

BROAD AGENCY ANNOUNCEMENT W9113M-18-R-BAA1

**“NEW AND INNOVATIVE IDEAS FOR
AIR, SPACE AND MISSILE DEFENSE TECHNOLOGY”**

U.S. ARMY SPACE AND MISSILE DEFENSE COMMAND/
ARMY FORCES STRATEGIC COMMAND (USASMDC/ARSTRAT)

OPENING DATE: May 3, 2018

EXPIRATION DATE: May 2, 2019

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1.0 General

1.1 With the doctrinal impacts of a Multi-Domain Battlefield and the technology focus of Third Offset, it is crucial that the Army has a mechanism to quickly leverage technology advancements. Broad Agency Announcements (BAAs) are a vital aspect of addressing these changes in doctrine with a focus on technology.

1.2 This Broad Agency Announcement (BAA) is a competitive solicitation procedure used to obtain white papers and/or proposals for basic and applied research and that part of development not related to the development of a specific system or hardware procurement (reference Federal Acquisition Regulation (FAR) 6.102(d)(2), Use of Other Competitive Procedures). Procedures for the use of a BAA are prescribed in FAR 35.016, “Broad Agency Announcement.” The Competition in Contracting Act (CICA) of 1984 issued as Public Law 98-369 authorizes use of "general solicitations" or BAAs. The use of general solicitations is limited by CICA to "basic research proposals" and contracts awarded under these general solicitations meet the "full and open" competition requirements of CICA.

1.3 BAA W9113M-18-R-BAA1 supersedes the previous USASMDC/ARSTRAT BAA W9113M-017-R-BAA1 titled “New and Innovative Ideas for Space and Missile Defense Technology.”

2.0 Organizational Overview. The U.S. Army Space and Missile Defense Command/ Army Forces Strategic Command (USASMDC/ARSTRAT) has an interest in receiving research, development, and technology maturation white papers and/or proposals with technical, management, and cost presentations. White papers and/or proposals submitted should include new ideas for advanced and innovative concepts as well as prototype hardware and software for current and emerging space and missile defense science and technology relevant to the areas of interest provided in paragraph 4.2 of this announcement. The USASMDC/ARSTRAT conducts space, directed energy, missile defense, cruise missile defense and related technology research and development for the Army, Missile Defense Agency, Joint Improvised Explosive Device Defeat Organization, Office of the Secretary of Defense High Energy Laser Joint Technology Office, and other defense-related Government agencies. Furthermore, USASMDC/ARSTRAT plans and executes missile defense test and evaluation programs and related analysis and is interested in pursuing opportunities for technical cooperation and partnerships with other Government organizations, academia, and industry.

3.0 Invitation to Submit White Papers and/or Proposals

3.1 USASMDC/ARSTRAT is interested in receiving white papers and/or proposals for the basic and applied research efforts described under this BAA. This announcement is an expression of interest only and does not commit the Government to make any award or to pay for any response preparation costs. The cost of white paper and/or proposal preparation for response to a BAA is not considered an allowable direct charge to any resultant contract or any other contract; however, it may be an allowable expense to the normal bid and proposal indirect cost specified in FAR 31.205-18.

3.2 Certain white papers and/or proposals are not appropriate under this BAA and are not desired. For example, new and innovative ideas not falling under the technology areas of interest publicized in paragraph 4.2 of this BAA may be considered Unsolicited Proposals in accordance with FAR 15.6. Another example may include engineering and technical service white papers and/or proposals are not appropriate and usually involve applying effort toward a broadly identified task usually on a level-of-effort basis, rather than delivery of an end item such as a final report or demonstrating a new technology or applied research. This BAA seeks white papers and/or proposals for scientific study and experimentation directed toward advancing the state-of-the-art or increasing knowledge or understanding for basic and applied research and that part of development not related to the maturation of a specific system or hardware procurement. White papers and/or proposals related to the development of a specific system or to satisfy specific hardware/software requirements are also not appropriate. A determination of appropriateness will be made as part of the BAA submission screening process.

3.3 Subject to availability of funds, awards under this BAA will result in a contract using the North American Industry Classification System (NAICS) code of 541715 -- Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) which includes evaluations and simulation, and other services requiring thorough knowledge of complete missiles and space craft, with a small business (SB) size standard of 1,000 employees. Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and FAR 15.207. Cognizant Government experts will perform the review of white papers and the evaluation of technical proposals and cost proposals.

3.4 This BAA should not be construed as a commitment or authorization to incur costs in anticipation of a contract; the Government is not bound to make any awards under this announcement. Funds may not be currently available for the topics under this BAA and no contract award will be made until appropriated funds are available.

3.5 White papers and/or proposals may be submitted by any U.S. Non-Governmental entity, including commercial firms, institutions of higher education with degree-granting programs in science or engineering (universities), or by consortia led by such concerns, research institutions and non-profit organizations.

3.6 In accordance with FAR 35.004, the USASMDC/ARSTRAT encourages participation by U.S. Non-Government entities, Commercial firms, Institutions of higher education/degree granting programs, Non-Government, commercial, university consortia, Small Businesses (SB), Small Disadvantaged Business (SDB), Veteran-Owned Small Business (VOSB), Service-Disabled Veteran-Owned Small Business (SDVOSB), Woman-Owned Small Business (WOSB), Economically Disadvantaged Woman-Owned Small Business (EDWOSB), Historically Underutilized Business Zone (HUBZone) small business, Historically Black Colleges and Universities (HBCU), and Minority Institutions (MI). However, no part of this BAA is specifically reserved for these entities.

3.7 Interested parties should be alert for any BAA amendments that may be published.

4.0 Technology Areas of Interest.

4.1 Expected technology white papers and/or proposal areas of interest reflect USASMDC/ARSTRAT emphasis for Fiscal Years (FY) 2018 and 2019, specifically in the areas as follows: Tactically Responsive Space; Space Superiority; Integrated Air and Missile Defense/Homeland Defense; Directed Energy (DE); High Altitude (HA); Cybersecurity; Positioning, Navigation, Timing (PNT)/Navigational Warfare (NAVWAR); Global Satellite Communications (SATCOM); and Test, Lethality, and Survivability.

4.2 The areas of interest include possible subcategories of interest, as listed below. Submission of white papers and/or proposals for categories other than the following will not carry the same emphasis.

a. **Tactically Responsive Space:**

Small SAT /NANO SAT survivability against environmental and man-made kinetic/non-kinetic events (electromagnetic events, lasers, and high power microwaves)

Modular bus development that enhances tactically responsive space

Small SAT synchronization network for SAT to SAT communications/control

Comprehensive ground testing capability for tactical satellites

Command and Control of large constellations of small tactical satellites

Ability to tactically replenish, reconstitute, and refresh satellites and satellite constellations

New antenna designs for space systems

b. **Space Superiority:**

Enhanced methods to conduct space control operations

Small SAT threat detection sensors

Smart analytics for mission command

c. **Integrated Air and Missile Defense/Homeland Defense:**

Early threat detection, identification and tracking of hypersonic weapons, ballistic/cruise missiles

Capabilities that enable extended threat detection tracking and target handoff for hypersonic weapons, missiles, and/or air threats

Improved joint detection system communications network

Joint service weapon-to-target-assignment management

Mobile strategic threat sensor capability

Lethality options to address hypersonic weapons

Hypersonic test vehicles and materials

360 degree elevated surveillance radar technology and radar data processing techniques

Counter Unmanned Aerial Systems (UAS/Swarm technologies and techniques

New advanced low cost interceptor technologies

d. **Directed Energy (DE):**

Thermal management materials or procedures for high energy laser weapons

More efficient/effective beam control & direction of DE weapons

Improved power source/storage capability for DE weapons

Target acquisition, tracking, and handoff of DE weapons

Counter battery capability for DE weapons

Compact, efficient, electrically driven high power laser sources

System vulnerability assessment of weapon systems

Capability to detect threat laser systems

High Power Microwave (HPM), High Power Radio Frequency (HPRF) technology and applications

e. **High Altitude (HA):**

Persistent high altitude platforms for capability augmentation (PNT, COMMS, ISR, EO, etc.)

Mobile ground control systems for HA networks

Autonomously controlled self-healing networks

High altitude platform technology and materials

f. **Cyber Technologies:**

Computing advancements that support CYBER security to include quantum computing

Network intrusion detection & isolation

Dedicated deployable self-healing networks

Common operating picture for networks

Operational risk management capability

Key terrain for cyber

g. **PNT/NAVWAR:**

Better capability to characterize the PNT environment

Provide assured PNT

Better capability to deny PNT to our adversaries

h. **Global SATCOM:**

Innovative ground management operations infrastructure

Improved spectrum management capabilities

SATCOM jamming, EMI, and geolocation capabilities

i. **Test, Lethality, and Survivability:**

Low cost targets for Integrated Air and Missile Defense

Low cost means of telemetry, tracking, and kill assessment, to include AMD test technologies

Test methods, modeling, and technology for lethality, penetration, susceptibility, and survivability characterization and technologies for advanced kinetic and directed energy weapons

Robust means and methods to reduce susceptibility and counter advanced kinetic and directed energy weapons

j. Other air, space, or missile defense Initiatives not categorized above

5.0 Research. Research is not anticipated to be fundamental in nature as defined in National Security Decision Directive (NSDD) 189. For purposes of this BAA, research is defined as basic and applied research in science and engineering. The results of this research and industrial development, design, production, and product utilization are ordinarily restricted for proprietary or national security reasons.

5.1 Basic Research is defined as the systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. Program elements in this category involve pre-Milestone 0 efforts. Explanation: Basic research includes all effort of scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It provides farsighted, high payoff research that provides the basis for technological progress. It forms a part of the base for: (a) subsequent applied research and advanced technology developments in Defense-related technologies, and (b) new and improved military functional capabilities in areas such as communications, detection, tracking, surveillance, propulsion, mobility, guidance and control, navigation, energy conversion, materials and structures, and personnel support.

5.2 Applied Research is defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met. It is a systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements. Explanation: This activity translates promising basic research into solutions for broadly

defined military needs, short of development projects. This type of effort may vary from systematic mission-directed research beyond that in Basic Research to sophisticated bread-board hardware, study, programming and planning efforts that establish the initial feasibility and practicality of proposed solutions to technological challenges. It includes studies, investigations, and non-system specific technology efforts. The dominant characteristic of this category of effort is that it be pointed toward specific military needs with a view toward developing and evaluating the feasibility and practicability of proposed solutions and determining their parameters. Applied Research precedes the system specific research described in Department of Defense Directive (DoDD) 5000.1. Program control of the Applied Research program element will normally be exercised by general level of effort. Program elements in this category involve pre-Milestone 0 efforts.

6.0 Award Considerations. The selection of proposals for contract award will be based on an evaluation of proposals submitted in response to the BAA. The major purpose of the evaluation will be to determine the relative merit of the proposed technology and the feasibility of the technical approach of each proposal. Business and contractual aspects, including proposed cost and cost realism, will also be considered as part of the evaluation. Selection of proposals for award will be based on the potential benefits to the Government weighed against the cost of the proposals, in view of the availability of funds. The Government also reserves the right to request revisions to contractor proposals and statements of work including requests for clarification, risk mitigation plans, changes to proposed period of performance, Contract Data Requirements List (CDRL) requirements or other changes as necessary to better align with the USASMDC/ARSTRAT mission. This BAA constitutes the solicitation and this announcement will become effective upon publication and will remain open for one year from date of publication.

7.0 White Paper and Proposal Preparation.

7.1 In order to streamline the proposal process and to assist offerors in determining whether to incur the cost of generating a formal BAA proposal, it is requested that offerors first submit a white paper for preliminary consideration. Offerors are encouraged, but are not required, to submit white papers, nor are they precluded by the Government's advice on a white paper from submitting a formal proposal. White papers will be reviewed for applicability and potential value to SMDC/ARSTRAT missions. White papers will not be returned to the offeror.

7.2 The purpose of the white paper is to preclude unwarranted effort on the part of an offeror whose proposed initiative is not of interest to USASMDC/ARSTRAT.

7.3 White Papers are limited to no more than 5 pages on 8.5" x 11" paper that contains any printed text or graphics (excluding page numbers, and business names and proprietary or restricted disclosure markings in headers and footers), and both sides of paper (head-to-head) shall be used. The font shall be Times New Roman 10 point font and margins of not less than one inch (1") on both sides, and top and bottom of pages.

Headers and/or footers may be included in the margin parameters. Single line spacing shall be used for all paragraphs. Except as authorized by this announcement, all white paper pages shall be presented in portrait page layout orientation. Charts, graphs, matrices, tables, and similar depictions (including spreadsheets) shall be clearly legible and presented in Times New Roman 10 point font; portrait or landscape page layout orientation may be used as well as 11" x 17" paper. (Note: If an 11" x 17" page is provided and is printed on both sides and the printed page is folded, then this shall count as four pages). All electronic data must be virus free. All white paper parts/sections shall be submitted in Adobe Acrobat® 7.0 or later using Optical Character Recognition to allow the Government to search documents. Do not submit "zipped" files. If files contain links, the links must be intact and maintained through all revisions. Files shall not be read/write/password protected (i.e., must be unlocked, non-password protected, and/or unprotected).

7.4 The white paper should capture the proposed technical concept, together with its rationale and objectives, methodology, the expected results, and its contribution to USASMDC/ARSTRAT and should conceptualize a rough schedule at a "top level". Submit one White Paper per Technology Category, clearly identifying both the Technology Category, and if applicable, all subcategories cited in the BAA under that Technology Area. White papers may be submitted at any time after issuance of this BAA through the expiration date. After review of this white paper, the Government will indicate whether the subject matter technology described is of interest to the USASMDC/ARSTRAT and will determine whether a formal proposal would be likely to succeed. Offerors of those white papers found to be of interest and consistent with the intent of the BAA will be sent a letter Request for Proposal (RFP) to submit a formal technical and cost proposal. An RFP does not assure an offeror of a subsequent contract award.

7.5 The Government anticipates making multiple awards subject to availability of funds. Issuance of this BAA does not obligate the Government to pay any proposal preparation costs. Offerors that include data in their proposals which they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes by USASMDC/ARSTRAT, shall be specifically identified in the summary white paper or proposal and marked in accordance with FAR 52.215-1. If a white paper is selected, the contracting officer will generally notify offerors within 4 months of white paper receipt if a full proposal is required. White papers not selected for full proposal submission or proposals not selected for immediate funding will be disposed/destroyed in a manner that protects proprietary data.

7.6 For synergy within the DoD and Redstone Arsenal communities, SMDC/ARSTRAT intends to potentially share the white papers for research, development, and technologies with other organizations. This will allow for a broader dissemination and more effective utilization of resources. Mechanisms are in place to afford proprietary protection. All white papers shall indicate acknowledgement of SMDC/ARSTRAT intent to share concepts and technology by stating one of the following:

- a) Release to DoD organizations
- b) Release only to DoD organizations on Redstone Arsenal
- c) Release to all agencies/organizations on Redstone Arsenal
- d) Do not share or release

7.7 Unclassified white papers shall be submitted via email to the contracting officer, James P. Kenney, james.p.kenney.civ@mail.mil and the contract specialist, Jan P. Burke, jan.p.burke.civ@mail.mil. Classified responses (up to Secret collateral) shall be provided on a CD/DVD and mailed to the contracting officer. The response must be appropriately marked, sealed, and mailed in accordance with classified material handling procedures. The classified mailing address is USASMDC/ARSTRAT, P.O. Box 1500, Huntsville, AL 35807-3801. The outer envelope should be addressed to the attention of SMDM-IM (Document Control) and the inner envelope should be addressed to the attention of ACC-RSA, CCAM-CAA-B (James P. Kenney). Classification does not in any way eliminate the offerors' requirements to comply with all instructions in this BAA.

8.0 Proposal Instructions. Proposals shall include the basic effort and options (if applicable). All proposals should clearly indicate limitations on the disclosure of their contents. In presenting the proposal material, prospective offerors are advised that the quality of the information is significantly more important than the quantity. Therefore, offerors are requested to confine their submissions to essential matters, providing sufficient information to define their offer and establish an adequate basis for the Government to conduct its evaluation. Proposals shall consist of two volumes. Volume I includes the Technical Proposal and Management Approach. Volume II is the Cost Proposal. For purposes of this proposal, a page is defined as one side of standard 8 ½" x 11" paper that contains any printed text or graphics (excluding page numbers, business names, and proprietary or restricted disclosure markings in headers and footers). Both sides of paper (head-to-head) shall be used. The font shall be Times New Roman 10 point font and margins of not less than one inch (1") on both sides, and top and bottom of pages. Headers and/or footers may be included in the margin parameters. Single line spacing shall be used for all paragraphs. Except as authorized by this announcement, all proposal pages shall be presented in portrait page layout orientation. Charts, graphs, matrices, tables, and similar depictions (including spreadsheets) shall be clearly legible and presented in Times New Roman 10 point font; portrait or landscape page layout orientation may be used as well as 11" x 17" paper. (Note: If an 11" x 17" page is provided and is printed on both sides and the printed page is folded, then this shall count as 4 pages. 11" x 17" foldouts in the cost/price volume are excluded from the page limitation). All electronic data must be virus free. All proposal parts/sections, with the exception of cost/price, shall be submitted in Adobe Acrobat® 7.0 or later using Optical Character Recognition to allow evaluators to search documents. The cost/price proposal section shall be submitted in the Microsoft (MS) Office Excel spreadsheet format provided by the Government. Times New Roman 10 point font shall be used. Offerors shall not "hard code" spreadsheet data if the resulting data is based on a formula. Offerors shall include all formulas in the proposed spreadsheets and include any notes deemed necessary to add clarity to the

spreadsheets. Spreadsheets shall include the roll up summary at the contract line item number (CLIN) level and also a total roll up summary sheet of all of the CLINs. Do not submit “zipped” files. If files contain links, the links must be intact and maintained through all revisions. Files shall not be read/write/password protected (i.e., must be unlocked, non-password protected, and/or unprotected).

8.1 Volume I, Technical Proposal and Management Approach. This volume shall include a cover sheet and have three sections: Section I (Technical) and Section II (Management Approach) which shall not exceed 80 pages; and, Section III (Other Documents) which shall not have page limitations. The page limitation for proposals includes all figures, tables (except the table of contents), and charts. All pages that exceed the maximum page limit specified may be removed and not be reviewed or considered in the evaluation.

8.1.2 Cover Sheet shall include:

- BAA number given in the announcement
- Technology Category, and if applicable the subcategory, being addressed
- Lead organization submitting proposal
- Type of business, selected among the following categories: large business; SB, SDB, VOSB, SDVOSB, WOSB, EDWOSB, HUBZone, and HBCU/MI, Other Educational or Other Nonprofit
- Contractor’s reference number (if any)
- Proposal title
- Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail address (if available)
- Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail address (if available)
- Date proposal was prepared

8.1.3 Volume I, Section I, Technical Management, shall include the Executive Summary, Nature of Research, Meets BAA Requirements, Milestone Schedule, Prior Experience, Statement of Work (SOW)/Deliverables:

- Executive Summary: The first page of the proposal must be an executive summary of the proposed technical and management approaches.
- Nature of Research: The technical portion of the proposal must include a full discussion of the nature and scope of the research effort contemplated, including the method of approach and the expected results.
- Meets BAA Requirements: The proposal shall fully discuss how the initiative falls within the definition of Basic or Applied Research as defined in FAR 35.016 with subcomponent development not exceeding Technology Readiness Level 6 which is a system/subsystem model or prototype demonstration in a relevant environment. The proposal shall discuss the potential contribution of the

proposed research to USASMDC/ARSTRAT. The offeror shall certify that the initiative is not submitted to fulfill the requirements of any specific system or sub-system.

- **Milestone Schedule:** The offerors shall discuss the merits of each phase of the initiative proposed and conditions upon which each phase will be assessed. A program milestone chart, which includes a detailed list of tasks and subtasks and the duration of same, must be provided. Offerors are to clearly identify a list of contract deliverables which are traceable to the milestone chart. These milestones should include the timeframes for preparation, delivery, review, and approval for all draft and final reports, as appropriate.
- **Prior Experience:** Offerors must include any information pertaining to prior significant and related work experience as well as a description of available facilities and the resumes of all key personnel who will be participating in the effort.
- **Scope of Work (SOW)/Deliverables:** Offerors must keep in mind that portions of the technical proposal will usually be incorporated by reference into any resultant contract; it serves as the basis for work to be accomplished. Therefore, the technical proposal must include a SOW that describes the work to be accomplished and any deliverables. Each task description should be written to facilitate evaluation and acceptance without the need for major rewrites prior to incorporation into the resultant contract.

8.1.4 Volume I, Section II, Management Approach, shall include the management approach, capabilities/qualifications, and any required Government resources (equipment, facilities, computer time, etc.):

- **Management Approach:** The offeror should provide the necessary scheduling and planning documentation that fully describes the proposed program, which should include the offeror's approach for controlling expenditures and labor hours. Include in the proposal a summary description of management planning and control systems and product assurance.
- **Capabilities/Qualifications:** The proposal should discuss the offerors' capabilities and qualifications including discussion of: 1) key personnel; 2) adequacy of offerors' facilities and instrumentation; and 3) identification of plans for any potential safety and environmental concerns.
- **U.S. offerors who meet the security requirement of the USASMDC/ARSTRAT Simulation Center may request Government furnished high performance computer (HPC) time, not to exceed 30 System Resources Unit hours per contract. Proposal shall request computer time and amount if it is required. Offerors will only utilize HPC time for specific BAA efforts. Offerors must understand that priority of HPC time is Government missile defense modeling and analysis.**

8.1.5 Volume I, Section III, Other Documents, shall include:

- The offeror shall provide a separate SOW, bearing no proprietary markings, suitable for contractual incorporation. If options are proposed, the SOW must clearly differentiate between the basic and options. To aid in insertion of the SOW in the contractual instrument, request the following guidelines be followed in formatting any electronic file provided:
 - All auto numbering and bullets must be removed.
 - All text should be saved in Times New Roman 10 point font.
 - Bolding and underlining is not recommended.
 - All graphics must be removed.
 - All files inserted from other applications in the Microsoft (MS) Word file should be removed. The submission of other supporting materials along with the proposal is strongly discouraged and will not be considered for review.
- Prime Contractor Small Business Subcontracting Plan: (applicable to other than small business offerors, reference FAR 19.702(b)) (It is noted that educational institutions are considered other than small business offerors). In accordance with FAR 19.702(a)(1), if the total amount of the proposal exceeds the specified dollar threshold, small business subcontracting plan and small business subcontracting goals must be addressed. FAR part 52.219-9 defines a subcontracting plan and its requirements. As prescribed in FAR 19.702(a)(1) and 19.705-5(a)(2), the subcontracting plan must be submitted with your proposal. It is the policy of the Government to provide maximum practicable opportunities in its acquisitions to Small Business (SB), Small Disadvantaged Business (SDB), Veteran-Owned Small Business (VOSB), Service-Disabled Veteran-Owned Small Business (SDVOSB), Woman Owned Small Business (WOSB), Economically Disadvantaged Woman Owned Small Business (ED-WOSB), and Historically Underutilized Business Zone (HUBZone) small business concerns to participate in the performance of the contract. Such concerns must also have the maximum practicable opportunity to participate as subcontractors in the contracts awarded by any executive agency, consistent with efficient contract performance. Offerors are cautioned that the Government will not execute a contract unless the contracting officer determines that the negotiated subcontracting plan is acceptable and provides the maximum practicable opportunity for SB, SDB, VOSB, SDVOSB, WOSB, EDWOSB, and HUBZone small business concerns to participate in the performance of the contract. Offerors should note Defense Federal Acquisition Regulation Supplement (DFARS) 219.705-4(d)(i) prescribes a goal of 5% or higher for SDB concerns.
- Representations and Certifications: Prospective contractors shall complete electronic representations and certification at <https://www.sam.gov>. The representations and certifications must be updated as necessary, but at least annually, to ensure they are kept current, accurate, and complete (reference FAR 4.11; FAR 4.12; DFARS 204.11; DFARS 204.12; and DFARS Procedures, Guidance and Information (PGI) 204.11).
- Information required by Section 9.13, Data Rights Assertions and Intellectual Property Instructions for Proposals.
- The offeror may include an attached bibliography of relevant technical papers or research notes (published and unpublished), that document the technical ideas

and approach upon which the proposal is based. Copies of not more than three (3) relevant papers may be included with the submission. The three relevant papers may be in portable document format (PDF).

8.1.6 Formatting instructions for Volume I, Section III, Other Documents:

- May be provided with no page limitation.
- All auto numbering and bullets must be removed.
- All text should be saved in Times New Roman 10 point font.
- Bolding and underlining is not recommended, but may be used.
- All graphics must be removed.
- The submission of other supporting materials along with the proposal is strongly discouraged and will not be considered for review.

8.2 Volume II, Cost Proposal. This volume shall include a cover sheet; is excluded from page limitations; and, shall follow the guidance in accordance with FAR 15.408, Table 15-2. The cost proposal shall contain a summary showing the overall contract price and include details by cost element for the Base Year and Option Year(s). In addition, both the base period and any options shall include separate cost/schedule information. The cost proposal shall contain data in MS Excel spreadsheet format to include formulas.

8.2.1 Cover Sheet shall include:

- Name and address of offeror (include zip code) and Division (if applicable).
- Name, title, telephone number, and e-mail address of offeror's point of contact.
- Place(s) and period(s) of performance.
- Name, mailing address, email address, telephone number and point of contact of the offeror's cognizant Government administration office (i.e., Office of Naval Research/Defense Contract Management Agency [DCMA]) (if known).
- Name, mailing address, email address, telephone number and Point of Contact of the offeror's cognizant audit office (i.e., DCAA/HHR) (if known).
- Contractor and Government Entity (CAGE) Code.
- Dun and Bradstreet (DUNS) number.
- Taxpayer Identification Number (TIN).
- Whether you will require the use of Government property in the performance of the contract, and, if so, what property.
- If certified cost and pricing data are required pursuant to FAR 15.403-4, you must clearly identify on your cover sheet that certified cost and pricing data are included as part of the proposal in accordance with FAR 15.408, Table 15-2, Section I, General Instructions,(C)(1).

8.2.2 The offeror should prepare its cost proposal in a clear, concise manner that accurately reflects its financial plan for accomplishing the proposed technical effort. The costs should be tied to the milestone schedule, clearly allocating costs to each phase of the initiative and a breakdown of cost data is required under this BAA. If "cost or pricing

data” are required to be submitted in accordance with FAR 15.403-4, the offeror shall provide the information identified in FAR 15.408, Table 15-2, as well as the information required in this section. When cost of money is being proposed, the offeror shall submit a DD Form 1861, Contract Facilities Capital Cost of Money.

8.2.3 In accordance with FAR 16.301-3, a cost-reimbursement contract may be used only when the contractor’s accounting system is adequate for determining costs applicable to the contract. Offerors will submit a summary description of their accounting system, including indirect rate structure, and whether it is compliant with Generally Accepted Accounting Principles (GAAP). The submittal should reference current Defense Contract Audit Agency (DCAA) Audit Reports that reflects upon the adequacy of the accounting system and/or Defense Contract Management Agency (DCMA) approval letters of the accounting system. The audit reports or letters should be dated within 4 years of the offeror’s cost proposal. If the offeror cannot reference a DCAA audit or DCMA letter reflecting acceptance of their cost system, the offeror should submit a plan to become approved and in compliance by full performance start date. This should include submission of a completed SF1408, Pre-award Survey of Prospective Contractor Accounting System (included as an Appendix). If a DCAA audit or DCMA letter is not available, the offeror may provide reviews of the adequacy of their accounting system by an independent third party. The same documentation shall be submitted for any subcontractor with which the offeror intends to establish a cost type subcontract.

8.2.4 The breakdown of “cost or pricing data” or “other than cost or pricing data” shall include all costs expected to be incurred under the contract. Proposed costs and rates should be fully supported to include all back-up documentation to all cost elements proposed.

8.3 Subcontracts. Prime contractors are responsible for ensuring each proposed subcontract is supported by “cost or pricing data” when it is, both, in excess of the specified dollar threshold in accordance with FAR 15.403-4, and not covered by an exception or waiver in accordance with FAR 15.403-1. Particular attention is directed to the importance of furnishing complete detailed information and supporting data as required by FAR 15.408, Table 15-2. Include an itemization of the final negotiated subcontracts (labor, travel, materials, and other direct costs) and equipment purchases, as well as an analysis, performed by the prime contractor, of the subcontract proposal. Specifically address subcontract proposed hours in the prime analysis.

8.3.1 Subcontractor Proposal.

The prime contractor or subcontractor is responsible for the requirements in accordance with FAR 15.404-3, Subcontract Pricing Considerations. The contractor shall submit to the contracting officer, or cause to be submitted by the subcontractor directly to the contracting officer:

- a. documentation indicating the subcontractor has an approved accounting/purchasing system in accordance with FAR 15.404-3(a);
- b. certified “cost or pricing data” and copies of the subcontractor’s final negotiated and agreed to proposal (broken down by labor hours, rates, categories, indirect costs, material, etc.) for subcontracts that are the lower of either:

- (1) the required threshold at 15.404-3(c)(1)(i); or

- (2) both, more than the threshold for obtaining certified “cost or pricing data” as required by FAR 15.403-4(a)(1) AND more than percentage of the prime contractor’s proposed price as required by FAR 15-404-3(c)(1)(ii) , unless the contracting officer believes such submission is unnecessary.

8.3.2 If the subcontract is less than the requirements in 8.3.1(a) and (b) above, the contractor shall submit to the contracting officer, or cause to be submitted by the subcontractor directly to the contracting officer, any subcontractor certified “cost or pricing data” and data other than certified “cost or pricing data” that the contracting officer considers necessary for adequately pricing the prime contract.

8.3.3 If an item or subcontract effort is selected by a competitive process, provide quotes or backup documentation received from all eligible offerors and discuss how the best value determination was made.

8.3.4 Subcontractor certified “cost or pricing data” shall be current, accurate, and complete as of the date of price agreement, or, if applicable, an earlier date agreed upon by the parties and specified on the contractor’s Certificate of Current “Cost or Pricing Data”. The contractor shall update subcontractor’s data, as appropriate, during source selection and negotiations.

8.3.5 The subcontract proposal should include the cover sheet information detailed above under section 8.2.1, Cover Sheet.

8.4 Sample Cost Proposal Format for Prime Contractor and Subcontractor. All details, broken down by cost element, are to be prepared for each major task with supporting rationale. All cost details shall be broken down to coincide with the offeror’s accounting periods as related to the specific period of performance as indicated in the proposed milestone chart. The level of detail should be commensurate with the cost proposed for proposals not involving “cost or pricing data”. A sample format for a summary cost proposal is provided below.

Sample Summary Cost Proposal Format

Cost Element	Base	Unburdened Labor Rate	Total Cost	Reference
Direct Labor				
Program Manager	5,000	\$30.00	\$150,000.00	
Senior Engineer	5,000	\$24.00	\$120,000.00	
Total Direct Labor	10,000		\$270,000.00	Exhibit A
Overhead	\$270,000.00	50.00%	\$135,000.00	Exhibit B
Other Direct Costs (ODC)				
Subcontractor			\$50,000.00	Exhibit C
Computer			\$25,000.00	Exhibit D
Travel			\$10,000.00	Exhibit E
Consultant			\$30,000.00	Exhibit F
Total ODC			\$115,000.00	
Subtotal Costs			\$520,000.00	
G&A Expense	\$520,000.00	10.00%	\$52,000.00	Exhibit G
Total Estimated Costs			\$572,000.00	
Fixed Fee (no fee on travel)	\$562,000.00	5.00%	\$28,100.00	
Cost of Money (COM)			\$6,000.00	Exhibit H
Cost Plus Fee			\$606,100.00	

8.5 Proposal Submission Instructions. All proposals should clearly indicate limitations on the disclosure of their contents. Any proprietary data which the offeror intends to be used by the Government only for evaluation purposes must be specifically identified in the proposal and marked in accordance with FAR 52.215-1(e).

8.5.1 Both prime and subcontractor fully disclosed proposals (i.e., unsanitized proposals) shall be electronically submitted directly to the Government contracting officer and contract specialist utilizing the U.S. Army Aviation and Missile Research Development and Engineering Center (AMRDEC) Safe Site (<https://safe.amrdec.army.mil/safe/>). Should the prime and/or subcontractor have difficulty sending its proposal using the method specified above, one electronic version (CDs/DVDs) of the prime proposal (incorporating all sanitized subcontractor proposals) and each unsanitized subcontractor proposal shall be delivered to the contracting officer and the contract specialist. Proposals shall follow the guidance set forth in the RFP, and as provided in the BAA's paragraph and subparagraphs under 8.0, Proposal Instructions. Classified responses (up to Secret collateral) shall be provided on

CD/DVD and mailed. The response must be appropriately marked, sealed, and mailed in accordance with classified material handling procedures. The classified mailing address is USASMDC/ARSTRAT, P.O. Box 1500, Huntsville, AL 35807-3801. The outer envelope should be addressed to the attention of SMDC-IM (Document Control) and the inner envelope should be addressed to the attention of ACC-RSA, CAMO, CCAM-CAA-B (James P. Kenney). Classification does not in any way eliminate the offerors' requirements to comply with all instructions in this BAA.

8.6 Evaluation Criteria (Applicable to proposals only [not white papers]). The Government selection of the proposal(s) for award will be based on an assessment of proposal(s) that are most advantageous to the Government considering technical and management relative merit in accordance with the evaluation criteria, cost, best value considerations, availability of funds, and program balance. The Evaluation Areas/Factors are Technical, Management, and Cost.

8.6.1 Technical Area -The quality of the offeror's proposed technical approach will be evaluated using the following factors:

- Overall Scientific/Technical Quality – The offeror will be evaluated on the overall scientific/technical merits of the proposed research and development. The degree to which new and creative solutions to technical issues important to USASMDC/ARSTRAT are proposed and feasibility and the offeror's understanding of the proposed approach and technical objectives will be evaluated.
- Qualifications – The offeror's ability to implement the proposed approach as demonstrated by specific accomplishments in the technical field to be studied, by the qualifications (including past and current experience) of the proposed principal investigator and other "key" personnel and availability of appropriate facilities will be evaluated.
- Research and Development Contribution – Potential contribution of the proposed research to USASMDC/ARSTRAT as identified in the Technology Areas of Interest listed in paragraph 4.0 above. The scientific/technical merits include potential for state-of-the-art improvement, with special emphasis on innovation, originality and uniqueness will also be evaluated.

8.6.2 Management Area – The quality of the offeror's proposed management approach will be evaluated using the following factors:

- Overall Scheduling and Planning – The offeror's approach will be evaluated based on the overall scheduling and planning for performance of the effort.
- Expenditure Control – The approach for controlling expenditures and labor hours.
- Subcontracting Plan: The extent to which offerors identify and commit to Small Business (SB), Small Disadvantaged Business (SDB), Veteran-Owned Small Business (VOSB), Small Disadvantaged Veteran-Owned Small Business (SDVOSB), Woman Owned Small Business (WOSB), Economically Disadvantaged Woman Owned Small Business (EDWOSB), HUBZone

participation in the proposed effort, whether as a joint venture, teaming arrangement, or subcontractor.

8.6.3 Cost – The cost evaluation will consider cost realism and reasonableness of the proposal:

- Cost reasonableness will consider the cost proposed in conjunction with program objectives and the availability of funding.
- Cost realism will assess the likelihood that the technical and management approaches proposed can be successfully accomplished for the cost proposed.

8.6.4 Relative Importance of Evaluation Criteria.

8.6.4.1 Technical: The technical area is significantly more important than the management area. The factors under the technical area are of equal importance.

8.6.4.1.1 Management: The management area is significantly less important than the technical area. The factors under the management area are of equal importance.

8.6.4.1.1.1 Cost: The cost area is a substantial evaluation factor; however, it is less important than each of the technical and management areas.

9.0 Other Information with respect to white papers and/or proposals

9.1 In an effort to expedite evaluation of proposals, upon official notification of selection for negotiation and contract award, the following information shall be provided:

- Indirect rate forecast/budget (detailed by cost element in the pool and base).
- Historical indirect rate information, for both prime and subcontractors, for the previous 3 years; include a breakdown of the base and expense/pools for each of the indirect rates proposed.
- A consolidated, priced Bill of Material.

9.2 Order of preference for data submission:

- Audited incurred cost rates.
- Actual rates submitted to DCAA but not audited (from incurred cost submission).
- Actual rates not submitted to DCAA.
- Payroll data from accounting system (not just a listing of rates) related to proposed base labor rates.

9.3 Contract Type. The Government contemplates award of cost, cost-plus-fixed-fee, or cost sharing types of contracts under this BAA. Proposals based on a type of contract other than that contemplated will be considered, but offerors are advised that the Government is under no obligation to accept same.

9.4 The Government anticipates any contract resulting from this BAA will be funded on an incremental basis as prescribed by FAR 32.703-1(b) and FAR 32.704 under the authority of FAR clause 52.232-22, Limitation of Funds.

9.5 Any necessary coordination of facility use will be performed by the offeror.

9.6 Any requests by offerors for Government furnished property, test equipment, material, or information must be clearly identified in the proposal. The Government, however, is under no obligation to comply with such requests; therefore, offerors should make provision for alternate technical approaches in the event the Government is unwilling to provide the property requested. The Government will not entertain requests for general office equipment and/or office supplies.

9.7 Unless specifically identified under the BAA initiative proposal, all work to be performed under any resultant contract will be unclassified and will not involve access to classified information.

9.8 System for Award Management (SAM). Offerors are required to register in the DoD SAM database prior to award of any contract (reference FAR 4.11; and DFARS/PGI 204.11). Offerors may obtain information on registration and annual confirmation requirements by accessing <https://www.sam.gov> via the Internet and clicking on the "Help" tab and the "Federal Service Desk". Award cannot be made to a firm not registered in SAM.

9.9 Contract Data Requirements List (CDRL). As a minimum, all contractors will be required to deliver funds and manpower expenditure reports, financial reports, technical status reports, and a final technical report. The Government will negotiate an appropriate CDRL with each successful contractor. Monthly expenditure plan and disbursement rate reports are required and may be included in the financial report. The disbursement report must include the forecast of billings to the Government and the total cumulative amounts billed through the report month. The reports that are delivered in connection with awards under this BAA may be made available to subsequent acquisitions, subject to applicable data rights. The number and types of reports will be specified in the award document. The following is an example of the CDRLs, Data Item Description (DID) numbers, and frequency of data items anticipated to be delivered during contract performance:

- STATUS REPORT, DI-MGMT-80368A, Submission: Monthly.
- FUNDS AND MAN-HOURS EXPENDITURE REPORT, DI-FNCL-80331A, Submission: monthly.
- TECHNICAL REPORT - STUDY/SERVICES, DI-MISC-80508B, FINAL REPORT Submission: At the end of each contract performance period.
- OPERATIONAL SECURITY (OPSEC) PLAN, DI-MGMT-80934C, Submission: One-time (as required).
- COMPUTER SOFTWARE PRODUCT END ITEMS, DI-MCCR-80700, Submission: (as required).

- SOFTWARE USER MANUAL (SUM), DI-IPSC-81443A NOTICE 1 - VALIDATION, Submission: One-time (as required).
- SOFTWARE DEVELOPMENT PLAN (SDP), DI-IPSC-81427A NOTICE 1 - VALIDATION, Submission: One-time (as required).
- SOFTWARE PRODUCT SPECIFICATION (SPS), DI-IPSC-81441A NOTICE 1 - VALIDATION, Submission: One-time (as required).
- TEST PLAN, DI-NDTI-80566A, Submission: (as required).
- BRIEFING MATERIAL, DI-MGMT-81605, Submission: (as required).
- REPORT, RECORD OF MEETING/MINUTES, DI-ADMN-81505, Submission: (as required).

9.10 Program Reviews. Depending on the nature of the research program and the duration of same, the Government may require the contractor attend program reviews at USASMDC/ARSTRAT or within CONUS. In addition to these formal program reviews, informal reviews may be scheduled as deemed necessary by cognizant technical personnel. Requirements for program reviews will be determined when proposals are selected for award.

9.11 Enterprise-wide Contractor Manpower Reporting Application (e-CMRA). If a contract is awarded from this BAA, a not separately priced (NSP) contract line item number (CLIN) is required for contractor manpower reporting (CMR) in accordance with Army Federal Acquisition Regulation Supplement (AFARS) 5137.9101(a). The contractor is required to register at the CMRA website, <https://cmra.army.mil>. The CMR shall be completed annually, no later than October 31st of each year (reference AFARS 5137.9101[e] and sections 235 and 2330a of Title 10 U.S.C.). If the program period of performance is less than 1 year, the contractor will be required to complete an interim report.

9.12 Security Requirements/Antiterrorism/Operations Security (OPSEC).

9.12.1 While non-classified work is relevant, research at USASMDC/ARSTRAT often leads to military applications and development or use of data that can be classified. This cannot always be anticipated in advance, and when applicable the applicant must be prepared to handle classified information. Possession of a SECRET facility clearance is recommended. Additionally, non-U.S. citizen access to information under the cognizance of USASMDC/ARSTRAT must be approved by the USASMDC/ARSTRAT Foreign Disclosure Officer. Requests for non-U.S. citizen access should be submitted to the contracting officer using USASMDC/ARSTRAT Form 380-10c.

9.12.2 All contractor employees, to include subcontractor employees, requiring access to Army installations, facilities, and controlled access areas shall complete Antiterrorism (AT) Level I awareness training within 30 calendar days after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable. The contractor shall submit certificates of completion for each affected

contractor employee and subcontractor employee to the contracting officer representative or to the contracting officer.

9.13 Data Rights Assertions and Intellectual Property Instructions for Proposals

9.13.1 Noncommercial Technical Data, Computer Software, and Computer Software Documentation: The offeror shall provide the information required by DFARS 252.227-7017 and 252.227-7028, in the formats specified therein, as an attachment to any proposal. Indicate whether development was accomplished exclusively or partially at private expense. Provide evidence of private expense, such as IR&D account numbers. Indicate whether the item, component, or process or the software will be further developed with Government funding. If so, indicate whether (and explain how) the new development is segregable from the original. The associated data rights assertions will become an attachment to the contract, if awarded, and shall be updated as circumstances change.

9.13.2 Commercial Technical Data: DFARS 252.227-7015 applies to all commercial technical data to be delivered or furnished pursuant to this contract. The Offeror shall attach to any proposal a list, entitled "Commercial Technical Data - Government Use Restrictions." The List shall provide the following information regarding all commercial technical data that the Offeror, its subcontractors, and suppliers intend to deliver with other than unrestricted rights: (1) identification of the data and the item, component, or process to which it pertains; (2) basis for asserting restrictions; (3) rights asserted; (4) entity asserting restrictions; and (5) terms under which the Government, if necessary, can acquire additional rights pursuant to a Special License Agreement. For each entry citing asserted rights other than the standard license rights per DFARS 252.2277015, the Offeror shall provide a complete description of the asserted rights and attach copies of any applicable licenses. The List shall be signed and dated by an official authorized to contractually obligate the Offeror. If there is no information to be included in the List, the Offeror shall enter "None" as the body of the list. The List will become an attachment to the contract, if awarded, and shall be updated as circumstances change.

9.13.3 Commercial Computer Software and Computer Software Documentation: The offeror shall attach to the proposal a list, entitled "Commercial Computer Software and Computer Software Documentation - Identification and Licensing" providing information on all commercial computer software (including and specifically identifying Open Source Software) to be delivered or furnished under the contract. The List shall provide the following information: (1) identification of the software, including title and version number; (2) purpose / proposed use; (3) applicable license and maintenance fees; (4) whether the license can be transferred to the Government or other Government contractors and whether it will satisfy the ultimate user's needs; (5) copy of the license applicable to the Government. For Open Source Software, also identify if the software has been or will be modified, and, if so, by whom; and, whether such modification occurred or will occur by incorporating it into any third party software (if so, identify). The List shall be signed and dated by an official authorized to contractually obligate the Offeror. If there is no information to be included in the List, the Offeror shall enter

"None" as the body of the list. If the Proposal is selected for award, the List will become an attachment to the contract, if awarded, and shall be updated as circumstances change.

9.13.4 Background Inventions: The offeror shall attach to any proposal a list, entitled "Background Inventions-Identification and Licensing," providing information concerning all background inventions. A "background invention" is any invention, other than a subject invention, that is covered by any patent or pending patent application in which the Offeror, its subcontractors or suppliers (1) have any right, title, or interest; and (2) propose to incorporate into any items, components, or processes (ICP) to be developed or delivered, or that will be described or disclosed in any technical data, computer software, or computer software documentation to be developed or delivered, under the contract. For each background invention, the List shall identify: (1) the invention, by serial number, title, and date of the patent application or issued patent; (2) the ICP, technical data, computer software, or computer software documentation that will incorporate or disclose the invention; (3) the nature of the Offeror's right, title, or interest in the invention; and (4) whether the Offeror is willing to sell to the Government a license to practice the invention, and if so, a complete description of the terms of such proposed license. The List shall be signed and dated by an official authorized to contractually obligate the Offeror. If there is no information to be included in the List, the Offeror shall enter "None" as the body of the list. The List will become an attachment to the contract, if awarded, and shall be updated as circumstances change.

9.13.5 Explanation of Impact on Proposed Effort: The offeror shall provide a detailed discussion of the degree to which asserted data rights restrictions affect the proposed technical solutions and the Government's ability to use, modify, reproduce, release, perform, display, or disclose the resulting technical data and computer software for Government purposes as defined in DFARS 252.227-7013(a)(12) and DFARS 252.227-7014(a)(11).

9.14 Research and Technology Protection. In the event a contract is awarded, the contractor shall assist the Government in the identification of any inherited and new Critical Program Information (CPI). The contractor shall implement security measures, as directed by the Government, for any identified CPI to prevent unauthorized disclosure. CPI, as defined in DoD Instruction (DoDI) 5200.39, are "elements or components of an RDA program that, if compromised, could cause significant degradation in mission effectiveness; shorten the expected combat-effective life of the system; reduce technological advantage; significantly alter program direction; or enable an adversary to defeat, counter, copy, or reverse engineer the technology or capability." The contractor will be subject to internal and external audits of the implementation of security measures for handling CPI and will provide audit results to USASMDC/ARSTRAT upon request.

9.15 Any effort awarded as a result of this BAA must use the International System of Units (SI) metric units exclusively.

9.16 BAA Point of Contact. Questions related to this BAA shall be submitted via email to both the contract specialist, Jan P. Burke, jan.p.burke.civ@mail.mil and the contracting officer, James P. Kenney, james.p.kenney.civ@mail.mil.