ARMY PROJECT MANAGER SOLDIER SURVIVABILITY PROGRAM EXECUTIVE OFFICE SOLDIER

BROAD AGENCY ANNOUNCEMENT (BAA)

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Issued by:
U.S. Army Contract Command - Aberdeen Proving Ground (ACC-APG)
6515 Integrity Court, Building 4310
Aberdeen Proving Ground, MD 21005

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Overview Information

Customer: Program Executive Soldier (PEO) Soldier, Ft. Belvoir, VA, Project Manager (PM) Soldier Survivability (SSV)

Issuing Acquisition Office: U. S. Army Contract Command – Aberdeen Proving Ground (ACC-APG), 6515 Integrity Court, Building 4310, Aberdeen Proving Ground, MD 21005

Research Opportunity Title: PM Soldier Survivability Broad Agency Announcement for Fiscal Years 2021 through 2026

Announcement Type and Date: Broad Agency Announcement issued 18 August 2021

Research Opportunity Number: W91CRB-21-PMSVVBAA

Eligible Applicants: Proposals may be submitted by degree granting colleges and universities, nonprofit organizations, foreign organizations, and commercial firms (including Small Businesses (SB), large businesses, Small Disadvantaged Businesses (SDBs), Historically Underutilized Business Zones (HUBZones), veteran-owned businesses, minority businesses, Women Owned Small Businesses (WOSBs)), and nontraditional vendors. Proposals from government facilities and organizations will be considered under this announcement.

Proposals are encouraged from Historically Black Colleges and Universities (HBCUs) (as determined by the Secretary of Education to meet requirements of Title III of the Higher Education Act of 1965, as amended (20 U.S.C. § 1061)) and from Minority Institutions (MIs) defined as institutions "whose enrollment of a single minority or a combination of minorities…exceeds fifty percent (50%) of the total enrollment." [20 U.S.C. § 1067k(3) and 10 U.S.C. § 2323(a)(1)(C)].

To be eligible for award, a prospective recipient (except other Governments, including state and local Governments) shall meet certain minimum standards pertaining to financial resources, ability to comply with the performance schedule, prior record of performance, integrity, organization, experience, operational controls, technical skills, facilities, and equipment.

Cost Sharing or Matching: Cost sharing, matching, or cost participation is not required for eligibility under this Broad Agency Announcement (BAA) when awarding a FAR type contract. However, if an Other Transaction Agreement is awarded under this solicitation, cost sharing, matching, or cost participation may apply.

Research Opportunity Description: PM SSV solicits proposals for the development of state-of-the-art Soldier clothing and individual equipment, personal body armor, and other survivability items.

Table of Contents

Overview Information 2
Introduction 6
Section I: Funding Opportunity Description 8
Technical Area 1 - Hard and Soft Armor 9
Technical Area 2 - Explosive Ordnance Disposal Soldier Capability 10
Technical Area 3 - Personal Blast Protection 11
Technical Area 4 - Integrated Head Protection 11
Technical Area 5 - Test Methods and Test Standards 12
Technical Area 6 - Fabric Technologies 14
Technical Area 7 - Advanced Manufacturing 15
Technical Area 8 - Personal Protection System Integration 16
Technical Area 9 - Modeling and Simulation 17
Technical Area 10 - Integrated Soldier Concealment 18
Technical Area 11 - Individual Equipment 18
Technical Area 12 - Vector Protection 19
Technical Area 13 - Personnel Air Drop 19
Technical Area 14 - Hydration 19
Technical Area 15 - Multifunctionality and Integrated Systems 20
Technical Area 16 - Adaptive Squad Architecture 20
Technical Area 16.A. Overarching Adaptive Squad Architecture 20
Technical Area 16.B. Power. 21
Technical Area 16.C. Data Management. 22
Technical Area 16.D. Wireless Capabilities on Soldier Interoperability 22
Technical Area 16.E. Soldier Mobility and Survivability. 23
Technical Area 16.F. Leveraging Artificial Intelligence (AI). 24
Technical Area 16.G. Cross Domain Security Architecture. 24
Technical Area 16.H. Electromagnetic Interference 24
Section II: Award Information 25
Section III: Eligibility Information 25
3.A. Eligible Applicants 25
3.B. Participation 25
3.C. Organizational Conflicts of Interest 26
Section IV: Application and Submission Information 26
4.A. Process Summary 26
Step 1: Dun and Bradstreet (D&B) Registration 27
Step 2: Concept Paper (Preproposal) Submissions 27
Step 3: Proposal Preparation and Submission 30
4.B. Evaluation Approach for Proposals 41
4.C. Disposition of Proposals 41
4.D. Antiterrorism and Operations Security Requirements 42
Section V: Award Administration Information 42
5.A. Government Furnished Property (GFP) 42
5.B. Type of Contract 42
5.C. Preparation Costs 43
5.D. Availability of Funds 43

5.E. FAR Information and References 43
5.F. Technical Reports. 44
5.F.1. Monthly Status Reports 44
5.F.2 Final Report 45
5.G. Invoicing and Payments 45
5.H. Restricted Data on Proposals 45
5.I. Intellectual Property 46
5.I.1. Noncommercial Items (Technical Data and Computer Software) 46
5.I.2. Commercial Items (Technical Data and Computer Software) 46
5.I.3. All Offerors – Patents 47
5.I.4. All Offerors – Intellectual Property Representations 47
5.J. Protection of Human Subjects 48
5.K. Animal Use 48
5.L. International Traffic in Arms Regulation (ITAR) 48
Section VI: Agency Contacts 49
Appendixes 51
Appendix 1: Exhibits 51
Exhibit 1: Concept Paper Sample 51
Exhibit 2: Statement of Work Sample 52

Introduction

This Broad Agency Announcement (BAA), which sets forth research areas of interest to PM SSV, is issued under paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of proposals and 10 U.S.C. 2371b should any OTA being awarded stemming from this announcement. The Government considers proposals submitted in response to this BAA and selected for award to be the result of full and open competition and in full compliance with the provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments.

PM SSV is one of the five project management offices under Program Executive Office Soldier (PEO Soldier). PM SSV's mission is to provide and rapidly deliver to Soldiers enhanced protection, individual equipment, and aviation life support capabilities, which provides combat overmatch and facilitates mission execution. There are three Product Managers under PM SSV:

a. Product Manager Soldier Protective Equipment (PM SPE) produces state-of-the art armor protection to defeat ballistic and fragmentation threats. PM SPE's mission is to increase the Warfighter's lethality and mobility by optimizing Soldier protection and effectively serving as the Lifecycle Manager for all personal protective equipment. Its products include body armor, helmets, ballistic eye protection, bomb suits, and hearing protection.

b. Product Manager Air Warrior (PM AW) develops and provides advanced equipment for Aircrews to enhance mission effectiveness, integration with aircraft platforms, and clothing and equipment to maximize aircrew member survivability. PM AW's mission is to integrate aviation life support and mission equipment into an ensemble that provides combat overmatch and improves the combat effectiveness of the Army aircrew member.

c. Product Manager Soldier Clothing and Individual Equipment (PM SCIE) develops and provides superior and sustainable integrated clothing and equipment for Soldiers in a rapidly changing global environment. PM SCIE's mission is to support Soldiers in all operational environments and improve their survivability, protection, mobility, and sustainability by providing safe, agile, adaptive, durable and operationally effective organizational clothing and individual clothing.

PM SSV's intent is to use this BAA to attract Government and Industry proposals that fulfill requirements directed toward advancing state-of-the-art technologies in support of PEO Soldier mission interests. This BAA identifies PM SSV development areas of interest, and provides prospective offerors information on the preparation of proposals, along with proposal evaluation factors. The Government reserves the right to award purchase orders, contracts, and Other Transactions Agreements against this BAA. New contractor technology resulting from work executed under this BAA typically leads to an additional requirement for the applicable contractor to provide services in support

of operational experiments to evaluate the measures of merit and performance enhancement capability to the Soldier. However, it is not possible at the time of release of this announcement, or at the time of contract award, to accurately predict or anticipate if these services will be required, nor is it possible to anticipate the level of effort required. In addition, the technology explored under this BAA typically has application across the various branches of the Department of Defense (DoD). In order to satisfy the unique needs of these different branches, and to ensure a proper job is done in the evaluation of the applicable technology, the Government may execute contract modifications to awards stemming from this BAA, may add new Contract Line Item Numbers (CLINs), or expand on current CLINs, for services providing for flexibility in executing technology assessment. In the event that this is required, the Government will consider these modifications to be within the scope of this BAA and the resulting contract, and therefore will have met the requirements of the Federal Acquisition Regulation (FAR), DoD FAR Supplement (DFARS), and the Competition in Contracting Act. The benefit of this flexibility to the Government, and ultimately the taxpayer, is a significant increase in the Research and Development (R&D) return on investment. The flexibility to have multiple users (branches of the military) in the technology evaluation cycle is crucial and allows systems and technologies to be developed in a manner that has broader DoD market applications. This allows the technology resulting from the work of this BAA to be modularly reconfigured during development to meet goals and objectives for all DoD services.

The Government does not consider the costs of concept papers or the cost to complete proposals in response to this BAA an allowable direct charge to any award resulting from this BAA or any other award. It may be an allowable expense to the normal bid and proposal indirect costs specified in FAR 31.205-18, independent research and development and bid and proposal costs.

In accordance with federal statutes, regulations, DoD, 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.
The Government cautions offerors submitting proposals that only a duly appointed Contracting Officer (KO) or Agreements Officer acting within the scope and limits of his or her authority may obligate the Government to the expenditure of funds.
The Government will not consider requests for conference or symposium support, consultant services, engineering, marketing services, or training support under this announcement.

This BAA is a continuously open announcement valid throughout the period from the date of issuance through **17 November 2026**, unless superseded, extended, or canceled. The Government will accept concept papers up until **17 August 2026**. The Government may make awards against this BAA up until **17 November 2026**. The Government will post the BAA, and any subsequent amendments to this BAA when they occur, to the SAM.gov Contract Opportunities web site. Interested parties are encouraged to check this website periodically for updates and amendments.

Section I: Funding Opportunity Description

PM SSV has sixteen (16) major areas of interest, and PM SSV sub-categorizes each major area into more specific areas of interest. PM SSV is seeking collaborative research in advancing state-of-the-art technologies, engineering solutions, and prototype systems. The Government reserves the right to modify any of these sixteen areas, add areas with or without sub-categories, or remove sub-categories or major areas of interest at any time during the BAA announcement period.
PM SSV assesses all proposed efforts to determine their technology readiness level (TRL) for acceptance under this BAA. All research prior to being funded under this BAA must be assessed to be a TRL of 5 or above according to the table below.

Level	Definition	DoD DAG Description
1	Basic principles observed and reported	Lowest level of technology readiness. Scientific research begins to be translated into applied research and development. Examples might include paper studies of a technology's basic properties.
2	Technology concept and/or application formulated.	Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative and there may be no proof or detailed analysis to support the assumptions. Examples are limited to analytic studies.
3	Analytical and experimental critical function and/or characteristic proof of concept.	Active research and development is initiated. This includes analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative.
4	Component and/or breadboard validation in laboratory environment.	Basic technological components are integrated to establish that they will work together. This is relatively "low fidelity" compared to the eventual system. Examples include integration of "ad hoc" hardware in the laboratory.
5	Component and/or breadboard validation in relevant environment.	Fidelity of breadboard technology increases significantly. The basic technological components are integrated with reasonably realistic supporting elements so it can be tested in a simulated environment.
6	System/subsystem model or prototype demonstration in a relevant environment.	Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology's demonstrated readiness.

7	System prototype demonstration in an operational environment.	Prototype near, or at, planned operational system. Represents a major step up from TRL 6, requiring demonstration of an actual system prototype in an operational environment such as an aircraft, vehicle, or space.
8	Actual system completed and qualified through test and demonstration.	Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include developmental test and evaluation of the system in its intended weapon system to determine if it meets design specifications.
9	Actual system proven through successful mission operations.	Actual application of the technology in its final form and under mission conditions, such as those encountered in operational test and evaluation. Examples include using the system under operational mission conditions.

PM SSV is interested in funding research in the following technical areas:

Technical Area 1 - Hard and Soft Armor

PM SSV requires improvements to materials, systems, and assessment methods to meet body armor broad ballistic threats and to lighten the load carried by the Soldier. This type of technology includes:

a. Implementation of advanced ceramic materials or alternative technologies with the proven capability of providing weight reduction or improved properties (e.g., hardness, fracture toughness, durability, etc.) into system-level form factors.

b. Optimization of novel or enhanced processing techniques for ceramic materials to improve system-level material properties, reduce cost, or improve manufacturing efficiency.

c. Implementation of improved hard armor backing material or armor integration methods that allow for overall system weight reduction, back face deformation reduction, energy absorption, or improved durability.

d. Improvement of the concealability of concealable body armor as well as advancements in spike resistance and edged blade stab resistance or reductions in overall system weight.

e. Advancement in armor form factor fit and integration with the human body to ensure consistent protection for all Soldiers including anthropometrically designed armor optimized for female Soldiers.

f. Application of new high performance fiber grades, improvements to existing high performance fibers, or fiber processing improvements (e.g., treatments, weaving methods, etc.) to system-level form factors that will increase ballistic protection, improve Soldier comfort, facilitate Soldier mobility, lengthen expected system lifecycle performance, reduce logistic burden, improve manufacturing base security, enhance system-level performance properties, or reduce system weight.

g. Integration of unique and novel textile weaves or hybrid soft armor designs into protective systems to improve soft body armor ballistic protection, stab resistance, or armor flexibility.

h. Development of flexible hard armor systems solutions, which consider ergonomic inputs based on Soldier's efficiency, environment, physiology, and comfort and examine the effect of the system will have on anatomy (priority of vital organs) and anthropometry.

i. Use of innovative surface geometries and coatings into protective systems that reduce Soldier detectability across the electromagnetic (EM) spectrum.

j. Implementation of non-hazardous materials and geometries that mitigate crack propagation in armor materials to enhance overall fracture toughness.

k. Use of additive manufacturing technologies to create armor systems with improved armor performance.

Technical Area 2 - Explosive Ordnance Disposal Soldier Capability

PM SSV requires improved Explosive Ordnance Disposal (EOD) protective equipment or enabling technology that allows an EOD Soldier to perform their mission more efficiently through:

a. Application of improved power management and power distribution.

b. Optimization of head-up display form factors and system-level integration options.

c. Application of enhanced digital infrared (near and far), light (including color), and other situational awareness or optically enhancing sensors into heads-up displays.

d. Application of improved injury modeling parameters to better establish performance parameters with verified lethality criterion and assess system level improvements.

e. Optimization of system level design to improve fit and sizing, reduce weight, improve performance, reduce costs, or increase mobility and flexibility.

f. Use of scalable designs that allow the user to tailor the level of protection depending on mission parameters.

g. Development of improved cooling systems with better power efficiency, reduced noise, improved cooling duration or capacity, reduced weight, more comfortable or improved form factors, or enhanced safety features.

h. Integration of systems which improve situational awareness including communication, field of view, and visual display on bomb suit systems.

Technical Area 3 - Personal Blast Protection

Blast protection for the individual Soldier involves protection of the body (head, neck, torso, and extremities) against a variety of blast events. New materials and systems are required to protect against blast threats and to lighten the load carried by the Soldier. This type of technology includes:

a. Application of unique and novel materials or systems which provide personal protection against blast events and reduce blast injury.

b. Studies of blast effects to include overpressure and behind armor effects on the Soldier and the materials or systems to mitigate effects.

c. Development of performance standards for blast protective systems.

Technical Area 4 - Integrated Head Protection

Headborne protection for the individual Soldier involves protection of the head (to include the face, eyes, and neck) against fragmentation munitions, handgun projectiles, small arms threats, and blunt trauma impacts. New materials, designs, and technologies are required to meet this broad range of threats while also providing the appropriate ergonomics, comfort, hearing, and cooling necessary to allow the individual Soldier to wear the head protection for extended periods. This type of technology includes:

a. Technological advances in materials or processing for use in combat helmets to improve ballistic performance and reduce weight. Solutions may include materials processing optimization, materials hybridization, or new fiber or material development.

b. Novel modular designs and integration concepts to provide head protection against multiple threats (e.g., ballistic, blast, blunt impact, etc.). Concepts should identify protection capabilities for each component and the protection provided for each area of the head. Such designs would offer the user the ability to tailor the level of protection to the current threat by adding or removing modular integrated components (e.g., face protection, eye protection, and neck protection).

c. New materials or suspension systems that can be used with the current Army and other military helmets to reduce shock and concussive injuries, which will ultimately reduce mild Traumatic Brain Injuries (mTBI).

d. A ballistic resistant integrated head protection system for use by aviators that incorporates inherent crash protection capabilities.

e. A helmet retention system that integrates with current Army and other military helmets without penetrating the ballistic helmet shell (i.e., screw and post in current design).

f. Materials or design improvements for maxillofacial protection to improve ballistic performance, or reduce weight, or both.

g. Transparent materials for enhanced eye protection without visibility reduction.

h. Ballistic eyewear or component material with rapid transition capability from clear state to sunlight resistant state, and vice versa, with preference for unpowered solutions.

i. Laser eye protection with the ability to selectively, automatically, passively, or actively protect against a wide range of laser wavelengths and powers.

NOTE: Lasers represent an ongoing threat to Soldiers with their ability to distract, induce temporary blindness, cause permanent blindness, or otherwise prevent Soldiers from executing their duties.

j. Novel hearing protection design and integration concepts that provide easy to use and reusable hearing protection with auditory 360 degree situational awareness.

NOTE: The Government desires an open architecture design to ensure interoperability with Army and common military radios, which provides options for both two-way communication and hearing protection to ensure maximum Soldier communication capability. Novel hearing protection design should mitigate the mission compromising effects of unprotected, steady-state, and impulse noise exposure during combat and training operations.

Technical Area 5 - Test Methods and Test Standards

Test methods and characterization related to component, system performance, or material manufacturing processes. This type of technology includes:

a. Characterization and development of test methods for high performance fibers.

NOTE: Methods are needed to understand and develop a correlation between constitutive fiber properties and ballistic performance, and to measure and evaluate relevant mechanical (static and dynamic) and physical properties of fiber and fibrous materials.

b. Characterization and development of test methods for ceramic materials.

NOTE: Methods are needed to understand and develop a correlation between constitutive ceramic properties and ballistic performance, and to measure and evaluate relevant mechanical (static and dynamic) and physical properties of ceramics.

c. Characterization and development of test methods for composite materials.

NOTE: Methods are needed to understand and develop a correlation between constitutive properties of component materials and ballistic performance, and to measure and evaluate relevant mechanical (static and dynamic) and physical properties of composites.

d. Improved backing material for measurement of behind armor blunt trauma to minimize testing variation.

NOTE: The solution would provide an understanding of static and dynamic material response to impact event and correlation to blunt trauma. The solution would also address test calibration, test repeatability, and the mass production of existing synthetic Behind Armor Blunt Trauma (BABT) materials under development.

e. Development of an improved test methods for Behind Armor Blunt Trauma (BABT) testing, which includes sensor instrumentation to measure BABT.

NOTE: The solution would directly measure the static and dynamic loading characteristics of the ballistic event such as force, pressure, and time response to more accurately correlate the event to resulting trauma. Develop a rapid scanning technology capable of accurately determining a BABT measurement in existing witness material.

f. Development of an improved soft armor abrasion test method for system level evaluation of the durability of soft armor ballistic panels.

g. Development of test standards for flexibility of soft armor, which correlate to the natural movements of the human body (i.e., torque and bending).

NOTE: The solution will develop standards, which can characterize a soft armor package and evaluate it with statistical validity and specific pass and fail criteria.

h. Development of high throughput Nondestructive Test and Evaluation (NDTE) methods to assess hard armor, soft armor, and helmet shelf life and service life.

i. Characterization and development of test methods for ballistic protective eyewear.
NOTE: Improvements to or replacement of test methods are required to increase understanding related to the performance characteristics of ballistic protective eyewear.
NOTE: New or improved test methods will focus on eyewear optical qualities, chemical resistance, dust or sand protection, salt-water resistance, and ability for new ballistic protective eyewear systems to come in a prescription.

j. Characterization and development of test methods for ballistic protective transition eyewear.

NOTE: Improvements or replacement test methods are required to increase understanding related to the performance characteristics of ballistic protective transition lenses with a focus on eyewear transition time, transition range, and battery life.

k. Characterization and development of test standards and apparatus for evaluation of hearing protection systems.

NOTE: There is a need for methods to increase understanding and quantify the effects of hearing protection performance and the effects on situational awareness.

l. Characterization and development of method and a sensing system for non-destructive evaluation of damage in hard armor and helmets.

m. Development and improvement of test methods and standards for Soldier-borne sensors and sensor systems to include testing of physical devices, sensor networks, and computer algorithms.

n. Development and improvement of test methods and protocols for evaluating the microbiological treatment capabilities of water purifiers.

o. Development of test protocols for evaluation of bite protection chemistries, to include a variety of vectors e.g., mosquitoes, sand flies, ticks, etc.

Technical Area 6 - Fabric Technologies

Development of protective materials is essential to support Soldiers deployed throughout the world. There is a need for versatile clothing systems that will protect the Soldier across the temperature spectrum while reducing weight and volume. This type of technology includes:

Development of protective materials is essential to support Soldiers deployed throughout the world. There is a need for versatile clothing systems that will protect the Soldier across the temperature spectrum while reducing weight and volume.

a. Fabric technologies with enhanced durability (e.g., tear strength, abrasion resistance, color fastness to laundering) without compromising performance or comfort.

b. Flame resistant fabrics while improving other performance characteristics (e.g., durability, comfort, etc.) or reducing cost.

c. Non-toxic (non-perfluorinated) water-resistant technologies for fabrics to replace existing solutions with undesirable properties (e.g., reduced air permeability, flexibility, etc.) .

d. Smart fabrics that add value to the wearer by introducing abilities not present in traditional fabrics. Such fabrics could have the ability to communicate, transform, conduct energy, grow, adapt their breathability to various operation environments, and adapt their characteristics to address threats that appear in an operational area.

f. Improved materials that will provide increased environmental protection at a reduced weight or volume.

g. Lightweight materials and designs that enhance Soldier performance, comfort, and protection in a tropical environment.

h. Innovative, lightweight, low bulk technologies or systems to provide improved environmental protection during high altitude standoff parachute operations. Parachutists operating under these conditions face exposure to extremely low temperatures from takeoff to insertion.

i. Alternative sustainable (i.e., green, EPA compliant) methods for achieving the effects of durable press for cotton, natural fiber, or cotton blend clothing.

j. The Army has a need for comfortable, lightweight, breathable, textiles that, when worn over the nose and mouth, trap droplets that are released when the wearer talks, coughs or sneezes. Fabric should allow wearer to wear garment for prolonged periods, during exercise, and not cause discomfort or difficulty breathing. Fabric must be durable, launderable, with physical characteristics (e.g., air permeability, weight) comparable to disposable (procedure) masks. Fabric must be free of finishes or treatments. Mask designs are also being sought which maximize comfort and fit (e.g., no gaps along edges, use of folds or pleats and adequate air permeability to prevent air from leaking out the edges of the mask, etc.).

Technical Area 7 - Advanced Manufacturing

a. Application of modern technology, such as virtual prototyping, for clothing/equipment pattern to 1) identify any garment fit and/or balance issues earlier in the design process 2) provide validation to ensure pattern pieces within each variation of size and length align with one another and is/are producible and 3) test size set grade rules that are applied to the pattern result in the desired fit (ease over body) and finished dimensions.

b. Applications of modern clothing manufacturing technologies to improve supply chain efficiency (e.g., up-to-date and predictive capacity, predictive garment or fabric manufacturing, etc.).

c. Applications of new prototyping and manufacturing technologies to enable high efficiency production e.g., faster, less waste, etc. New manufacturing technology solutions may include machine innovations (laser-cutting, fusing, seam bonding, etc.),

sewing robots, stitch-free clothing (3D or sculptural knitting), 3D printing, digital textile printing, etc.

Technical Area 8 - Personal Protection System Integration

Personal protection for the individual Soldier involves protection of the torso, arms, groin, and legs against fragmentation munitions, small arms, and handgun projectiles. New materials, designs, and technologies are required to meet this broad range of threats while also providing the appropriate ergonomics, comfort, weight, and cooling necessary for the individual Soldier to be capable of wearing the body armor for extended periods. This type of technology includes:

a. A system to improve load distribution of personal body armor.
NOTE: The system should focus on increased mobility, agility, and endurance while decreasing fatigue and injury.

b. Development of an active cooling system to mitigate heat stress for the individual Soldier.

NOTE: The solution should focus on improvements in system power and battery life, noise reduction, and size and weight reduction compared to current solutions. The solution should also address various environmental factors including mechanical shock, vibration, blowing sand or dust, rain, salt fog, Electromagnetic Interference (EMI), etc.

c. Development of a passive cooling system to improve comfort and mitigate heat stress for the individual Soldier.

d. Development of lightweight, integrated, modular, and flexible extremity protection.

e. New or improved engineering designs, which incorporate enhancements to personnel protection including area of coverage (soft and hard armors), modular attachment points, flexibility, compatibility with existing equipment, and tailorability to increasing threat levels.

f. Novel modular designs to provide body and extremity protection against multiple ballistic and nonballistic threats.

NOTE: Concepts should identify ballistic protection capabilities for each component and the area of the body it will protect. The solution would offer the Soldier the ability to tailor the level of protection to the current threat by adding or removing modular integrated components (e.g., hard plates, soft panels, neck protection, and extremity protection).

g. System improvements or novel designs for a sensor system that detects blast overpressure, blunt impact, kinetic force and shock wave, and head and body acceleration or force.

NOTE: Sensors shall be small, lightweight, and low-power. Sensors shall be capable of detecting, storing, and transmitting data from impacts, accelerations, blast overpressure events, or other events that may cause injuries in an operational environment. The sensors shall be reverse compatible with currently fielded Soldier protection equipment and designed with an open architecture that ensures integration with future systems.

h. Novel design approaches for incorporating modular components to provide ballistic and blast protection and reusable active and passive flotation solutions. The passive solution shall be scalable from less than 17.5 to no more than 65 pounds and independently Soldier initiated or automatically initiated (on contact with water). The active flotation shall provide at least 65 pounds of positive buoyancy force. The active flotation must be capable of righting an incapacitated person to face up. Either system must use the currently fielded body armor as a base platform.

i. Improvements in materials, novel system design and architectures, and integration concepts to provide increased integration of Soldier protective equipment and Organizational Clothing And Individual Equipment (OCIE) that allows for overall system weight reduction, increased system functionality, and Soldier acceptance.

Technical Area 9 - Modeling and Simulation

Computational predictive modeling of high rate deformation and failure of materials subjected to ballistic impact conditions.

a. Development of a materials model for ceramic-based armor.

NOTE: A need exists to predict 1) the ballistic performance of ceramic-based armor at different areal densities and against a variety of threats and impact velocities; 2) armor back-face deformation; and 3) defeat mechanisms and the temporal evolution of the ballistic event.

b. Development of a material models for soft-armor systems, considering fiber constitutive properties, tow and weave architecture, and hybrid construction.

NOTE: A need exists to predict 1) the ballistic performance of soft armor panels at different areal densities and against a variety of threats and impact velocities; 2) armor back-face deformation; and 3) projectile-fabric interaction and failure modes.

c. Development of a materials model for fiber-based armor-grade composite laminates.

NOTE: A need exists to predict 1) the ballistic performance of composite laminates at different areal densities and against a variety of threats and impact velocities; 2)

composite armor laminate back-face deformation and delamination; and 3) defeat mechanisms and the temporal evolution of the ballistic event.

d. Development of mathematical models to correlate helmet material properties, geometry, suspension systems, and retention systems to blast effects.

e. Development of models or correlation tools to analyze or relate the effects of blasts or impacts or both recorded by body worn sensors to the effects experienced by the head or torso of the Soldier wearing the sensor.

f. Development of computer algorithms to analyze Soldier-borne sensor data to forensically determine the characteristics of the blast or blunt force event experienced by the Soldier. This may include methods to easily store, query, and retrieve field data with common characteristics.

Technical Area 10 - Integrated Soldier Concealment

Improvements to Soldier clothing and equipment are needed to reduce detection through visual and electronic means. Technology is needed for:

a. Improved concealment technologies to mitigate detection across the infrared spectrum.

b. Improved concealment technologies to mitigate detection by ground surveillance radar.

c. Improved concealment technologies to reduce thermal signature.

d. Alternate concealment technologies or approaches that reduce Soldier detection or increase visual breakup.

Technical Area 11 - Individual Equipment

Improvements to materials to improve functionality of individual equipment.

a. Alternative injection molded plastic resin for individual equipment that meets current requirements (e.g., must withstand operating conditions of -40 to 140 °F and cannot shatter (i.e., only ductile failures)).

b. Injection molded plastics to mitigate detection across the infrared spectrum.

c. Alternative high-strength, low-cost individual equipment hardware.

d. Development of semi-rigid moldable material with flame resistant capability for individual equipment items (e.g., holsters, grenade pouches, etc.).

e. Powered or unpowered human augmentation technologies for example speed, strength, etc.

Technical Area 12 - Vector Protection

Vector disease protection for Soldiers is becoming an increasing need as Soldiers are continuing to deploy to more austere environments where vector diseases are on the rise requiring greater protection. This type of technology includes:

a. Development of alternative insecticidal treatment with increased bite protection while maintaining low toxicity for the Soldier.

b. Development of spatial repellant systems that provide improved deterrence, functional time, and decreased toxicity over the current DEET (diethyl (meta) toluamide; an insect repellent).

Technical Area 13 - Personnel Air Drop

Improvements to materials and systems are required to meet broad military parachutist requirements to both maintain safety and to increase capability. This type of technology includes:

a. Development of innovative oxygen delivery methods in support of high altitude parachuting missions.

b. Development of methods and technologies for reducing the signature of personnel parachute systems against detection from a variety of sources during high and low altitude missions.

NOTE: This includes near infrared and short wave infrared detection as well as radar detection.

c. Development of technologies in support of cargo and personnel combination drops where jumpers follow cargo loads.

d. Development of lighter, less bulky fabrics and hardware components for next parachute systems.

Technical Area 14 - Hydration

Improvements to individual Soldier hydration systems are required to meet broad requirements for providing potable water to the individual Soldier. This type of technology includes:

a. Development of improved methods or systems capable of providing potable water from any water source, including brackish and sea water.

b. Development of hydration systems with improved capabilities for use in cold weather environments.

c. Development of hydration systems with improved capabilities for operating in a chemical, biological, radiological, and Toxic Industrial Materials (TIM) contaminated environment.

d. Development of improved purification methods and systems to remove Toxic Industrial Chemicals/Materials (TICs/TIMs).

e. Development of microbiological purification systems with improved purification, capacity, and flow rate.

Technical Area 15 - Multifunctionality and Integrated Systems

There is a need for multifunctional systems that addresses two or more Soldier needs and that, when combined, reduce the overall weight burden on the Soldier, improve mobility, reduce logistic burden, or provide some other demonstrable system-level improvement.

a. Development of innovative materials, fabrics, and membranes capable of changing properties in various environments to tailor permeation based on operational environment and threats present in that theater of operation.

b. Development of innovative types of Soldier equipment that integrate seamlessly with existing Soldier kit and items in development with the goal of enhancing Soldier mobility, reducing overall burden, or facilitating the addition of more individual or squad-level functionality.

NOTE: An example of this is the Integrated Helmet Protection System (IHPS) that incorporates mounting points and powered rails that allow the IHPS helmet to integrate with a wide range of specialty equipment based on individual Soldier needs.

Technical Area 16 - Adaptive Squad Architecture

Improvements are needed to solve challenges within the Army's current operational concept, potential environment(s) and the Army's modernization priorities. These challenges are identified in the following eight problem statement areas. Focus on the dismounted squad and its members that when aggregated with their equipment (e.g., weapons, sensors, tools, etc.) form an integrated combat platform.

Technical Area 16.A. Overarching Adaptive Squad Architecture

Problem Statement. Currently the US Army is working to develop an authoritative architecture for the Soldier and Squad. The current absence of an authoritative

architecture creates disparate and unintegrated systems on the Soldier, resulting in increased size, weight, and power burdens. This requires the Soldier to manage multiple power sources, processing systems, cables, and interfaces that are not necessarily compatible or built to a standard. The result is a load carriage that is not optimized, uses power and processing inefficiently, and poses a weight burden that our Soldiers and Squads just cannot afford.

Desired Outcomes.

a. A system in which the data is portrayed in a standard interface, rapidly aggregated and translated into actionable intelligence, and shared seamlessly across all stakeholders.

b. A system in which the data is prioritized and optimized to reduce cognitive burden while still providing the leader the information needed to achieve dominance on the battlefield.

c. A simplified process or tool(s) to enable seamless transition and exchange of data from all available data sources in order to fully enable the Close Combat Squad.

d. Maximum efficiency is achieved by systems operating within the available (e.g., current, proposed, developmental, etc.) bandwidth.

Desired Outcome.

Facilitate the ability to achieve and maintain overmatch at the squad and individual Soldier level in a multidomain environment through increased lethality (effects and range), increased situational awareness and understanding, optimized power sources and management, increased mobility (reduced (Desired Outcome cont.) Soldier's load and innovative integration approaches), seamless and near-real time flow of data translated into actionable intelligence, protection against all threats, and reduced logistical burden. A systems integration approach to the Soldier and Squad that is defined by an adaptive architecture will drive and help define these solutions.

Technical Area 16.B. Power.

Problem Statement. Future power required at the Soldier and Squad level exceeds what the current solutions provide, resulting in either increased load (reduced mobility), or reduced operational reach in future systems. This fact, combined with the lack of an integrated systems approach to power; and a lack of common design standards and protocols; and a lack of “intelligent” power management has led to stove-piped power solutions and exacerbated logistics, load and mobility challenges. Solving the Power problem at the Soldier and Squad level must result in a balanced approach to energy storage, and power management, distribution, and generation capabilities.

Desired Outcomes.

a. Innovative, integrated, and lightweight (portable and scalable) tactical power solutions that have increased energy densities and power generation, management, and distribution abilities. These solutions must be rapidly rechargeable (without decreasing density), easily operated, interoperable with current and future Soldier kit, and are operational in any military environment. The Army also desires the ability to execute wireless charging of Soldier worn batteries while on the move in a variety of air and ground combat platforms and while conducting dismounted movements.

b. Systems with significantly reduced power consumption.

c. Intelligent Power management that can further decrease power consumption through machine learning and artificial intelligence without soldier input and is reliable and functional over a variety of Close Combat Squad operational scenarios.

Technical Area 16.C. Data Management.

Problem Statement. Data at the Soldier and Squad level comes in from a variety of sensors and sources and in disparate forms; is limited in how it can be shared amongst and across echelons; is slow and archaic; is not well aggregated and synthesized into actionable intelligence; and in turn does not support the timely and accurate decision making process that is necessary for overmatch. Additionally, the quantity of data that is available to the Soldier, where it is stored, and how persistent it is may create substantial cognitive burdens on the Soldier that severely constrain the Solders' and Squads' capability to exploit the data for operational gain.

Desired Outcomes.

a. A system in which the data is portrayed in a standard interface, rapidly aggregated and translated into actionable intelligence, and shared seamlessly across all stakeholders.

b. A system in which the data is prioritized and optimized to reduce cognitive burden while still providing the leader the information needed to achieve dominance on the battlefield.

c. A simplified process or tool(s) to enable seamless transition and exchange of data from all available data sources in order to fully enable the Close Combat Squad.
d. Maximum efficiency is achieved by systems operating within the available (e.g., current, proposed, developmental, etc.) bandwidth.

Technical Area 16.D. Wireless Capabilities on Soldier Interoperability.

Problem Statement. Design of the systems within the ASA must ensure that the incorporated Sensitive But Unclassified (SBU) wireless modules, and (Secret And Below) SAB wireless modules do not permit the spillage of Classified data from the SAB

modules to the SBUs module. Wireless capabilities on the Soldier is an evolving capability that should greatly improve Soldier maneuverability, survivability, and lethality by allowing wireless transmission of data amongst soldier ancillary devices. There are currently two variants of wireless capabilities on the Soldier modules: National Institute of Standards and Technology (NIST) Federal Information Processing Standard (FIPS) 140-2 for SBU data and National Security Agency (NSA) SAB for SECRET data (in development). The Army is also investing in a smaller form-factor, lower-power wireless capabilities on the Soldier modules.

Desired Outcomes.

a. A decision on which module to use in an application based on the classification of the data with the understanding that SBU and SAB data cannot be interoperable.

b. Ensured interoperability between current and future wireless capabilities on the Soldier modules of the same classification.

c. Wireless capabilities on the Soldier network data can be pushed between Squad members and to higher echelons (i.e., interoperable with Non-Traditional Waveforms technologies).

Technical Area 16.E. Soldier Mobility and Survivability.

Problem Statement. Soldier mobility and survivability are reduced by the bulk, weight, stiffness, and overall thermal burden of the Soldier's Personal Protective Equipment (PPE) and Load Carriage Equipment. The best Soldier system design attributes and materials must improve Soldier mobility, protective capabilities, and performance.

Desired Outcomes.

a. Design, develop, and field multi-functional and multi-purpose, lighter-weight equipment and materials that integrate with other PEO efforts.

b. Optimize existing Soldier kit designs to provide more space for Soldier equipment without compromising protection and mobility.

c. Develop material solutions that increase Soldier survivability through lower probability of detection across the Electromagnetic (EM) Spectrum, improved vector protection, advanced Chemical, Biological, Radiological, and Nuclear (CBRN) protection, and increased ballistic protection properties.

d. Incorporate thermal management designs to yield more breathable fabrics.

e. Develop systems, such as load bearing augmentation capabilities that provide or consolidate multiple capabilities and technologies to reduce the cumulative effects of equipment load.

Technical Area 16.F. Leveraging Artificial Intelligence (AI).

Problem Statement. The future battle field will see AI in sensors, drones, interfaces, and mission command systems, and as the Close Combat Squad transitions to fully digital capabilities, how do we make data available forward in a manner that does not encumber the squad, has cross cutting data sharing, and is not a limiting factor to AI development which enables data exploitation? These AI solutions must leverage cloud-hosted software to share data and collaborate. Cloud-hosted software is routinely optimized for hosting on a specific cloud provider. Current technology strategies increase the dependency on the cloud and the need for flexible agnostic platforms that provide the greatest flexibility of hosted applications and future upgrades.

Desired Outcome: A simplified process or tool(s) that enable seamless collection and analysis of data from all available sources in order to fully enable the Close Combat Squad's ability to exploit data. The result is improved situational awareness that is delivered with augmented notifications or recommendations, in order to most effectively employ available sensors, mission command systems, and lethal systems or platforms.

Technical Area 16.G. Cross Domain Security Architecture.

Problem Statement. Squad leaders are cleared to operate on both UNCLASS and SECRET networks (depending on the mission and tactical environment); however, un-cleared team members cannot access SECRET networks when a classified network exists. In this situation, the un-cleared soldier cannot transmit their Position-Location information (PLI) for inclusion in the classified Common Operating Picture without a local cross-domain solution (CDS) that passes PLI information between the Unclassified network to the Secret network. Current tactical CDSs are too expensive, cumbersome, or require power.

Desired Outcomes.

a. The higher classification network should provide both SECRET and UNCLASS information sharing with all soldiers. Cleared soldiers should receive both UNCLASS and CLASS data streams (e.g., Radio Frequency (RF) data, PLI), and un-cleared soldiers should only receive UNCLASS data streams.

b. Un-cleared soldiers should be able to provide their Position-Location Information (PLI) to the higher classification network for COP inclusion.

Technical Area 16.H. Electromagnetic Interference.

Problem Statement. As future Soldier systems are developed and integrated and the number of RF transmitters, RF receivers, sensors, and data devices used by the Soldier increases; electromagnetic interference becomes increasingly probable, as does the possibility of lost wireless links. Each new system integrated with the Adaptive Squad

Architecture (ASA) must be EMI tested, and if the ASA hardware is not optimally designed for EMI, it may be difficult for a newly developed system to become electromagnetically compatible.

Desired Outcome: Systems have effective shielding that minimizes the electromagnetic effects across a broad spectrum.

Section II: Award Information

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation, and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if it is later determined to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, PM SSV reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that PM SSV desires to award only portions of a proposal, negotiations may be opened with that proposer. The Government reserves the right to fund proposals in phases with options for continued work at the end of one or more of the phases, as applicable.

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below Section IV, Step 4B, and program balance to provide overall value to the Government. The Government reserves the right to request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications (see Section VI.B.4., “Representations and Certifications”). The Government reserves the right to remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions and cost/price within a reasonable time or the proposer fails to timely provide requested additional information. Proposals identified for negotiation may result in a procurement contract or other transaction, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, and other factors.

Section III: Eligibility Information

3.A. Eligible Applicants

The Overview section provides details on applicant eligibility for this award.

3.B. Participation

Small Businesses (SBs), Small Disadvantaged Businesses (SDBs), Historically Underutilized Business Zones (HUBZone) Small Businesses, Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs): Although no portion of this BAA has been set aside for SBs, SDBs, HUBZones, HBCUs, or MIs, their participation is highly encouraged. For any topic area (see Section VI) where the Government receives sufficient quality proposals which demonstrate that a set-aside would be appropriate, the Government will consider doing so and modifying this BAA accordingly. Therefore, all named business types are encouraged to submit proposals under any topic that they feel they are highly qualified to perform.

3.C. Organizational Conflicts of Interest

All Offerors and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any PEO Soldier technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the Offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests will be rejected without technical evaluation and withdrawn from further consideration for award. If a prospective Offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with PEO Soldier by sending his or her contact information and a summary of the potential conflict by email to the Administrative Point of Contact identified in each topic under Section VI, before expending time and effort in preparing a proposal and mitigation plan. If, in the sole opinion of the Contracting Officer after full consideration of the circumstances, any conflict situation cannot be effectively avoided, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

Section IV: Application and Submission Information

4.A. Process Summary

The application process is in three (3) steps:

a. Step 1: Offeror shall verify accuracy of Dun & Bradstreet registration.

b. Step 2: Offeror shall submit concept paper.

c. Step 3: If asked, offeror shall submit proposal.

Step 1: Dun and Bradstreet (D&B) Registration

The offeror shall verify the accuracy of offeror's Dun & Bradstreet (D&B) registration at the D&B website http://fedgov.dnb.com/webform before registering with the System for Award Management (SAM) at https://www.sam.gov/SAM/. The Government requires that prospective offerors be registered in SAM prior to award, during performance, and through final payment of any contract resulting from this announcement. Offerors that are not registered should consider applying for registration immediately. The SAM obtains the registrant's legal business name, Doing Business Name (DBA), physical address, and postal code (zip+4) data fields from their D&B registration. If corrections are required, registrants will not be able to enter or modify these fields in SAM; they will be pre-populated using D&B Data Universal Numbering System (DUNS) record data. When D&B confirms the correction has been made, the registrant shall then re-visit https://www.sam.gov/SAM/ and 'accept' D&B's changes. The SAM record will not accept the corrected D&B registration until the registrant "accepts" the D&B's changes. The registrant should allow two (2) business days for D&B to send the modified data to SAM. To remain registered in the SAM database after the initial registration, the contractor is required to confirm on an annual basis that its information in the SAM database is accurate and complete.

Step 2: Concept Paper (Preproposal) Submissions

Prospective offerors are required to submit concept papers prior to the submission of a formal, complete, and detailed proposal. This step will preclude unwarranted effort on the part of an offeror whose proposed technology, capability, or product is not of interest to the Government. Concept 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's mission. The Government will invite those offerors with concept papers found to be consistent with the intent of the BAA and of interest to the Government to submit a full proposal (step three). Offerors should not submit a proposal until selected Government personnel have reviewed the concept paper and the contractor has been invited to submit a formal, complete and detailed proposal by the cognizant Contracting or Agreements Officer.

If an offeror has a novel development approach within an area of interest covered by this BAA, a concept paper should be prepared.

Step 2.A: Format

Concept papers shall be in the format shown in Figure 1.

- Single PDF formatted file as an email attachment
- Page Size – 8 ½ x 11 inches
- Margins – 1 inch
- Spacing – single

- Font – Arial, 12 point
- Page number– May not exceed five (5) single-sided pages (including charts, graphs, photographs, etc.)

FIGURE 1. Concept paper format

Step 2.B: How to Submit Concept papers to the Government

Concept papers and inquires shall be submitted electronically to the following:
~~usarmy.belvoir.peo-soldier.mbx.spiebaa@mail.mil~~
usarmy.belvoir.peo-soldier.list.pm-spe-smarrted-admin1@army.mil
The submittal shall include BAA number [TBD] in the email subject line.

Step 2.C: Contents of Concept Papers

Concept paper Papers shall include:

a. A brief technical explanation of the effort that addresses the effort's objective, goals and deliverables, proposed approach to achieve these goals and deliverables, performance schedule, and military relevancy.

b. The name and address of the performing organization, the name of the principal investigator including a brief description (one page) of key personnel, highlighting their qualifications and experience.

c. Any past performance the offeror has had with similar research efforts.

d. A brief cost estimate revealing all the component parts of the proposal, including hours, material costs, travel, etc.

Step 2.D: Restrictive Markings on Concept papers

The offeror shall identify any technical data or computer software that the offeror intends to provide to the Government with restrictions on use, release, or disclosure, as prescribed in DFARS 252.227-7017. The offeror shall also identify any technical data or computer software contained in the concept paper that the Government is to treat as "limited rights" data or "restricted rights" software (as defined in DFARS 252.227-7013 (FEB 2014) or DFARS 252.227-7014 (FEB 2014)). As indicated in DFARS 252.227-7017(e), an Offeror's failure to submit, complete, or sign the aforementioned technical data or software rights restrictions with its offer may render the offer ineligible for award. Records, technical data, or software bearing a restrictive legend may be included in the concept paper. It is the intent of the Government to treat all concept papers as privileged information before the award and to disclose their contents only for the purpose of evaluation. Offerors are cautioned, however, that portions of the concept paper may be subject to release under terms of the Freedom of Information Act, 5 U.S.C. 552 as amended.

Step 2.E: Evaluation and Disposition of Concept Papers

The Government will evaluate concept papers in accordance with the criteria in FAR 15.404-1, Proposal Analysis Techniques. Accordingly, various analytical techniques and procedures may be used singly, or in combination with others, as determined necessary by the Contracting Officer per FAR 15.404-1(a)(1).

The Government's evaluation of concept papers will use technical or scientific personnel that are knowledgeable within the particular topical area or specific interest area to determine if the paper presented is consistent with the intent of the BAA and is of interest to the Government. The Government will evaluate concept papers on the scientific and technical merit, the management approach, the importance to agency programs, and the proposed cost or affordability (see Figure 2).

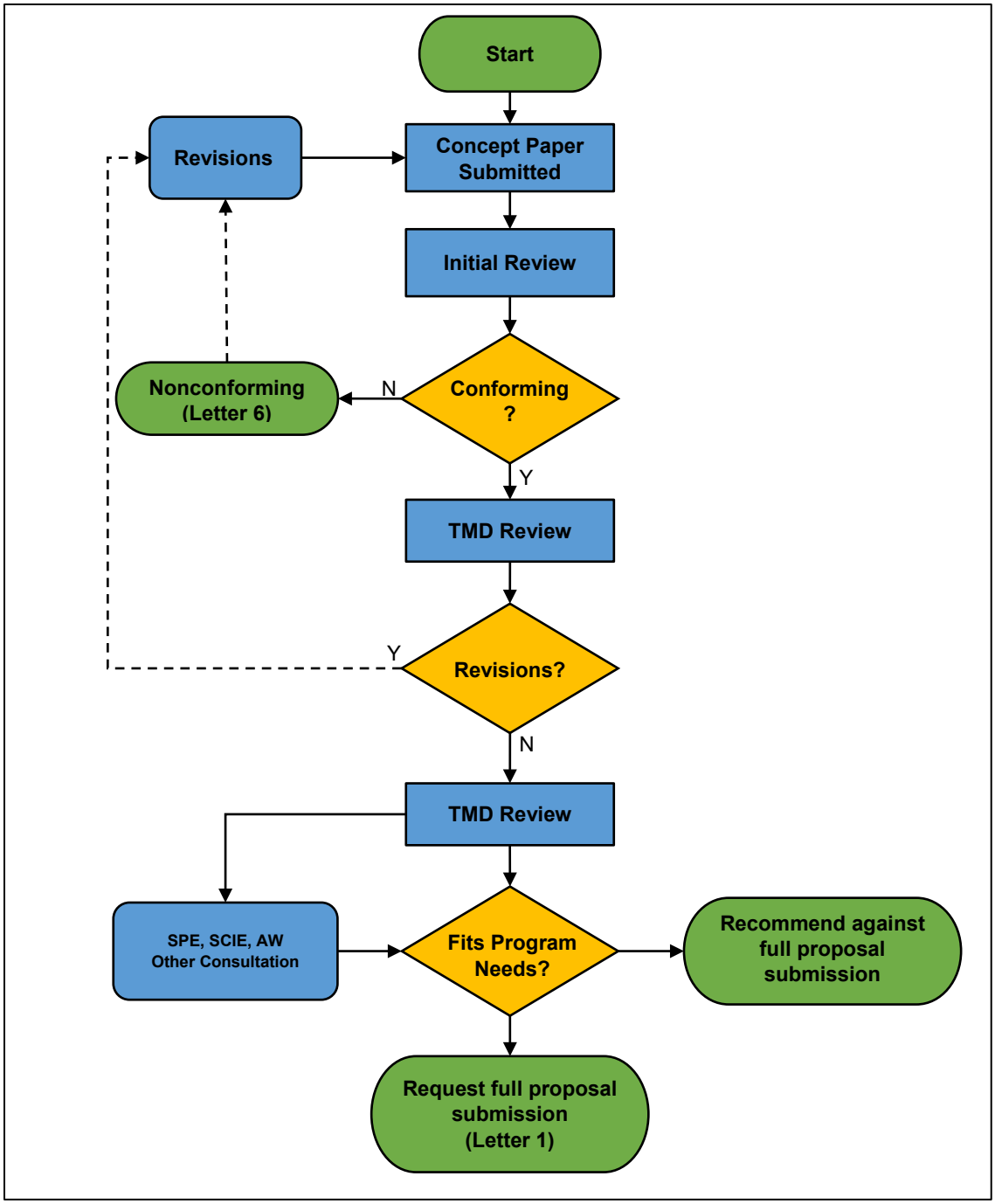

FIGURE 2. Concept Paper Review Process Diagram

Step 3: Proposal Preparation and Submission

When the Government invites an offeror to submit a proposal, it will assign a single technical POC. Interested offerors are required to submit formal, complete, and detailed proposals. Early communication with the technical POC is essential. This preliminary communication is especially important because there shall not be further communication between the offeror and the Government's technical POC once the

technical POC accepts the formal, complete, and detailed proposal and submits it to ACC-APG.

After a concept paper has been submitted, and once an offeror has been invited by the Government to submit a formal, complete, and detailed proposal; the process detailed in this document shall be adhered to by the offeror. Informal exchanges of information with the Government's technical POC for any proposed research shall occur BEFORE the submission of a formal, complete, and detailed proposal.

Noncompliance with these instructions may preclude the offeror from receiving an award.

Step 3.A: Format

After a concept paper has been submitted, and once an offeror has been invited by the Government to submit a formal, complete and detailed proposal the following process shall be adhered to by the offeror. The offeror's technical, management, cost and price, past performance, and subcontracting (if applicable) sections of the proposal shall be submitted as a single document, with each section separated by page breaks as set forth below. All information pertaining to each section shall be confined to the appropriate part. The sections shall be as brief as possible, consistent with complete submission. Pages shall not exceed 8-1/2 inches in width and 11 inches in length. The Government reserves the right to reject concept papers submitted on the wrong sized paper or in the wrong format.

Step 3.B: How to Submit Proposals to PM SSV TMD

Proposals should be submitted electronically to the following address:
usarmy.belvoir.peo-soldier.mbx.spiebaa@mail.mil
Informal exchanges of information with the technical POC for any proposed research shall occur BEFORE the submission of a formal, complete, and detailed proposal. Noncompliance with these instructions may preclude the offeror from receiving an award.

Concept papers and inquires shall be submitted electronically to the following:

~~usarmy.belvoir.peo-soldier.mbx.spiebaa@mail.mil~~
usarmy.belvoir.peo-soldier.list.pm-spe-smarrted-admin1@army.mil

The proposal shall be evaluated in accordance with the process described in Section IV, Step 4B herein.

Step 3.C: Contents of Proposals

The offeror's technical, management, cost and price, past performance, and subcontracting (if applicable) sections of the proposal shall be submitted as a single

document, with each section separated by page breaks as set forth in figure 3. The offeror shall confine all information pertaining to each section to the appropriate part. The sections shall be as brief as possible, consistent with complete submission. The Government will evaluate the proposal in accordance with the process described in Section IV, Step 4B herein.

PART I	Technical Section
PART II	Management Section
PART III	Cost and Price Section
PART IV	Past Performance Section
PART V	Subcontracting (if applicable)
PART VI	Contractor Representations and Certifications

FIGURE 3. Proposal sections

Part I - Technical Section (15 page limit)

The offeror is responsible for including sufficient detail, without reference to cost and price, to permit a complete and accurate evaluation of the proposal from a strictly technical standpoint. The technical portion of the proposal shall contain:

a. Cover sheet including:
(1) BAA number;

(2) technical area by number and title for which the proposal is being submitted under;

(3) lead organization submitting proposal;

(4) type of business, selected among the following categories: “Large Business,” “SDB,” “Other SB,” “HBCU,” “MI,” “Other Education,” or “Other Nonprofit;”

(5) proposal title;

(6) technical POC, including salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);

(7) administrative POC, including salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);

(8) proposed contract-type;

(9) total funds requested;

(10) date proposal prepared; and

(11) date of proposal expiration.

b. A summary of the objective or purpose of proposed work and an explanation of the planned approach, techniques, or processes to be used in this effort. The summary will provide rationale for the proposed method and identify technical risks in completing the project and the approach taken to overcome these risks.

c. Offeror Statement Of Work (SOW)

(1) It is the intent of the Government to use the offeror's SOW, as written, provided that the offeror's SOW accurately describes the work being performed, is enforceable, and is void of inconsistencies. If, in the Government's opinion, the offeror's SOW does not reflect these requirements, the Government will prepare a SOW using information available in the offeror's proposal. *This process, if required, may delay the award*. **The SOW shall be a separate and distinct part of the proposal, in the format called out in Reference 1**. The proposed SOW must contain a summary description of the technical method as well as the task description, but not in so much detail as to make the contract inflexible. **Do not include any proprietary information in the SOW**.

(2) Figure 4 provides a recommended format for the offeror's SOW. Begin this section on a new page. Start the SOW at Paragraph 1.0. A SOW only has three sections. (See MIL-HDBK-245D, Preparation of a Statement of Work (SOW) for additional guidance.)

RECOMMENDED FORMAT FOR THE OFFEROR'S STATEMENT OF WORK (SOW)

1.0 Scope: This section is intended to give a brief overview of the specialty area and should describe why it is being pursued, and what you are trying to accomplish.

1.1 Objective: This section provides an overall concise picture of the work to be accomplished and should include the technology area to be investigated, goals to be achieved and major milestones for the effort. The key elements of this section, however, are task development and deliverables. This section should describe in a clear statement, the anticipated end result or end product of the effort. It must also be consistent with the detailed requirements stated in the 3.0 section.

1.2 Background: This section includes any information, explanations, or constraints that are necessary in order to understand the requirements. It may include relationship to previous, current and future operations. It may also include techniques previously tried and found ineffective.

2.0 - Applicable Documents: The offeror shall identify appropriate documents that are applicable to the effort to be performed. This section shall include a listing of all

documents used as a reference in the technical requirements (Section 3.0) and specify the exact title, revision and date.

3.0 – Task and Technical Requirements:

3.1 The detailed description of tasks, which represent the work to be performed under the contract, are to be considered binding. Thus, it should be developed in an orderly progression and in enough detail to establish the feasibility of accomplishing the overall program goals. The work effort should be segregated into major tasks and identified in separately numbered paragraphs according to a numeric decimal system. Each numbered major task should delineate by subtask the work to be performed. The SOW MUST contain every task to be accomplished. The tasks must be definite, realistic, and clearly stated in performance terms. Use "shall" whenever the work statement expresses a provision that is binding. Use "should" or "may" whenever it is necessary to express a declaration of purpose. Use "will" in cases where no contractor requirement is involved; i.e., power will be supplied by the Government.

NOTE:

- If presentations and meetings are identified in your schedule, include the following paragraph in your SOW: "Conduct presentations and meetings at times and places specified in the Contract Schedule."
- The offeror shall reference and acknowledge in the SOW all specified data items that were attached to the letter requesting a formal proposal.
- The number of proposed systems and solutions that will be pursued and a description of the materials that will be utilized.
- A list of the deliverables (technical data, processes, prototypes, reports, etc.) that will result from the effort plus demonstration of a clear pathway from the research and development effort to the intended deliverables.
- Identification of any potential military, or civilian applications, or both of the product(s), which may be developed, following completion of the proposed contract.
- Any planned collaborative arrangements with other parties (including subcontractors, or consultants, or both) for the effort and identification of responsibilities and contributions of these parties in completing the intended deliverables. If the offeror is an academic institution, details of planned interactions with industry (if applicable), and letters from the industries in which they commit themselves to support the effort, should be provided.
- Any planned interactions with PM SSV required during the performance of proposed contract, to include post-award conference and technical meetings.
- Additional technical information or data.

FIGURE 4. Recommended format for the offeror's Statement of Work (SOW)

Part II – Management (30 page limit)

The management section of the proposal shall include the following for the offeror and any collaborators identified in Part I:

a. Describe the management systems and controls to be utilized by the offeror.

b. Present the Principal Investigator's relevant past experience, accomplishments, and work in this and closely related areas. Provide resumes and relevant past experience for each of the key personnel.

c. Provide the roles and responsibilities of key technical and management personnel.

d. Provide location and a list of equipment that will be used in the proposed effort. Delineate between classified and unclassified facilities.

e. Describe all required information and data with the respective classification level, if known, which shall be provided by the Government to support the proposed work, if any.

f. Describe the rationale for what aspects of the work, if any, need to be protected, at what classification level, and propose a strategy for doing so. Provide the collateral clearance level held, if any, by each team member.

Part III - Cost and Price Section

FAR 15.403-5(b), Instructions for submission of certified cost or pricing data and data other than certified cost or pricing data, allows the Contracting Officer to specify the format of cost or pricing data or data other than certified cost or pricing data. Therefore, each offer shall submit its proposal in a Microsoft Excel format similar to that contained in Cost Proposal Sample.xls attached to this announcement.

a. The cost and price section of each proposal shall identify:

(1) proposed contract-type;

(2) proposed contract line item number (CLIN) structure; and

(3) proposed payment schedule breakdown (if applicable).

b. Each proposal shall contain a budget for each year of support requested and a cumulative budget for the full term of requested support.

c. A signed summary budget page shall be included. The offeror shall title each page with the project name and number each page chronologically starting with the Proposal Summary form. The offeror shall explain clearly why there is a need for each item listed.

d. The itemized budget(s) shall include the following:

(1) Direct Labor: A detailed section including Labor Category, Unburdened Hourly Rates, Hours proposed, and the Total Cost of Labor. Offeror must provide basis of direct labor rates proposed and documentary support. Direct labor rate support should include current W-2s, payroll information, letters of intent or market research.

(2) Other Direct Costs (ODC): A detailed description and rationale for:

(a) Subcontractor Costs – Direct Labor, ODC, and Indirect Rates. With respect to subcontract costs, each prime offeror shall conduct appropriate cost or price analysis for reasonableness and fairness in accordance with FAR 15.404-3, Subcontract Pricing Considerations. if a subcontractor's costs are more than $10,000.00. For subcontracts totaling $10,000 or more, the offeror shall also provide the following specific information:

i. A clear description of the work to be performed.

ii. A detailed cost summary (Direct Labor Costs, Other Direct Costs, Indirect Costs, etc.).

iii. If known, the identification of the proposed subcontractor and an explanation of why and how the subcontractor was selected or will be selected, identification of the type of award to be used (cost reimbursement, fixed price, etc.).

iv. Whether or not the award will be competitive and, if noncompetitive, rationale to justify the absence of competition.

(b) 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.) shall be included. If possible, provide a material list.

(c) Travel – Airfare, lodging, car rental, days, nights, etc. The costs should be in sufficient detail to determine the reasonableness of such costs. Include the following information:

i. Cost of airfare or train ticket (weighted average cost using a last minute booking, two week advance booking, and month in advance booking) and where data was attained from (Travelocity, Expedia, etc.).

(i) Number of days of travel.

(ii) Number of contractors traveling.

(iii) Per Diem.

(3) Indirect Costs (Overhead, General and Administrative, and Other): All Indirect Rates incurred shall be provided within the proposal; this includes General and

Administrative (G&A), Overhead, Fringe, and Fee. Note that the offeror shall support the rates for these costs, like labor rates, with a detailed description. Provide data such as Pool Rate Calculations, Pay Scales, Overhead, Labor Detail, etc. to support all indirect rates. The Government requires this data in order to determine the cost reasonableness of the proposal. All Indirect Rates (Overhead, Fringe, G&A, COM, and Fee) shall be applicable to the proposal, if not, a rate of 0% should be applied. Rationale or support for designated rates (i.e., Defense Contract Audit Agency (DCAA), pool rate, labor description, etc.) are also required to support all data provided by the offeror. Note to Universities: Negotiated rate agreements with the cognizant agency should be included in proposal.

(4) Permanent Equipment: If the offeror requires that the Government provide facilities or equipment, a justification shall be submitted, describing why this property should be furnished by the Government. Offerors shall 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 or more per unit. The offeror shall disclose the basis for the cost of each item of permanent equipment included in the budget, such as:

(a) Vendor Quote – Show name of vendor, number of quotes received, and justification, if intended award is to other than lowest bidder.

(b) Historical Cost – Identify vendor, date of purchase, and whether or not cost represents lowest bid. Include reason(s) for not soliciting current quotes.

(c) Engineering Estimate – Include rationale for quote and reason for not soliciting current quotes. If applicable, the offeror shall disclose the following additional information in the offeror's cost proposal:

(d) The need for fabrication of special test equipment by the awardee for specific research purposes and its cost.

(e) The need to acquire and modify standard equipment to meet specific requirements, including acquisition and modification costs, listed separately.

(f) The need to modify existing equipment to meet specific research requirements, including modification costs. Do not include equipment the organization will purchase with its funds if the offeror will capitalize the equipment for Federal income tax purposes. Proposed permanent equipment purchases during the final year of an award shall be limited and fully justified.

(g) Contracts may convey title to an institution for equipment purchased with project funds. At the discretion of the KO, the contract 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.

(h) It is the policy of the DoD that all commercial and nonprofit contractors provide the equipment needed to support proposed research. In those rare cases where the Government approves specific additional equipment for commercial and nonprofit organizations, such approved cost elements shall be "non-fee-bearing." In addition, the Government precludes commercial contractors from using contract funds to acquire facilities with a unit acquisition cost of $10,000 or less (see FAR 45.303).

(5) Total Contract Cost: Sum of all aforementioned costs

e. If proposing a cost-type contract, all cost data shall be current and complete and in accordance with FAR 15.4, Contract Pricing. Costs proposed shall conform to the following principles and procedures:

Reference table 15-2 at FAR 15.408, Announcement provisions and contract clauses; in order to ensure that this requirement is met the Government is including a sample Excel spreadsheet titled “Cost Proposal Sample.xls” as an attachment to this BAA. Each offeror shall submit its cost proposal in a similar format.

Educational Institutions: OMB Circular A-21 Nonprofit Organizations: 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 nonprofit organizations specifically exempt from the provisions of OMB Circular A- 122, FAR Part 31, Contract Cost Principles and Procedures and DFARS Part 231, contract cost principles and procedures shall apply.

The Government presumes the proposal summited represents an offeror's best efforts to respond to the announcement. The offeror should explain any inconsistency, whether real or apparent, between promised performance, cost and price, in the proposal. For example, if the intended use of new and innovative production techniques is the basis for an abnormally low estimate, the nature of these techniques and their impact on cost/price should be explained; or, if a corporate policy decision has been made to absorb a portion of the estimated cost, that should be stated in the proposal. Any significant inconsistency, if unexplained, raises a fundamental issue of the offeror's understanding of the nature and scope of work required and of its financial ability to perform the contract, and may be grounds for rejection of the proposal. The offeror shall supply the Government with sufficient information to allow the Government to assess the reasonableness of the offeror’s costs and prices.

Part IV – Past Performance Section

The offeror shall submit information for all proposed first-tier subcontractors with whom the offeror is teaming, as well as the offeror.

a. The Offeror shall submit past performance information on any contracts they worked on (as a prime or subcontractor) during the previous three (3) years that are relevant to the efforts required by this announcement. The offeror shall provide the information in Figure 5 for each relevant contract.

- Identify offersor's Role: Prime or Subcontractor
- Dun & Bradstreet Data Universal Numbering System (DUNS)
- Commercial and Government Entity (CAGE) Code
- If from a past Government contract, the contracting activity, address, contracting officer's name, telephone number, and email address
- If from past Government contract, the technical point of contact's name, telephone number, and email address
- Contract Number
- Contract type
- Awarded cost and price
- Final, or projected final, cost and price
- Original delivery schedule
- Final, or projected final, delivery schedule

FIGURE 5. Information pertaining contract work performed in the last three years

b. For each of the contracts described in the past performance section of the offeror's proposal, the offeror shall include a description of the objectives achieved, detailing how the effort is similar to the requirements of this announcement. For any contracts that did not or do not meet the original requirements with regard to original cost and price, schedule, or technical performance, the offeror should provide a brief explanation of the reason(s) for such shortcomings and any demonstrated corrective actions taken to avoid recurrence.

c. Any and all contracts terminated in whole or part during the previous five (5) years, to include those currently in the process of such termination, are considered relevant and the offeror shall provide past performance information for those contracts, including termination type and reasons.

Part V - Subcontracting (if applicable)

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts and to ensure that prime contractors and subcontractors carry out this policy. Offerors seeking an award of greater than $700,000, who submit a contract proposal and includes subcontractors, are required to submit a subcontracting plan in accordance with FAR 19.702, AFARS 5119.704 and Appendix DD and should include this documentation with their proposal. FAR 19.704 provides an outline for the subcontracting plan format.

As submitted under this BAA, the Government will review subcontracting plans for adherence to regulations cited in FAR Part 19 and its supplements, and the required elements of FAR 52.219-9(d) subdivisions (1) through (11). An offeror's refusal to submit a subcontracting plan is grounds for the Government's refusal of the offeror's BAA proposal. The Government will accept Defense Contract Management Agency (DCMA) approved corporate or master subcontracting plans.

A Small Business (SB) Participation Plan is required from all offerors, regardless of the offeror's size status. The offeror's SB Participation Plan shall present the plan's percentages in terms of total dollars of work for each SB category, divided by the total contract value.

The offeror shall identify the extent and nature of participation of SB, Women Owned Small Businesses (WOSB), HUBZone SBs, and Service-Disability Veteran-Owned Small Businesses (SDVOSB) in the performance of the proposed contract. Participation includes subcontractors or material suppliers to the prime contractor or subcontractors. The offeror's own participation as a SB, WOSB, HUBZone SB or SDVOSB shall be identified and included in the percentages.

Part VI - Contractor Representations and Certifications

Contractors are encouraged to complete the annual representations and certificates electronically on the SAM website at https://www.sam.gov/portal/public/SAM/ and should include their Dun & Bradstreet Data Universal Numbering System (DUNS) number in part VI of their proposal and that they have completed their online certifications in SAM. If a contractor does regular business with DoD, or intends to start, the Government strongly recommends they complete the electronic certifications at SAM to ease their business practices with the Government.

NOTE: The applicable North American Industry Classification System (NAICS) code for the majority of work submitted under this BAA will be NAICS Code 541712 – Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology) with a size standard of 500 employees. If the offeror feels a different NAICS applies then provision 52.219-1 may be altered by the offeror accordingly. Once a proposal has been submitted to the contracting office the contractor is to have no further contact with the technical POC until the time a contract award exists. Inquiries regarding status of the evaluation may be addressed to the administrative POC indicated in Section IV, Scientific and Technical Areas of Interest.

Step 3.D: Proposal Information

The offeror shall identify any technical data or computer software that the offeror intends to provide to the Government with restrictions on use, release, or disclosure, as prescribed in DFARS 252.227-7017. As indicated in DFARS 252.227-7017(e), an Offeror's failure to submit, complete, or sign the aforementioned technical data or software rights restrictions with its offer may render the offer ineligible for award. It is the

intent of the Government to treat the information contained in the proposal in accordance with DFARS 252.227-7016. Offerors are cautioned, however, that portions of the proposal may be subject to release under terms of the Freedom of Information Act, 5 U.S.C. 552 as amended.

4.B. Evaluation Approach for Proposals

Individual reviewers will primarily review Part I (Technical Section). Reviewers may deem Part II (Management) and Part III (Cost/Price) to be beyond the necessary scope of the review if the review of the technical section found the proposal to lack sufficient technical merit. The Government will complete the evaluation of proposals through an independent technical review of each using the following criteria, which are listed in descending order of relative importance:

a. Quality and Technical Merit: Sound technical and managerial approach to the proposed work, including a demonstrated understanding of the critical technology challenges required to address the desired system performance parameters and a strategy to address those issues, including a risk mitigation strategy;

b. Impact of the Project: Potential of the concept to address the desired system attributes, performance parameters, and affordability.

c. Capabilities and Experience: Capability to perform proposed work and history of performance of the Team and Team members in developing related technologies and systems.

4.C. Disposition of Proposals

Non-compliance with instructions in Section I (Proposal Preparation and Submission) may preclude offeror from receiving an award. The Government will evaluate each proposal based on the merit and relevance of the specific proposal as it relates to the Government's program requirements or needs, rather than against other proposals. As such, the Government will not offer debriefings.

Proposals not considered having sufficient technical merit or relevance to the Government's needs or those proposals in areas for which funds are not expected to be available may be rejected without further review.

For those proposals that are acceptable, the Government will provide notification within ninety (90) days after receipt of proposal. The offeror will also be notified as to if and when funding is expected to be available for the project. The offeror is cautioned that the availability of funds as of the date of such notice is no guarantee that funds will be available at any given later date.

The Government will select offers based upon the outcome of proposal evaluation and the availability and source of funds. Not all highly rated proposals will result in a

contract award. The Government may elect not to award a contract for every highly rated proposal for each topic area or specific interest area. The Government may award more than one contract in a given topic area or specific interest area or the Government may not award a contract at all in a given topical area or specific interest area.

4.D. Antiterrorism and Operations Security Requirements

Upon contract award, the contractor shall implement a verification process, whether through background checks or other similar processes, that enables the U.S. Government to attest to the trustworthiness of the workforce and provide a written response explaining how the verification process was completed, within 45 days of contract award. Further guidance will be provided by the Government upon request.

Section V: Award Administration Information

5.A. Government Furnished Property (GFP)

Government Furnished Property (GFP), as defined in FAR Part 45, may be available for contractor use during the performance of a given contract awarded against this BAA. The offeror should clearly request in its proposal what, if anything, it desires as GFP for the given project. The Government recommends that a section in the technical proposal be set aside to summarize the GFP requirements.
The offeror may request, for incorporation in the contract, a GFP delivery schedule not based specifically on the date of contract award.

Any property furnished to, and accepted by, the Government under a resultant contract, and subsequently returned to the contractor for any reason, shall be regarded as Government furnished property.

Any facilities, including rooms, desks, etc., provided to a contractor by the Government for the performance of any portion of a contract, is considered to be GFP, and if needed should be specifically requested for the applicable time frames in the offeror's proposal.

5.B. Type of Contract

The ACC-APG has the authority to award procurement contracts and OTAs. A Procurement Contract is 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. Offerors should familiarize themselves with this instrument and the applicable regulations before submitting a proposal.

Contract type may vary according to the degree and timing of the responsibility assumed by the contractor for the cost of performance and the amount and nature of

the profit incentive offered to the contractor for achieving or exceeding specific standards and goals. See FAR Subpart 16.101(a).

Offerors shall propose the type(s) of contract (see FAR Part 16) they feel is (are) best suited to the proposed effort. The offeror shall note that, in accordance with FAR Subpart 16.301-3, in order to receive a cost type contract, their accounting system shall be adequate for determining costs on a Government contract. DCMA makes this determination based on information the DCAA assigned to the offeror's business location and the determination may take thirty (30) to forty (40) days for completion. The adequacy of a contractor's accounting system is determined in a review performed by the cognizant Defense Contract Audit Agency. An offeror's suggestion regarding suitable contract type does not obligate the Government to employ the suggested contract type. The selection of the contract type is subject to negotiation.

5.C. Preparation Costs

The receipt and review of concept papers and proposals as described by the Government in this BAA is entirely for the purpose of technical evaluation and in no way constitutes an agreement to enter into contractual or other relationships. Preparation costs are not reimbursable.

5.D. Availability of Funds

As of the date of release of this BAA, there are no funds committed for any project. Until such time as funds are released to the Contracting Officer, no contract can, or will, be made for an otherwise acceptable proposal.

The Government has the option to incrementally fund cost-reimbursement contracts awarded from this BAA as provided by FAR 52.232-22 entitled "Limitation of Funds." When the contractor has fully expended the funds included in the cost-reimbursement contract, there is no further obligation to continue performance or incur costs, but when the Government provides additional funds, the contractor must continue performance as long as the funds are available until completion of the specified work as stated in FAR 52.232-20 entitled "Limitation of Cost."

5.E. FAR Information and References

All FAR information and references, plus other related acquisition information, is available on the Internet at any of the addresses shown in Figure 6.

Internet Location for Information and References
http://www.acquisition.gov/?q=browsefar

http://farsite.hill.af.mil/VFFARa.htm http://web2.deskbook.osd.mil/default.asp

FIGURE 6. Information and references

5.F. Technical Reports.

5.F.1. Monthly Status Reports

The contractor shall submit a monthly status report after the end of each performance month and a final technical report at the end of the contract. The monthly reports shall include both a technical and a financial section. The reports are due no later than ten (10) days after the last day of each month during the period of performance for the contract. The reports shall be in a format compatible with Microsoft Word or Adobe Reader DC. The contractor shall submit the reports electronically via email as directed by the Contracting Officer and to the following minimum distribution list: the assigned Government Technical POC, the Contract Officer Representative (COR), and **Jakob A. Hopping**, PdM SPE Chief Systems Engineer at ~~jakob.a.hopping.civ@mail.mil~~ jakob.a.hopping.civ@army.mil or **Suzanne Horner**, PdM SCIE Chief Systems Engineer at ~~suzanne.horner2.civ@mail.mil~~ suzanne.horner2.civ@army.mil.

a. The technical section of the monthly report should include, at a minimum:

   (1) Work completed during the month against work scheduled in SOW

   (2) Work scheduled for the next month

   (3) Technical accomplishments

   (4) Data, analyses, etc.

   (5) Current issues that can negatively impact the project (e.g., work behind schedule)

b. The financial portion of the report should include (in table format) see Figure 7.

   (1) Invoice or voucher number and amount

   (2) Date invoice was submitted to Wide Area Work Flow

   (3) Date invoice was paid

   (4) Running total of paid invoices

   (5) Any interest paid by Government

Voucher No.	Voucher Amount	Date Submitted to WAWF	Date Voucher Was Paid
Total Paid	$		

FIGURE 7. Table format for financial report

5.F.2 Final Report

The final technical report shall document the details of the work conducted during the contract to include the work performed, accomplishment, results, conclusions, and recommendations for future work and shall be submitted within 30 days after the period of performance.

5.G. Invoicing and Payments

All payments by the Government under contracts awarded from this BAA will be made through Wide Area Work Flow (WAWF) in accordance with DoD DFARS clause 252.232.7003, which will be included in any resulting contract from this BAA. This application allows DoD vendors to submit and track invoices and Receipt or Acceptance (RA) documents electronically. The contractor shall register to use WAWF through the Procurement Integrated Enterprise Environment portal at https://piee.eb.mil/. Offerors are encouraged to view this website and familiarize themselves with the invoicing process. The Government will provide more specific instructions on the Procurement Integrated Enterprise Environment portal and the use of WAWF in any BAA award document.

5.H. Restricted Data on Proposals

As stated in FAR clause #52.215-1, Instructions to Offerors - Competitive Acquisition, the following guidance is provided for offerors desiring to restrict any information in their concept paper or proposal:

Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for the purpose of evaluation, shall use the wording provided in Figure 8 in the offeror's proposal and data sheets as shown.

1. Mark the title page with the following legend:
This 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, a contract is awarded 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 contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets ***[insert numbers or other identification of sheets]***; and
2. Mark each sheet of data it wishes 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.

FIGURE 8. Notice to the Government concerning non-disclosure of data

5.I. Intellectual Property

Definition - Intellectual property is defined to include, but is not limited to, inventions, discoveries, reports, technical data, software, software documentation, computer codes, trademarks, copyrights, and trade secrets.

5.I.1. Noncommercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a procurement contract, agreement, or purchase order, be issued under the FAR or DFARs, or otherwise, shall identify all noncommercial technical data and noncommercial computer software that it plans to generate, develop, or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and shall assert the specific restrictions on those deliverables. Offerors shall follow the content and formatting requirements under DFARS 252.227-7017 for this stated purpose. As indicated in DFARS 252.227-7017(e), an Offeror's failure to submit, complete, or sign the aforementioned technical data or software rights restrictions with its offer may render the offer ineligible for award. If no restrictions are intended, then the Offeror should state "NONE" on the list. Figure 9 shows a sample list for complying with this request.

NONCOMMERCIAL			
Technical Data or Computer Software To be Furnished with Restrictions	Basis for Assertions	Asserted Rights Category	Name of Person Asserting Restrictions
(List)	(List)	(List)	(List)

FIGURE 9. Noncommercial Items (Technical Data and Computer Software)

5.I.2. Commercial Items (Technical Data and Computer Software)

Offerors responding to this BAA requesting a procurement contract be issued under the FAR or DFARS, shall identify all commercial technical data and commercial computer software that may be embedded in any noncommercial technical data or computer

software deliverable contemplated under the research effort on the list. If no deliverable commercial technical data/software is intended, then the Offeror should state “NONE” on the list.

Figure 10 shows a sample list for complying with this request.

COMMERCIAL			
Technical Data or Computer Software To be Furnished with Restrictions	Basis for Assertions	Asserted Rights Category	Name of Person Asserting Restrictions
(List)	(List)	(List)	(List)

FIGURE 10. Embedded commercial Items (Technical Data and Computer Software)

5.I.3. All Offerors – Patents

Offerors responding to this BAA shall include documentation proving ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be used in the research effort addressed in the proposal being submitted. The offeror shall provide the patent number (or serial number), inventor name(s), assignee name(s) (if any), patent issue date (or the application filing date), title and summary of the invention, together with proof of ownership (or license right), such as a copy of the assignment (or license) document.

If a patent application, provisional or non-provisional, has been filed for an invention that the offeror’s research effort will use , but the application has not yet been made publicly available, the offeror shall provide the serial number, inventor name(s), assignee names (if any), filing date, title and summary of the invention, together with proof of ownership (or license right), such as a copy of the assignment (or license) document.

5.I.4. Patent Rights in Subject Inventions

The rights and obligations regarding any subject inventions developed during the performance of a contract, agreement, purchase order, or otherwise, that is issued hereunder, shall be as prescribed in FAR 52.227-11, and DFARS 252.227-7038 and 252.227-7039, as applicable.

5.I.5. All Offerors – Intellectual Property Representations

Offerors shall provide a good faith representation that the offeror either owns or possesses appropriate licensing rights to all other intellectual property (IP) that will be used in the research effort addressed in the proposal being submitted.

Additionally, offerors shall provide a short summary, for each such IP in which an offeror asserts that the Government rights will be restricted, that describes the nature of the

restriction and the intended use of the intellectual property in the conduct of the proposed research and/or development
.

5.J. Protection of Human Subjects

Proposals selected for funding are required to comply with provisions of the Common rule (32 CFR 219) on the protection of human subjects in research and the Department of Defense Directive 3216.2. All proposals that involve the use of human subjects are required to include documentation of their ability to follow Federal guidelines for the protection of human subjects. This includes, but is not limited to, protocol approval mechanisms, approved Institutional Review Boards, and Federal Wide Assurances. These requirements are based on the expected human use issues sometime during the entire length of the proposed effort.
NOTE: All contracts with organizations conducting human research will include the following clause:

CONTRACT CLAUSE FOR USE OF HUMAN SUBJECTS

"Research at funded institutions using human subjects may not begin until the U.S. Army Surgeon General's Human Subjects Research Review Board (HSRRB) approves the protocol. Written approval to begin research or subcontract for the use of human subjects under the applicable protocol proposed for this award will be issued from the US Army Medical Research and Materiel Command, HSRRB, under separate letter to the funded institution and the Principal Investigator. A copy of this approval will be provided to the US Army Natick Soldier Research Development & Engineering Center for the official file. Non-compliance with any provision of this clause may result in withholding of funds and/or the termination of the award."

5.K. Animal Use

DoD Directive 3216.1, dated 17 April 1995, provides policy and requirements for the use of animals in DOD-funded research. The DoD definition of animal is any live nonhuman vertebrate. All proposals that involve the use of animals shall address DoD compliance with Directive 3216.1.

These Government provisions include rules on animal acquisition, transport, care, handling, and use in 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.

5.L. International Traffic in Arms Regulation (ITAR)

The offeror and their subcontractors shall comply with the ITAR, 22 CFR Parts 120 through 130. Information regarding ITAR is available at http://www.dtic.mil/mctl.

Section VI: Agency Contacts

Offerors shall submit concept papers to the POCs shown in Figure 11.

Technical Points of Contact:
Jakob A Hopping, 571.643.1093, ~~jakob.a.hopping.civ@mail.mil~~ jakob.a.hopping.civ@army.mil Suzanne Horner, 571.405.1501, ~~suzanne.horner2.civ@mail.mil~~ suzanne.horner2.civ@army.mil
Administrative Point of Contact:
Contract Specialist- ~~Thomas Cohick, 410-306-2671, thomas.j.cohick.civ@mail.mil~~ Lieselotte Pattee, 410-306-2744, lieselotte.h.pattee.civ@army.mil Contracting Officer- Theresa Quick, 410-278-3697, ~~theresa.s.quick.civ@mail.mil~~ theresa.s.quick.civ@army.mil

FIGURE 11. Points of Contact for the submission of concept papers

Export Control. Some of the technical approaches for topics within this announcement may be subject to export control restrictions under existing export control laws, and / or required to be conducted as classified projects as outlined in the National Industrial Security Program Operating Manual (NISPOM) and its supplements. Offerors submitting proposals pertaining to such technologies are encouraged to contact their local Defense Investigative Service (DIS) Industrial Security representative. Communication with the Technical POC prior to submission of a formal proposal is essential.

Shipping Instructions. The offeror shall provide advanced shipping notification and tracking number for all deliverables. The offeror shall send this notification via email to the Government Technical POC or COR and the POC listed in Figure 12 no later than 24 hours prior to shipping.

[TBD]NAME, **[TBD]TITLE**

[TBD]EMAIL

Physical Shipping Address (for prototype delivery):

Project Manager Soldier Survivability (PM SSV), Technical Management Directorate (TMD)
9102 Iry Road, Building 1971
Fort Belvoir, VA 22060

Ship to address (for contracting purposes only – not to be used for shipping):
DODAAC: W5K9Z9

Project Manager Soldier Survivability (PM SSV), Technical Management Directorate (TMD)
10170 Beach Road, Bldg 325
Fort Belvoir, VA 22060-5800

*Note: All prototypes should be labeled with unique serial numbers and contract number.

FIGURE 12. Shipping Instructions

Packaging Instructions. The Contractor shall include the information in Figure 13 on the outside of each delivered package.

ATTN: Government Technical POC or COR
[TBD] (the assigned contract number)
Contractor Name

Inspection and Acceptance.
INSPECTION: Destination
ACCEPTANCE: Destination

FIGURE 13. Packaging Instructions and Destinations

Appendixes

Appendix 1: Exhibits

Exhibit 1: Concept Paper Sample

Concept paper

Title of Concept paper

1.0 Technical Explanation

A brief technical explanation of the effort that addresses the effort's objective, goals and deliverables, proposed approach to achieve these goals and deliverables, performance schedule, and military relevancy.

2.0 Address and Key Personnel

The name and address of the performing organization, the name of the principal investigator including a brief description (one page) of key personnel, highlighting their qualifications and experience.

3.0 Past Performance

Any past performance the offeror has had with similar research efforts.

4.0 Cost Estimate

A brief cost estimate revealing all the component parts of the proposal, including hours, material costs, travel, etc.

Exhibit 2: Statement of Work Sample

Reference 1: Statement of Work Sample

Statement of Work

Title of Proposal

1.0 Scope. The goal of this work is to…

1.1 Background. (Background information is helpful in clarifying the need for this acquisition)

1.2 Objective. The objective of this research and development work is…

2.0 Applicable Documents. (If any..e.g., PD).

3.0 Requirements. The contractor shall furnish the necessary resources to perform the following work.

3.1 Base Year Tasks. The contractor shall perform the following tasks:

3.1.1 Task 1

3.1.2 Task 2, etc.

3.2 Base Year Deliverables and Schedule.

3.2.1 Base year deliverables:

- Twelve monthly progress reports
- Final report containing all results conclusions and suggestions for future work
- Briefings e.g., quarterly
- Test items (quantity, description)
-

3.2.2 Schedule Base Year

Schedule	**Month After Contract Award**											
Program Tasks	1	2	3	4	5	6	7	8	9	10	11	12
Kick Off Meeting												
Task 1:												
Task 2:												
Task 3:												
….												
….												

….												
….												
Monthly / Final Report												

3.3 Base year options:

3.3.1 Additional items that the Government can purchase (e.g., additional helmets, plates, etc.)

3.4 Option Year 1 Tasks. The contractor shall perform the following tasks:

3.4.1 Task 1

3.4.2 Task 2, etc.

3.5 Option Year 1 Deliverables and Schedule.

3.5.1 Option Year 1 deliverables:

- Twelve monthly progress reports
- Final report containing all results conclusions and suggestions for future work
- Briefings e.g., quarterly
- Test items (quantity, description)

3.5.2 Option Year 1 Schedule

Schedule	**Month After Contract Award**											
Program Tasks	1	2	3	4	5	6	7	8	9	10	11	12
Kick Off Meeting												
Task 1:												
Task 2:												
Task 3:												
….												
….												
….												
….												
Monthly / Final Report												

Note: Follow this format for additional option years, or optional items.