

BROAD AGENCY ANNOUNCEMENT (BAA) BAA-RAC-21-0001

FULL TEXT ANNOUNCEMENT

PART I – RESEARCH INTEREST

Omnibus BAA

A. Introduction

This is a Broad Agency Announcement (BAA) of the Air Force Life Cycle Management Center (AFLCMC) under the provisions of 6.102(d)(2)(i) and 35.016 of the Federal Acquisition Regulation, which provides for the competitive selection of research proposals. Proposals submitted in response to this BAA that are selected for award are considered to be the results of full and open competition and in full compliance with the provisions of PL 98-369, the Competition in Contracting Act of 1984. For purposes of this announcement, research is defined as the scientific study and experimentation directed at increasing knowledge and understanding in relation to long term national security needs. It is an enhancement to related exploratory and advanced development programs, rather than focusing on a specific system or hardware solution. This serves as AFLCMC's annual renewal of the Omnibus BAA and is not meant to replace the Engineering, Professional & Administrative Support Services (EPASS) Advisory & Assistant (A&AS) effort currently underway.

B. Areas of Interest

This BAA is related to programs currently managed at Eglin Air Force Base by the Armament Directorate (AFLCMC/EB) and United States Special Operations Command (SOCOM) Det-1.

Procurement actions resulting from this BAA are anticipated to be between \$200K and \$10M, but may vary according to the depth and breadth of research.

This BAA is intended to cover, in general nature, all research areas of interest to all AFLCMC/EB Divisions and SOCOM Det-1. We are specifically looking for innovative ideas, characterization of new technologies, and system concepts that provide evolutionary, revolutionary, and disruptive capability to fill warfighter gaps. Evolutionary provides incremental capability by delivering gradual performance improvement and may utilize existing operations, competencies, and processes. Revolutionary brings next generation capability to the Air Force and Department of Defense and delivers a step-change in performance. Disruptive enables game changing capability that may be new to the world, require new

operations, competencies, and processes, and creates dilemmas for US adversaries on the battlefield.

Mission areas for gap mitigation include Base Defense, Long Range Strike, Close Control Strike, Intra-Theater Strike, and Offensive & Defensive Counter-Air (to include Suppression of Enemy Air Defenses (SEAD)/ Destruction of Enemy Air Defenses (DEAD)). Desired weapon capabilities include but are not limited to; defeat of fighters, bombers, support aircraft, unmanned aerial vehicles, cruise missiles, integrated air defense systems (IADS), ballistic missiles, fixed and moving targets, hard & deeply buried targets (HDBTs), area targets, maritime systems, and weapons of mass destruction (WMDs). Weapon technologies and concepts that provide U.S. forces the ability to retain air superiority and global precision attack capabilities are highly desired. Technologies and methodologies to improve the cost, schedule and performance of development and manufacturing for any concept and existing legacy system are requested.

Offeror efforts under this BAA will:

1. Support enabling processes such as digital engineering and open system architecture (OSA) in order to accelerate acquisition and provide capability to the warfighter faster. Digital engineering includes but is not limited to Model Based Systems Engineering (MBSE), Integrated Trade Space Analyses, Behavior Modeling, Machine Learning and Artificial Intelligence, and a system/concept Modeling and Simulation (M&S) foundation that includes performance modeling, operational analysis, digital twin/thread, and live virtual construct (LVC). Integration of a digital engineering framework that combines models, data, and artifacts allows the US to rapidly respond to changing threats, field advanced capabilities, and engineer dominant systems at the speed of relevance. OSA is a structure in which systems/concepts interfaces share common, widely accepted standards that can be independently verified, and is key to enabling incremental development, enhancing competition, driving innovation, and maximizing interoperability. Investigation areas include but are not limited to defining an architectural concept for a modular open system approach to weapon development and fielding; identification of candidate weapon components/subsystem interfaces; degree of commonality, interchangeability and interoperability across modules/subsystems; impacts to systems engineering responsibility under open architecture; strategic asset reuse (hardware and software) within and across modular/open systems.
2. Support AFLCMC/EB in developing concepts, analyzing mission effectiveness (including affordability), and demonstrating prototypes for innovative Air Force Armament materiel solutions in the following focus areas: Reach, Affordable Mass, Autonomous Collaboration, Sensing and Communication Nodes, and Non-Kinetic Effects.
 - a. Reach: Hold adversaries at risk in air, ground, and surface domains with increased standoff. Technologies that enhance scramjet/ramjet engines, compact boosters with higher specific impulse, small and efficient gas turbine engines, and hypersonic flight are primary emphasis areas. Technologies that increase weapon standoff at neutral inventory cost are also highly desired.
 - b. Affordable Mass: Deliver large quantities of low cost weapons from traditional and non-tradition platforms. The goal is to impart a cost imposing strategy on the adversary by overwhelming the airspace with low cost, yet effective weapons. Stretch goal is to have a 10:1 cost ratio (i.e. it costs the adversary 10x to shoot down the incoming weapon). Non-

traditional delivery mechanisms such as boost trucks, pallets, tubes, and unmanned vehicles are also desired.

- c. Autonomous Collaboration: Weapons adapt to the battlespace and maximize outcomes in situations that would overwhelm human decision makers. Collaborative weapons will interact, share data, and develop/execute coordinated actions to improve information across the entire group of weapons and thereby enhance their effectiveness.
- d. Sensing and Communication Nodes: Weapons will be used as a sensor and communication node to enable Multi-Domain Operations.
- e. Non-Kinetic Effects: Add unique, disruptive battlespace capability (multi-target defeat) with large, “reusable” magazine. Directed energy (high energy lasers, high power microwaves, etc.) and electronic warfare are primary focus areas but other topics are accepted.

Technologies and/or processes that enable the development, testing, and fielding of capability in these focus areas should be considered. These may include but are not limited to: guidance, navigation, and control, sensors (e.g. seekers, inertial measurement units, datalinks, etc.), software/algorithms, new materials, flight terminations systems, and telemetry/instrumentation systems.

3. Support AFLCMC/EB and SOCOM Det-1 explorations of new technologies that enhance weapon system and or platform capacity, standoff, survivability, accuracy, flexibility, improved lethality against a wider array of target types, and allow for rapid integration on both legacy and next generation platforms are of special interest. This includes initiatives for the rapid execution of innovative, emerging capabilities and technologies for munitions or munitions related products by developing, integrating, and proving through rapid prototyping, demonstration, and/or fielding within 24 months. The ability to identify and communicate the value of these technologies in a campaign analysis is important in understanding the merit of proposed technologies. Tools that advance the Air Force’s ability determine the value of various technologies are also desired.

The proposed concept(s) should be designed to demonstrate well-defined and substantive science and applied technology results, should not be overly ambitious or open-ended, and should not be a paper study that inherently requires a substantial testing effort under this BAA. Study documentation should qualify and quantify the research topic, with or without a hardware demonstration that would validate the concept. The Government’s primary interest is in the advancement of the knowledge supporting the science and technology obtained through the research

itself, not the actual prototypes that may be a product of the study. Under some circumstances, it shall be expected that narrowly focused concept papers or proposals for development of concepts using advanced Science & Technology (S&T) may be required during the time of this open announcement. Under those circumstances, a specific or special BAA amendment or Request For Information (RFI) may be issued describing the requirement in greater detail, defining funding available, elaborating on concept paper or proposal submission due date and format, and possibly providing more specific evaluation criteria.

C. Proposal Preparation and Submission:

Proposals may be submitted at any time during the period the BAA is open, which is anticipated to be one year, at the conclusion of which the BAA may be renewed or superseded. However, **prior to submitting a proposal**, Offerors are **required** to submit a one-page PDF of a concept paper on their proposed research topic. Review of concept papers submitted and decisions to proceed with proposals will be limited to key representatives of AFLCMC/EB and SOCOM Det-1.

Submit concept papers via Email to the following Contracting Point of Contacts: Mr. Chris Laffitte (chris.laffitte@us.af.mil) and Ms. Syntoria L. Spencer (syntoria.spencer.1@us.af.mil). **The purpose of the concept paper is to preclude unwarranted effort on the part of an Offeror whose proposed work is not of interest under this BAA.** Those Offerors submitting concept papers that are determined through Government peer review to be of interest but requires more information will be discussed further by the Government and the offeror. **Such discussion, however, does not assure a formal proposal invitation and that a contract will be awarded.**

Note that there is no inherent funding associated with this BAA.*

Concept papers submitted may be evaluated as they are received or held for consolidated evaluation. There will be no further correspondence between the Government and Offeror if the concept paper is not selected for award. Any concept papers received under this BAA will be kept in a digital repository for the life of the BAA. Secure access shall be provided to specific representatives of the related program offices for maximum consideration of proposed research. Any concept papers not selected during the open submission period will **NOT** be automatically rolled over to any subsequent BAAs. This policy allows for the freshest concepts to be under consideration.

Offerors may submit multiple concept papers.

Offerors submitting concept papers should reference the solicitation number, the technology area (i.e. Reach, Affordable Mass, Autonomous Collaboration, etc.), and the capability need being addressed in the header of the concept paper, if applicable. The concept paper's footer should include the company name, contact name, and email address. The remainder of the concept paper should describe the Offeror's concept and should provide a period of performance and an estimated cost for the effort.

Industry is encouraged to respond with information not constrained by proprietary data rights. However, if proprietary data is included in the reply, please mark it

appropriately. Concept papers submitted via email must be unclassified. If classified material is anticipated, contact the Contracting Officer mentioned herein for special mailing arrangements.

In the event the concept paper is selected for a formal proposal, the contractor may be asked to provide the technical proposal orally or to submit it via written documentation. If asked to present the technical proposal orally, this may be accomplished by phone, video conference, or face-to-face. The Offeror will present the proposal orally, with briefing charts provided as written evidence of the proposal. The charts, with minor alterations, may be incorporated into the contract as the Statement of Work (SOW), or the contractor may provide a separate SOW to accompany the oral proposal. Any written documentation must be compatible with Microsoft Word 2003 format or higher. The number of charts or font size is not limited but the presentation of the charts is limited to one hour with possible clarification questions by the Government following the Offeror's uninterrupted presentation. The Government reserves the right to request the technical proposal be delivered in writing instead of presented orally, such as when the proposal may contain classified information. When applicable, a proposal adequacy checklist will be provided as a guide for the development of the proposal. In the event an A&AS contractor is needed to attend the briefing with Government personnel in order to offer subject matter expertise to evaluators, the Offeror will be notified in advance and any non-disclosure agreement issues will be cleared before the presentation takes place.

The oral presentation or the written documentation of the technical proposal should contain the following, with briefing charts summarizing key points:

1. A reasonably complete discussion stating the background and objectives of the proposed work, the approaches to be considered, and the resources to be employed. Include the nature and extent of the anticipated results, and if known,

the manner in which the work will contribute to the accomplishment of the agency's mission.

2. The names and brief biographical information of the Offeror's key personnel that will be involved in the research.
3. If Government support (e.g. facilities, equipment, materials) is requested by the offeror, list the type.
4. The names of federal, state, local agencies or other parties receiving the proposals and/or funding the proposed effort of a similar nature. If none, please state this.
5. Identification of facilities, specialized equipment, or other real property to be used for the work, if appropriate for an understanding of the technical work to be conducted.

D. It is the Government's intent to award firm fixed price contracts. Other contract types may be used if deemed appropriate.

The cost portion of the proposal must be in writing and should contain the following:

1. Proposal Pricing Cover Sheet for total proposal.
2. Summary by cost element and profit for each contract line, sub-line item, and for the total proposal.
3. Labor summary for total proposal by categories, rates, and hours. Include an explanation of how labor rates are computed, including base rates and escalation. Show the level of effort, if applicable.
4. Identification of indirect rates by fiscal year and explanation of how established and base to which they apply.
5. Bill of materials detailing items by type, quantity, and unit price, total amount, and source of estimate. Provide vendor quotes.
6. Summary of all travels by destination, purpose, number of people, days, air fare, per diem, car rental, etc.
7. Consultants by name, rate, and number of days or hours. Furnish copy of consulting agreement, and identify prior agreements under which the consultant received the proposed rate.
8. Other direct costs by type, amount, cost per unit and purpose. Specifically identify any costs for printing and publication and computers.
9. Subcontractor's proposal with prime Offeror's price/cost analysis of subcontractor's proposal. If subcontractor was not competed, include justification.
10. Forecast of monthly dollar commitments for the proposed contract period.
11. Proposed Contract Type
12. State whether the Offeror is a large business, small business, small disadvantaged business (SDB), woman-owned small business, HUBZONE small business, veteran-owned business, service disabled veteran-owned small business, university, or consortia (NAICS Code 541712). Under the provisions of FAR 19.12, all SDB participation will be evaluated accordingly.
13. Identify and provide any evidence of approved accounting system. Provide Representations and Certifications through the System for Award Management (SAM) found at <http://sam.gov>. Provide CAGE and DUNS codes and the full

mailing address of the organization proposed for the effort. Add any additional terms and conditions, if applicable.

The cost of preparing concept papers/subsequent 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. Companies responding to this announcement are cautioned that **only** a Contracting Officer may obligate the Government to any agreement involving expenditure of Government funds.

E. Concept Paper/Proposal Evaluation

- A. At the invitation of the Government Contracting Officer, concept papers/proposals submitted in response to this BAA will be evaluated as received using the factors given below. The factors are listed in descending order of importance. No further evaluation criteria will be used in selecting the concept papers/proposals unless specifically stated in a BAA amendment.
1. An integrated assessment of the proposed approach to include technical merits and associated risks, and the potential contributions of the effort to meet and fulfill program requirements. Potential value to the Government (technical promise) will be assessed, based on innovation, originality, feasibility, and desirability from the Warfighter's perspective.
 2. The Offeror's capabilities, related experience (include past and present performance -- lack of a record of past performance will not be evaluated negatively), facilities, techniques, or unique combinations of these that are integral factors for achieving the concept paper/proposal objectives.
 3. The qualifications, capabilities, and experience of the proposed principal investigator, team leader, and other key personnel who are critical to achieving the concept paper/proposal objectives.
 4. The reasonableness of proposed price and profit and the availability of funds.
- B. Upon receipt of a concept paper/proposal, technical staff will perform an initial review of its technical merit and potential contribution to the Air Force mission, and determine if funds are expected to be available for the effort. Concept papers/proposals not considered having sufficient technical merit or relevance to Air Force needs, or those in areas for which funds are not expected to be available, may be declined without further review.
- C. It is the policy of the AFLCMC/EB to treat all concept papers/proposals as privileged information, and to disclose the contents only for the purposes of evaluation. Concept papers/proposals not declined as a result of initial review will be subject to an extensive evaluation by highly qualified Government scientific and engineering professionals. The Offeror must indicate on the appropriate form/page any limitation to be placed on disclosure of information contained in the concept paper/proposal. Should portions of the concept paper/proposal be incorporated into a resulting contract, that portion may be

subject to release under the Freedom of Information Act unless exempt from release.

- D. Each concept paper/proposal will be evaluated based on the technical merit and relevance of the specific research proposed as it relates to the overall mission. Papers/proposals for research in the same general area shall not be evaluated against others, unless specifically addressed in a BAA Amendment.

F. Miscellaneous

A National Agency Check will be required if it is necessary for a Contractor to use Government computers or access Government facilities.

Our goal is to award up to 30% of these contracts to small businesses, over the life of the BAA. For the purpose of this BAA the size standard is 1,250 employees (NAICS 541715). In the event sufficient acceptable proposals are not received to fulfill these goals, awards will be made to those proposals received, which are acceptable regardless of business size/category.

This BAA may also be utilized for requirements that result in contracts that are awarded with End-of-Fiscal-Year funding. As such, quick contractor response and turnaround should be anticipated.

G. Eligibility Information

All potential applicants are eligible. Foreign or foreign-owned Offerors are advised that their participation is subject to foreign disclosure review procedures. Foreign or foreign-owned Offerors should immediately contact the Contracting Officer for information if they contemplate responding. The subject line of all correspondence must reference the BAA number and title. **Ombudsman:** In accordance with AFFARS 5352.201- 9101, an Ombudsman has been appointed to hear and facilitate the resolution of concerns from Offerors, potential Offerors, and others for this acquisition announcement. Before consulting with an Ombudsman, interested parties must first address their concerns, issues, disagreement, and/or recommendations to the Contracting Officer listed above for resolution. The Ombudsman does not diminish the authority of the program director or Contracting Officer, but communicates contractor concerns, issues, disagreements, and recommendations to appropriate Government personnel. When required, the Ombudsman shall maintain strict confidentiality as to the source of the concern. The Ombudsman does not participate in the evaluation of proposals or in the source selection process. Matters of a routine or administrative nature concerning this acquisition should not be addressed to the Ombudsman, but rather to the Contracting Officer listed above. For any other concerns, interested parties may call the AFLCMC Ombudsman, Lt Col Brian E. Miller at (937) 255-5512 or submit the

concern(s) in writing to AFLCMC/AQP, 1790 10th Street, Wright Patterson AFB,
OH 4543- 7630.