AIRBASE SYSTEMS BROAD AGENCY ANNOUNCEMENT (BAA)

FA8051-24-S-0001

CLOSED BAA With CALLS

AIR FORCE CIVIL ENGINEER CENTER (AFCEC)

READINESS DIRECTORATE (AFCEC/CX)

REQUIREMENTS AND ACQUISITION DIVISION (AFCEC/CXA)

11 November 2024
Revision 2

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BROAD AGENCY ANNOUNCEMENT
FA8051-24-S-0001

ANNOUNCEMENT OVERVIEW

NAICS: 541715 - Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

AGENCY NAME: Air Force Civil Engineer Center – Readiness Directorate, Requirements and Acquisition Division (AFCEC/CXA)

BROAD AGENCY ANNOUNCEMENT TITLE: Research and Development (R&D) for Air Force Airbase Systems

BROAD AGENCY ANNOUNCEMENT TYPE: This is a five (5) year Closed Two-Step Broad Agency Announcement (BAA) with CALLs for Topic Areas of Interest.

BROAD AGENCY ANNOUNCEMENT NUMBER: FA8051-24-S-0001

POINTS OF CONTACT: Technical and Contracting Points of Contact will be identified in each CALL.

BRIEF PROGRAM SUMMARY: This BAA will allow a TWO-STEP submission (white paper & if requested, proposal) in response to a posted CALL. This Closed BAA with CALLS is issued under the provisions of Defense Federal Acquisition Regulation Supplement paragraph 206.102(d)(2), Use of Competitive Procedures, which provides for the competitive selection of research proposals. There will be no other announcement issued for this requirement. Offerors must monitor SAM.gov for amendments or CALLs issued.

FA8051-24-S-0001

BROAD AGENCY ANNOUNCEMENT

FULL TEXT ANNOUNCEMENT

Air Force Civil Engineer Center (AFCEC)

Readiness Directorate, Requirements and Acquisition Division (AFCEC/CXA)

I. PROGRAM DESCRIPTION

A. MISSION STATEMENT. The AFCEC Readiness Directorate (AFCEC/CX) provides integrated Expeditionary Engineer Combat Support, Fire Emergency Services (FES), Explosive Ordnance Disposal (EOD), and Emergency Management (EM) in support of AF missions across the range of military operations. The Readiness Directorate supports AF Airmen worldwide with technical expertise and RDT&E associated with material and nonmaterial solutions to enable execution of global contingency missions, emergency response, and incident management at home station and at deployed locations.

B. TOPIC AREAS. AFCEC/CXA seeks research across the areas identified below. Research areas may only include basic research, applied research, advanced technology development, and advanced component development and prototypes IAW DFARS 235.016(a).

1. MODERN TIMBER PRODUCTS IN AN EXPEDITIONARY ENVIRONMENT. Develop and demonstrate novel construction techniques, protective structure innovations and recent advancements related to timber construction for high threat areas and/or expeditionary environments. Proposed efforts related to timber products should include planned analysis, how prototypes would be obtained, and testing methodology. Specific areas of interest include, but are not limited to:

   a. Extreme Cold Weather Personnel Protective Shelters

   b. Hybrid Timber/Soil Personnel Protective Shelters

   c. Timber Membranes Used for Roof Systems Used for Standoff Protection

   d. Timber Hybrid Panels for Protection Applications.

   e. Layer (Layup) Optimization of Composite CLT Panels for Blast and Impact Resistance

   f. Mass Timber for Construction of Expedient Barracks and Shelters

   g. Thermal Efficiency Improvements for Structural Components using Modern Timber Panels in an Expeditionary Environment

   h. Glue Laminated Timber Elements for Anti-Terrorism Protective Barriers

   i. Deployable CLT and Glulam Fabrication Equipment for On-site Production

   j. Modular Treated Glue Laminated Timber Foundations for Both Deep and Shallow Elements

   k. Treated Glue Laminated Timber Elements for Reinforcement of Buried Protective Structures

l. Impact Resistance of Engineered Timber Panels

m. Timber Construction Connections for High Loading Rates

n. Constitutive Material Models for Wood Variations in High-Strain Rate Computational Analyses

o. Timber Panels to resist Fire and Elevated Temperature Hazards

p. Shock Response using Resonant Plate Testing and Hydraulic Blast Load Simulator Actuator Testing of Timber Panels

2. PER-AND POLYFLUOROALKYL SUBSTANCES (PFAS) DESTRUCTION. Develop and demonstrate efficient, environmentally compatible, cost efficient mobile and static technologies and systems for the receipt and processing of inputs containing PFAS species into end products containing chemical species that have low to no environmental impact. Specific areas of interest include, but are not limited to:

a. Mobile and fixed site locations

b. Low operation and maintenance costs

c. Thermal methods of PFAS destruction

d. High efficiency, high throughput system

e. Production of solid phase end products or liquid effluent with PFAS concentrations below federal/state/local limits

f. Separation and sequestration of waste products, byproducts, and end products that may be classified as toxic and/or environmental contaminants IAW federal/state/local

3. ARCTIC CAMPAIGNING AND ARCTIC-CAPABLE STRUCTURES. Develop and demonstrate arctic-grade, resilient, permanent infrastructure and expeditionary, modular components to enable agile military operations, including shelters, utilities, pavement technologies, and Airfield Damage Repair (ADR). Specific areas of interest include, but are not limited to:

a. Arctic-capable facilities and infrastructure, including lodging, office, industrial and aircraft shelters.

b. Arctic-capable utilities, including water, wastewater, and power.

c. Arctic-capable solid and liquid waste management technologies

d. Arctic-capable emergency response and fire protection technologies

e. Arctic-capable infrastructure protection and environmental systems, including personnel bunkers and aircraft protective structures.

f. Arctic-capable pavement and airfield infrastructure technologies, including airfield pavements, airfield lighting, airfield instrumentation and fuel storage.

g. Other arctic-capable technologies that meet requirements in paragraphs 5, 6, 7, 8, 9, and 11 of this section.

4. AUTOMATED HEAVY MACHINERY. Develop and demonstrate automation and

intelligent system technologies for use in heavy equipment for purposes such as construction and vegetation management. Specific areas of interest include, but are not limited to:

a. Automated navigation and driving to include both GPS/waypoint enabled and GPS-denied settings.

b. Autonomous or artificial intelligence driven machinery to conduct civil engineering operations.

c. Actuated end-effectors such as arms, jointed blades, or other capability that can be operated remotely or autonomously.

d. Common operating picture or intelligently linked vehicle operation that can enable multiple machines performing multiple missions simultaneously with limited human intervention.

e. Procedures to enhance the safety factors of large vehicles such as tractors, loaders, dump trucks, and excavators, in environments with high concentration of human and non-human obstacles.

f. Robotic appliques and control systems that can be easily installed on various machines quickly and with little equipment.

5. AIRBASE FACILITIES AND INFRASTRUCTURE. Develop and demonstrate efficient, environmentally compatible, cost saving Agile Combat Support technologies and systems for rapid establishment of new airbase facilities, and for optimizing and modernizing established airbase facilities and infrastructure. Specific areas of interest include, but are not limited to:

a. Expeditionary "base-in-a-box" concepts

b. Reduced maintenance costs

c. High efficiency, reduced footprint Heating, Ventilation, Air Conditioning (HVAC) units

d. Energy resilience, conservation, and management (conversion, generation, storage, and distribution)

e. Solid waste and wastewater handling, recycling, and management

f. Advanced computational modeling and information technology for improving airbase facilities and infrastructure.

g. Concepts that can be integrated with deployed airbase operations are of particular interest.

h. 3-D printing systems for constructing expeditionary structures/barriers and/or hardened infrastructure

6. AIRBASE OPERATIONS. All areas relevant to supporting technologies and systems that can improve and/or sustain the operational tempo/sortie generation across all Air Force CE operational environments, to include hot/cold, wet/dry, and low visibility conditions. Primary areas of interest include, but are not limited to:

a. Airfield safety (lighting, lightning protection, airfield marking/painting, etc.)

b. Rapid assessment of strength, frangibility, serviceability, etc., of runways and structures. Ability to detect and assess airfield Foreign Object Debris (FOD) damage.

c. Reducing Operations & Maintenance (O&M) costs of Aircraft Operating Surfaces (e.g., runway texturing for improved skid resistance, rubber removal technologies, etc.)

d. Non-destructive, lightweight portable, airfield evaluation technologies for pavements/soils surface and subsurface material characterization

e. Advanced computational modeling and information systems to provide increased operational awareness and response.

7. CIVIL ENGINEERING MATERIALS. Research, develop, and test of advanced and currently fielded materials in support of meeting current and future AFCEC/CXA requirements. Primary areas of interest include, but are not limited to:

a. Expedient Aircraft Operating Surface (AOS) repair (cracking-spall-slabs-crater) materials

b. High strength structural materials and composites

c. Heat resistant pavement materials, coatings, joint sealants

d. Chemically resistant and selectively reactive materials

i. Smart 3-D printable materials

e. Fire retardant, fire extinguishing, intumescent, and heat dissipative materials.

f. Indigenous material characterization and suitability (expeditionary airbase)

i. Formulation of construction-scale 3-D printable materials (not to be limited to cementitious materials) using indigenous materials.

g. Methods and techniques for measuring material properties in complex matrices (elongation/strength/tensile modulus, thermal conductivity, flammability, etc.)

h. Materials for treatment or sequestration of environmental contaminants resulting from airbase operations.

i. Advanced computational and modeling techniques for predicting material properties (degradation, heat stability, resistance, electrical and thermal conductivity, etc.)

8. EMERGENCY RESPONSE AND FIRE PROTECTION. Improve airbase Emergency Response (ER), firefighting and safety equipment, and training capabilities, with the goal of reducing the amount of time to extinguish fires and extract victims, and to minimize casualties, injuries and material damage. Decrease the response and recovery time associated with fire and Chemical, Biological, Radiological, and Explosive (CBRE) emergency response events. Primary areas of interest include, but are not limited to:

a. Extinguishment of composite aircraft material

b. Extinguishment of wildfire and facility related fires.

c. Improved firefighting agent dissemination

d. Advanced firefighting and emergency response protective equipment

e. Improved training methods and training equipment for firefighting and emergency response

f. Firefighting and emergency response equipment that decreases logistics burden, and/or lowers lifecycle costs, and/or increases capability.

g. Sensors and data fusion techniques to provide increased operational awareness and reduce response time.

h. Advanced computational modeling for hazard prediction, risk assessment, and ER decision making.

i. Advanced computational modeling for characterization of sprays and jet dynamics for firefighting agent application, and for fire-fuel and fire-agent interaction

9. INFRASTRUCTURE PROTECTION AND ENVIRONMENTAL SYSTEMS. Provide rapid, efficient planning, protection and hazard mitigation. Detect, analyze, and respond to CBRE threats. Primary areas of interest include, but are not limited to:

a. Blast mitigation technologies and methods.

b. Enhanced physical security for domestic and deployed locations.

c. Lightweight rapidly deployable personnel and aircraft shelters and protection technologies

d. Personnel, perimeter, and area monitoring/surveillance

e. Transport and fate of chemical, biological, and radiological contaminants in airbase systems

f. Methods and models for the evaluation and characterization of protective materials, systems, facilities, and construction methods, with respect to explosive, chemical, biological, and radiological threats

g. Threat detection methods and technology for explosive precursor materials used in Improvised Explosive Devices (IED) munitions and explosions.

h. Develop, evaluate, modify, and integrate new and commercial protective materials and technologies that mitigate blast, ballistic, penetration, and fragmentation effects from conventional and IED munitions.

i. Develop computational and engineering level approaches to modeling and simulation of the blast environment including explosives detonation mechanics, air blast, fragmentation of munitions, combined fluid-structure interaction for air blast and fragmentation loads to structures, and structural blast response

j. Methods, procedures, and tools for conducting airbase security risk assessments and defining effective security risk mitigation strategies.

k. Evaluate innovative advances in personnel, perimeter,

and area monitoring/surveillance technologies.

l. Develop and/or evaluate novel intelligence/information/data fusion technologies.

10. ROBOTICS AND AUTOMATION. Develop and demonstrate automation and intelligent system technologies for use in high threat areas, expeditionary and fixed airbase support, and homeland security. Application areas of interest include novel unmanned technologies for force protection, Agile Combat Support operations, explosive ordnance disposal, airbase security, and airbase support. Primary areas of interest include, but are not limited to:

    a. Non-line of sight, high bandwidth, wireless communication systems

    b. Ground vehicle navigation and guidance

    c. Obstacle detection and avoidance

    d. Unexploded Ordnance (UXO) detection, characterization, handling, and disposal

    e. Unmanned ground and aerial systems to provide remote detection and/or delivery of equipment and materials.

    f. Personnel, perimeter, and area monitoring/surveillance

    g. Robotic vehicle systems for perception, power, weapons, computing, manipulation, and mobility

    h. Automated airfield assessment technologies

    i. Manipulation and manipulator systems

    j. Sensors and data fusion techniques to enhance robotic system capabilities and information provided to users.

    k. Potential cyber threats to autonomous and remotely manned technologies.

    l. Artificial intelligence/machine learning and autonomous control algorithms to enable robotic execution of missions with minimal human interaction.

11. AIRBASE ENERGY & UTILITIES (AEU). Conduct RDT&E of advanced energy and utility systems, and waste minimization technologies to meet Air Force Energy Strategic Goals to improve resiliency, optimize demand, and assure Supply. Primary areas of interest include, but are not limited to:

    a. Shelters/Facilities: Develop/demonstrate technologies to improve the energy efficiency of soft wall shelters for expeditionary operations. This includes all shelter sizes (small billeting shelter, medium and large dome shelters) and those that are integral to the Basic Expeditionary Airfield Resources (BEAR) system. Areas of interest include but are not limited to:

        i. Improved shelter shade flies

        ii. Improved light weight low volume insulated liners

        iii. Low-E coatings/low-E fabrics or any other technologies to reduce the energy required to heat/cool the shelter.

iv. Shelter shall be capable of operating in extreme cold temperature (Arctic regions)

b. Energy Generation, Storage, Management, and Distribution: Develop and demonstrate resilience, scalable, modular, tailorable technologies to maximize mobility, reliability, and operating efficiency of a deployed airbase. Areas of interest include but are not limited to:

i. Active and passive power generation

ii. Energy conservation

iii. Renewable energy

iv. Energy efficient waste disposal to eliminate requirement for open burn; systems must be expeditionary and provide improved efficiency compared to incinerators.

v. Centralized grid/load management and control

vi. Power conditioning and distribution capability

vii. Environmental control units

viii. Systems are desired that:

(a) Utilize compact and lightweight designs.

(b) Are compatible with expeditionary deployment constraints.

(c) Utilize new or innovative approaches.

(d) Deliver resilient and reliable operations.

c. Liquid and Solid Wastes Minimization: Conduct research, development, test, and evaluation (RDT&E) focused on accelerated evaluation of new or emerging technologies for water, solid and liquid waste, or wastewater treatment involving chemical, thermochemical, biological, biochemical, physical and/or physicochemical processes. Develop/demonstrate containerized, deployable system/technologies for wastewater recovery and reuse and solid waste-to-energy systems. Specific areas of interest are but are not limited to:

i. Solutions to provide gray water (shower/laundry) recovery and reuse, wastewater recovery/reuse including black water, and black water destruction.

ii. Solutions that are containerized, capable of long-term storage and are compatible with expeditionary deployment constraints, and/or utilize new or innovative approaches.

C. IMPORTANT NOTES

1. FUNDAMENTAL RESEARCH. It is DoD policy that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. National Security Decision Directive (NSDD) 189 defines fundamental research as follows:

a. ‘Fundamental research’ means basic and applied research in science and

engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

b. As of the date of publication of this BAA, the Government cannot identify whether work proposed under this BAA may be considered fundamental research and may award both fundamental and non-fundamental research. Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to select award instrument type and to negotiate all instrument terms and conditions with selectees. Appropriate clauses will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate.

c. For certain research projects, it may be possible that although the research being performed by the awardee is restricted research, a sub-awardee may be conducting fundamental research. In those cases, it is the awardee's responsibility to explain in their proposal why its sub-awardee's effort is fundamental research.

d. **All research proposals submitted shall clearly identify if the research proposed is Fundamental Research or Non-Fundamental Research.** Failure to identify this research may result in the research proposal being removed from the evaluation pool.

D. CLOUD COMPUTING. In accordance with DFARS Clause 252.239-7010, if the development proposed requires storage of Government, or Government-related data on the cloud, offerors need to ensure that the cloud service provider proposed has been granted Provisional Authorization by the Defense Information Systems Agency (DISA) at the level appropriate to the requirement.

II. AWARD INFORMATION

A. ANTICIPATED AWARD DATE**.** Award dates will be specified within each CALL.

B. ANTICIPATED FUNDING. The funding will be from RDT&E appropriations. Only budget activities applicable to DFARS 235.016(a)(i)-(iv) research areas will be used for the award of proposals. Approved ceiling for the Closed BAA with CALLS is $49,000,000.00. All funding is subject to change due to government discretion and availability. All potential offerors should be aware that due to unanticipated budget fluctuations, funding in any or all areas may change with little or no notice.

C. ANTICIPATED NUMBER OF AWARDS: Multiple awards of contracts of various values are anticipated. Periodically over the five (5) year period of this BAA, CALL announcements will be issued through SAM.gov to request white papers for specific research efforts as technical topic areas are identified. The Government anticipates awarding a minimum of one contract per CALL. However, the Government reserves the right to make multiple or no awards pursuant to a CALL. The Government also reserves the right to issue no CALLs for a given technology area.

D. ANTICIPATED PERIOD OF PERFORMANCE. The period of performance will be determined for each contract award based on the requirements of the effort. Contracts issued under this BAA may be for a period of up to five years.

E. FUNDING RESTRICTIONS. The cost of preparing white papers or proposals in response to this announcement is not considered an allowable direct charge to any resulting contract or any other contract but may be an allowable expense as specified in FAR 31.205-18(c).

F. FORM. Awards of efforts as a result of this announcement will typically be in the form of "C" type contracts.

III. ELIGIBILITY INFORMATION

A. ELIGIBLE OFFERORS/APPLICANTS. In response to a CALL, all sources capable of satisfying the Government's needs may submit a white paper. All correspondence must reference the BAA number, the BAA title, and the CALL number.

B. FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS (FFRDCS). Federally Funded Research and Development Centers (FFRDCs) and Government entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity unless they meet the following conditions:

1. FFRDCs: FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector; and FFRDCs must provide a letter on official letterhead from their sponsoring organization citing the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and their compliance with the associated FFRDC sponsor agreement's terms and conditions. This information is required for FFRDCs proposing to be prime contractors or sub-awardees.

2. GOVERNMENT ENTITIES: Government entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to propose to Government solicitations. While 10 U.S.C.§ 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility.

FFRDC and Government entity eligibility will be determined on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer. Government agencies interested in performing work related to this announcement should contact the Technical Point of Contact (TPOC). If resulting discussions reveal a mutual interest, cooperation may be pursued via other vehicles.

C. FOREIGN PARTICIPATION.

1. THIS BAA IS CLOSED TO FOREIGN PARTICIPATION. This includes both foreign ownership and foreign nationals as employees or subcontractors.

2. Exceptions.

a. Fundamental Research. If the work to be performed is unclassified, fundamental

research, this must be clearly identified in the white paper and/or proposal. See Section II for more details regarding Fundamental Research. Offerors should still identify any performance by foreign nationals at any level (prime contractor or subcontractor) in their proposals. Please specify the nationals' country of origin, the type of visa or work permit under which they are performing and an explanation of their anticipated level of involvement. You may be asked to provide additional information during negotiations in order to verify the foreign citizen's eligibility to participate on any contract or assistance agreement issued as a result of this announcement.

b. Foreign Ownership, Control or Influence (FOCI) companies who have mitigation plans/paperwork in place. **PROOF** of approved mitigation documentation must be provided to the contracting office focal point, For information on FOCI mitigation, contact the contact the Defense Counterintelligence and Security Agency (DCSA). Additional details can be found at: https://www.dcsa.mil/mc/ctp/foci/

c. Foreign Nationals as Employees or Subcontractors. Applicable to any effort not considered Fundamental Research. Offerors are responsible for ensuring that all employees and/or subcontractors who will work on a resulting contract are eligible to do so. Any employee who is not a U.S. citizen or a permanent resident will be restricted from working on any resultant contract unless prior approval of the Department of State or the Department of Commerce is obtained via a technical assistance agreement or an export license. Violations of these regulations can result in criminal or civil penalties.

3. Information Regarding Non-US Citizens Assigned to this Project.

a. Contractor employees requiring access to USAF bases, AFCEC facilities, and/or access to U.S. Government Information Technology (IT) networks in connection with the work on contracts, assistance instruments or other transactions awarded under this BAA **MUST BE U.S. CITIZENS**. For the purpose of base and network access, possession of a permanent resident card ("Green Card") does not equate to U.S. citizenship. This requirement does not apply to foreign nationals approved by the U.S. Department of Defense or U.S. State Department under international personnel exchange agreements with foreign governments. It also does not apply to dual citizens who possess US citizenship, to include Naturalized citizens. Any waivers to this requirement must be granted in writing by the Contracting Officer prior to providing access. Specific format for waiver request will be provided upon request to the Contracting Officer. The above requirements are in addition to any other contract requirements related to obtaining a Common Access Card (CAC).

b. For the purposes of Paragraph 1, if an IT network/system does not require AFCEC to endorse a contractor's application to said network/system in order to gain access, the organization operating the IT network/system is responsible for controlling access to its system. If an IT network/system requires a U.S. Government sponsor to endorse the application in order for access to the IT network/system, AFCEC will only endorse the following types of applications, consistent with the requirements above:

i. Contractor employees who are U.S. citizens performing work under contracts, assistance instruments or other transactions awarded under this BAA.

ii. Contractor employees who are non-U.S. citizens and who have been granted a waiver.

iii. Any additional access restrictions established by the IT network/system owner apply.

D. GOVERNMENT AGENCIES. Government agencies interested in performing work shall contact the Program Office identified in the CALL. If a mutual interest results in your agency's participation, the effort will be pursued independent of the CALL issued against this BAA.

E. SECURITY REQUIREMENT. Depending on the work to be performed, the offeror may require a classified facility clearance and safeguarding capability; therefore, personnel identified must be cleared for access to information at the equivalent level of security at the time of award. In addition, the offeror may be required to have, or have access to, a certified and Government-approved facility to support work under this BAA. The FAR requires that a DD Form 254, *Department of Defense Contract Security Classification Specification,* be incorporated in any classified contract. The DD Form 254 provides the contractor (or a subcontractor) with the security requirements and the classification guidance that would be necessary to perform on a classified contract. If a DD Form 254 is required, it will be included in the CALL and FAR Clause 52.204-2 will also be incorporated.

IV. SUBMISSION INFORMATION

A. GENERAL INFORMATION. Proposals received in response to a CALL will be evaluated and awarded without discussions unless discussions are determined to be necessary. However, the Government may obtain clarifications to determine proposal acceptability. In the event the Government is unable to conclude negotiations with an acceptable offeror(s), it reserves the right to conduct negotiations with another acceptable offeror.

1. Offerors MUST monitor SAM.gov in the event this announcement is amended, or CALLs are issued. Offerors must monitor SAM.gov to ensure they receive the maximum white paper preparation time.

2. Potential offerors are requested to advise the contracting officer if they intend to submit a proposal in response to a CALL. Such notification is merely a courtesy and is not a commitment by the offeror to submit a proposal.

3. **DO NOT SUBMIT ANY CLASSIFIED INFORMATION IN THE WHITE PAPER/PROPOSAL.**

4. COST SHARING OR MATCHING: Cost sharing is not a requirement. Cost sharing may be proposed and will be considered on a case-by-case basis. Cost share will not be a factor in selection for award.

5. SYSTEM FOR AWARD MANAGEMENT (SAM). Offerors must be registered in the SAM database to receive a contract award and remain registered during

performance and through final payment of any contract or agreement. Offerors who are not already registered should consider applying for registration before submitting a white paper. The provision at FAR 52.204-7, System for Award Management (Oct 2018) applies.

6. EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT/ SUBRECIPIENT AWARDS: Any contract award resulting from this announcement may contain the clause at FAR 52.204-10 - Reporting Executive Compensation and First-Tier Subcontract Awards (Jun 2020). Any grant or agreement award resulting from this announcement may contain the award term set forth in 2 CFR, Appendix A to Part 25 which can be viewed at: https://www.govinfo.gov/app/details/CFR-2012-title2-vol1/CFR-2012-title2-vol1-part25-appA.

7. ALLOWABLE CHARGES: The cost of preparing white papers/proposals in response to this announcement is not considered an allowable direct charge to any resulting contract or any other contract, but may be an allowable expense to the normal bid and proposal indirect cost specified in FAR 31.205-18.

8. GOVERNMENT APPROVED ACCOUNTING SYSTEM: An offeror must have a government approved accounting system prior to award of a cost-reimbursement contract per limitations set forth in FAR 16.301-3(a) to ensure the system is adequate for determining costs applicable to the contract. The acceptability of an accounting system is determined based upon an audit performed by the Defense Contract Audit Agency (DCAA). In order to avoid potential contracting delays, it is required that companies interested in pursuing cost reimbursement type contracts under have an adequate accounting system in place per Generally Accepted Accounting Principles (GAAP), Generally Accepted Government Auditing Standards (GAGAS), the Federal Acquisition Regulation (FAR) and Cost Accounting Standards (CAS). Therefore, if you have not already had a Defense Contract Audit Agency (DCAA) review of your accounting system, it is necessary for DCAA to perform an audit to confirm that an adequate system is in place. See Attachment 1 for further instructions.

9. HUMAN USE: All research involving human subjects, to include the use of human biological specimens and human data, selected for funding must comply with Federal regulations for human subject protection. Further, research involving human subjects that is conducted or supported by the DoD must comply with 32 CFR 219, "Protection of Human Subjects" and DoD Instruction 3216.02, "Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research."

   a. Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance found at: http://www.hhs.gov/ohrp.

   b. All institutions engaged in human subject research, to include subcontractors, must have a valid assurance. In addition, personnel involved in human subject research must document the completion of appropriate training for the protection of human subjects.

   c. For all research that will involve human subjects in the first year or phase of the

project, the institution must submit evidence of a plan for review by an institutional review board (IRB) as part of the proposal. The IRB conducting the review must be the IRB identified on the institution's Assurance of Compliance. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. The designated IRB should be consulted for guidance on writing the protocol. The informed consent document must comply with 32 CFR 219.116. A valid Assurance of Compliance and evidence of appropriate training by all investigators should accompany the protocol for review by the IRB.

d. In addition to a local IRB approval, an ACEC-level human subject regulatory review and approval is required for all research conducted or supported by the DoD. The Air Force office responsible for managing the award can provide guidance and information about the AFCEC-level review process. Confirmation of a current Assurance of Compliance and appropriate human subjects' protection training is required before AFCEC-level approval can be issued.

e. The time required to complete the IRB review/approval process will vary depending on the complexity of the research and/or the level of risk to study participants; ample time should be allotted to complete the approval process. The IRB approval process can last between 1 to 3 months, followed by a DoD review that could last 3 to 6 months. No funding may be used toward human subject research until all approvals are granted. Therefore, in their cost proposals offerors should separate human use into a separate option.

10. SUPPLIER PERFORMANCE RISK SYSTEM (SPRS). Offerors should have a BASIC NIST SP 800 171 DoD Assessment in the SPRS (https://www.sprs.csd.disa.mil/). Basic assessment is to be conducted by the offeror.

B. STEP ONE- Once a CALL is posted, white papers can be submitted by offerors for consideration. White Paper due date will be listed in the CALL. Only white papers for scientific study and experimentation directed toward advancing the state-of-the-art or increasing knowledge or understanding within technical areas outlined in the CALL shall be submitted. White papers that do not meet these criteria will not be accepted.

1. WHITE PAPERS ARE ONLY ALLOWED TO BE SUBMITTED IN RESPONSE TO A CALL. DO NOT SUBMIT A FORMAL PROPOSAL UNLESS REQUESTED BY THE GOVERNMENT. There are no limits to the number of white papers an offeror may submit. The solicitation period is five (5) years from date of BAA issuance. White Papers shall be addressed to the Contracting Point of Contact (POC). If the offeror wishes to restrict its white papers, they must be marked with the restrictive language stated in FAR 52.215-1(e).

a. WHITE PAPER FORMAT.

i. TEXT & FONT FORMAT. Font shall be standard 12-point, Arial. Character spacing is normal, not condensed. Pages shall be double-spaced, single-sided, 8.5 x 11 inches, with one-inch margins, side, top and bottom. All text, including text in tables and charts, must adhere to font size and line spacing requirements. Font/line spacing does not have to be followed for

illustrations/flowcharts/ drawings/diagrams.

ii. NUMBER OF PAGES. The white paper is limited to five (5) pages. Pages shall be numbered sequentially. The cover page is unnumbered and does not count against the page restriction. Pages submitted in excess of the white paper page limit will not be read or evaluated.

iii. NUMBER OF COPIES AND FORMAT. The offeror shall submit one (1) electronic copy of the white paper in Portable Document Format (PDF).

2. WHITE PAPER CONTENT. The purpose of the white paper is to preclude unwarranted effort on the part of an offeror whose proposed work is not of interest to the Government. The required format for the white paper is as follows:

i. SECTION A: Cover Page shall include the following: Reference BAA Title, BAA Number: FA8051-24-S-0001, Call Title, Call Number, Period of Performance, Name and address of the company, Unique Entity Identifier (UEI), Technical and Contracting POCs (phone and e-mail).

ii. SECTION B: Task Objectives – Description of work to be performed.

iii. SECTION C: Technical Summary - White paper's technical portion shall include the nature of research, scope discussion, and the offeror's proposed technical approach/solution. It may include proposed deliverables. Resumes, facilities, equipment descriptions, and proposed Statements of Work (SOW) are not required.

iv. SECTION D: Estimated Cost. Cost portion shall include a Rough Order of Magnitude (ROM). The ROM consists of the total cost-plus profit/fee (if any). It is a best guess of the anticipated cost of the effort. The ROM should be consistent with any dollar value or ranges, if any, specified in the announcement, as well as the level of work being proposed. No detailed price or cost support information is required; only provide a time-phased bottom line figure.

C. SUBCONTRACTING PLANS. Small Business Subcontracting Plans are required under FAR 19.702 for efforts anticipated to exceed $750,000. Prospective offerors shall submit applicable subcontracting plans in accordance with the requirements set forth in FAR 19.704, and DFARS 219.704. Small businesses are exempt from this requirement. The subcontracting plan is a part of the cost/business section of the proposal and will not be included in the page count.

D. Offerors may be ineligible for award if all requirements of this announcement are not met.

V. APPLICATION REVIEW INFORMATION

A. CRITERIA: The following criteria will be used to determine whether white papers and proposals submitted are consistent with the intent of this BAA and of interest to the Government:

1. OVERALL SCIENTIFIC AND TECHNICAL MERIT - The extent to which the offeror demonstrates the detailed approach, development, and testing of the proposed new technology to achieve relevant new capabilities or enhancements.

2. RELATED EXPERIENCE - The extent to which the offeror demonstrates relevant technology and domain knowledge.
3. OPENNESS, MATURITY AND ASSURANCE OF SOLUTION - The extent to which existing capabilities and standards are leveraged and the relative maturity of the proposed technology.
4. REASONABLENESS AND REALISM OF PROPOSED COSTS AND FEES (if any)

Order of importance will be determined at the CALL level. No further evaluation criteria will be used to select white papers for proposal invitation. Proposals will be evaluated IAW this evaluation criteria only and categorized/selected for award as detailed in Section V.C.2.

B. REVIEW AND SELECTION PROCESS

1. Only Government employees will evaluate the white papers/proposals for selection. AFCEC/CXA has contracted for various business and staff support services, some of which require contractors to obtain administrative access to proprietary information submitted by other contractors. Administrative access is defined as "handling or having physical control over information for the sole purpose of accomplishing the administrative functions specified in the administrative support contract, which do not require the review, reading, and comprehension of the content of the information on the part of non-technical professionals assigned to accomplish the specified administrative tasks." These contractors have signed general non-disclosure agreements and organizational conflict of interest statements. The required administrative access will be granted to non-technical professionals. Examples of the administrative tasks performed include: a. Assembling and organizing information for R&D case files; b. Accessing library files for use by government personnel; and c. Handling and administration of proposals, contracts, contract funding and queries. Any objection to administrative access must be in writing to the Contracting Officer and shall include a detailed statement of the basis for the objection.
2. Organizational Conflicts of Interest will be resolved prior to the award of any instrument resulting from an Offeror's proposal.

C. WHITE PAPER/PROPOSAL REVIEW PROCESS:

1. WHITE PAPER REVIEWS: The Government will review White Papers to identify those with the greatest potential to meet the Air Force's needs based on the criteria above. If funding is available for an identified white paper, AFCEC/CXA will request a formal technical and cost proposal from the Offeror. For white papers not of interest to the Government, or for which funding is not available, those Offerors will receive letters from the Government indicating the basis for non-selection.
2. PROPOSAL REVIEW AND SELECTION PROCESS:
   a. CATEGORIES: Based on the evaluation, proposals will be categorized as Selectable or Not Selectable (see definitions below). The selection of one or more offerors for award will be based on the evaluation, as well as importance to agency programs and funding availability.

i. SELECTABLE: Proposals are recommended for acceptance, if sufficient funding* is available.

ii. NOT SELECTABLE: Even if sufficient funding existed, the proposal should not be funded.

* Selectable proposals will be designated as funded or unfunded. Letters will be sent to the unfunded offerors. These proposals may be funded at a later date without reevaluation, if funding becomes available.

b. The Government reserves the right to award some, all, or none of the proposals. When the Government elects to award only a part of a proposal, the selected part may be categorized as Selectable, though the proposal as a whole may not merit such a categorization.

c. Proposal Risk Assessment: Proposals' technical, cost, and schedule risk will be assessed as part of the above evaluation criteria's application. Proposal risk relates to the identification and assessment of the risks associated with an offeror's proposed approach as it relates to accomplishing the proposed effort. Tradeoffs of the assessed risk will be weighed against the potential scientific benefit. Proposal risk for schedule relates to an assessment of the risks associated with the offeror's proposed number of hours, labor categories, materials, or other cost elements as it relates to meeting the proposed period of performance.

d. Prior to award of a potentially successful offer, the Contracting Officer will make a determination regarding price reasonableness and realism.

3. FEDERAL AWARDEE PERFORMANCE AND INTEGRITY INFORMATION SYSTEM (FAPIIS) PUBLIC ACCESS: The Government is required to review and consider any information about the applicant that is in the FAPIIS before making any award in excess of the simplified acquisition threshold (currently $250,000) over the period of performance. An applicant may review and comment on any information about itself that a federal awarding agency previously entered. The Government will consider any comments by the applicant, in addition to other information in FAPIIS in making a judgment about the applicant's integrity, business ethics, and record of performance under federal awards when completing the review of risk posed by applicants as described in 2 CFR § 200.205 Federal Awarding Agency Review of Risk Posed by Applicants and per FAR 9.104-6.

4. ADEQUATE PRICE COMPETITION: As this BAA is a Closed BAA, adequate price competition is not anticipated since proposals will be for varying types of research and will not be compared against one another. Offerors whose proposals are selected for award will be expected to submit certified cost and pricing data on contracts exceeding $2M.

VI. STEP TWO INFORMATION- REQUEST FOR PROPOSAL AND AWARD

A. PROPOSAL FORMATTING: See Attachment 2 for further instructions.

B. AWARD NOTICES: Those white papers found to be consistent with the research areas of interest and expected results within the topic area listed in the CALL and of interest to the Government may be invited to submit a technical and cost proposal. Notification by

email or letter will be sent by the TPOC. Such invitation does not assure that the submitting organization will be awarded a contract. Those white papers not selected to submit a proposal will be notified in the same manner. Prospective offerors are advised that only Contracting Officers are legally authorized to commit the Government. All offerors submitting proposals will receive notification of their evaluation results within 60 days of submission. Offerors should email the TPOC and the Contracting Officer listed in Section VII.A., for status of their proposal after 60 days, if no such correspondence has been received.

C. DEBRIEFINGS: If a debriefing is requested in accordance with the time guidelines set out in FAR 15.505 and 15.506, a debriefing will be provided, but the debriefing content may vary to be consistent with the procedures that govern BAAs (FAR 35.016). Debriefings will not be provided for white papers.

D. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS:

1. FACILITY CLEARANCE. Depending on the work to be performed, the offeror may require a SECRET facility clearance and safeguarding capability; therefore, personnel identified for assignment to a classified effort must be cleared for access to SECRET information at the time of award. In addition, the offeror may be required to have, or have access to, a certified and Government-approved facility to support work under this BAA.

2. EXPORT CONTROL LAWS. Awards under this solicitation may require access to, or generation of, data subject to export control laws and regulations. Only contractors who are registered and certified with the Defense Logistics Information Service (DLIS) and have a legitimate business purpose may participate in this solicitation. You must submit a copy of your approved DD Form 2345, Militarily Critical Technical Data Agreement, with your white paper/proposal.

3. SMALL BUSINESS PARTICIPATION. The Government encourages the best sources from the scientific and industrial communities to propose, including small business concerns, large businesses, academia and non-profit entities. Non-small businesses are encouraged to team with small business concerns to come up with the best technical solutions and obtain the best mix of cost, performance and schedule.

E. DATA RIGHTS ASSERTIONS.

1. SBIR RIGHTS. The potential for inclusion of Small Business Innovation Research (SBIR) or data rights other than unlimited on awards is recognized. In accordance with (IAW) the Small Business Administration (SBA) SBIR Policy Directive, Section 8(b), SBIR data rights clauses are non-negotiable and must not be the subject of negotiations pertaining to an award, or diminished or removed during award administration. Issuance of an award will not be made conditional based on forfeit of data rights. If the SBIR awardee wishes to transfer its SBIR data rights to the Air Force or to a third party, it must do so in writing under a separate agreement. A decision by the awardee to relinquish, transfer, or modify in any way its SBIR data rights must be made without pressure or coercion by the agency or any other party.

2. NON-SBIR RIGHTS.

a. Non-SBIR data rights less than unlimited will be evaluated and negotiated on a

case-by-case basis. Government Purpose Rights are anticipated for data developed with DoD–reimbursed Independent Research and Development (IR&D) funding.

b. The Air Force is engaged in the discovery, development, and integration of warfighting technologies for our air, space, and cyberspace forces. As such, rights in technical data and noncommercial computer software (NCS) developed or delivered under this contract are of significant concern to the Government. The Government will therefore carefully consider any restrictions on the use of technical data, NCS, and NCS documentation which could result in transition difficulty or less-than full and open competition for subsequent development of this technology.

c. Third Party Software. DFARS 252.227-7014(d) describes requirements for incorporation of third party computer software. Any third party software (commercial and noncommercial) to be incorporated into a deliverable must be clearly identified in the proposal. Prior to delivery of any third party software, the contractor will obtain an appropriate license for the Government, and the written approval of the contracting officer.

3. IDENTIFICATION & ASSERTION. IAW DFARS 252.227-7017, the Identification and Assertion of Use, Release, or Disclosure Restriction provision applies.

F. REPORTING:

1. CONTRACT APPLICABLE: Once a proposal has been selected for award, offerors will be given complete instructions on the submission process for the reports.

2. FAPIIS APPLICABLE: As required by 2 CFR 200 Appendix XII of the Uniform Guidance and FAR 9.104-6, non-federal entities (NFEs) are required to disclose in FAPIIS any information about criminal, civil, and administrative proceedings, and/or affirm that there is no new information to provide. This applies to NFEs that receive federal awards (currently active grants, cooperative agreements, and procurement contracts) greater than $10,000,000 for any period of time during the period of performance of an award/project.

G. NOTICE: The following provisions* apply:

1. FAR 52.204-24, Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment

2. DFARS 252.204-7008, Compliance with Safeguarding Covered Defense Information Controls

3. DFARS 252.204-7017, Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services-Representation (applies unless the Offeror has represented in DFARS 252.204-7016 in SAM that it does not provide that equipment or services to the Government under a contractual instrument)

4. DFARS 252.215-7009, Proposal Adequacy Checklist

5. DFARS 252.215-7013, Supplies and Services Provided by Nontraditional Defense Contractors

6. DFARS 252.225-7973, Prohibition on the Procurement of Foreign-Made Unmanned Aircraft Systems-Representation (DEVIATION 2020-O0015) (MAY 2020)
7. DFARS 252.225-7055, Representation Regarding Business Operations with the Maduro Regime
8. DFARS 252.239-7009, Representation of Use of Cloud Computing
9. DFARS 252.239-7017, Notice of Supply Chain Risk

* Please note that the current versions or deviations of the related clauses will be included in any resulting contract. Additional provisions may be included in any resultant contract, dependent upon each individual effort.

VII.OTHER INFORMATION

A. POINTS OF CONTACT (POC)

1. Contracting POC

   Mr. Toby L Carnes
   Contracting Officer
   toby.carnes.1@us.af.mil

2. Technical POC

   Ms. Julie Sosa
   Project Manager
   julie.sosa.2@us.af.mil

B. ATTACHMENTS

1. Adequate Accounting System
2. Proposal Prep Instructions
3. C-SOW Example