representations, certifications, and some technical aspects.

For Contracts Only- Performance Work Statements (PWS): Prior to award, the Contracting Officer may request that the contractor submit a PWS for the effort to be performed, which will be incorporated into the contract at the time of award.

II-E: APPLICATION REVIEW INFORMATION

1. Criteria:

Proposals submitted in response to this BAA will be evaluated using the factors listed below. Criterion (a) is most important; the other criteria are of equal importance to one another.

- a. The overall scientific and/or technical merits of the proposal
- b. The potential contributions of the effort to the Army Research Institute for the Behavioral and Social Sciences
- c. The Offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposed objectives
- d. The qualifications, capabilities, and experience of the proposed Principal Investigator, team leader, and other key personnel who are critical to achievement of the proposed objectives
- e. The Offeror's record of past performance
- f. The reasonableness and realism of proposed costs and fee
- g. The current and/or future relationship or interface with ongoing activities in academia and/or industry

2. Review and Selection Process:

- a. Upon receipt of a proposal, the ARI staff will perform an initial review of its scientific merit and potential contribution to the Army mission and also determine if funds are expected to be available for the effort. Proposals not considered having sufficient scientific merit or relevance to the Army's needs or those in areas for which funds are not expected to be available may be declined without further review.
- b. All proposals are treated as privileged information prior to award and the contents are disclosed only for the purpose of evaluation. Proposals not declined as a result of an initial review will be subject to an extensive peer review by highly qualified scientists from within the Government. The Offeror must indicate on the appropriate proposal form (ARO Form 52 or 52A) any limitation to be placed on disclosure of information contained in the proposal.
- c. Each proposal will be evaluated based on the merit and relevance of the specific R&D proposed as it relates to the overall ARI research and development program, rather than against other proposals in the same general area.

3. Recipient Qualification:

For CONTRACT Proposals:

The Federal Awardee Performance and Integrity Information System (FAPIS), <https://www.fapiis.gov/fapiis/index.jsp>, will be checked prior to making a contract award.

The applicant representing the entity may comment in this system on any information about itself that a Federal Government Official entered. The information in FAPIIS will be used in making a judgment about the entity's integrity, business ethics, and record of performance under Federal awards that may affect the official's determination that the applicant is qualified to receive an award.

II-F: AWARD ADMINISTRATION INFORMATION

1. Award Notices:

Offerors whose proposals are recommended for award will be contacted by a Government Contract/Grant Specialist to discuss any additional information required for award. This may include representations and certifications, revised budgets or budget explanations, certificate of current cost or pricing data, subcontracting plan for small businesses, and other information as applicable to the proposed award. The anticipated award start date will be determined at this time. The appropriate award document, when signed by the Government Contracting/Grants Officer, is the authorizing award document.

2. Administrative and National Policy Requirements:

a. Required Certifications

For CONTRACT Proposals:

Certifications Required for Contract Awards: Certifications and representations shall be completed by successful Offerors prior to award. These certifications and representations shall be completed online via the System for Award Management (SAM) website, <https://www.sam.gov>.

For GRANT and COOPERATIVE AGREEMENT Proposals:

Grant awards greater than \$100,000.00 require a certification of compliance with a national policy mandate concerning lobbying. Statutes and Government-wide regulations require the certification to be submitted prior to award. The certification is set forth at Appendix A to 32 CFR 28 regarding lobbying. When submitting a grant or cooperative agreement proposal through Grants.gov, by completing blocks 18 and 19 of the Standard Form 424 Research and Related (R&R) Form, the applicant is providing the certification on lobbying required by 32 CFR Part 28. Otherwise, a copy of the certification signed by the authorized representative must be provided. Below is the required certification:

CERTIFICATION AT APPENDIX A TO 32 CFR PART 28 REGARDING LOBBYING:

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure.

b. Policy Requirements

1) PROTECTION OF HUMAN SUBJECTS:

Assistance Instruments Only (Grants and Cooperative Agreements): All research involving human subjects must be conducted in accordance with 32 CFR 219, 10 U.S.C. 980, and DoD Instruction 3216.02, as well as other applicable Federal and state regulations. Awardees must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 U.S.C. 980). The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD-supported research, development, test and evaluation, and related activities hereafter referred to as "research". The requirement to comply with the regulations applies to new starts and to continuing research.

For Contracts, the appropriate clauses shall be added.

2) ANIMAL SUBJECTS:

Assistance Instruments Only (Grants and Cooperative Agreements): DoD Instruction 3216.01 provides policy and requirements for the use of animals in DoD funded research. The DoD definition of animal is ‘any live non-human vertebrate.’ All proposals that involve animal subjects must address compliance with DoD Instruction 3216.01.

Provisions include rules on animal acquisition, transport, care, handling, and use in 9 CFR parts 1-4, Department of Agriculture rules implementing the Laboratory Animal Welfare Act of 1966 (7 U.S.C. 2131-2156), and guidelines in the National Academy of Sciences (NAS) “Guide for the Care and Use of Laboratory Animals” (1996), including the Public Health Service Policy and Government Principles Regarding the Care and Use of Animals in Appendix D to the Guide.

For Contracts, the appropriate clauses shall be added.

3) BIOLOGICAL DEFENSE SAFETY PROGRAM REQUIREMENTS:

For all awards: Successful Offerors whose Principal Investigators are conducting research with Bio-safety Levels 3 and 4 material must prepare a Facility Safety Plan in accordance with 32 Code of Federal Regulations (CFR) 626.18. See URL: www.access.gpo.gov/nara/cfr/waisidx_99/32cfr626_99.html for a copy of 32 CFR 626.18, Biological Defense Safety Program.

4) MILITARY RECRUITING:

Assistance Instruments Only (Grants and Cooperative Agreements): This is to notify potential Offerors that each grant or cooperative agreement awarded under this announcement to an institution of higher education must include the following term and condition:

"As a condition for receipt of funds available to the Department of Defense (DoD) under this award, the recipient agrees that it is not an institution of higher education (as defined in 32 CFR part 216) that has a policy of denying, and that it is not an institution of higher education that effectively prevents, the Secretary of Defense from obtaining for military recruiting purposes: (A) entry to campuses or access to students on campuses or (B) access to directory information pertaining to students. If the recipient is determined, using the procedures in 32 CFR part 216, to be such an institution of higher education during the period of performance of this agreement, and therefore to be in breach of this clause, the Government will cease all payments of DoD funds under this agreement and all other DoD grants and cooperative agreements to the recipient, and it may suspend or terminate such grants and agreements unilaterally for material failure to comply with the terms and conditions of award."

If your institution has been identified under the procedures established by the Secretary of Defense to implement Section 558, then: (1) no funds available to DoD may be provided to

your institution through any grant, including any existing grant, (2) as a matter of policy, this restriction also applies to any cooperative agreement, and (3) your institution is not eligible to receive a grant or cooperative agreement in response to this solicitation.

For Contracts Only: This is to notify potential Offerors that each contract awarded under this announcement to an institution of higher education shall include the following clause: Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.209-7005, Military Recruiting on Campus.

5) SUBCONTRACTING:

For Contracts Only: This section is applicable to contracts where the dollar threshold is expected to exceed to \$650,000.00. Pursuant to Section 8(d) of the Small Business Act [15 U.S.C. 637(d)], it is the policy of the Government to enable small business concerns to be considered fairly as subcontractors under all research agreements awarded to prime contractors. The required elements of the Subcontracting Plan are set forth by FAR 52.219-9 and DFARS 252.219-7003. The Offeror's plan shall depict the percentage values of the option requirements separately. The information in the Small Business Subcontracting Plan must properly correlate with that of the Offeror's Small Business Participation Plan. The Government's subcontracting goals for Fiscal Year 2013 (FY13) are listed below. Future year goals can be found at: <http://www.acq.osd.mil/osbp/gov/sbProgramGoals.shtml>.

Subcontracting Plan Goals: The Offeror is requested to consider, when appropriate, the Government's subcontracting goals. The goals for FY13 are as follows:

- Small Business: 36.7%
- Small Disadvantaged Business: 5%
- Women-Owned Small Business: 5%
- HUB Zone Small Business: 3%
- Service-Disabled Veteran-Owned Small Business: 3%

3. Reporting:

Reporting requirements, including number and types, will be specified in the award document. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed upon before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A final report that summarizes the project and tasks will be required at the conclusion of the performance period for the award.

ARMY MANPOWER CONTRACTOR REPORTING:

For Contracts Only: The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the contractor will report ALL contractor manpower (including subcontractor manpower)

required for performance of this contract. The contractor is required to completely fill in all the information in the format using the following web address: <https://cmra.army.mil/>. The required information includes: (1) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative; (2) Contract number, including task and delivery order number; (3) Beginning and ending dates covered by reporting period; (4) Contractor name, address, phone number, e-mail address, identity of contractor employee entering data; (5) Estimated direct labor hours (including subcontractors); (6) Estimated direct labor dollars paid this reporting period (including subcontractors); (7) Total payments (including subcontractors); (8) Predominate Federal Service Code (FSC) reflecting services provided by contractor (and separate predominant FSC for each subcontractor if different); (9) Estimated data collection cost; (10) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information); (11) Locations where contractor and subcontractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardized nomenclature provided on website); (12) Presence of deployment or contingency contract language; and (13) Number of contractor and subcontractor employees deployed in theater this reporting period (by country). As part of its submission, the contractor will also provide the estimated total cost (if any) incurred to comply with this reporting requirement. The reporting period will be the period of performance not to exceed 12 months ending 30 September of each Government fiscal year and must be reported by 31 October of each calendar year. Contractors may use a direct XML data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure web site without the need for separate data entries for each required data element at the web site. The specific formats for the XML direct transfer may be downloaded from the web site.

II-G: AGENCY CONTACTS

Questions of a technical nature are to be directed to:

Primary Technical Points of Contact:

The technical points of contact for each area of interest (Part II Section A of this BAA) are identified as part of the description of that area and may be contacted as appropriate.

General Technical Points of Contact:

Dr. Jay Goodwin, (703) 545-2410, jay.goodwin@us.army.mil
Dr. Judith Brooks, (703) 545-2419, judith.brooks@us.army.mil

Questions of a business nature are to be directed to:

Maria D. Nelson, (919) 549-4316, maria.d.nelson.civ@mail.mil

Comments or questions submitted should be concise and to the point, eliminating any unnecessary verbiage. The e-mail subject line should cite “ARI BAA W911NF-13-R-0001.” Additionally, the relevant part and paragraph of the Broad Agency Announcement (BAA) should be referenced.

II-H: OTHER INFORMATION

1. Samples for Reference:

Below are two (2) samples of the cost proposal informational requirements for a procurement contract or grants, cooperative agreements, and TIAs.

CONTRACT PROPOSALS:

Cover sheet to include:

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

(21) Any Forward Pricing Rate Agreement, other such approved rate information, or such other documentation that may assist in expediting negotiations (if available)

I. Reasoning for Submitting a Strong Cost Proposal:

The ultimate responsibility of the Contracting Officer is to ensure that all prices/costs offered in a proposal are fair and reasonable before contract award [FAR 15.4]. To establish the reasonableness of the offered prices/costs, the Contracting Officer may ask an Offeror to provide various supporting documentation that assists in this determination. The Offeror's ability to be responsive to the Contracting Officer's requests can expedite the award process. As specified in Section 808 of Public Law 105-261, an Offeror who does not comply with a requirement to submit information for a contract or subcontract in accordance with paragraph (a)(1) of FAR 15.403-3 may be ineligible for award.

II. DCAA-Accepted Accounting System:

- A) Before a contract can be awarded, the Contracting Officer must confirm that the Offeror has a Defense Contract Audit Agency (DCAA)-accepted accounting system in place for accumulating and billing costs under Government contracts [FAR 53.209-1(f)]. If the Offeror has DCAA correspondence which documents the acceptance of their accounting system, this should be provided to the Contracting Officer (i.e. attached or referenced in the proposal). Otherwise, the Contracting Officer will submit an inquiry directly to the appropriate DCAA office and request a review of the Offeror's accounting system.
- B) If an Offeror does not have a DCAA-accepted accounting system in place, the DCAA review process can take several months depending upon the availability of the DCAA auditors and the Offeror's internal processes. This will cause a delay in contract award.
- C) For more information about cost proposals and accounting standards, view the link titled "Information for Contractors" on the main menu on their website.

III. Field Pricing Assistance:

During the pre-award cost audit process, the Contracting Officer will solicit support from DCAA to determine commerciality and price reasonableness of the proposal [FAR 15.404-2]. Any proprietary information or reports obtained from DCAA field audits will be appropriately identified and protected within the Government.

IV. Sample Cost Proposal – "Piece by Piece":

- A) To help guide Offerors through the pre-award cost audit process, a sample cost proposal is detailed below. This sample also allows the Offeror to see exactly what the Government is looking for; therefore, all cost and pricing back-up data can be provided to the Government in the first cost proposal submission. Review each cost element within the proposal, and take note of the types of documentation that the Contracting Officer will require from the Offeror.

B) Direct Labor: The first cost element included in the cost proposal is Direct Labor. The Department of Defense (DoD) requires each proposed employee to be listed by name and labor category.

Below is the Direct Labor as proposed by our sample Offeror:

DIRECT LABOR:		YEAR 1			YEAR 2		
Employee Name	Labor Category	Direct Hourly Rate	Hours	Total Direct Labor	Direct Hourly Rate	Hours	Total Direct Labor
Andy Smith	Program Manager	\$55.00	720.00	\$39,600.00	\$56.65	720.00	\$40,788.00
Bryan Andrew	Senior Engineer	\$40.00	672.00	\$26,880.00	\$41.20	672.00	\$27,686.40
Cindy Thomas	Principal Engineer	\$50.00	512.00	\$25,600.00	\$51.50	512.00	\$26,368.00
David Porter	Entry Level Engineer	\$10.00	400.00	\$4,000.00	\$10.30	400.00	\$4,120.00
Edward Bean	Project Administrator	\$25.00	48.00	\$1,200.00	\$25.75	48.00	\$1,236.00
				\$97,280.00	\$100,198.40		

- 1) For this cost element, the Contracting Officer requires the Offeror to provide adequate documentation in order to determine that each labor rate for each employee/labor category is fair and reasonable. The documentation will need to explain how these labor rates were derived. For example, if the rates are DCAA-approved labor rates, provide the Contracting Officer with copies of the DCAA documents stating the approval. This is the most acceptable means of documentation to determine the rates fair and reasonable. Other types of supporting documentation may include General Service Administration (GSA) contract price lists, actual payroll journals, or Salary.com research. If an employee listed in a cost proposal is not a current employee (maybe a new employee, or one contingent upon the award of this contract), a copy of the offer letter stating the hourly rate - signed and accepted by the employee - may be provided as adequate documentation. Sometimes the hourly rates listed in a proposal are derived through subjective processes, i.e., blending of multiple employees in one labor category, or averaged over the course of the year to include scheduled payroll increases, etc. These situations should be clearly documented for the Contracting Officer.
- 2) Another cost element in Direct Labor is labor escalation, or the increase in labor rates from Year 1 to Year 2. In the example above, the proposed labor escalation is 3% (ex.,

Andy Smith increased from \$55.00/hr in Year 1, by 3% to \$56.65/hr in Year 2). Whatever the proposed escalation rate is, please be prepared to explain why it is fair and reasonable [ex., A sufficient explanation for our sample escalation rate would be the Government's General Schedule Increase and Locality Pay for the same time period (name FY) in the same location (name location) was published as 3.5%, therefore a 3% increase is fair and reasonable].

C) Other Direct Costs (ODCs): This section of the cost proposal includes all other directly related costs required in support of the effort i.e., materials, subcontractors, consultants, travel, etc. Any cost element that includes various items will need to be detailed in a cost breakdown to the Contracting Officer.

1) Direct Material Costs: This subsection of the cost proposal will include any special tooling, test equipment, and material costs necessary to perform the project. Items included in this section will be carefully reviewed relative to need and appropriateness for the work proposed, and must, in the opinion of the Contracting Officer, be advantageous to the Government and directly related to the specific topic.

a) The Contracting Officer will require adequate documentation from the Offeror to determine the cost reasonableness for each material cost proposed. The following methods are ways in which the Contracting Officer can determine this [FAR 15.403-1].

i) Adequate Price Competition: A price is based on adequate price competition when the Offeror solicits and receives quotes from two or more responsible vendors for the same or similar items or services. Based on these quotes, the Offeror selects the vendor who represents the best value to the Government. The Offeror will be required to provide copies of all vendor quotes received to the Contracting Officer.

Note: Price competition is not required for items at or below the micro-purchase threshold (\$3,000.00). If an item's unit cost is less than or equal to \$3,000.00, price competition is not necessary. However, if an item's total cost over the period of performance (unit cost * quantity is higher than \$3,000.00, two or more quotes must be obtained by the Offeror.

ii) Commercial Prices: Commercial prices are those published on current price lists, catalogs, or market prices. This includes vendors who have prices published on a General Services Administration (GSA) schedule contract. The Offeror will be required to provide copies of such price lists to the Contracting Officer.

iii) Prices set by law or regulation: If a price is mandated by the Government (i.e. pronouncements in the form of periodic rulings, reviews, or similar actions of a governmental body, or embodied in the laws) that is sufficient to set a price.

b) Below is the list of Direct Material costs included in our sample proposal:

DIRECT MATERIAL COSTS:	YEAR 1	YEAR 2
Raw Materials	\$35,000.00	\$12,000.00
Computer for experiments	\$4,215.00	\$0.00
Cable (item #12-3657, 300 ft)	\$1,275.00	\$0.00
Software	\$1,825.00	\$1,825.00
Subtotal Direct Materials Costs		
(DM):	\$42,315.00	\$13,825.00

- ii) “Raw Materials”: This is a generic label used to group many material items into one cost item within the proposal. The Contracting Officer will require a detailed breakout of all the items that make up this cost. For each separate item over \$3,000.00 (total for Year 1 + Year 2), the Offeror must be able to provide either competitive quotes received, or show that published pricing was used.
- iii) “Computer for experiments”: Again, this item is most likely a grouping of several components that make up one system. The Contracting Officer will require a detailed breakout of all the items that make up this cost. For each separate item over \$3,000.00 (total for Year 1 + Year 2), the Offeror must be able to provide either competitive quotes received, or show that published pricing was used.
- iv) “Cable”: Since this item is under the micro-purchase threshold of \$3,000.00, competitive quotes or published pricing are not required. Simply provide documentation to show the Contracting Officer where this price came from.
- v) “Software”: This cost item could include either one software product, or multiple products. If this includes a price for multiple items, please provide the detailed cost breakdown.

Note: The price for Year 1 (\$1,825.00) is below the micro-purchase threshold; however, in total (Year 1 + Year 2) the price is over \$3,000.00, so competitive quotes or published pricing documentation must be provided.

- c) Due to the specialized types of products and services necessary to perform these projects, it may not always be possible to obtain competitive quotes from more than one reliable source. Each cost element over the micro-purchase threshold (\$3,000.00) must be substantiated. There is always an explanation for HOW the cost of an item was derived. Provide the Contracting Officer with an explanation of how a cost or price was derived.
- d) When it is not possible for an Offeror to obtain a vendor price through competitive quotes or published price lists, a Contracting Officer may accept other methods to determine cost reasonableness. Below are some examples of other documentation, which the Contracting Officer may accept to substantiate costs:

- i) Evidence that a vendor/supplier charged another Offeror a similar price for similar services. Has the vendor charged someone else for the same product? (Two (2) to three (3) invoices from that vendor to different customers may be used as evidence.)
 - ii) Previous contract prices: Has the Offeror charged the Government a similar price under another Government contract for similar services? If the Government has already paid a certain price for services, then that price may already be considered fair and reasonable. (Provide the contract number, and billing rates for reference.)
 - iii) DCAA approved: Has DCAA already accepted or verified specific cost items included in your proposal? (Provide a copy of DCAA correspondence that addressed these costs.)
- 2) Below is the remaining ODC portion of our proposal including equipment, subcontractors, consultants, and travel. Assume in this scenario that competitive quotes or catalog prices were not available for these items:

OTHER DIRECT COSTS:	YEAR 1	YEAR 2
Equipment Rental for Analysis	\$5,500.00	\$5,600.00
Subcontractor - Lockheed	\$25,000.00	\$0.00
Consultant: John Bowers	\$0.00	\$12,000.00
Travel	\$1,250.00	\$1,250.00
Subtotal Other Direct Costs		
(ODC):	\$31,750.00	\$18,850.00

- a) “Equipment Rental for Analysis”: The Offeror explains that the Year 1 cost of \$5,500.00 is based upon 250 hours of equipment rental at an hourly rate of \$22.00/hr. One (1) invoice from the vendor charging another vendor the same price for the same service is provided to the Contracting Officer as evidence. Since this cost is over the micro-purchase threshold, further documentation to determine cost reasonableness is required. The Offeror is able to furnish another invoice charging a second vendor the same price for the same service.
- b) “Subcontractor – Lockheed”: The Offeror provides a copy of the subcontractor quote to the Contracting Officer in support of the \$25,000.00 cost. This subcontractor quote must include sufficient detailed information (equivalent to the data included in the prime’s proposal to the Government), so that the Contracting Officer can make a determination of cost reasonableness.
- i) As stated in Section 3.5(c)(6) of the DoD Cost Proposal guidance, “All subcontractor costs and consultant costs must be detailed at the same level as prime contractor costs in regards to labor, travel, equipment, etc. Provide detailed substantiation of subcontractor costs in your cost proposal.”

- ii) In accordance with FAR 15.404-3, “the Contracting Officer is responsible for the determination of price reasonableness for the prime contract, including subcontracting costs”. This means that the subcontractor’s quote/proposal may be subject to the same scrutiny by the Contracting Officer as the cost proposal submitted by the prime. The Contracting Officer will need to determine whether the subcontractor has an accepted purchasing system in place and/or conduct appropriate cost or price analyses to establish the reasonableness of proposed subcontract prices. Due to the proprietary nature of cost data, the subcontractor may choose to submit their pricing information directly to the Contracting Officer and not through the prime. This is understood and encouraged.
 - iii) When a subcontractor is selected to provide support under the prime contract due to their specialized experience, the Contracting Officer may request sole source justification from the Offeror.
- c) “Consultant – John Bowers”: Again, the Offeror shall provide a copy of the consultant’s quote to the Contracting Officer as evidence. In this example, the consultant will be charging an hourly rate of \$125.00/hour for 96 hours of support. The Offeror indicates to the Contracting Officer that this particular consultant was used on a previous contract with the Government (provide contract number), and will be charging the same rate. A copy of the consultant’s invoice to the Offeror under the prior contract is available as supporting evidence. Since the Government has paid this price for the same services in the past, determination has already been made that the price is fair and reasonable.
- d) “Travel”: The Contracting Officer will require a detailed cost breakdown for travel expenses to determine whether the total cost is reasonable based on Government per diem and mileage rates. This breakdown shall include the number of trips, the destinations, and the number of travelers. It will also need to include the estimated airfare per round trip, estimated car rental, lodging rate per trip, tax on lodging, and per diem rate per trip. The lodging and per diem rates must coincide with the Joint Travel Regulations. Please see the following website to determine the appropriate lodging and per diem rates: <http://www.defensetravel.dod.mil>. Additionally, the Offeror must provide why the airfare is fair and reasonable as well. Sufficient supporting documentation for both airfare and car rental would include print-outs of online research at the various travel search engines (Expedia, Travelocity, etc.) documenting the prices for airfare and car rentals thus proving why your chosen rate is fair and reasonable.
- i) Below is a sample of the travel portion:

TRAVEL		Trips	Travelers	Nights	Days	Unit Cost	Total Travel
Airfare	per roundtrip	1	1			\$996.00	\$996.00
Lodging	per day	1	1	1		\$75.00	\$75.00
Tax on Lodging (12%)	per day	1	1	1		\$9.00	\$9.00
Per Diem	per day	1	1		2	\$44.00	\$88.00
Automobile Rental	per day	1	1		2	\$41.00	\$82.00
Subtotal Travel							\$1,250.00

D) Indirect Rates: Indirect rates include elements such as Fringe Benefits, General & Administrative (G&A), Overhead, and Material Handling costs. The Offeror shall indicate in the cost proposal both the indirect rates (as a percentage) as well as how those rates are allocated to the costs in the proposal.

Below is the Indirect Rates portion of our sample proposal:

INDIRECTS	YEAR 1	YEAR 2
Subtotal Direct Labor (DL):	\$97,280.00	\$100,198.40
Fringe Benefits, if not included in Overhead, rate (15.0000 %) X DL =	\$14,592.00	\$15,029.76
Labor Overhead (rate 45.0000 %) X (DL + Fringe) =	\$50,342.40	\$51,852.67
Total Direct Labor (TDL):	\$162,214.40	\$167,080.83

- 1) In this example, the Offeror includes a Fringe Benefit rate of 15.00% that it allocated to the Direct Labor costs. They also propose a Labor Overhead rate of 45.00% that is allocated to the Direct Labor costs plus the Fringe Benefits.
- 2) All indirect rates and the allocation methods of those rates must be verified by the Contracting Officer. In most cases, DCAA documentation supporting the indirect rates and allocation methods can be obtained through a DCAA field audit or proposal review. Many Offerors have already completed such reviews and have this documentation readily available. If an Offeror is unable to participate in a DCAA review to substantiate indirect rates, the Contracting Officer may request other accounting data from the Offeror to make a determination.

E) Cost of Money (COM): If Cost of Money (an imputed cost that is not a form of interest on borrowings- see FAR 31.205-20); an “incurred cost” for cost-reimbursement purposes under applicable cost-reimbursement contracts and for progress payment

purposes under fixed-price contracts; and refers to— (1) Facilities capital cost of money (48 CFR 9904.414); and (2) Cost of money as an element of the cost of capital assets under construction (48 CFR 9904.417)) is proposed in accordance with FAR 31.205-10, a DD Form 1861 is required to be completed and submitted with the contractor's proposal.

- F) Fee/Profit: The proposed fee percentage will be analyzed in accordance with DFARS 215.404, the Weighted Guidelines Method.
- G) Small Business Subcontracting Plan: If the total amount of the proposal exceeds \$650,000.00 and the Offeror is a large business or an institute of higher education (other than HBCU/MI) and the resultant award is a contract, the Offeror shall be prepared to submit a subcontracting plan for small business and small disadvantaged business concerns. A mutually agreeable plan will be included in and made a part of the contract (see the goals listed at Section II, F, 2, b).

GRANT & COOPERATIVE AGREEMENT PROPOSALS (ASSISTANCE INSTRUMENTS)

Before award, it must be established that an approved accounting system and financial management system exist.

- A) Direct Labor: Show the current and projected salary amounts in terms of man-hours, man-months, or annual salary to be charged by the Principal Investigator(s), faculty, research associates, postdoctoral associates, graduate and undergraduate students, secretarial, clerical, and other technical personnel either by personnel or position. State the number of man-hours used to calculate a man-month or man-year. For proposals from universities, research during the academic term is deemed part of regular academic duties, not an extra function for which additional compensation or compensation at a higher rate is warranted. Consequently, academic term salaries shall not be augmented either in rate or in total amount for research performed during the academic term. Rates of compensation for research conducted during non-academic (summer) terms shall not exceed the rate for the academic terms. When part or all of a person's services are to be charged as project costs, it is expected that the person will be relieved of an equal part or all of his or her regular teaching or other obligations. For each person or position, provide the following information:
 - (1) The basis for the direct labor hours or percentage of effort (e.g., historical hours or estimates)
 - (2) The basis for the direct labor rates or salaries: Labor costs should be predicted upon current labor rates or salaries. These rates may be adjusted upward for forecast salary or wage cost-of-living increases that will occur during the agreement period. The cost proposal should separately identify the rationale applied to base salary/wage for cost-of-living adjustments and merit increases. Each must be fully explained.

- (3) The portion of time to be devoted to the proposed research, divided between academic and non-academic (summer) terms, when applicable
 - (4) The total annual salary charged to the research project
 - (5) Any details that may affect the salary during the project, such as plans for leave and/or remuneration while on leave
- B) Fringe Benefits and Indirect Costs (Overhead, General and Administrative, and Other): The most recent rates, dates of negotiation, and the base(s) and periods to which the rates apply must be disclosed and a statement included identifying whether the proposed rates are provisional or fixed. If the rates have been negotiated by a Government agency, state when and by which agency. A copy of the negotiation memorandum should be provided. If negotiated forecast rates do not exist, Offerors must provide sufficient detail to enable a determination to be made that the costs included in the forecast rate are allocable according to applicable OMB Circulars or FAR/DFARS provisions. Offerors' disclosure should be sufficient to permit a full understanding of the content of the rate(s) and how it was established. As a minimum, the submission should identify:
- (1) All individual cost elements included in the forecast rate(s);
 - (2) Bases used to prorate indirect expenses to cost pools, if any;
 - (3) How the rate(s) were calculated;
 - (4) Distribution basis of the developed rate(s);
 - (5) Bases on which the overhead rate is calculated, such as "salaries and wages" or "total costs," and
 - (6) The period of the Offeror's fiscal year
- C) Permanent Equipment: If facilities or equipment are required, a justification why this property should be furnished by the Government must be submitted. State the organization's inability or unwillingness to furnish the facilities or equipment. Offerors must provide an itemized list of permanent equipment showing the cost for each item. Permanent equipment is any article or tangible nonexpendable property having a useful life of more than one year and an acquisition cost of \$5,000.00 or more per unit. The basis for the cost of each item of permanent equipment included in the budget must be disclosed, such as:
- (1) Vendor Quotes: Show name of vendor, number of quotes received and justification, if intended award is to other than lowest bidder
 - (2) Historical Cost: Identify vendor, date of purchase, and whether or not cost represents lowest bid; include reason(s) for not soliciting current quotes

(3) Engineering Estimate: Include rationale for quote and reason for not soliciting current quotes; if applicable, the following additional information shall be disclosed in the Offeror's cost proposal:

- Special test equipment to be fabricated by the awardee for specific research purposes and its cost
- Standard equipment to be acquired and modified to meet specific requirements, including acquisition and modification costs, listed separately
- Existing equipment to be modified to meet specific research requirements, including modification costs; do not include equipment the organization will purchase with its funds if the equipment will be capitalized for Federal income tax purposes; proposed permanent equipment purchases during the final year of an award shall be limited and fully justified
- Grants and cooperative agreements may convey title to an institution for equipment purchased with project funds. At the discretion of the Contracting/Grants Officer, the agreement may provide for retention of the title by the Government or may impose conditions governing the equipment conveyed to the organization. The Government will not convey title to commercial contractors.

D) Travel: Forecasts of travel expenditures (domestic and foreign) that identify the destination and the various cost elements (airfare, mileage, per diem rates, etc.) must be submitted. The costs should be in sufficient detail to determine the reasonableness of such costs. Allowance for air travel normally will not exceed the cost of round-trip, economy air accommodations. Specify the type of travel and its relationship to the research project. Additional travel may be requested for travel to Army laboratories and facilities to enhance agreement objectives and to achieve technology transfer.

E) Materials, Supplies, and Consumables: A general description and total estimated cost of expendable equipment and supplies are required. The basis for developing the cost estimate (vendor quotes, invoice prices, engineering estimate, purchase order history, etc.) must be included. If possible, provide a material list.

F) Publication, Documentation, and Dissemination: The budget may request funds for the costs of preparing, publishing, or otherwise making available to others the findings and products of the work conducted under an agreement, including costs of reports, reprints, page charges, or other journal costs (except costs for prior or early publication); necessary illustrations, cleanup, documentation, storage, and indexing of data and databases; and development, documentation, and debugging of software.

G) Consultant Costs: Offerors normally are expected to utilize the services of their own staff to the maximum extent possible in managing and performing the project's effort. If the need for consultant services is anticipated, the nature of proposed consultant

services should be justified and included in the technical proposal narrative. The cost proposal should include the names of consultant(s), primary organizational affiliation, each individual's expertise, daily compensation rate, number of days of expected service, and estimated travel and per diem costs.

- H) Computer Services: The cost of computer services, including computer-based retrieval of scientific, technical, and educational information, may be requested. A justification/explanation based on the established computer service rates at the proposing organization should be included. The budget also may request costs, which must be shown to be reasonable, for leasing automatic data processing equipment. The purchase of computers or associated hardware and software should be requested as items of equipment.
- I) Subawards (subcontracts or subgrants): A precise description of services or materials that are to be awarded by a subaward must be provided. For subawards totaling \$10,000.00 or more, provide the following specific information:
 - (1) A clear description of the work to be performed
 - (2) If known, the identification of the proposed subawardee and an explanation of why and how the subawardee was selected or will be selected
 - (3) The identification of the type of award to be used (cost reimbursement, fixed price, etc.)
 - (4) Whether or not the award will be competitive and, if noncompetitive, rationale to justify the absence of competition
 - (5) A detailed cost summary
- J) Other Direct Costs: Itemize and provide the basis for proposed costs for other anticipated direct costs such as communications, transportation, insurance, and rental of equipment other than computer related items. Unusual or expensive items shall be fully explained and justified.
- K) Profit/Fee: Profit/fee is not allowed for the recipient of an assistance instrument (grant or cooperative agreement) or a subawardee/subrecipient under an assistance instrument. A subaward is an award of financial assistance in the form of money, or property in lieu of money, made under a DoD grant or cooperative agreement by a recipient to an eligible subrecipient. The term includes financial assistance for substantive program performance by the subrecipient of a portion of the program for which the DoD grant or cooperative agreement was made.
- L) Small Business Subcontracting Plan: Small Business Subcontracting Plan requirements do not apply to assistance instruments.

CONTRACT FACILITIES CAPITAL COST OF MONEY: If cost of money is proposed, a completed Contract Facilities Capital Cost of Money (FCCM) (DD Form 1861) is required.

2. Unsuccessful Proposal Disposition: Unless noted in an Offeror's proposal to the contrary, unsuccessful proposals will be retained for six (6) months from declination and then properly destroyed.

3. Acronyms:

ACC (APG) RTP –	Army Contracting Command (Aberdeen Proving Ground) Research Triangle Park Division
AOR –	Authorized Organization Representative
ARFORGEN –	Army Force Generation
ARI –	Army Research Institute for the Behavioral and Social Sciences
ARL –	Army Research Laboratory
ARO –	Army Research Office
ASVAB –	Armed Services Vocational Aptitude Battery
ATD –	Advanced Technology Development
BAA –	Broad Agency Announcement
CAGE –	Commercial and Government Entity
CFDA –	Catalogue of Federal Domestic Assistance
CFR –	Code of Federal Regulations
COE –	Contemporary Operational Environment
COM –	Cost of Money
CONUS –	Continental United States
CPFF –	Cost Plus Fixed Fee
D&B –	Dun and Bradstreet, Inc.
DCAA –	Defense Contract Audit Agency
DCMA –	Defense Contract Management Agency
DD –	Department of Defense
DFARS –	Defense Federal Acquisition Regulation Supplement
DLSC –	Defense Logistics Service Center
DoD –	Department of Defense
DoDGARs –	Department of Defense Grant and Agreement Regulations
DUNS –	Data Universal Numbering System
EIN –	Employer Identification Number
EPA –	Environmental Protection Agency
FAPIIS –	Federal Awardee Performance and Integrity Information System
FAR –	Federal Acquisition Regulation
FCCM –	Facilities Capital Cost of Money
FFP –	Firm Fixed Price
FFRDC –	Federally Funded Research and Development Center
FM –	Field Manual
FOIA –	Freedom of Information Act
FSC –	Federal Service Code

FY –	Fiscal Year
G&A –	General and Administrative
GFD –	Government Furnished Data
GFE –	Government Furnished Equipment
GFI –	Government Furnished Information
GFP –	Government Furnished Property
GSA –	General Services Administration
HBCU/MI –	Historically Black College or University/Minority Serving Institution
HUB Zone –	Historically Underutilized Business Zone
ICAI –	Intelligent Computer Aided Instruction
IR&D –	Independent Research and Development
KSA –	Knowledge, Skills, and Abilities
MIPR –	Military Interdepartmental Purchase Request
NAS –	National Academy of Sciences
ODC –	Other Direct Cost
OMB –	Office of Management and Budget
OPSEC –	Operations Security
OTA –	Other Transaction for Prototype
PDF –	Portable Document Format
PI –	Principal Investigator
PL –	Public Law
PWS –	Performance Work Statement
R&D –	Research & Development
SAM –	System for Award Management
SF –	Standard Form
TIA –	Technology Investment Agreement
TIN –	Taxpayer Identification Number
TPOC –	Technical Point of Contact
UIC –	Unit Identification Code
USC –	United States Code
XML –	Extensible Markup Language

4. Definitions:

Advanced Technology Development: This term refers to efforts that include the development of technologies, components, or prototypes that can be tested in field experiments and/or simulated environments. Projects in this category have a direct relevance to identified military needs. These projects should demonstrate the general military utility or cost reduction potential of technology in the following areas- personnel selection, assignment, and retention; training strategies and techniques; leader education and development; performance measurement; and team and inter-organizational mission effectiveness. These projects should focus on a more direct operational benefit and if successful, the technology should be available for transition.

After Action Review: An After Action Review is a structured review or debrief process for analyzing *what* happened, *why* it happened, and *how* it can be done better by the participants and those responsible for the project or event.

Applied Research: This term refers to systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met. The term does not include efforts whose principal aim is the design, development, or testing of specific products, systems or processes to be considered for sale or acquisition.

Armed Services Vocational Aptitude Battery: The Armed Services Vocational Aptitude Battery (ASVAB) is the most widely used multiple-aptitude test battery in the world. As an aptitude test, the ASVAB measures strengths, weaknesses, and potential for future success. The ASVAB also provides career information for various civilian and military occupations and is an indicator for success in future endeavors whether one chooses college, vocational school, or a military career (<http://www.military.com/join-armed-forces/asvab>).

Army Design Methodology: Methodology for applying critical and creative thinking to understand, visualize, and describe unfamiliar problems and approaches to solving them (see Army Field Manual 5-0)

Army Drill Sergeant School: The term refers to the official Army school and training program for Army Drill Sergeants. Army Drill Sergeants are responsible for the military education, behavior, and welfare of recruits assigned to them on a 24-hour basis throughout the period of initial military training (basic training or boot camp). Their responsibilities include areas such as military discipline, physical fitness, and weapons training. The title of Army Drill Sergeant/ Army Drill Instructor is a billet, independent of rank, to be held by non-commissioned officers who successfully complete the training program (<http://www.jackson.army.mil/sites/dss>).

Army Force Generation: This term refers to the structured progression of increased unit readiness over time resulting in recurring periods of availability of trained, ready, and cohesive units. These units are prepared for operational deployment in support of Combatant Commanders' or civil authorities' requirements. Units are task organized in modular expeditionary forces, tailored for mission requirements. They are sustainable and have the capabilities and depth required to conduct a full range of operations in a persistent conflict. Operational requirements drive the training and readiness process. These same requirements support the prioritization and synchronization of resourcing, recruiting, organizing, manning, equipping, training, sustaining, sourcing, mobilizing, and deploying cohesive units more effectively and efficiently (see Army Regulation 525-29, 14 March 2011).

Basic Research: This term refers to systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and/or observable facts without specific applications toward processes or products in mind.

Contemporary Operational Environment: The contemporary operational environment is the overall operational environment that exists today and in the near future (out to the year 2020). The range of threats during this period extends from smaller, lower-technology opponents using more adaptive, asymmetric methods to larger, modernized forces able to engage deployed U.S.

forces in more conventional, symmetrical ways. In some possible conflicts (or in multiple, concurrent conflicts), a combination of these types of threats could be especially problematic.

Distributed Learning: Distributed learning is a delivery mode for providing standardized individual, collective, and self-development training to individuals at the right place and time, who may not be physically present in a traditional setting such as a classroom. This form of training may involve interaction with an instructor in real time (synchronous), non-real time (asynchronous), or may occur in a self-paced format without an instructor.

Embedded Training: This term refers to providing training capability hosted in hardware and/or software, integrated into overall equipment configuration (e.g., vehicles, command centers, networks).

Intelligent Computer Aided Instruction: A computer-based training system that provides automatic, individualized training experiences and tailored feedback based on the learner's training needs in order to support more effective and efficient learning.

Intelligent Tutoring: This term refers to providing automated customized instruction (which mimics instruction via a human tutor) via a computer-based training system. The term "intelligent" refers to the training system's algorithmic ability to understand what content to teach given the specific needs of the learner as well as how to best deliver this content.