BROAD AGENCY ANNOUNCEMENT (BAA)
FA9451-24-S-0001
Air Force Research Laboratory
Directed Energy Directorate

ANNOUNCEMENT OVERVIEW

Initial
22 November 2023

NAICS CODE: The NAICS Code for this acquisition is **541715** for Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology), and the small business size standard is **1,000** employees.

FEDERAL AGENCY NAME: Air Force Research Laboratory, Directed Energy Directorate (AFRL/RD)

BROAD AGENCY ANNOUNCEMENT TITLE: TACTICAL

BROAD AGENCY ANNOUNCEMENT TYPE: This is the Initial Announcement of BAA FA9451-24-S-0001, BAA With Closed Calls

BROAD AGENCY ANNOUNCEMENT NUMBER: FA9451-24-S-0001

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NUMBER(S): Not Applicable (N/A). No assistance instrument or CFDA opportunities exist under this announcement.

BRIEF PROGRAM SUMMARY:

This is a five (5) year Broad Agency Announcement (BAA) describing the research areas of interest for the Directed Energy Directorate. This BAA approach allows for proposal submittals at a specified date and time, which will be posted through the issuance of Calls at various times against this BAA. This BAA will be reviewed no less frequently than annually and updates will be published in the System for Award Management (SAM) (https://sam.gov). Any changes or cancellation of the BAA will be posted as amendments to this BAA. This annual review and subsequent amendment to the BAA shall meet the requirement of Federal Acquisition Regulation (FAR) 35.016 to publish the BAA no less frequently than annually. As technical requirements are identified, Calls may be issued in SAM.gov to request proposals for specific research efforts. These subsequent Calls will contain specific descriptions of the research effort to be addressed, anticipated period of performance, information peculiar to the specific research technical topic area, and the estimated funding profile for the Call.

PROPOSAL DUE DATE AND TIME: **NO PROPOSALS SHOULD BE SUBMITTED AGAINST THIS OVERARCHING BAA**. Proposal due dates and times will be specified in each Call announcement. Proposals received after the due date and time specified in the Call shall be governed by the provisions of the FAR 52.215-1(c)(3). It should be noted that this installation observes strict security procedures to enter the facility. These security procedures are NOT considered an interruption of normal Government processes, and proposals received after the due date and time specified in the Call because of security delays will be considered "late". Furthermore, note that if offerors utilize commercial carriers in the delivery of proposals, they may not honor time-of-day delivery guarantees on military installations. Early proposal submission is encouraged.

GENERAL INFORMATION: This acquisition is unrestricted. This BAA is issued under the provisions of FAR 6.102(d)(2) that 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. Offerors MUST monitor SAM in the event this announcement is amended, and for the posting of Calls.

ANNOUNCEMENT MODIFICATIONS: Due to the dynamically evolving nature of US warfighter directed energy needs, this announcement is potentially subject to include updates, revisions, or additional topic areas. Therefore, Offerors are highly encouraged to continually monitor SAM to ensure they receive latest guidance to this announcement.

TYPE OF CONTRACTS/INSTRUMENTS: The Air Force reserves the right to award the instrument best suited to the nature of research proposed. Accordingly, the Government may award any appropriate contract type under the Federal Acquisition Regulation.

The Government anticipates that a mix of contract types will be used throughout the life of this BAA. Generally, awards under this announcement may be Cost-Plus-Fixed Fee (Completion and Term), Cost Contract, or Firm Fixed Price. There are no opportunities for Other Transactions, Grants, Cooperative Agreements, or other types of non-FAR instruments under this announcement.

Cost-type contracts will require successful Offerors to have an accounting system deemed adequate by Defense Contract Audit Agency (DCAA) for tracking costs under a cost reimbursable contract (DFARS 242.75). If an Offeror does NOT have a DCAA approved accounting system, a cost-type contract cannot be awarded.

ANNUAL REPRESENTATIONS AND CERTIFICATIONS: Potential offerors are notified that effective 01 Jan 2005 to be eligible for an award and in compliance with FAR 52.204-7 and DFARS 252.204-7007 Alternate A, they must submit Annual Representations and Certifications, via SAM.gov. Before submitting the electronic Annual Representations and Certifications, Contractors must be registered in the SAM Database. Online registration instructions can be accessed from the SAM at https://sam.gov. These FAR and DFAR level representations and certifications are required in addition to the representations and certifications that may be attached to each Call.

ESTIMATED PROGRAM COST: Anticipated funding for the program (not per Call, contract, or award):

FY24	FY25	FY26	FY27	FY28	TOTAL
$100M	$100M	$100M	$100M	$99M	$499M

This funding profile is an estimate only and will not be a contractual obligation for funding. 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.

ANTICIPATED NUMBER OF AWARDS: The Air Force anticipates awarding a minimum of one contract per specific Call. However, the Air Force reserves the right to make multiple awards or no awards pursuant to a Call. There is no limit on the number of contracts that may be awarded to an individual Offeror.

SYSTEM FOR AWARD MANAGEMENT (SAM) REGISTRATION: Before the Government can award a contract, an Offeror must be registered in the System for Award Management (SAM). It is in the Offeror's interest to visit SAM and ensure that all the Offeror's data is up to date from SAM and other databases to avoid delay in award. SAM allows firms interested in conducting business with the federal government to provide basic information on business capabilities and financial information. To register, visit https://www.sam.gov.

POINT OF CONTACT:

a) Administrative, technical, or contractual questions should be sent via e-mail to afrl.rdlb.tacticalbaa@us.af.mil. All requests must include a name, e-mail address, and phone number of an organizational point of contact.

b) Each Call will include specific contracting points of contact.

BROAD AGENCY ANNOUNCEMENT (BAA)
FA9451-24-S-0001
Air Force Research Laboratory
Directed Energy Directorate

FULL TEXT ANNOUNCEMENT

Initial
22 November 2023

NAICS CODE: 541715

SIZE STANDARD: 1,000 Employees

FEDERAL AGENCY NAME: Air Force Research Laboratory AFRL/RD

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I. REQUIREMENT DESCRIPTION

1. Background: The Air Force Research Laboratory (AFRL) Directed Energy Directorate (RD) equips the joint warfighter with next-generation technologies, advanced concepts, and weapon system options across all operational domains to become more agile and increase the commercialization potential of directed energy investments to ensure the National defense.

2. The Air Force Research Laboratory (AFRL) Directed Energy Directorate (RD) is seeking proposals from offerors to continue the advancement of laser technologies and enhance the state-of-the-art and scientific knowledge in Directed Energy technology. With the TACTICAL BAA, RD is seeking innovative, cost-effective solutions for computational development and validation, to test various aspects of current and future weapon system components and subsystems; efforts to identify performance, reliability, maintainability, supportability, and affordability goals; and efforts to enhance performance or significantly reduce cost, schedule, or risk inherent in existing technologies.

“Innovative" refers to a sound engineering solution that is new and like nothing conceived or tried before. "Mission at hand" refers to the mission or objective stated in the individual contract or task orders. "Cost effectiveness" refers to the minimization of the costs associated with a solution or set of solutions used to arrive at the desired end-product and fulfill the stated mission or objective. In this scheme, an existing but unused solution can be said to be innovative based upon a cost/benefit analysis. "Existing solution" refers to a solution that is either presently known or has been known in the past. It may be a past known solution that has been proposed but not tested or utilized. "Adequate solution" refers to a sound engineering solution that satisfies, or helps to satisfy, the contract or task orders mission at hand or stated objective in the most timely and cost-effective manner possible.

The proposed solutions should be innovative and substantially improve national defense capabilities across the domains of directed energy. While the Government describes discrete topic areas below, it also anticipated that certain comprehensive technology solutions and prototypes may require multi-discipline approaches that address two or more topic areas. The topic areas below are covered under this announcement, which may be used in any combination.

3. This is a five (5) year Broad Agency Announcement (BAA) describing the research areas of interest for the Directed Energy Directorate. This BAA approach allows for white paper and/or proposal submittals at a specified date and time which will be posted through the issuance of Calls at various times against this BAA. Periodically over the five (5) year period (calculated from the Overarching BAA publication date), Call announcements under the BAA may be issued on SAM.gov (http://sam.gov) to request proposals for specific research efforts as technical requirements are identified. These subsequent Calls will contain specific descriptions of the research effort to be addressed, anticipated period of performance, information peculiar to the specific research technical topic area, and the estimated funding profile for the Call. Each Call will specify a proposal due date and time. Proposals received after the stated due date and time will be governed by FAR 52.215-1(c)(3). Multiple subsequent Calls are anticipated and may be announced sequentially or concurrently on SAM.gov. The Government reserves the right to re-issue a previously announced Call area with a second, subsequent response period. The Government also reserves the right to issue no Calls for any given technology area.

4. There are two (2) distinct types of Call announcements. Subsequent Call announcements will be issued as one of the following types:

   i. **Standard Call Announcement**: Standard Call Announcements seek to maximize the breadth of responses and are issued to ALL eligible Offerors. Standard Call Announcements will be posted to SAM.Gov and will provide specific details regarding research objectives, potential funding, proposal requirements, submission instructions, etc. Standard Calls may be structured as One-Step, Two-Step, and/or Staggered Closed.

   ii. **Topic Area Group (TAG) Call Announcements**: TAG Call Announcements will be utilized when it is not practicable to solicit all apparently qualified Offerors (FAR 35.007 (b)), such as when there is an urgent mission requirement. TAG announcements will ONLY be issued to eligible members of a specific

TAG, typically in the form of a letter Request for White Paper (RFWP) or Request for Proposal (RFP).

- **Establishing TAG Membership**: An annual Request for Executive Summaries will be issued for inclusion into Topic Area Groups (TAGs). When requested, Offerors may submit Executive Summaries in response to one or more of the Topic Areas described below. It is anticipated that the annual Request for Executive Summaries will be issued as Amendments to this Overarching BAA and will occur in January of each year.
    - Executive Summaries submitted by offerors will be reviewed, and if determined to be a "technically qualified", will be included as an eligible member of that specific Topic Area Group.
    - A separate Executive Summary submission is required for each TAG application (applying for multiple TAGs will require multiple Executive Summary submissions).
    - All Offerors will be provided written feedback regarding the Executive Summary review.
    - The Government reserves the right to issue additional, interim Requests for Executive Summaries as necessary.
    - Requests for Executive Summaries are open to ALL Offerors.
    - Offerors are encouraged to consider teaming arrangements with other potential Offerors (partnerships, joint-ventures, subcontracts, etc.) as appropriate.
    - **Executive Summaries and TAG membership ARE NOT required for the Standard Call process described above under Section 4(i)**.

- **TAG Membership**:
    - Once selected for a TAG, an Offeror's membership will be active for the duration of the BAA, unless voluntarily withdrawn or an Offeror fails to complete the annual recertification process.
    - TAG members will be required to recertify technical qualifications on an annual basis. This recertification request will be via email and anticipated to occur annually in November/December.
    - A listing of current and active TAG membership will be published as an attachment to this Overarching BAA.

- **Solicitating TAG (TAG Call Announcement)**: As needs arise, particularly urgent mission requirements, the Government may issue letter Request for White Paper (RFWP) and/or Request for Proposal (RFP) to a specific TAG. Periodically over the five (5) year period (calculated from the baseline BAA publication date), RFWPs or RFPs under the BAA TAG process may be issued to request white papers or proposals for specific research efforts as technical requirements are identified. These subsequent requests will contain specific descriptions of the research effort to be addressed, anticipated period of performance, information peculiar to the

specific research technical topic area, and the estimated funding profile for the effort.

- RFWPs and RFPs utilizing the TAG process will be issued ONLY to eligible members of the specific Topic Area Group.
- ALL members of the specific TAG will receive the RFWP/RFP solicitation.
- TAG members are notified that TAG Call Announcements may have accelerated award schedules due to mission requirements.
- Each RFWP/RFP will specify a proposal due date and time. Proposals received after the stated due date and time will be governed by FAR 52.215-1(c)(3).

5. **Technical Topic Areas**:

The following topic areas are not finalized and are subject to change. Topic areas may be removed, or additional topic areas added as necessary

Topic Area 1: Laser Sources
The objective of this topic area is to research, design, model, develop, test, and analyze innovative laser source technologies and associated technologies above and beyond the current state-of-the-art. The areas of interest include, but not limited to:

- Fiber Laser technology
- Solid-State Laser technology
- Semi-Conductor Laser technology
- Quantum Cascade Laser technology
- Gas Laser technology
- Low-SWaP High-Energy Laser components
- Beam combination techniques
- Optical parametric oscillators/amplifiers
- Laser power and thermal subsystems
- Chirped laser technology

Topic Area 2: Aero-Effects & Beam Control
The objective of this topic area is to research, design, model, develop, test, and analyze innovative solutions to the technical challenges associated with successfully projecting a laser beam to a distant target in various environments, including in-flight. The areas of interest include, but not limited to:

- Initial image acquisition of the intended target
- Active and passive object and feature tracking
- Precision pointing of the laser-system line-of-sight.
- Propagation through the atmosphere
- Propagation through aero-optic distortions

Typical research activities in this area include developing, preparing, and conducting or supporting laboratory and wind-tunnel experiments. Outdoor experiments, including flight experiments, are also possible.

Topic Area 3: Laser System Technologies, Integration and Demonstration
The objective of this topic area is to research, design, model, develop, and test innovative solutions to integrate laser-system components into assemblies, subsystems, or full laser systems and to demonstrate, through testing, the performance of those assemblies, subsystems, or systems. The areas of interest include, but not limited to:

- High Energy Laser
- Acquisition, tracking, pointing, and wavefront compensation.
- Power generation and management
- Thermal management
- Laser weapon system control
- Platform or external interface (*e.g.*, C2 interface)
- Subsystem and system performance diagnostics

Innovations in this technical area are generally expected to improve the packaging, ruggedization, Size Weight and Power (SWaP), operability, suitability, and overall effectiveness of the laser system for a given application. Solutions at any level are expected to include well-defined interfaces between components, assemblies, *etc*., with a preference for modular open-system approaches/architectures. Activities under this technical area also include:

- Test planning and execution
- Data analysis
- Reporting
- Model verification and validation

Topic Area 4: Laser System Modeling & Simulation
The objective of this topic area is to develop and conduct computer simulations of all aspects of laser system operation. This spectrum includes models and underlying theory of relevant physical phenomena, component and subsystem performance, and end-to-end laser-system performance in simulated engagements. Combined with vulnerability assessment data from Topic Area 7, these simulations are intended to predict laser system performance against given targets in specific environments.

This Topic Area includes, but is not limited to, development of physics-based models and simulations of current and future laser systems, subsystems, and components. The areas of interest include, but not limited to:

- Laser sources, including fiber lasers, solid-state lasers, semiconductor lasers, and gas lasers.
- Laser beam combination
- Laser-system target acquisition and tracking
- Line-of-sight stabilization, including aero-mechanical jitter.
- Laser propagation through the atmosphere and aero-optic distortions
- Laser system power and thermal management

- Platform dynamics and their effects on laser system performance

This Topic Area also includes Laser System Engagement modeling which incorporates component and subsystem performance models, environmental models, target vulnerability models and target behavior models to create a realistic simulation of end-to-end laser system lethality in relevant scenarios. Engagement models are subsequently adapted for use in mission-level simulations to predict laser system mission effectiveness and inform military utility assessments. The areas of interest include, but not limited to:

- Developing component and subsystem models
- Integrating multiple components and/or subsystem models into system models
- Integrating system models, target behavior and vulnerability models, and environmental models into engagement models
- Conducting simulations to inform laser system research and development.
- Conducting model verification and validation
- Developing and reporting model uncertainty quantification
- Adapting models and simulations to utilize high-performance computers with maximum parallelization.
- Software configuration management

Topic Area 5: Laser Interaction Testing

The objective of the Laser Interaction Testing topic area is to plan and conduct laser interaction testing to evaluate laser material interactions, component failures, and target vulnerabilities; design and implement novel test diagnostic equipment; develop and manage testing capabilities and laboratory functionality; while addressing the need for well controlled experimental procedures to quantify the effects of high energy lasers interacting with individual materials, multi-material subsystems, and/or fully functional targets. The areas of interest include, but not limited to:

- Characterize laser parameters and target material or sensor component response with high heating rates.
- Characterize target materials or sensor components with measurements of high-heating rate, or optical physical properties.
- Plan and conduct well controlled experimental procedures to quantify the effects of high energy lasers interacting with individual materials, multi-material subsystems, and/or fully functional targets.
- Conduct failure mode analysis
- Analyze experimental data and conduct failure mode analysis.
- Acquire or design and fabricate representative test articles or surrogates.

Topic Area 6: Laser Interaction Modeling and Simulation (M&S)

The objectives for the Laser Interaction Modeling and Simulation topic area are to plan and conduct research leading to the development of advanced computational methods for predicting the physical phenomenology resulting from high energy laser interactions, represent the target response, and simplify physics-based models to an engineering level for integration into engagement and mission level models. The tools are concurrently applied to predict ongoing experiments resulting in data leading to the continued development of credible, verified, and validated methods and innovative physics algorithms. Prediction of the laser interaction must

consider a spatially and temporally resolved beam irradiance profile, absorption into the target, localized thermo-structural response, coupled physical phenomena, and resulting damage modes. The results are applied to infer macro-level structural response. Quantification of uncertainty is essential to determine the appropriate application of the results. Collaboration between the Laser Interaction M&S technical area and the Laser Interaction Testing technical area will occur at all phases of testing to ensure proper code input is obtained and that test design reflects the needs of the modeling technical area. The areas of interest include, but not limited to:

- Apply and develop physics-based codes for predicting high-fidelity laser target interaction effects.
- Support ongoing laser effects testing with pre-test predictions.
- Interpret and utilize post-test data to improve M&S prediction capability.
- Improve verification and validation of in-house subroutines as applied in overall models.
- Cross-validate and interface with system level engineering and probabilistic models.
- Address localized material thermo-mechanical damage with high-fidelity tools that may be applied in a series or fully coupled to address synergistic processes such as combined fluid, structural, and/or energetic interactions.

Topic Area 7: Laser Vulnerability Assessments

The objectives for the Laser Vulnerability Assessments topic area are to plan and conduct assessments that combine target vulnerability data from testing, target optical signature measurements, target exploitation intelligence, system level fault tree and failure mode analysis, effects models and computational predictive results into a comprehensive vulnerability assessment to support mission studies. Interpretation of post-test data, calibration into physical quantities, uncertainty, confidence intervals, and regimes of applicability are applied to result in:

- End-to-end vulnerability assessment and engagement predictions
- Probabilistic confidence intervals and uncertainties
- Improved and validated system level engineering and statistical tools
- Trade-studies for future laser target interactions

Topic Area 8: Satellite Custody and Characterization (SCC)

The objectives for the Satellite Custody and Characterization (SCC) topic area are to develop, mature, and deliver algorithms, software/firmware, materials, supplies, and services necessary to conduct technology maturation for ground-based surveillance of space objects. The areas of interest include, but not limited to:

- Closely-spaced object detection and characterization
- Day/night time detection and custody of satellites
- Orbit determination techniques and algorithms for satellites with sparse collects as well as when acted upon by various unconventional gravity fields.
- Rapid, on-demand orbit determination and Uncorrelated Track (UCT) resolution
- Techniques, algorithms, architecture designs, etc. for collaborative autonomous telescope networks and tasking optimization
- Extremely wide field-of-view image exploitation for satellite discovery and custody
- Sharp imaging of satellites through the atmosphere at low elevation angles
- Characterization and compensation of atmospheric turbulence for image restoration

- Novel techniques for Initial Orbit Determination (IOD) and research to characterize and identify objects in Cislunar/XGEO space.

Topic Area 9: Identification (ID) and Characterization Using Alternate Electro-Optics (EO) Phenomenologies

The objectives for the ID and Characterization Using Alternate EO Phenomenologies topic area are to leverage electromagnetic phenomena outside of the visible wavelengths and exploit those phenomena using hardware, algorithms, or novel techniques to collect and provide actionable information for space object information. Areas of interest in this topic include, but are not limited to:

- Multi-phenomenology sensor integration (e.g., optical, infrared, radar, passive radiofrequency)
- Active optical techniques for satellite ranging and characterization (e.g., LiDAR, LADAR)
- Multispectral, hyperspectral, spectroscopic, and polarimetric sensing for characterization of space objects.
- Development of tools to improve prediction and characterization of the atmospheric turbulence environment and its effects upon propagation of directed energy as well as methods to mitigate those effects.
- Techniques to improve and exploit short- and long-wave infrared characterization of space objects.

Topic Area 10: Artificial Intelligence (AI) and Autonomy for Space Domain Awareness (SDA)

The objectives of the AI and Autonomy for SDA topic area are to leverage artificial intelligence and machine learning algorithms to exploit electro-optical imagery (resolved and non-resolved), autonomously integrate multiple data sources, and decrease time to obtaining actionable information for SDA tasks. Areas of interest will investigate topics to include, but not limited to:

- Machine learning algorithms to advance the state-of-the-art in areas such as:
    - Point spread function correction.
    - Rapid image processing
    - Space object image classification using resolved or non-resolved sensor imagery.
    - Uncorrelated track association
    - Space object feature identification, model inference, and attitude regression
    - Space object detection in noisy image backgrounds
    - Generation of realistic space scene imagery / discernment of real vs. synthetic
    - Detection of subtle, unique image artifacts of interest in a large dataset

Topic Area 11: High Power Electromagnetics (HPEM) Modeling and Effects

The objective of the HPEM Modeling and Effects topic area is to characterize the effectiveness of potential HPEM weapons systems by developing and running effectiveness tools and generating vulnerability data to feed those tools. The vulnerability data consists of Probability of Effect (Pe) curves for electronic systems when subjected to an HPEM waveform that results in disruption to or failure of normal operation of the systems. In addition, the HPEM Effects Program investigates the fundamental mechanisms resulting in these disruptions or failures, to

predict and model the effects. The areas of interest include, but not limited to:

HPEM Effects

- Empirical effects testing
- HPEM weapons effectiveness modelling
- Fundamental HPEM Effects Research
- Battle damage assessment and recuperation time
- Emerging technologies, including but not limited to HPEM sources, diagnostics, and sensors.
- Development of evaluation tools for Effects databases

Numerical Simulation

- Development of simulation codes for HPEM systems and components modeling
- Use of codes in development and optimization of HPEM systems and components
- Development of simplified high-performance computing and analysis tools
- Digital Engineering of HPEM systems and components
- Multi-scale materials modelling
- Development of HPEM Engagement level codes
- Engagement and mission level modeling of HPEM systems
- Validation/verification of all software

Topic Area 12: HPEM Sources and Components

The objective of the HPEM Sources and Components topic area is to conduct research and development on advanced compact rep-rate pulsed power, as well as alternatives to high-power vacuum-tube sources. The goal is to explore improved versions of narrowband HPEM sources as well as alternative approaches to developing higher-rep-rate, compact, high-power HPEM devices. In addition, alternative approaches to counter-electronics technologies including ultra-short, pulsed lasers and charged-particle beams are part of this objective. Technologies and efforts considered are significant size reductions for all parts of the HPEM system, materials modeling, prime power, high-energy-density capacitors, permanent magnets, transmission lines, switches, and non-linear transmission lines, as well as high voltage insulators and electron collector/anode materials, and new HPEM materials to enable new sub-system topologies and geometries.

The HPEM Sources program consist of the following areas: materials modeling; basic research on materials for new sources; solid state sources; exploring the use of linear beam tubes for oscillator and amplifier configurations; size reduction of HPEM system components including energy storage technologies, pulse forming line technologies, and switch technologies; high power antennas; compact prime power technology with a focus on decreased size, increased energy density, and repetition rate operation; development of Ultra-short Pulse Lasers (USPL) technology; and metamaterials and new support component technologies that operate at high-power-densities. The areas of interest include, but not limited to:

- Basic Source and Component Development
- Charged Particle Beam Sources
- Pulsed Power

- Prime Power
- USPL – Ultra Short Pulsed Lasers
- NLTL- Non-Linear Transmission Lines
- Microwave Advanced Counter-electronic Attack Payload
- Antenna and Radomes
- Materials, reduction in SWaP (Size, Weight, and Power)
- Power Conditioning and Pulsed Power for HPEM Systems

Topic Area 13: HPEM Applications
The objective of the HPEM Applications topic area is to design, develop, and demonstrate HPEM technologies for future HPEM systems by addressing key technical barriers. The goal is to develop HPEM technologies that are lightweight, efficient, affordable, and reliable for warfighter applications. Specific technologies being addressed are based on technical gap analysis of Air Force Core Function roadmaps. Technologies and efforts considered are feasibility studies of innovative HPEM applications, military utility assessments, system integration, and demonstration of HPEM capabilities.

The HPEM Applications program consist of the following areas: feasibility studies of innovative HPEM applications; integration of disparate technologies for the fielding of new HPEM systems and weapons; identify and quantify useful RF and HPM effects and develop methods of using HPM sources that have a role in future applications of HPEM; system integration; and demonstration of future HPEM capabilities. The areas of interest include, but not limited to:

1) High Power Electromagnetics (HPEM) Application Studies
- Size, Weight, and Power (SWaP)
- Mission planning
- Target engagement
- Survivability
- Cost
- Measures of Effectiveness (MOEs)
- Measures of Performance (MOPs)

2) Military Utility Assessments
- Concepts of Operations (CONOPs)
- Tactics, Techniques, and Procedures (TTPs)
- Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities, and Policy (DOTMLPF-P)
- Transition plan

3) System Integration
- Voltage standoff technologies
- System engineering
- Mode creation and converter
- EM energy transportation (waveguides, etc.)
- Interfaces between power, source, antenna, etc.

- Vacuum creation and sustainment
- Vehicle mounting
- Interface with external systems (radar, Air Operations Center (AOC), Base Defense Operations Center (BDOC), etc.)

4) "Demonstrators (Restrictive or Non-Restrictive: not directly tied/linked to a specific system)"

- Compact, high-power HPEM sources
- Compact, high-gain antennas
- Compact high-voltage pulsed power, both single shot, high-rep rate, and anywhere in between
- Compact prime power system
- Survivability
- Functionality
- Maintainability
- Ease of use

Topic Area 14: Wargaming

The objective of the Wargaming topic area is to conduct and improve Modeling, Simulation, and Analysis (MS&A), Studies, and Wargaming models and processes, for directed energy (DE) weapon systems. This area specifically focuses on campaign-level, engagement-level, and mission-level wargaming. Wargaming also utilizes MS&A to support the creation of test scenarios, assess mission compliance, provide pre-test predictions, and conduct post-test assessments of DE system performance. The areas of interest include, but not limited to:

- Development of DE wargaming MS&A software
    - Fast running engineering codes
    - Detailed physics modeling codes
    - Robust test, validation, and verification
    - Ability to scale to large wargaming and simulation sizes.
    - Portability of software for massively parallel computer architectures
- Algorithms and process tailored to the Tactics Techniques and Procedures (TTP) for wargaming improvement.
- Develop and conduct Military Utility Assessments (MUA), specifically for DE systems.
- Enhance and modernize MS&A and wargaming methods with man-in-the-loop capabilities.
- Develop and enhance scenarios integrated into the Advanced Framework for Simulation, Integration and Modeling (AFSIM), or other M&S tools.
- Conduct DE wargame planning, execution, reporting, and analysis.

6. **Announcement Modifications:** Due to the dynamically evolving nature of US warfighter directed energy needs, this announcement is subject to updates, revisions, or inclusion of additional topic areas. Therefore, Offerors are highly encouraged to continually monitor the SAM.Gov announcement for the latest information and guidance.

7. **Deliverable Item**s:
   i. Data: Deliverables will be described within the request for proposal letter. DD Form 1423-1 CDRLs will be utilized on contract awards.
   ii. Final Report: To be delivered under each award, 3 months after the end of the technical effort.
   iii. Software: To be determined on each award.
   iv. Hardware: To be determined on each award.
   v. In addition to hardware and software, the following data deliverables are representative of the types of data that may be required: (a) Program Plan with updates as needed; (b) Monthly Status/Financial Reports; (c) Presentation Materials, and (d) Patent Reports. Data deliverables are subject to negotiations on each individual award.

8. Other Requirements:

a. Security: Depending on the nature of individual awards under this solicitation, work may range from Unclassified to Top Secret. Sensitive Compartmented Information (SCI) and Special Access Program (SAP) are also possible. Accordingly, some awards under this effort may require a TOP SECRET facility clearance and TOP SECRET safeguarding capability. FAR Subpart 4.4 Safeguarding Classified Information within Industry, requires that a Department of Defense (DoD) Contract Security Classification Specification, DD Form 254, be incorporated in the contract when the contractor may require access to classified information. The DD Form 254 provides to the contractor (or a subcontractor) the security requirements and the classification guidance necessary to perform on a classified contract. If a DD254 is required, Offerors must verify their Cognizant Security Office information is current with Defense Security Service (DSS) at www.dss.mil.

b. OPSEC: The contractor shall provide Operations Security (OPSEC) protection for all sensitive/critical information as defined by AFI 10-701 (Operations Security) and critical information list. The contractor shall include OPSEC training as part of their on-going security program. The AFRL/RD OPSEC coordinator will evaluate the OPSEC posture of AF contract activities and operations. OPSEC requirements will apply to all contract activities.

c. Export Control: Information involved in this research effort is subject to Export Control (International Traffic in Arms Regulations (ITAR) 22 CFR Parts 120-130, or Export Administration Regulations (EAR) 15 CFR Parts 730-774). A Certified DD Form 2345, Militarily Critical Technical Data Agreement, will be required to be submitted with proposal.

d. Export-Controlled Items: As prescribed by DFARS 225.7901-4, DFARS 252.225-7048, "Export-Controlled Items (JUN 2013)" will be contained in ALL resulting contract awards.

e. Science & Technology (S&T) Program Protection: Offerors notified that subsequent Call Announcements shall include a requirement for submission of: 1.) A completed Standard Form (SF 424), Research and Related Senior/Key Person Profile (Expanded) Form (**See Attachments**) for all Senior/Key Personnel proposed; and 2.) A Completed Security Program Questionnaire (**See Attachments**). Offerors may be asked to provide a mitigation plan for any identified S&T Protection risks. The Government reserves the right to determine an Offeror unawardable on the grounds of unacceptable S&T Protection risk based on its review of the SF 424 and Security Program Questionnaire.

By submitting a proposal, the Offeror certifies that it is in compliance with Section 223(a) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 which requires that: (a) the Principal Investigator (PI) and other key personnel certify that the current and pending support provided on the proposal is current, accurate and complete; (B) agree to update such disclosure at the request of the agency prior to the award of support and at any subsequent time the agency determines appropriate during the term of the award; and (c) the PI and other key personnel have been made aware of the requirements under Section 223(a)(1) of this Act. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. code, Title 218, Section 1001).

9. Other Information:

i. Government Furnished Property (GFP): To be determined for each award. In accordance with FAR 45.201(b), the contractor is responsible for all costs related to making the property available for use, such as payment of all transportation, installation, or rehabilitation costs. If GFP is requested in a proposal, the following clauses/provisions apply:

(1) FAR 52.245-1 Government Property or FAR 52.245-1, Alt II if the resulting contract is with a nonprofit organization or applied research at nonprofit organizations (JAN 2017)
(2) (2) FAR 52.245-9 Use and Charges (APR 2012)
(3) DFARS 252.211.7007, Reporting of Government-Furnished Property (APR 2012)
(4) DFARS 252.245-7001, Tagging, Labeling, and Marking of Government-Furnished Property (APR 2012)
(5) DFARS 252.245-7002, Reporting Loss of Government Property (DEC 2017)
(6) DFARS 252.245-7003, Contractor Property Management System Administration (APR 2012)
(7) DFARS 252.245-7004, Reporting, Reutilization, and Disposal (DEC 2017)

ii. Base Support/ Network Access: Provision of Base Support/Network access will be determined for each award.

iii. Data Rights Desired: The Government desires Unlimited Rights or Government Purpose Rights for all technical data, non-commercial software (NCS), and NCS documentation developed using Government funds; however, due to the desired use of commercially developed technologies in this program more restrictive data rights are anticipated and will be considered where appropriate.

The Air Force Research Laboratory 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 NCS developed or delivered under this program 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.

In exchange for paying for development of the data, the Government expects technical data, NCS, and NCS documentation developed entirely at Government expense to be delivered with Unlimited Rights. Technical data, NCS, and NCS documentation developed with mixed funding are expected to be delivered with at least Government Purpose Rights. Offers that propose delivery of technical data, NCS, or NCS documentation subject to Government Purpose Rights should fully explain how the data was developed at private expense. Specifically, offers must explain what technical data, NCS, or NCS documentation developed with costs charged to indirect cost pools and/or costs not allocated to a government contract will be incorporated, how the incorporation will benefit the program, and address whether those portions or processes are segregable.

Offerors that propose delivery of technical data, NCS, or NCS documentation subject to Limited Rights, Restricted Rights, or Specifically Negotiated License Rights will be considered. Proposals should fully explain what technical data, NCS, or NCS documentation developed with costs charged to indirect cost pools and/or costs not allocated to a government contract will be incorporated and how the incorporation will benefit the program and whether those portions or processes are segregable.

Offerors shall include the data rights assertions as required by DFARS 252.227-7017, Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software (JAN 2011). The assertions are due at time of proposal submission. Assertions must be completed with specificity. Each assertion must identify both the data and each such item, component, or process listed. Nonconforming assertions lists will be rejected. Terms used in this section are defined in the clauses at 252.227-7013, Rights in Technical Data-Noncommercial Items, and 252.227-7014, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation (FEB 2014).

THIRD PARTY SOFTWARE (COMMERCIAL AND NONCOMMERCIAL):

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. Any third-party software to be delivered to the Government that are not reasonably identifiable at proposal submission, must still be approved by the contracting officer prior to incorporation into a system deliverable. This obligation to obtain preapproval by the contracting officer, as described above, continues throughout contract administration.

The Government will neither accept nor execute a DD Form 250 for the software deliverables until the Contractor obtains from all third-party software suppliers and/or vendors (Licensor) licenses that comply with the following terms and conditions for the Government (Licensee):

A. The license shall not subject the Government to liability that is indefinite or indeterminate, such as an indemnification clause, as it would constitute an obligation in advance or in excess of an appropriation and violate the Anti-Deficiency Act.
B. The license shall not create a contingent liability for the Government. This includes, but is not limited to: unilateral price increases, automatic assessment of charges, and automatic renewal of the license.
C. The license shall be governed by Federal Statutes, Case Law, and Federal Regulations, and shall not be subject to the laws or jurisdiction of any municipality, state, or foreign country.
D. The license shall not include non-substitution language that would preclude or limit the Government from using another vendor/reseller and/or product to fulfill Government requirements.
E. The license shall not comment on entitlement to attorney fees.
F. The Licensor shall not have the authority to unilaterally terminate the license. All remedies available shall be consistent with the Disputes Clause in the underlying basic contract.
G. The Licensor shall not have the right to enter the premise or monitor the networks of Licensee for the purpose of auditing the use of the license.
H. The Licensor shall not use any injunctive relief clauses as the Licensor cannot prevent the Licensee from performing mission operations.
I. The Licensor shall not have the authority to control any litigation between a third party and the Licensee.
J. The Licensor shall not use the fact that the Licensee is using the Licensor's products in any notification to the public (e.g., no publicity rights permitted).

iv. Use of hazardous materials, radiological sources, materials, or ozone depleting chemicals as part of the research will be considered on a case-by-case basis to determine merit of their use in furthering development and testing.

II. AWARD INFORMATION

1. **Anticipated Funding:** Anticipated funding for the program (not per Call, contract, or award): FY24: $100M; FY25: $100M; FY26: $100M; FY27: $100M; FY28: $99M. This funding profile is an estimate only and will not be a contractual obligation for funding. 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.

2. **Anticipated Number of Awards**: The Air Force anticipates awarding a minimum of one contract per specific Call. However, the Air Force reserves the right to make multiple awards or no awards pursuant to a Call.

3. **Schedule:** The anticipated period of performance will be determined through dialogue between prospective Offerors and Government representatives for each topic area and specified in each individual award. Deliverables will be specified on individual CDRL(s) in any resultant contract.

4. **Within Scope Award Modifications:** Offerors are advised that due to the inherent uncertainty of research and development efforts, awards resulting from this announcement may be modified during performance to make within scope changes, to include but not limited to, modifications which increase overall contract ceiling amount.

III. POINT OF CONTACT

- Administrative, technical, or contractual questions should be sent via e-mail to afrl.rdlb.tacticalbaa@us.af.mil. All requests must include a name, e-mail address, and phone number of an organizational point of contact.

- Each Call will include specific contracting points of contact.

- **Ombudsman**: DAFFARS CLAUSE **5352.201-9101 Ombudsman** (JUL 2023) is hereby incorporated into this BAA and will be made a part of any awards based on this solicitation. 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, disagreements, and/or recommendations to the Contracting Officer listed above for resolution. The ombudsman for AFRL is the AFRL Director of Contracts, AFRL/PK, 1864 4th Street, Bldg. 15, Room 225, Wright-Patterson AFB, OH, 45433-7130, E-mail: afrl.pk.workflow@us.af.mil.

IV. ELIGIBILITY INFORMATION

1. **Eligible Offeror/Applicants**: This is an unrestricted solicitation. Offerors of all size are encouraged to propose on all or any part of this announcement.

2. **Cost Sharing or Matching**: Cost sharing is not a requirement unless stated in the Call.

3. **Federally Funded Research and Development Centers**: The following guidance is provided for Federally Funded Research and Development Centers (FFRDCs) contemplating submitting a proposal, as either a prime or subcontractor, against this BAA. FAR 35.017-l(c)(4) prohibits an FFRDC from competing with any non-FFRDC concern in response to a federal agency request for proposal for other than the operation of an FFRDC (with exceptions stated in DFARS 235.017-l(c)(4)). There is no regulation prohibiting an FFRDC from responding to a solicitation. However, the FFRDC's sponsoring agency must first make a determination that the effort being proposed falls within the purpose, mission, general scope of effort, or special competency of the FFRDC, and that determination must be included in the FFRDC's proposal. In addition, the non-sponsoring agency (in this case AFRL) must make a determination that the work proposed would not place the FFRDC in direct competition with domestic private industry. Only after these determinations are made would a determination be made concerning the FFRDC's eligibility to receive an award.

4. **Government Agencies**: If a government agency is interested in performing work please contact the Program Office identified in the Call. If those discussions result in a mutual interest to pursue your agency's participation, the effort will be pursued independent of this broad agency announcement.

5. **Foreign Participation:**
   a. Foreign or foreign-owned Offerors are advised that their participation is subject to foreign disclosure procedures. Foreign or foreign-owned Offerors should immediately contact the contracting office focal point identified for additional information if they contemplate responding.
   b. AFRL Policy on Employment of Non-US Citizen Contractors applies to this BAA. Contractor employees requiring access to USAF bases, AFRL facilities, and/or access to U.S. Government Information Technology networks in connection with the work on this contract must be U.S. citizens. 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. Any waivers to this requirement must be granted in writing by the Contracting Officer prior to providing access. The above requirements are in addition to any other contract requirements related to obtaining a Common Access Card (CAC).
   c. This acquisition involves data that are subject to export control laws and regulations. Only contractors who are registered and certified with the Defense Logistics Services Center (DLSC) and have a legitimate business purpose may participate in this solicitation. Contact the Defense Logistics Services Center, 74 Washington Avenue

N., Battle Creek, Michigan 40937-3084 (1-877-352-2255) for further information on the certification process. You must submit a copy of your approved DD Form 2345, Militarily Critical Technical Data Agreement, with your proposal.

6. **Export Control**: Information involved in this research effort will be subject to Export Control (International Traffic in Arms Regulation (ITAR) 22 CFR 120-130 or Export Administration Regulations (EAR) 15 CFR 730-774). If the effort is subject to export control, then a Certified DD Form 2345, Militarily Critical Technical Data Agreement, will be required to be submitted with proposal.

Export-Controlled Items: As prescribed by DFARS 225-7901, DFARS 252.225-7048, "Export-Controlled Item (JUN 2013)" is contained in this solicitation (as shown below). This clause shall be contained in ALL solicitations and resulting contracts.

EXPORT-CONTROLLED ITEMS (JUN 2013)

a. Definition. "Export-controlled items," as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130). The term includes:
   (1) "Defense items," defined in the Arms Export Control Act, 22 U.S.C. 2778(j)(4)(A), as defense articles, defense services, and related technical data and further defined in the ITAR, 22 CFR Part 120.
   (2) "Items," defined in the EAR as "commodities", "software", and "technology," terms that are also defined in the EAR, 15 CFR 772.1.

b. The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR.

c. The Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.

d. Nothing in the terms of this contract adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, Executive orders, and regulations, including but not limited to—
   (1) The Export Administration Act of 1979, as amended (50 U.S.C.App.2401, et seq.)
   (2) The Arms Export Control Act (22 U.S.C. 2751, et seq.)
   (3) The International Emergency Economic Powers Act (50 U.S.C.1701, et seq.)
   (4) The Export Administration Regulations (15 CFR Parts 730-774)
   (5) The International Traffic in Arms Regulations (22 CFR Parts 120-130)
   (6) Executive Order 13222, as extended

V. COMMUNICATIONS

1. Dialogue between prospective Offerors and Government representatives is encouraged until submission of proposals. Discussions with any of the points of contact shall not constitute a commitment by the Government to subsequently fund or award any proposed effort. Offerors are advised that only Contracting Officers are legally authorized to contractually bind or otherwise commit the Government.

2. Proposals are intended to be evaluated, and award made without discussion, unless discussions are determined to be necessary. However, the Government may obtain clarifications to determine proposal acceptability. Discussion may be held with the prospective awardees prior to award if needed. In the event, the Government is unable to conclude negotiations with the apparent successful Offeror(s), it reserves the right to conduct negotiations with another acceptable Offeror.

VI. PROPOSAL/APPLICATION AND SUBMISSION INFORMATION

1. **General Information:**

   a. NO EXECUTIVE SUMMARIES, WHITE PAPERS, OR PROPOSALS SHOULD BE SUBMITTED AGAINST THIS BASELINE BAA. Executive Summary due dates will be specified in future amendments to this Announcement. White Paper/Proposal due dates and times will be specified in each Call. Proposals received after the due date and time specified in the Call shall be governed by the provisions of FAR 52.215-1(c)(3).

   b. ***DO NOT SUBMIT CLASSIFIED INFORMATION* Offerors that intend to submit classified information in response to this announcement, SHALL contact the Points of Contact identified for specific submission instructions.**

   c. Offerors MUST monitor **SAM** (https://sam.gov) in the event this announcement is amended, or Calls are issued. Offerors must monitor these systems to ensure they receive the maximum proposal preparation time for subsequent Calls or amendments as this is the official notification vehicle to request proposals.

   d. Annual requests for Executive Summaries for inclusion in Topic Area Groups will be issued as Amendments to this announcement. These amendments will specify submission deadlines and will specify the Topic Areas that are requesting Executive Summary submissions.

   e. 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.

   f. This BAA and associated Calls are expressions of interest only and do not commit the Government to pay for proposal preparation cost. The cost of preparing

proposals in response to Calls placed pursuant to this BAA is not considered an allowable direct charge to any resulting contract or to any other contract. However, it may be an allowable indirect expense as specified in FAR 31.205-18.

g. Technical data, Non-Commercial Software (NCS) and DoD policy, per DFARS 227.7103-1, is to acquire only the technical data and the rights in that data, necessary to satisfy Government needs. In exchange for paying for development of the data, the Government expects technical data, NCS, and NCS documentation developed entirely at Government expense to be delivered with "Unlimited Rights" or a minimum of "Government Purpose Rights" for each contract awarded in response to this announcement. Data rights offered other than "Unlimited Rights," as defined in DFARS 227.7103-5, should be identified in DFARS clause 252.227-7017, Identification and Assertion of Use, Release, or Disclosure Restrictions, and addressed in the business section of the cost proposal.

h. There are no limits to the number of proposals an offeror may submit for any given Call (unless otherwise specified in the Call).

i. You may be ineligible for award if all requirements of this announcement and requirements in the Call are not met by the proposal due date and time as identified in each Call.

WHITE PAPER SUBMISSION (AS REQUESTED BY CALL OR TOPIC AREA GROUP REQUEST)

2. **White Paper Submission:** Full white paper instructions will be provided within the Calls or Request for White Paper Letter from the PCO.

   a. The Request for White Paper Letter requests a white paper and a rough order of magnitude (ROM) cost estimate. The white paper shall include a discussion of the nature and scope of the research and the Offeror's proposed technical approach. All white papers may be kept on file for one year. An Offeror submitting a proposal without first submitting a white paper will not be eligible for an award. The cost of preparing white papers in response to this Solicitation is not considered an allowable direct charge to any resulting or any other contract; however, it may be an allowable expense to the normal bid and proposal indirect cost as specified in FAR 31.205-18.

      i. Page Limitation: The White Paper shall be limited to 5 (five) full 8.5-inch x 11-inch pages (not including cover page), prepared and submitted in Microsoft Word or Adobe Acrobat® 7.0 or later using Optical Character Recognition to allow the Government to search documents, or as specified in the Call or Request for White Paper. The font shall be Times New Roman 10 point with no less than one-inch

(1”) margins (left, right, top and bottom). Headers and/or footers may be included in the margin parameters. Standard 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 in 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; however, any 11” x 17” page shall be counted as two pages. All electronic data must be virus free. Pages shall be numbered starting with the cover page being Page **1** (one), and the last page being no greater than Page **6** (six).

ii. The page limitation covers all information including indices, photographs, foldouts (counted as one page for each 8.5 by 11 portion) tables, charts, appendices, attachments, etc. Blank pages, title pages, tables of content, lists, tabs, or cover sheets are not included in the page count. The proposal page limit does not include the Offeror’s proposed Contractor Statement of Work (CSOW); however, the same formatting rules apply to the CSOW.

b. The Government will not consider pages in excess of these limitations. *White Papers must be submitted to the TACTICAL Org Mailbox (afrl.rdlb.tacticalbaa@us.af.mil) and the Contracting Point of Contact (POC) specified in the CALL or letter Request for White Paper*. If it is determined that a classified white paper is required, please DO NOT deliver any classified portion of the white paper to the email address listed above, but rather contact the POCs listed in this BAA for specific delivery instructions. 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).

c. Format: The white paper shall be formatted as follows:

2. Section A. Cover Sheet: Offerors shall submit the following information on the cover sheet. Any white paper that does not have a complete coversheet will not be accepted. The following information is required on the coversheet:

a. BAA Number (FA9451-24-S-0001) and unique Call Number (000X)
b. White Paper Title
c. Name of Company
d. Mailing Address
e. Business Size under NAICS 541715
f. Company's Commercial and Government Entity (CAGE) number
g. Data Universal Numbering System (DUNS) number

h. Contracting POC and Technical POC with appropriate telephone numbers, fax numbers, and email addresses for the POCs
i. Facility & Safeguarding Classification levels (*if applicable*)
j. Mailing address for forwarding classified material (name, address, zip code)
k. Cognizant security office (name, address, zip code), and Offeror's security officer's name and telephone number)
l. Proposed Period of Performance (allow 90 days for drafting final report)
m. ROM cost estimate
n. Proposed Contract Type (Firm-Fixed-Price, Cost-Plus-Fixed-Fee, etc.)
o. Any requested Government Furnished Property
p. Proposed Data Rights
q. Date through which white paper is valid.
r. Teaming Arrangement or Subcontractors/consultants, including Cage codes.

3. Section B. White Paper Narrative: The narrative should include but not be limited to the following:
    a. Discussion of the nature and scope of the research; the problem statement; the Offeror's proposed objectives and technical approach/solution; all relevant assumption; an overview of tasks and methods to achieve each objective; and expected results.
    b. Evidence of current Technology Readiness Level (TRL) and a description of state-of-the-art knowledge or methods to be employed, along with a clear strategy, resources, and schedule for maturing the technology to the proposed level.
    c. Description of final products to be delivered (prototypes, demos, software, etc.)
    d. Mapping of effort to specific need(s) outlined in the topic area description, with a strategy for transition of deliverables to a government acquisition program. Transitions can be specific to an existing/future system or have broad application to several existing/future systems.
    e. Explanation of how the proposed effort provides benefits to the national defense and a strategy for verifying those intended benefits.
    f. Any restrictions on Government use, release, or disclosure of technical data
    g. Key personnel, consultants, or subcontractors to support the effort and evidence of expertise and experience to accomplish the proposed tasks.

NOTE: Resumes, descriptions of facilities and equipment, and proposed Statement of Work are not required at this point.

4. Section C. White Paper ROM Cost: Provide a ROM cost estimate for planning purposes utilizing the TACTICAL standard White Paper ROM template **(See Attachments)**. The ROM shall provide top-level details on major cost items such as labor, indirect costs, special equipment that will need to be purchased, materials, and any subcontracts or other organizations' costs (to include government furnished facilities, equipment, or personnel) for the proposed effort. The ROM cost estimate will be used to assess best value (cost versus benefit) and determine if there are sufficient funds available for the proposed effort. Any second step RFPs will require a full cost proposal.

d. Other Information: If the O*fferor* wishes to restrict its white papers, they must be marked with the restrictive language stated in FAR 52.215-1(e).

e. White Paper/Proposal Content Summary: **Your white paper may not be read if all requirements of this announcement are not met.**

3. **White Paper Evaluation Criteria**: Evaluations will be conducted by a peer or scientific review process and both white papers and proposals will use the following criteria:

a) **Criteria:** The selection of one or more sources for award will be based on an evaluation of each Offeror's response to determine the overall merit of the submission in response to this announcement. Responses will be evaluated in accordance with FAR 35.016. The responses will be evaluated utilizing a peer or scientific review process and shall be evaluated based on the following criteria that are listed in descending order of importance:

b) **Technical**

1. Overall scientific and technical merits;
2. Importance to AFRL/RD program requirements;
3. Fund(s) availability

c) **Cost/Price:** Once selected for possible award, cost/price will be analyzed for Realism and Reasonableness. Cost/Price is considered, but not an evaluation criterion.

5. White Paper Review and Selection Process: Evaluation of white papers will be conducted by a peer or scientific review process, using the criteria described above. Based on the evaluation, white papers will be categorized as Highly Recommended, Selectable, or Not Selectable, using the definitions in paragraph 10 below. White

papers that are evaluated as Selectable/Highly Recommended and Best Value will be sent a Request for Proposal Letter from the PCO. The Government's goal is to notify Offerors of the disposition of their white paper within 30 days of receipt. Unsuccessful Offerors will be notified in writing and will have the opportunity to receive feedback.

NOTE: The Government reserves the right to collapse a white paper/Two-Step announcement into a One-Step if the situation warrants, and the white paper(s) contains sufficient technical detail to do full technical evaluation.

PROPOSAL SUBMISSION (AS REQUESTED BY STANDAR CALL OR TAG CALL)

6. **Proposal Submission:** Full proposal Instructions will be provided Calls or Request for Proposal Letter from the PCO.

    a. Offerors should apply the restrictive notice prescribed in the provision of FAR 52.215-1(e) Instructions to Offerors—Competitive Acquisition. Properly marked proprietary information will be treated in accordance with DFARS 252.227-7016, Rights in Bid or Proposal Information.

    b. Technical/management and cost volumes shall be submitted in separate volumes and shall be valid for 180 days. Proposals must reference the BAA announcement number, the Call number, and include a unique Contractor-generated proposal identification number. Unnecessarily elaborate brochures or presentations beyond that sufficient to present a complete and effective proposal are not desired.

    c. Submit with a cover letter and one electronic copy of the technical proposal and the cost/business proposal. The electronic copy must be submitted to the TACTICAL Org Mailbox as listed in the Point of Contact (POC) section above in a PC-compatible file format and must be readable by Microsoft Office. The electronic copy of the cost proposal worksheets must be in Microsoft Office Excel .xlsx version and must contain all cell formulas.

    d. Proposals should be submitted to the TACTICAL Org Mailbox as listed in the Point of Contact (POC) section above and to any subsequent address identified in the Call. Proposals sent to any inappropriate address are ineligible for award. Proposals sent via mail or facsimile will not be accepted. Offerors may submit the electronic copy of the proposal through secure electronic mail (DoD SAFE or Encrypted E-mail). Please request a DoD SAFE drop link at least three business days before the proposal due date.

e. Offerors are advised that data included in the technical and cost/business proposals submitted to the Government (in response to this BAA) may be released to non-Government advisors for review and analysis. Any non-Government advisor will strictly serve in an advisory capacity only to the Government evaluators. Non-Government advisors will have appropriate Organizational Conflict of Interest clauses in their contracts with AFRL and will initiate any required Non-Disclosure Agreements. The use and identification of non-Government advisors will be identified in the Call. All offerors must clearly indicate in their proposals if they have any objections or concerns regarding the use of non-Government advisors.

7. **Specific Proposal Preparation Instructions**

a. **Cover letter -** A cover letter shall accompany each proposal. The cover letter will identify the BAA number, Call number, and Technical Area under which the proposal is submitted, a statement that the proposal is valid for 180 days (from the due date specified in the Call), provide technical and contracting points of contact, CAGE code, and include a statement indicating if the firm is a small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, 8(a), or woman-owned small business concern. The proposal must be signed and dated by an authorized official of the organization.

b. **Technical Proposal**:

i. **Page Limitation**: The Technical Proposal shall be limited to 20 (twenty) full 8.5-inch x 11-inch pages (not including cover page), prepared and submitted in Microsoft Word or Adobe Acrobat® 7.0 or later using Optical Character Recognition to allow the Government to search documents, or as specified in the Call or Request for Proposal. The font shall be Times New Roman 10 point with no less than one-inch (1") margins (left, right, top and bottom). Headers and/or footers may be included in the margin parameters. Standard single line spacing shall be used for all paragraphs. Except as authorized by this announcement, all Proposals pages shall be presented in portrait page layout orientation. Charts, graphs, matrices, tables, and similar depictions (including spreadsheets) shall be in 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; however, any 11" x 17" page shall be counted as two pages. All electronic data must be virus free. Pages shall be numbered starting with the cover page being Page **1** (one), and the last page being no greater than Page **21** (twenty-one). The page limitation covers all information including indices, photographs, foldouts (counted as 1 page for each 8.5 by 11 portion), tables, charts, appendices,

attachments, resumes, etc. The Government will not consider pages in excess of these limitations.

ii. The page limitation covers all information including indices, photographs, foldouts (counted as one page for each 8.5 by 11 portion) tables, charts, appendices, attachments, etc. Blank pages, title pages, tables of content, lists, tabs, or cover sheets are not included in the page count. The proposal page limit does not include the offeror's proposed Contractor Statement of Work (CSOW); however, the same formatting rules apply to the CSOW.

Please note: The Government will check the proposal and CSOW for conformance to the stated requirements. Any pages in excess of the stated page limitation (after the format check) will not be considered.

iii. **Content**: The proposal shall include a discussion of the nature and scope of the research and the technical approach. The technical proposal must convey an understanding of the problems or limitations of the general Technical Area and the intended application(s). The technical proposal shall include the following items.

iv. Summary: Describe the proposed program, objectives, and approach. A description of the innovation and benefits of the proposed approach and relationship to previous efforts should be discussed. It should summarize the technical issues addressed by the offeror's proposal without repeating the requirements. This should provide a vision of what will ultimately be achieved and what solution this effort will produce.

v. Program Description: Describe the techniques, methods, materials, or ideas that will be addressed in this proposal, their innovativeness, and to what degree they advance the state-of-the-art.

vi. Program Plan: Describe in detail the planned approach and how the plan will be executed. This section should include all technical aspects of the approach. Provide technical detail and analysis necessary to support the technical approach proposed. Clearly identify the core of the intended approach. The "new and creative" solution to the problem(s) should be developed and analyzed in this section. Include a risk assessment of key technical, schedule or cost areas and their potential impact on the program. Identify why proposed subcontractors were selected and what tasks they are to perform.

vii. Contractor's Statement of Work (CSOW): The CSOW, a stand-alone document, should detail the research to be accomplished under the Technical Area and should be suitable for incorporation into the awarded document. The proposed CSOW should summarize the

technical methodology and the task description, but not to the extent to make the awarded instrument inflexible. Do not include any proprietary information in the CSOW. Copies of our contracts may be requested under the Freedom of Information Act. Consequently, it is imperative that no company-sensitive information be included in the CSOW. The CSOW should include the anticipated deliverables (hardware, software, reports, etc.).

viii. Milestone Chart: A Milestone Chart should indicate when specific objectives are expected to be met in the overall program schedule and should identify the specific accomplishments necessary to proceed to the next task. Provide a schedule of when the deliverable items identified in the Call are to be delivered.

ix. Facilities and Equipment description: Describe the facilities that can be used to achieve the goals of the program, in terms of manufacturing capability, testing facilities, and/or any relevant specialized equipment.

x. Description of Relevant Prior Work: Provide a list of related previous or current Government, commercial, or internally funded work performed during the past five years. For each such effort, provide the principal investigator, title of effort, contract number, brief summary of results, dollar value, and a technical and contracting point of contact (including phone numbers), for the funding organizations.

xi. Management Plan: Offerors should provide an approach that demonstrates the ability to effectively and efficiently manage and administer the research program to a successful conclusion.

xii. Resumes of Proposed Personnel: Include resumes for all proposed personnel, consultants, or subcontractors (that might be proposed). Provide Position Descriptions for any positions not filled at the time of proposal submittal.

c. **Cost/Business Proposal**: Full cost proposal Instructions will be provided in Calls or Request for Proposal Letter from the PCO. The PCO may require the TACTICAL Standard Cost Proposal Spreadsheet **(See Attachments)** be utilized and will be provided with the Call or Request for Proposal Letter. The file must contain all cell formulas. Cost proposals have no page limitations.

i. Completed Proposal Content Checklist (provided at the Call level)

ii. Completed Representations and Certifications and any specific representations and certification identified in a Call.

iii. Prospective offerors are to identify any foreign nationals that are anticipated to be working on the project, both at the Contractor and subcontractor level. Information required includes, but is not limited to, place of origin, current status (copy of documentation required), and provide an explanation of their anticipated level of involvement on the proposed effort.

iv. Price Competition is determined not to exist because the absence of precise Government specifications and varying technical approaches proposed for R&D efforts. The Government will require certified cost or pricing data from the offeror whose proposal exceeds the thresholds listed at FAR 15.403-4.

8. **Proposal Content Summary**: You may be ineligible for award if all requirements of this solicitation are not met on the proposal due date. Failure to provide a complete proposal may result in a determination that the proposal is non-responsive and may be eliminated from consideration for award.

9. **Submission Dates, Times, and Address:** Will be posted in the Call Announcements. Proposals received after the due date and time specified shall be governed by the provisions of FAR 52.215-1(c) (3).

10. **PROPOSAL REVIEW and EVALUATION PROCEDURES**

Criteria: The selection of one or more sources for award will be based on an evaluation of each offeror's proposal to determine the overall merit of the proposal in response to this announcement. Proposals will be evaluated in accordance with FAR 35.016. The proposals will be evaluated utilizing a peer or scientific review process and shall be evaluated based on the following criteria that are listed in descending order of importance:

Technical

1. Overall scientific and technical merits;
2. Importance to AFRL/RD program requirements;
3. Fund(s) availability

Cost/Price: Once selected for possible award, cost/price will be analyzed for Realism and Reasonableness. Cost/Price is considered, but not an evaluation criterion.

NOTE: The Government reserves the right to change the evaluation criteria for a specific Call. If the evaluation criteria differ from the above it will be stated in the Call.

11. **Review and Selection Process:** Responses (White Papers and Proposals) will be evaluated and categorized as follows:

a) Highly Recommended: Well-conceived scientifically and technically sound response pertinent to accomplish program goals and objectives. Responses are recommended for acceptance (subject to availability of funds) and normally are displaced only by other Highly Recommended responses.

b) **Selectable:** Scientifically or technically sound responses that may require additional development. Responses are recommended for acceptance if sufficient funding is available, but at a lower priority than Highly Recommended proposals. To ensure a diversity of approaches, a Selectable response may be prioritized over a Highly Recommended response if the Selectable response presents a unique approach unlike any of the Highly Recommended responses.

c) Not Selectable: Response is not technically sound or does not meet agency needs. Even if sufficient funding existed, the response should not be funded.

Note: The Government reserves the right to award some, all, or none of the responses. When the Government elects to award only part of a proposal, the selected part may be categorized as Highly Recommended or Selectable, through the response as a whole may not merit such a categorization.

12. AWARD ADMINISTRATION INFORMATION

a. **Award Notices**: Offerors will be notified whether their proposal is recommended for award in writing by letter. The notification of recommendation for award is not to be construed to mean the award of a contract is assured, as availability of funds and successful negotiations are prerequisites to any award.

b. **Debriefings:** When requested, a debriefing will be provided. The debriefing process will follow the guidelines set out in FAR 15.505 and 15.506.

VII. EXECUTIVE SUMMARY SUBMISSION INFORMATION

1. Following amendments to this announcement will request an Executive Summary (ES). The ES shall include a discussion of the offeror's qualifications for a specific Topic Area Group. The cost of preparing Executive Summaries in response to this Solicitation is not considered an allowable direct charge to any resulting or any other contract; however, it may be an allowable expense to the normal bid and proposal indirect cost as specified in FAR 31.205-18.

2. Page Limitation: The Executive Summary shall be limited to a 1 (one) page Cover Page <u>and</u> 2 (two) page Executive Summary Narrative. Executive Summaries shall be submitted on full 8.5-inch x 11-inch pages, prepared and submitted in Microsoft Word or Adobe Acrobat® 7.0 or later using Optical Character Recognition to allow the Government to search documents. The font shall be Times New Roman 10 point with no less than one-inch (1") margins (left, right, top and bottom). Headers and/or footers may be included in the margin parameters. Standard single line spacing shall

be used for all paragraphs. Except as authorized by this announcement, all executive summary pages shall be presented in portrait page layout orientation. Pages shall be numbered starting with the cover page being Page 1 (one), and the last page being no greater than Page 3 (three). The page limitation covers all information including indices, photographs, foldouts (counted as 1 page for each 8.5 by 11 portion), tables, charts, appendices, attachments, resumes, etc. The Government will not consider pages in excess of these limitations. Executive Summaries must be submitted to the TACTICAL Org Mailbox (afrl.rdlb.tacticalbaa@us.af.mil). If it is determined that a classified Executive Summary is required, please DO NOT deliver any classified portion of the submission to the email address listed above, but rather contact the POCs listed in this BAA for specific delivery instructions. 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).

3. Format: The Executive Summary shall be formatted as follows:
    i. Offerors shall submit the following.
        1. Cover Page (Limited to 1 Page):
            a. BAA Number (FA9451-24-S-0001)
            b. Specific Topic Area (Identify only ONE)
            c. Name of Company
            d. Mailing Address
            e. Business Size to NAICS 541715
            f. Company's Commercial and Government Entity (CAGE) number
            g. Data Universal Numbering System (DUNS) number
            h. Contracting POC and Technical POC with appropriate telephone numbers, fax numbers, and email addresses for the POCs
            i. Facility and Safeguarding Classification levels, relevant to the Topic Area (if applicable)
            j. Mailing address for forwarding classified material (name, address, zip code)
            k. Cognizant security office (name, address, zip code), and Offeror's security officer's name and telephone number)
        2. Executive Summary Narrative (Limited to 2 Pages):
            a. Executive Summary narrative should include but not be limited to the following:
                i. The Offeror’s understanding of the scope of work in the Topic Area.
                ii. The Offeror’s experience performing work of the nature of the Topic Area.
                iii. The Offeror’s availability of competent and experienced engineering, scientific, or other technical personnel are available to perform work in the identified Topic Area.

iv. The Offeror's availability of, from any source, necessary research, test, laboratory, or shop facilities to perform work within the Topic Area.
v. The Offeror's ability to research, design, model, develop, and test innovative solutions within the Topic Area.
vi. The Offeror's ability to establish and maintain effective partnerships.
vii. The Offeror's ability to submit a proposal within thirty (30) calendar days, and commitment to an expedited negotiation and award schedule.

VIII. EXECUTIVE SUMMARY REVIEW and EVALUATION PROCEDURES

1. Executive Summaries (ES) Evaluations will be conducted by a peer or scientific review process and will use the criteria listed on the Executive Summary Review memo **(See Attachments)**.

2. Executive Summaries that meet the criteria specified on the Review memo will be considered qualified for the specific Topic Area Group (TAG). Qualified offerors will remain in the TAG for the duration of the TACTICAL BAA (unless Offeror withdraws membership or fails the annual recertification process) and are eligible to receive letter Requests for White Paper or Requests for Proposal. Letter requests will be sent ONLY to the qualified members of the TAG.

3. Qualified members of TAGs will receive an annual request to recertify that the submitted ES remains valid and applicable to the chosen Topic Area Group. Any offeror that cannot certify the continued validity of their submitted ES will be removed from the group and is eligible to submit a new ES for TAG qualification during the annual ES request period.

4. Each selected Executive Summary only permits acceptance into the specific TAG proposed – Offerors must submit and have selected separate Executive Summaries to gain membership into multiple TAGs.

5. The completed Executive Summary Review memo **(See Attachments)** will be provided as feedback to any offeror that submits an ES.

IX. OTHER INFORMATION

1. **Organizational Conflict of Interest (OCI):** In accordance with FAR 9.5, Organizational Conflict of Interest, the Offeror will be required to perform its own OCI analysis and submit the results of that analysis as part of its proposal submission. Specifically, the Offeror shall analyze the planned effort for actual or potential OCI situations associated with its or any of its associate organizations' performance under any contract it or its associated organizations have been or may be awarded by any federal agency or other

entity. The Offeror shall describe in detail the methodology used to identify actual or potential OCI issues. If the Offeror identifies any actual or potential OCI with respect to the performance of itself or its associated organizations, the Offeror shall provide an OCI mitigation plan to be incorporated into any resulting contract. If an award is made to the Offeror, the resulting contract may include an OCI limitation applicable to subsequent Government work, at either a prime contract level, at any subcontract tier, or both. If a prospective Offeror believes a conflict of interest exists or may exist (whether organizational or otherwise) or has questions on what constitutes a conflict of interest, the Offeror should send his/her contact information and a summary of the potential conflict via email to the BAA e-mail address before time and effort are expended in preparing a proposal and mitigation plan. The OCI clause in the BAA may not be modified or deleted.

2. **Support Contractors**: The AFRL Directed Energy (RD) and Directed Energy (RV) Directorates have 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, or 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.

3. **Wide Area Workflow Notice:** Any award resulting from this BAA will contain the clause at DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports (DEC 2018), which requires electronic submission of all payment requests. Any contract award resulting from this BAA will establish a requirement to use WAWF for invoicing and receipt/acceptance and provide coding instructions applicable to this contract. Contractors are encouraged to take advantage of available training (both web based and through your cognizant Defense Contract Management Agency (DCMA) office), and to register in the WAWF system. Information regarding WAWF, including the web-based training and registration, can be found at https://wawf.eb.mil/. Note: The WAWF requirement does not apply to Offerors that are audited by an agency other than the Defense Contract Audit Agency (DCAA).

4. **Item Identification and Valuation:** Any award resulting from this BAA may contain the clause at DFARS 252.211-7003, Item Unique Identification and Valuation (JAN 2023) which requires unique item identification and valuation of any deliverable item for which the Government's unit acquisition cost is $5,000 or more; subassemblies, components, and parts embedded within an item valued at $5,000 or more; or items for which the Government's unit acquisition cost is less than $5,000 when determined necessary by the

requiring activity for serially managed, mission essential, or controlled inventory. Also, included are any DoD serially managed subassembly, component, or parts embedded within a delivered item and the parent item that contains the embedded subassembly, component, or part. Per DFARS 211.274-3, Policy for Valuation, it is DoD policy that contractors shall be required to identify the Government's unit acquisition cost for any deliverable end items to which item unique identification applies. Therefore, your proposal must clearly break out the unit acquisition cost for applicable deliverable items (per DFARS 211.274-3 "for cost-type or undefinitized line, subline, or exhibit line items, the contractor's estimated fully burdened unit cost to the Government at the time of delivery") in their proposal. Per DoD, "fully burdened unit costs" to the Government would include all direct, indirect, general and administrative (G&A) costs, and an appropriate portion of fee. For questions regarding the unique item identification requirements, please contact the contracting point of contact identified in this BAA. For more information, see the following website: https://www.acq.osd.mil/asda/dpc/ce/index.html.

5. **Forward Pricing Rate Agreements:** Offerors who have forward pricing rate agreements (FPRA's) and forward pricing rate recommendations (FPRR's) should submit them with their cost proposal.

6. **Pre-Award Clearance:** Pursuant to FAR 22.805 Procedures, a pre-award clearance must be obtained from the U.S. Department Of Labor, Employment Standards Administration, Office Of Federal Contract Compliance Program's (OFCCP) prior to award of a contract (or subcontract) of $10,000,000 or more unless the Contractor is listed in OFCCP's National Pre-award Registry (https://www.dol.gov/agencies/ofccp/pre-award). This registry indicates that the Contractor has been found to be "in compliance" within the past two years with the Equal Employment Opportunity (EEO) regulations that the OFCCP is mandated to enforce. The registry is updated nightly, and facilities reviewed more than two years ago are removed and new ones are added. Award may be delayed if the Offeror is not currently listed in the registry and the Contracting Officer must request a pre-award clearance from the OFCCP.

7. **Limitations on Pass-Through Charges:** Any contract award resulting from this BAA may contain FAR 52.215-22, Limitations on Pass-Through Charges – Identification of Subcontract Effort (OCT 2009) and FAR 52.215-23, Limitations on Pass-Through Charges (JUN 2020) or Alternate I (OCT 2009). The Offeror shall identify in its proposal the total cost of the work to be performed by the Offeror, and the total cost of the work to be performed by each subcontractor, under the contract. If the Offeror intends to subcontract more than seventy (70) percent of the total cost of work to be performed under the contract, the Offeror shall identify in its proposal—(i) The amount of the Offeror's indirect costs and profit/fee applicable to the work to be performed by the subcontractor(s); and (ii) A description of the added value provided by the Offeror as related to the work to be performed by the subcontractor(s). If any subcontractor proposed under the contract intends to subcontract (to a lower-tier subcontractor) more than seventy (70) percent of the total cost of work to be performed under its subcontract, the Offeror shall identify in its proposal—(i) The amount of the subcontractor's indirect

costs and profit/fee applicable to the work to be performed by the lower-tier subcontractor(s); and (ii) A description of the added value provided by the subcontractor as related to the work to be performed by the lower-tier subcontractor(s).

8. **Government Furnished Property (GFP) Government Furnished Information (GFI):** GFP/GFI is anticipated for this BAA.

    a. If GFP is proposed, the Government will provide maximum accommodation possible for requests of GFP or other permitted assistance that arise during the performance of the contract. In accordance with FAR 45.201(b), Solicitation, the contractor is responsible for all costs related to making the property available for use, such as payment of all transportation, installation, or rehabilitation costs.
    b. In accordance with FAR 45.201(c), Solicitation, if GFP is requested, Offerors shall submit the following information with the proposal:
        i. A list or description of all Government property that the Offeror or its subcontractors propose to use on a rent-free, non-interference basis. The list shall identify the accountable contract under which the property is held and the authorization for its use (from the Contracting Officer having cognizance of the property).
        ii. The dates during which the property will be available for use (including the first, last, and all intervening months) and, for any property that will be used concurrently in performing two or more contracts, the amounts of the respective uses in sufficient detail to support prorating the rent.
        iii. The amount of rent that would otherwise be charged in accordance with FAR 52.245-9 USE AND CHANGES (APR 2012).
        iv. A description of the Offeror's property management system, plan, and any customary commercial practices, voluntary consensus standards, or industry-leading practices and standards to be used by the Offeror in managing Government property.
            1. The above information should be provided within the Business Cost Volume paragraphs which pertain to GFP Support. The Offeror shall also supply applicable information in the format shown below for each item requested.

Table - Government Furnished Items						
Quantity	Federal Stock #	Nomenclature	Duration of Need	Rental Value	Reason for Need	Cross Ref. to Cost Prop

9. **Contractor Acquired Property (CAP):** The Offeror may propose CAP as necessary to fulfill the proposed objectives. Offerors should be aware that the Government will cross-check any CAP proposed with AFRL/RVOI/LMCA for availability.

10. **Clauses:** The following clauses will be incorporated into any cost reimbursement contracts resulting from this BAA: FAR 52.245-1, Government Property or Alternate I (SEP 2021); FAR 52.245-9, Use and Charges (APR 2012); DFARS 252.211-7007, Reporting of Government-Furnished Property (MAR 2022); DFARS 252.245-7001,

Tagging, Labeling and Marking of GFP (APR 2012); DFARS 252.245-7002, Reporting Loss of Government Property (JAN 2021); DFARS 252.245-7003, Contractor Property Management System Administration (APR 2012); and DFARS 252.245-7004, Reporting, Reutilization and Disposal (DEC 2017).

11. **Available Base Facilities:** If requested, AFRL test facilities may be made available, and potentially may include buildings (space and equipment), Air Force computers, networks, phones, etc. Offerors shall specifically detail the elements of the effort proposed to be conducted within the confines of Kirtland AFB, NM, and those that are to be performed off-site. Any differences in on-site versus off-site rates shall be specifically annotated.

12. **Post-Award Small Business Program Representation:** Any award resulting from this BAA may contain FAR 52.219-28, Post-Award Small Business Program Representation (MAR 2023). This clause requires a contractor to represent its size status when certain conditions apply. The clause provides detail on when the representation must be completed and what the contractor must do when a representation is required.

13. **Small Business Subcontracting Plans:** Unless exempt in accordance with FAR 19.702, small business subcontracting plans are required 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. The subcontracting plan shall be submitted with the proposal and be suitable for incorporation into the awarded contract (no proprietary information or markings). If a company has a master subcontracting plan, as described in FAR 19.701 or a comprehensive subcontracting plan, as described in DFARS 219.702, a copy of the master/comprehensive plan shall be submitted.

    The Contracting Officer anticipates aggressive subcontracting goals based on the market research conducted. Current DoD Subcontracting Goals can be found here: https://business.defense.gov/About/Goals-and-Performance/

    For proposed subcontracting plans that are below the DoD goals, the Offeror shall provide additional information which demonstrates how it intends to provide meaningful subcontracting opportunities and rationale as to why the goals were not attainable. In accordance with FAR 19.702, Statutory Requirements, if the apparent successful Offeror fails to negotiate a subcontracting plan acceptable to the contracting officer within the time limit prescribed by the Contracting Officer, the Offeror will be ineligible for award.

14. **Environment, Safety, and Occupational Health:** The Contractor will establish an Environment, Safety and Occupational Health program free from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property or damage to the environment. The Contractor will comply with all precautions established by the Air Force, Air Force Research Laboratory Phillips Research Site and Directed Energy Directorate during all activities performed in connection with this contract. The Contractor shall report personnel injuries, damage to Government property or equipment, and accidental chemical releases that occur as a result of the Contractor's activities; report to the AFRL Safety (505-846-2273) & AFRL Environmental Office

(505-846-4574) as soon as possible, not to exceed 24 hours. If the Government elects to conduct an investigation of the mishap, the Contractor shall cooperate fully with Government personnel until the investigation is completed.

a. HAZARDOUS MATERIALS/HAZARDOUS WASTE: The Contractor shall establish and conduct a Hazardous Material/Hazardous Waste management program in accordance with all Federal, DoD, Air Force, State and Local regulations, AFI 32-7086 (Hazardous Waste Management) and AFI 32-7042 (Waste Management) and their AFMC supplements (latest version). Specifically, the Contractor shall manage and provide for the ordering, handling, storage, and disposal of hazardous materials/waste used in the performance of the Contract in compliance with applicable Local Air Force operating plans and instructions as well as Federal, State and Local laws and regulations. The Contractor shall train all pertinent (Government, Contractor, subcontractor) personnel in the proper handling, control, disposal, and use of hazardous materials/waste for Contractor activities. Report Chemical Releases to 505-846-4574 or 505-846-4573.

b. OCCUPATIONAL HEALTH: The Contractor shall comply with the provisions of all Air Force and KAFB occupational health standards and requirements, as applicable, for radio frequency radiation (RFR), laser, noise, chemical and other industrial hygiene concerns for operations conducted in connection with this contract.

c. SYSTEM SAFETY PROGRAM: The Contractor shall comply with the system safety permit requirements contained in AFI 91-202 AFRL SUP 1, and PRSOI 91-101. These requirements apply to activities performed on Government properties and/or with Government personnel and/or at acquired properties and/or with Government–owned property.

d. SAFETY. The Contractor shall comply with all AF, AFMC, PRS and KAFB safety requirements. These requirements apply to activities performed on Government properties and/or with Government personnel and/or at acquired properties and/or with Government–owned property.

e. PERMITS AND APPROVALS: Prior to conducting an experiment or demonstration, the Contractor shall perform the following tasks:

    i. ENVIRONMENT. The Contractor shall assess and document the environmental consequences of the technology being developed and of experiments/demonstrations to be performed, on an AF Form 813(s), to ensure compliance with AFI 32-7061. The Contractor shall submit the AF Form 813 package to AFRL/RDMT Test & Environmental Office for review. Based on these results, the Contractor shall acquire all necessary approvals and permits to conform to all Federal, DoD, Air Force, State and Local laws, instructions, and regulations in preparing for each experiment or demonstration.

ii. TEST AND EVALUATION REQUIREMENTS. All experiments and tests to include aircraft flight tests/experiments/demonstrations (including balloon and UAV) in-house or off-site must accomplish test plans and meet the requirements in RDOI 61-103 and AFRLI 61-103. Required permits and approvals include, but may not be limited to, safety, security, laser certifications, National Environmental Policy Act documentation, hazardous material/waste, and frequency clearance allocations. The Contractor shall submit this documentation to the AFRL/RDMT Test & Environmental Office for review and approval.

15. **INFORMATION TECHNOLOGY SECURITY.**

a. ACRONYMS FOR THIS SECTION:

C4 Systems– Command, Control, Communications and Computer Systems
COR – Contracting Officer's Representative
DoD – Department of Defense
CIO – Corporate Information Officer
DAA – Designated Approval Authority

b. The Contractor shall comply with the following Information Security Technology requirements:

c. The Contractor is prohibited from attaching any computer hardware to the DoD/AF network or running any computer software unless it 1) is Government furnished equipment, 2) has been certified and accredited according to current DoD/AFNETOPS requirements, or 3) has an approved requirements document from the AF DAA/System CSO. All networks at Kirtland are DoD/AF Networks and must adhere to "current and local PRS DoD/Air Force regulations and training." Any such requests for reconfiguration, upgrade, or addition of computer hardware or software must be mission essential approved by the Air Force Designated Approval Authority (DAA) via the Contractor's submission of a written request to the COR, and an approved requirements document from the Air Force DAA. Contractor use of computer modems on any machine attached to the DoD/AF network is prohibited. Use of commercial Internet service providers is prohibited, unless mission essential, and approved by the AF DAA.

d. Contractor personnel using any PRS information technology assets shall comply with all PRS computer security requirements. In addition, should Contractor personnel require access to PRS computer networks or databases, they shall inform the COR, who will arrange for the Contractor personnel to complete the required documentation for a new computer account. The Contractor shall notify the COR within one workday of any Contractor personnel who no longer require an open account and shall take action to close the computer account with the appropriate PRS office within that same workday.

e. All Contractor personnel requiring access to C4 systems belonging to the Federal Government to generate, process, store, transfer, or communicate information must complete the initial and annual mandatory DoD Information Assurance training before receiving an account on the Federal Government network.

f. All Contractor personnel authorized to perform daily network management control or administration of information flow responsibilities (i.e., Workgroup Manager or System Administrator) are required to be certified Information Assurance (IA) network professionals. This IA certification is required by Air Force instruction and is obtained by completing Air Force-provided interactive computer-based training (CBT). These IA CBTs are in addition to the mandatory C4 systems security training mentioned above.

g. The Contractor shall immediately notify the COR of any Government C4 system problems or issues which come to their attention which may impact the Contractor's or the Government's ability to access the systems.

h. All Contractor personnel who require access to PRS/DoD/AF C4 systems are required to obtain a National Agency Check (NAC) consistent with Public Trust Positions (Standard Form 85P or most current form). The Contractor may submit a request to the COR that the Government grant Contractor employee(s) interim access to the PRS C4 network while awaiting the results of a NAC. Interim access to the PRS C4 network can only be granted by the AF DAA after the Contractor employees obtain at least a local background files check and have submitted the appropriate documentation to obtain a NAC. These requests will be processed in accordance with Government information security regulations and policy and must include PRS Directorate Security Office and DAA approval. These requests may be subject to disapproval. In no case will a Contractor be given access to the network, including a group account, until a favorable NAC has been completed or interim access granted by the DAA Representative. Any interim accesses that may be granted may be rescinded at any time by the Contracting Officer, COR, PRS CIO, Directorate Security Office or PRS DAA Representative at the Government’s discretion. Any individual who subsequently does not pass the requirements for a full NAC shall not be authorized to work under this effort.