Broad Agency Announcement

Expeditionary Carbon Utilization for Energy Resilience and Stabilization (ExCURSion)

DEFENSE SCIENCES OFFICE

HR001124S0014

March 1, 2024

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and 2 CFR § 200.203. Any resultant award negotiations will follow all pertinent law and regulation, and any negotiations and/or awards for procurement contracts will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA.

Overview Information:

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Defense Sciences Office (DSO)
- **Funding Opportunity Title –** Expeditionary Carbon Utilization for Energy Resilience and Stabilization (ExCURSion)
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** HR001124S0014
- **Assistance Listing Number:** 12.910 Research and Technology Development
- **Dates/Time – All Times are Eastern Time Zone (ET)**
  - Posting Date: March 1, 2024
  - Proposers Day: March 1, 2024
  - Proposal Abstract Due Date: March 8, 2024, 4:00 p.m.
  - Question Submittal Closed: April 19, 2024, 4:00 p.m.
  - Proposal Due Date: April 29, 2024, 4:00 p.m.
- **Anticipated individual awards** – Multiple awards are anticipated
- **Types of instruments that may be awarded –** Procurement contracts, cooperative agreements or Other Transactions. Award instruments will be limited to procurement contracts and Other Transactions for Proposers whose proposed solution includes Controlled Unclassified Information (CUI).
- **Agency contact**
  - Points of Contact
    The BAA Coordinator for this effort may be reached at:
    ExCURSion@darpa.mil
    DARPA/DSO
    ATTN: HR001124S0014
    675 North Randolph Street
    Arlington, VA 22203-2114

Section I: Funding Opportunity Description

A. Introduction

The Defense Sciences Office (DSO) at the Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals in the foundational technologies area to enable carbon dioxide (CO_2) reduction, capture, and storage. These technologies are envisioned as key components for a future self-enclosed system that creates liquid carbon fuels and uses them to store and deploy energy to address the need for energy resilience in an expeditionary setting, independent of a fuel supply line. The envisioned system will enable safe, field-deployable, high-density, and rechargeable energy storage. Proposed research should investigate innovative approaches enabling revolutionary advances in science, devices, or systems. Specifically excluded is research primarily resulting in evolutionary improvements to the existing state of practice.

B. Background

Current technologies for portable energy storage and use by expeditionary forces include electric systems like batteries and fuel cells, and traditional fossil fuel combustion engines. Electric systems are, in principle, agnostic to their energy sources: any method of creating a voltage gradient can hypothetically be used to recharge electric power sources. This feature of electric systems makes them extremely operationally flexible. However, existing rechargeable electric power sources suffer from low energy density (generally <1 kWh/L), making them infeasible for carrying out a broad class of expeditionary missions requiring strict size, weight, and power characteristics. Hydrocarbon-based fossil fuels have much higher energy density (>5 kWh/L) but, as yet, electrically rechargeable hydrocarbon-powered fuel cells are still in their infancy and are not yet suitable for Department of Defense (DoD) operations. Missions requiring high energy density currently depend on fossil fuels, requiring regular resupply, a costly and often dangerous operation. Fuel resupply is the main logistical burden the DoD faces in an expeditionary setting. Fuel made up 50% of all convoy goods shipped in-theater in Operation Iraqi Freedom and Operation Enduring Freedom, with a casualty rate of roughly 1 per 24 fuel convoys in Afghanistan.[1]

The ability to generate fuel from local sources of CO_2 and energy would combine the high energy density of fossil fuels with the energy-source-agnostic advantage of electric systems to revolutionize expeditionary energy logistics. Combining CO_2 capture and storage with CO_2 reduction to energy-storing fuel species, would enable a completely closed system that can capture its own combustion stream and recharge its fuel content upon energy input. Such a system could take advantage of the high energy density of traditional fossil fuels and the operational flexibility of an electric battery system.

However, the fuel production rate from CO_2 is currently too slow to be useful at scales relevant to expeditionary energy. They are currently at least an order of magnitude lower than current operational rates of lithium battery recharge (~625 W/L_system). Additionally, fuel synthesis requires not only energy input, but hydrocarbon precursor materials input (generally CO_2 and

[1] David S. Eady, Steven B. Siegel, R. Steven Bell, and Scott H. Dicke. "Sustain the Mission Project: Casualty Factors for Fuel and Water Resupply Convoys" AEPI Final Technical Report, 2009.

water). The most readily available source of precursor materials is obtained by capturing combustion products and recycling them into usable fuel. Post-combustion streams from local point sources (e.g., generators, vehicle engines) typically feature CO_2 at concentrations between 4-10% versus ~400 ppm in air and can be much more compositionally consistent than ambient air. Harvesting this source, however, requires materials that can stably capture and store CO_2.

C. Program Description/Scope

The ExCURSion program aims to overcome key technical challenges to enable a closed-loop, rechargeable, high-energy-density storage system for expeditionary energy by aggressively exploring and evaluating the fundamental science of CO_2 reduction, capture, and storage. Advancements made during the ExCURSion program will enable the design and construction of a carbon fuel cell prototype that is closed, portable, and fully rechargeable. Such a device will generate electricity from fuel and capture its own CO_2 exhaust for subsequent use as a raw material to regenerate fuel upon input of external energy at a point of convenience, thus closing the carbon cycle. The program (and a potential follow-on effort to build a prototype) will enable safe, high-density, and rechargeable energy storage in the field.

ExCURSion's goal faces two immediate challenges: 1) producing liquid fuel from CO_2 is at least 30 times slower than lithium battery recharging; and 2) capturing and storing CO_2 from exhaust is plagued by the tradeoff between the working capacity and the stability of the materials used for CO_2 capture, storage, and release.

The ExCURSion program seeks revolutionary advances in two technical areas (TA): TA1 entails CO_2 reduction to high-energy-density fuel, primarily focusing on the rate of fuel generation. TA2 entails CO_2 capture and storage, primarily focusing on working capacity and stability. The program welcomes a wide range of approaches, including but not limited to: (for TA1) direct electrolysis, photocatalytic reduction, thermochemical reduction, plasma-based reduction, or other methods, and (for TA2) chemically reactive, physisorptive, and hybrid CO_2 capture methods.

It is expected that, in addition to development in traditional domains such as catalysis and materials, achieving the metrics in this Broad Agency Announcement (BAA) could require significant fundamental advancements in nanoscale control over local conditions such as temperature, reagent concentration, pH, etc. Proposers are encouraged to capitalize on recent developments in micro- and nanofluidic reactor design and construction, as well as synthesis of functional nanomaterials to overcome rate-limiting mass and energy transport issues.

Because the goal of the program is to develop the science necessary to create a fully rechargeable carbon fuel cell, proposers are encouraged to consider technologies that integrate different aspects of the carbon cycle. Examples of such technologies include, but are not limited to: reversible fuel/electrolysis cells, utilizing heat of CO_2 adsorption for combustion process intensification, reactive CO_2 capture, etc.

Out-of-scope activities include primarily hydrogen-based or metal battery-based energy storage chemistries, as well as primarily refrigeration- or compression-based CO_2 storage methods.

D. Program Structure

The solicitation seeks proposals for the first 33 months of the ExCURSion program. Proposals shall include a 24-month Base Phase I with a 9-month Phase II Option. In the initial 24-month Base phase, TA1 performers will focus on fuel generation from CO_2, and TA2 performers will focus on CO_2 capture and storage from a combustion stream. In the 9-month Option period, TA1 performers will be expected to focus on improving the stability and efficiency of their high-rate methods, and TA2 performers will be expected to continue improving working capacity and stabilizing their methods. During the Option period, both TA performers are expected to begin integrating their capabilities toward a fully closed, rechargeable system, which will be the focus of a potential follow-on effort. At this time, this BAA solicits proposals only for this 24-month Base and 9-month Option phase. While the 9-month Option phase has not been approved and funding is not currently available, DARPA requests proposals shall include the 9-month option phase to ensure a smooth transition after the conclusion of the base period. Prior to the 9-month option being potentially exercised, appropriate approvals and funding will be secured. Further, should a program expansion be approved, any follow-on efforts beyond the 9-month option period will be solicited through a future solicitation.

Subject matter experts at U.S. Government laboratories, Federally Funded Research and Development Centers (FFRDC), and University Affiliated Research Centers (UARC) will serve as technical advisors and Independent Validation and Verification (IV&V) partners throughout the program, providing DARPA an assessment of performer capabilities and validating experimental data and/or system performance. Performers will be expected to work openly and regularly with DARPA and designated Government IV&V teams throughout the program. Proposals must include a task to reflect interaction with DARPA and IV&V teams and delivery of requested information, data, hardware, software, and materials. This BAA does *not* solicit IV&V participation. U.S. Government, FFRDC, or UARC personnel interested in learning more about ExCURSion or potentially participating in program activities should contact DARPA at ExCURSion@darpa.mil.

E. Technical Area Descriptions

ExCURSion is divided into two TAs. TA1 focuses on fuel generation from combustion products; and TA2 focuses on capture, storage, and release of combustion products. Proposers may submit to either or both TAs; however, separate proposals are required for each TA.

Technical Area 1

The primary goal of TA1 is to dramatically increase the production rate of liquid carbon-based fuel from combustion products. Proposers are expected to provide a detailed plan for achieving the metrics listed in Table 1, including a quantitative justification based on computational or experimental data. This data may be either previously reported in the literature or unreported preliminary data.

For the maximum fuel production rate metric, all TA1 proposers are expected to target the 625 W/L goal in the program. Maximum fuel production rate is determined by multiplying the rate of fuel production in g/s by the specific heat of combustion of the fuel in J/g to yield a rate in watts, and then dividing by the volume of the reactor system. Included in this volume are the reactor itself and all equipment necessary for it to function, including apparatus for ensuring purity of reagents. Excluded in the reactor system volume are the reagents and the products, as well as

other diagnostic and ancillary instrumentation not necessary for the reactor to function. Proposers are expected to outline their strategy of managing potential impurities in the reagents or to present data and/or modeling indicating their approach's robustness to impurities. Proposers can choose to target any condensed or easily condensable carbon-based fuel or blend of fuels in their proposals as long as the fuel energy density is > 5 kWh/L (LHV) at 25°C and ≤ 10 bar.

In addition to the maximum fuel production rate metric, proposed TA1 technologies need to adhere to the constraints for system stability and energy efficiency listed in Table 1. For the ExCURSion program, energy efficiency is defined as the ratio of caloric energy of fuel produced (as determined by the heat of combustion of the fuel) to the total energy input to the system (i.e., "wall-plug efficiency"); stability is defined as the percent decrease in the above-defined energy efficiency per 100 hours *at the maximum fuel production rate*.

TA1 awardees will be expected to show progress toward the final metrics by demonstrating the capabilities in Table 1, 12 months after program kickoff. Additionally, as part of the month 18 and month 21 quarterly technical reports, performers are expected to generate detailed, quantitative projection of their capabilities at the end of both the Base and Option periods, relative to the expected metrics listed in Table 1. This information will be critical to informing the feasibility of a potential follow-on program. During the Base period, TA1 performers are expected to focus mainly on improvements to rate of fuel production; whereas during the Option period, performers are expected to focus mainly on improvements to system stability and energy efficiency. Proposers should detail strategies for achieving increases in stability and energy efficiency in their proposed high-rate system. Proposers should highlight anticipated challenges and risks to their approaches and plans for mitigating those risks.

Table 1: TA1 Metrics

	Metric	**Unit**	**Mid-phase Exam (12 mo)**	**Base (24 mo)**	**Option (9 mo)**
Key Metric	Maximum Fuel Production Rate	W/L system	100	≥625	≥625
Constraints	Stability @ Max. Prod. Rate	% efficiency loss/100 hrs	--	10	2
	Energy Efficiency	Fuel energy out/energy in	--	30%	50%
	Fuel Energy Density	kWh/L	>5	>5	>5

Technical Area 2

The primary goal of TA2 is to balance working capacity with stability. Proposers are expected to provide a detailed plan for achieving the metrics listed in Table 2, including a quantitative justification based on computational or experimental data, which may either be previously reported or preliminary unreported data. Working capacity is defined as the ratio of the mass of reversibly capturable CO_2 to the mass of the sorbent. Stability is defined as the percent decrease

in the working capacity per 500 cycles. Additionally, proposed TA2 technologies are expected to meet the key metrics while adhering to the constraints listed in Table 2. Capture energy is defined as the energy of adsorption per unit of CO_2. Selectivity is defined as the ratio of the mass of captured CO_2, versus the mass of any other gases identified by the IV&V team as combustion products from the fuels produced by TA1 performers. In relation to this constraint, water produced during combustion is not considered a gas for the purposes of the selectivity constraint of TA2. However, TA2 teams *will* be expected to manage any water that might occur in the CO_2 stream; TA2 proposers will be expected to detail their water management plans and plans to manage the possible presence of impurity gases from a combustion stream. Any technology, whether chemisorptive, physisorptive, or a hybrid of the two, meeting the TA2 metrics and constraints may be proposed.

TA2 awardees will be expected to show progress toward the final metrics by demonstrating the "Mid-phase Exam" capabilities in Table 2, 12 months after program kickoff. Progress toward or beyond these numbers will be a key factor in determining whether a follow-on program is realistic. Additionally, as part of the month 18 and month 21 quarterly technical reports, performers are expected to generate detailed, quantitative projection of their capabilities at the end of both the Base and Option periods, relative to the expected metrics listed in Table 2. This information will be critical to informing the feasibility of a potential follow-on program. TA2 performers are expected to continue progress on working capacity and stability metrics through the full 33 months of the program, and proposers should provide justification (preliminary computational or experimental) demonstrating they can achieve the expected metrics given in Table 2 for both the Base and Option phases. Proposers should also highlight anticipated challenges and risks to their approaches and plans for mitigating those risks.

Table 2: TA2 Metrics

	Metric	**Unit**	**Mid-phase Exam (12 mo)**	**Base (24 mo)**	**Option (9 mo)**
Key Metrics	Working Capacity	g CO_2/g storage	0.4	0.75	1
	Stability	% working capacity loss/500 cycles	20	10	1
Constraints	Capture Energy	kJ/mol CO_2	50	100	100
	Multi-gas Selectivity	g CO_2/g other gases	--	>500 process gases	>500 process gases

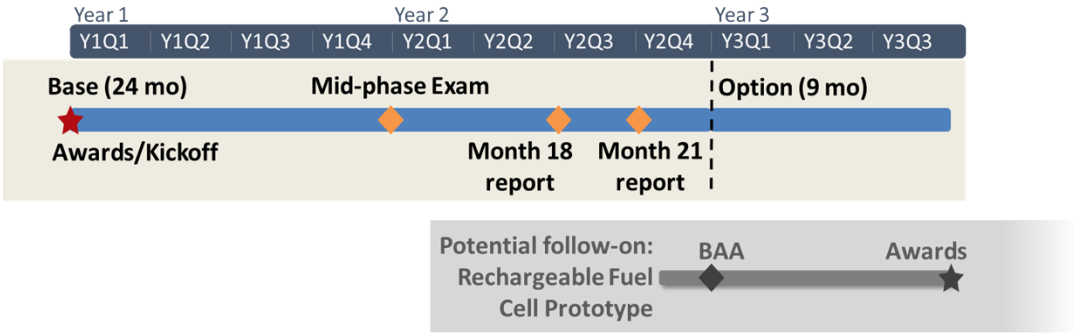
TA/IV&V Interaction

There will be a Government IV&V team assisting with ExCURSion. The IV&V team will collect fuel samples from TA1 performers, analyze the samples, combust them in a standardized manner, and analyze the combustion products. The information obtained from the combustion product analysis will serve as new inputs for the capture and storage effort of the TA2 performers. Likewise, the IV&V team will collect released CO_2 samples from TA2 performers and analyze their content. The results of this analysis will serve as new inputs for fuel production efforts of TA1 performers. This analysis and reassignment of inputs will occur on a quarterly basis. Performers are free to choose the chemical inputs for their initial efforts. However, once the quarterly analyses are made, each performer in a TA will be required to demonstrate their solution can operate using the full range of inputs provided from the other TA. Proposers must address how their proposed system will handle possible impurities in chemical inputs. TA2 proposers must address the following three broad categories of combustion conditions: 1) Fuel cell (clean CO_2 + H_2O); 2) Lean-burn (high NO_x content); 3) Rich-burn (incomplete combustion products).

Example: Consider a case where TA1 has 2 performers ($TA1_1$, $TA1_2$) and IV&V combustion product analysis of the fuel shows $TA1_1$ fuel produces CO_2, H_2O, and a small percentage of SO_2 when combusted, whereas $TA1_2$ produces CO_2, H_2O, and a small percentage of NO_x. Each TA2 performer would need to demonstrate their solution can operate in the presence of SO_2 *and* NO_x. Similar considerations apply to TA1 performers.

F. Schedule/Milestones

The following are the schedule and milestones expected of the program:



- Proposers should provide a technical and programmatic strategy conforming to the entire program schedule and presents an aggressive plan to fully address all program goals, metrics, milestones, and deliverables.
- The task structure must be consistent across the proposed schedule, statement of work, and cost volume.
- A target start date of November 2024 may be assumed for planning purposes. Schedules will be synchronized across performers, as required, and monitored/revised as necessary throughout the program.
- All proposals must include the following meetings and travel in the proposed schedule and costs:
    - To continue integration and development between TAs, foster collaboration between teams, and disseminate program developments, a two-day Principal

Investigator (PI) meeting will be held approximately every six months with locations split between the east and west coasts of the U.S. For budgeting purposes, plan for four two-day meetings over the course of 24 months: two meetings in the Washington, D.C., area and two meetings in the San Francisco, CA, area.

- Regular teleconference meetings will be scheduled with the Government team for progress reporting, and problem identification and mitigation. Proposers should anticipate at least one site visit per year by the DARPA Program Manager, during which they will have the opportunity to demonstrate progress towards agreed-upon milestones.

- Note: Travel costs to support conferences and publication costs are out of scope.

G. Deliverables

Awardees will be expected to provide, at a minimum, the following deliverables:

- Comprehensive quarterly technical reports due within ten days of the end of the given quarter, describing progress made on the specific milestones as required in the statement of work.
- As part of the month 18 and month 21 quarterly technical reports, performers are expected to include detailed, quantitative end-of-phase projections with respect to the metrics listed in this ExCURSion BAA, supported by the data collected during the program.
- A program completion report submitted within 30 calendar days of the end of the program, summarizing the research done.
- Other negotiated deliverables specific to the objectives of the individual efforts. These may include registered reports; experimental protocols; publications; data management plan; intermediate and final versions of software libraries, code, and APIs, including documentation and user manuals; and/or a comprehensive assemblage of design documents, models, modeling data and results, and model validation data.

Section II: Evaluation Criteria

Proposals will be evaluated using the following criteria listed in ***descending order of importance***: Overall Scientific and Technical Merit; Potential Contribution and Relevance to the DARPA Mission; and Cost and Schedule Realism.

- **Overall Scientific and Technical Merit:**

  The proposed technical approach is innovative, feasible, achievable, and complete. Detailed technical rationale is provided delineating why the proposed approach can achieve the program goals and metrics. The proposed technical team has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements provided are complete and logically sequenced with all proposed deliverables clearly defined so the final outcome of the award's work achieves the goal. The proposal identifies major technical risks, and planned mitigation efforts are clearly defined and feasible.

- **Potential Contribution and Relevance to the DARPA Mission:**

  The potential contributions of the proposed effort bolster the national security technology base and support DARPA's mission to make pivotal early technology investments that create or prevent technological surprise. The proposed intellectual property restrictions (if any) will not significantly impact the Government's ability to transition the technology.

- **Cost and Schedule Realism:**

  The proposed costs and schedule are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. All proposed labor, material, and travel costs are necessary to achieve the program metrics, consistent with the proposer's statement of work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates). The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload.

  It is expected the effort will leverage all available, relevant, prior research to obtain the maximum benefit from the available funding. For proposals containing cost share, the proposer has provided sufficient rationale regarding the appropriateness of the cost share arrangement, relative to the objectives of the proposed solution (e.g., high likelihood of commercial application, etc.).

Unless otherwise specified in this announcement, for additional information on how DARPA reviews and evaluates proposals through the Scientific Review Process, please visit: Proposer Instructions: General Terms and Conditions.

Section III: Submission Information

- This announcement allows for multiple award instrument types to be awarded to include Procurement Contracts, Cooperative Agreements, and Other Transactions. Some award instrument types have specific cost-sharing requirements. As stated in the Overview section, **award instruments will be limited to procurement contracts and Other Transactions for Proposers whose proposed solution includes Controlled Unclassified Information**.
- The following websites are incorporated by reference and contain additional information regarding overall proposer instructions, general terms and conditions, and each specific award instrument type.
    - **Proposer Instructions and General Terms and Conditions**: Proposer Instructions: General Terms and Conditions
    - **Procurement Contracts**: Proposer Instructions: Procurement Contracts
    - **Cooperative Agreements**: Proposer Instructions: Grants/Cooperative Agreements
    - **Other Transaction agreements**: Proposer Instructions: Other Transactions
- This announcement contains an abstract phase. Abstracts are due March 8, 2024, 4:00 p.m. as stated in the Overview section. Abstracts are strongly encouraged but not required. Additional instructions for abstract submission are contained within **Attachments A and B**. (Regardless of instrument type desired, all abstracts must be submitted through the Broad Agency Announcement Tool (BAAT.) For detailed information on how to submit to BAAT, visit the "Unclassified Submission Instructions" section at Proposer Instructions: General Terms and Conditions.
- Full proposals are due April 29, 2024, 4:00 p.m. as stated in the Overview section. **Attachments C, D, E, and F** contain specific instructions and templates and constitute a full proposal submission. Please visit Proposer Instructions: General Terms and Conditions for general Terms and Conditions for all requested contract types. Visit Proposer Instructions: Procurement Contracts for submission instructions for proposers requesting Procurement Contracts. Visit Proposer Instructions: Other Transactions for submission instructions for proposers requesting Other Transactions. Visit Proposer Instructions: Grants/Cooperative Agreements for submission instructions for proposers requesting Grants or Cooperative Agreements. (Proposers requesting Procurement Contracts or Other Transactions for Prototype must submit proposals through the Broad Agency Announcement Tool. If requesting a Cooperative Agreement or Other Transaction for Research, proposals must be submitted through grants.gov.)
- **BAA Attachments**:
    - **(required) Attachment A**: Abstract Summary Slide Template
    - **(required) Attachment B**: Abstract Instructions and Template
    - **(required) Attachment C**: Proposal Summary Slide Template
    - **(required) Attachment D**: Proposal Instructions and Volume I Template (Technical and Management)
    - **(required for proposers requesting Procurement Contracts or Other Transactions for Prototype) Attachment E**: Proposal Instructions and Volume II Template (Cost)

- **(required) Attachment F**: MS Excel™ DARPA Standard Cost Proposal Multiple TA Spreadsheet.

Section IV: Special Considerations

- This announcement, stated attachments, and websites incorporated by reference constitute the entire solicitation. In the event of a discrepancy between the announcement, attachments, or websites, the announcement takes precedence.
- All responsible sources capable of satisfying the Government's needs, including both U.S. and non-U.S. sources, may submit a proposal DARPA will consider. Historically Black Colleges and Universities, small businesses, small disadvantaged businesses and minority institutions are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities. Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.
- As of the time of publication of this solicitation, all proposal submissions are anticipated to be unclassified.
- FFRDCs, UARCs, and Government entities interested in participating in the ExCURSion program or proposing to this BAA should first contact the agency point of contact listed in the Overview section prior to the abstract due date to discuss eligibility. Complete information regarding eligibility can be found at Proposer Instructions: General Terms and Conditions.
- DARPA's Fundamental Research Risk-Based Security Review Process (formerly CFIP) is an adaptive risk management security program designed to help protect the critical technology and performer intellectual property associated with DARPA's research projects by identifying the possible vectors of undue foreign influence. DARPA will create risk assessments of all proposed senior/key personnel selected for negotiation of a fundamental research grant or cooperative agreement award. The SID risk assessment process will be conducted separately from the DARPA scientific review process and adjudicated prior to final award. For additional information on this process, please visit Proposer Instructions: Grants/Cooperative Agreements.
- As of the date of publication of this solicitation, the Government expects program goals as described herein may be met by proposed efforts for fundamental research and non-fundamental research. Some proposed research may present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies unique and critical to defense. Based on the anticipated type of proposer (e.g., university or industry) and the nature of the solicited work, the Government expects some awards will include restrictions on the resultant research requiring the awardee seek DARPA permission before publishing any information or results relative to the program. For additional information on fundamental research, please visit Proposer Instructions: General Terms and Conditions.
- Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award

instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at Proposer Instructions: General Terms and Conditions.

- For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, their proposed subawardee's effort may be fundamental research. It is also possible the research performed by a potential awardee is fundamental research while their proposed subawardee's effort may be non-fundamental research. In all cases, it is the potential awardee's responsibility to explain in their proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.
- DARPAConnect offers free resources to potential performers to help them navigate DARPA, including "Understanding DARPA Award Vehicles and Solicitations," "Making the Most of Proposers Days," and "Tips for DARPA Proposal Success." Join DARPAConnect at www.DARPAConnect.us to leverage on-demand learning and networking resources.
- DARPA has streamlined our BAAs and is interested in your feedback on this new format. Please send any comments to DARPAsolicitations@darpa.mil.