Program Solicitation (PS)

Expeditionary Power- and Energy-Dense Implementations (ExPEDitions)

DEFENSE SCIENCES OFFICE

DARPA-PS-26-118

June 5, 2026

OVERVIEW INFORMATION:

- **Federal Agency Name:** Defense Advanced Research Projects Agency (DARPA), Defense Sciences Office
- **Funding Opportunity Title** – Expeditionary Power- and Energy-Dense Implementations (ExPEDitions)
- **Announcement Type –** Initial Announcement
- **Funding Opportunity Number –** DARPA-PS-26-118
- **Assistance Listing Number:** Not applicable
- **Dates/Time - All Times are Eastern Time Zone (ET):**
  - Posting Date: June 5, 2026
  - Proposers Day: May 14, 2026
  - Program Solicitation Questions and Answers Submittal Closes: June 19, 2026
  - Proposal Abstract Due Date: June 26, 2026, at 4:00 p.m.
  - Proposal Due Date: August 19, 2026, at 4:00 p.m.
- **Anticipated individual awards:** Multiple awards are anticipated
- **Period of Performance:** Phase 1 (Base): 18 months, Phase 2 (Option): 18 months
- **Types of instruments that may be awarded:** Other Transaction Agreements for Prototype
- **NAICS Code**: 541715
- **Agency contact:**

  The PS Coordinator for this effort may be reached at:

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1. FUNDING OPPORTUNITY DESCRIPTION

1.2 INTRODUCTION

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative solutions in foundational technologies to produce high-energy-density, high power-density electrically rechargeable batteries and fuel cells and rapidly transition them to end users. The program seeks to combine endurance and range advantages enabled by fuels with the logistical and operational advantages provided by electrical systems. Solutions may include room-temperature or higher-temperature devices and can be air-breathing or air-independent.

Under this solicitation, DARPA is specifically seeking abstracts from Battery Developers for projects to advance core technology and manufacturing. Under separate cover, a solicitation will be issued at a later date to select End Users who will be responsible for integrating the resulting ExPEDitions technology into operational devices. Throughout this solicitation, the terms "Battery Developer" and "performer" may be used interchangeably to refer to the entities responsible for executing the technical objectives described herein.

The ExPEDitions solicitation is focused on rapidly advancing foundational cell chemistry, materials, and architectures and seeking novel approaches for developing a prototype battery. At 18 months into the program, performers are expected to demonstrate a prototype battery at Technology Readiness Level (TRL) 5-6, suitable for integration and preliminary testing in a real device. Battery Developers under this solicitation will be expected to work with End Users, selected via a solicitation under separate cover, to integrate their battery into the End User device. Proposed initial research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded are primary (non-rechargeable) battery development, basic research without an application component, and research that primarily results in evolutionary improvements to the existing state of practice.

1.2 BACKGROUND

Systems delivering portable energy to warfighters are generally separated into either fuel-based or electric (battery-powered). Electric systems have several attractive features which fuel-based systems lack, including relatively low acoustic signatures, high efficiency, and—for some chemistries—the ability to recharge from any voltage gradient. This latter feature, extrapolated to its full potential, could largely untether battery systems from traditional fuel and energy supply line logistics, dramatically simplifying portable power in a contested environment. However, batteries are heavy and bulky and employing them incurs penalties for mission range and endurance.

The DARPA ExCURSion (Expeditionary Carbon Utilization for Energy Resilience and Stabilization) program has demonstrated promising rechargeable carbon-air systems that incorporate many of the attractive features of traditional batteries, while also achieving a theoretical specific energy of >3 kWh/kg. Only a few other chemistries can achieve such a high specific energy, and all options are currently limited either by material instability, low power density, or both.

Improving power density significantly in high-energy-density systems requires tackling the rate limitations that they pose. Most of these systems are air-breathing, and recent advancements in oxygen electrochemistry could boost performance of these batteries, lifting them out of the

kinetically limited regime.[1,2] Additionally, novel approaches to overcoming transport limitations could also significantly increase power density.[3,4]

Increased power density is often accompanied by compromises in material stability, introducing issues with electrode and electrolyte degradation as well as mechanical stresses in certain cases. The lifetimes of portable power systems with the highest energy densities, therefore, become an issue. The most disruptive technologies in the contested logistics space would be electrically rechargeable, potentially eliminating fuel supply lines entirely for these systems. However, achieving this requires reliable systems that can undergo hundreds to thousands of rounds of power cycling. Any high-energy-density portable power system, therefore, needs to be constructed with a high degree of material stability in mind from the outset.

Other concerns include safety and manufacturability/availability of critical materials. Systems that store large amounts of energy inherently raise safety concerns and limit the use cases that can accept such a risk. Additionally, current state-of-the-art (SOA) secondary batteries have some degree of supply chain risk due to many of the necessary components' reliance on critical materials that are not produced domestically. For advanced power systems to be widely adopted, either within the DoW or externally, they should be constructed largely from easily sourced materials that can reach cost parity with the current SOA.

1.3 PROGRAM OBJECTIVE AND STRUCTURE

ExPEDitions aims to develop, and develop and demonstrate prototype high-energy-density, high-power-density secondary batteries and rechargeable fuel cells for use in military and civilian systems. ExPEDitions is a 36-month program, consisting of an 18-month Phase 1 (Base Year) and an 18-month Phase 2 (Option Period I). DARPA is currently soliciting abstracts covering both phases and will respond to selectable abstracts with an invitation to submit a full proposal. The primary technical focus of this solicitation is the development and engineering of the battery prototype itself. To facilitate this, the program is structured around two distinct efforts: performers under this solicitation will act as Battery Developers to lead the design and manufacturing scale-up of battery prototypes, while a separate solicitation will identify End Users to integrate the resulting technology into operational devices for demonstration purposes.

The first (Base) phase will involve fundamental and applied research and will include one or multiple workshops with a collection of battery End Users from a range of use cases (to be solicited separately). This parallel structure is intentionally designed to accelerate the transition of the developed technology. By having a dedicated End User assume responsibility of integration into devices for demonstration, ExPEDitions Battery Developers are freed to remain singularly focused on advancing core battery performance and manufacturing. This phase will culminate in a showcase of prototypes where Battery Developers will be expected to pitch their solutions to End Users and secure a partnership for integration and evaluation in a real system.

The second (Option) phase will involve Battery Developers working with select End Users to integrate, assess, and refine their battery systems in real devices. This phase will culminate in a

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[1] Wang et al. *Proc. Natl. Acad. Sci.* **2025**, *2*, e24136092.
[2] Zhou et al. *Nat. Commun*., **2022**, *13*, 6414.
[3] Anson & Stahl *Chem. Rev.,* **2020**, *120*, 3749–3786.
[4] Luo et al. *Adv. Mater.*, **2024**, *36*, 2413325.

high-visibility Expo which will include integrated demonstrations and technical talks from Battery Developers and End Users who participated in the Showcase.

ExPEDitions will pursue two parallel objectives to achieve scalable, field-ready battery solutions for industry and military needs. **Both complementary goals must be addressed by each performer**:

1. High Power: technical advancement of high-power-density, high-energy-density batteries
2. Operationalization: manufacturability of rechargeable high-energy-density batteries

Furthermore, the intent of the program is for the developed battery to be widely applicable. Proposed solutions should prioritize platform-agnostic architectures that ensure broad utility across diverse military and commercial sectors. DARPA seeks versatile battery technologies; highly specialized designs tailored to a single, niche application are discouraged.

1.4 PROGRAM METRICS

To meet the goals of the ExPEDitions program, performers will need to meet the metrics stated below at each of the checkpoints of the program.

Table 1: ExPEDitions metrics

Metric	**Unit**	**Phase 1 (18 months)**	**Phase 2 (18 months)**
Specific Energy*	**kWh/kg**	**> 1**	**> 2**
Peak Specific Power	**kW/kg**	**> 1**	**> 3**
Rechargeability**	**Cycles**	**> 500**	**> 5000**
Cost	**$/kWh**	**100 (projected)†**	**Materials floor at 50††**

* Cell level measurement at C/4 discharge rate; pack level specific energy is expected to be >80% of the cell level value.

** Cell level measurement defined as number of cycles before capacity (measured in Ah) fades to < 80% of initial capacity.

† Includes cost of materials and projected cost of manufacturing at GWh/year scale.

†† Cost of materials should not exceed $50/kWh for a single unit at current market prices.

Program Constraints

Constraint	Unit	Value
Max. Recharge Rate	**W/L**	**> 625**
Round-Trip Efficiency	**%**	**> 90**

Abstracts MUST provide preliminary technical rationale of how the proposed solution can achieve the program goals and metrics stated in the table above, including, but not limited to, supporting empirical data, relevant literature citations, and/or calculations. Any quantitative performance figures must be supported by discussion or mathematical theory.

Abstracts must clearly define a starting point/benchmark for their technology; i.e., what performance characteristics (e.g., energy density, power density, etc.) a device could be expected to have without any technological improvement over current SOA. Proposers must also define operational specifications such as temperature, pressure, and other features affecting end-use. Additionally, abstracts must identify and justify one or more viable near-term use cases for the technology.

As noted above, abstracts proposing primary (non-rechargeable) battery development without a fuel regeneration component, basic research without an application component, and research that primarily results in evolutionary improvements to the existing state of practice will be rejected without evaluation. Additionally, abstracts that do not answer the entire solicitation may be considered not conforming and be rejected without evaluation.

1.4.1 Testing and Validation

Performers will deliver battery prototypes to the Independent Verification and Validation (IV&V) team at Months 9 and 15 during Phase 1 and at Months 27 and 33 during Phase 2. These battery cells and packs will be subject to the testing schedule described fully in Appendix A (Attachment E). At Months 9 and 15, performers should expect the IV&V team to verify the fundamental performance of the performers' new battery chemistry at the individual cell level. At Months 27 and 33, performers can expect the IV&V team to additionally test safety via electrical, thermal, and mechanical stress testing, as well as the fully assembled prototype sub-system, including the Battery Management System (BMS). At Month 33, performers should expect the IV&V team to additionally run environmental testing. Performers must adopt an agile, high-throughput manufacturing posture. DARPA expects performers to be prepared to produce a large volume of battery cells to support quick and efficient test iterations, prioritizing rapid learning cycles and statistical validation over the slow production of low-yield, 'perfect' bespoke cells.

1.4.2 Showcase and Expo: "Powered by DARPA"

ExPEDitions includes a structured pathway to transition battery technology into both commercial and military markets through a series of key milestones and collaborative events, anchored by two capstone events: the Showcase and the Expo. Central to this transition strategy is the separate solicitation of End Users. DARPA recognizes that successful transition requires specific platform expertise. By partnering battery developers with End Users who will independently resource and execute the device-level integration, the program creates an immediate, low-friction pipeline for testing the technology in relevant settings. Phase 1 will culminate in the Showcase, an event where Battery Developers will pitch their technological solutions to a curated group of End Users (selected via a separate solicitation), with the goal of securing a partnership for integration and evaluation within a real-world system. Subsequently, the program will conclude at Month 36 with a high-visibility Expo, featuring live demonstrations and technical talks from Battery Developers and their End User to highlight their integrated capabilities to a broader audience of government and commercial stakeholders.

1.4.2.1 Showcase Pitch Day

At Month 16 of Phase 1, performers will deliver a preliminary Showcase pitch to a Government review panel. The purpose of this session is to provide performers with feedback to strengthen their presentation and refine their technology's value proposition for potential End Users.

At Month 18, DARPA will host a Showcase Pitch Day event. Prior to this event, DARPA will release a separate solicitation specifically to identify and select a curated group of battery End Users. (Note - End Users will receive separate contracts from DARPA, and will execute their integration efforts there, not as subcontractors to the Battery Developers. Entities who are currently under contract or subcontract as ExPEDitions Battery Developers at the time this solicitation is released will be ineligible to propose as End Users.) For the purposes of this program, an "End User" is defined as a selected entity possessing a specific operational device or application seeking to integrate advanced battery technology into their system. To reiterate, the End User is primarily responsible for system integration for demonstration purposes, allowing the ExPEDitions Battery Developer to remain focused on battery prototype optimization and delivery. During the Showcase, ExPEDitions Battery Developers will pitch their technology's capabilities, manufacturing readiness, and technological maturity to this panel of End Users. The objective of the event is for End Users to evaluate the pitches and identify an ExPEDitions Battery Developer to partner with to integrate the Battery Developer's battery into their specific device.

To secure a partnership with an End User, the ExPEDitions Battery Developer and the matched End User must execute a formal, DARPA-approved Associate Performer Agreement (APA) upon the formation of this partnership. A standard APA template is provided as Attachment G for informational purposes. This agreement serves as the primary metric for successful completion of the Showcase phase. Battery Developers who fail to secure a formal partnership agreement with an End User will not have met the success criteria for Milestone 17 and will therefore be unable to invoice for that milestone.

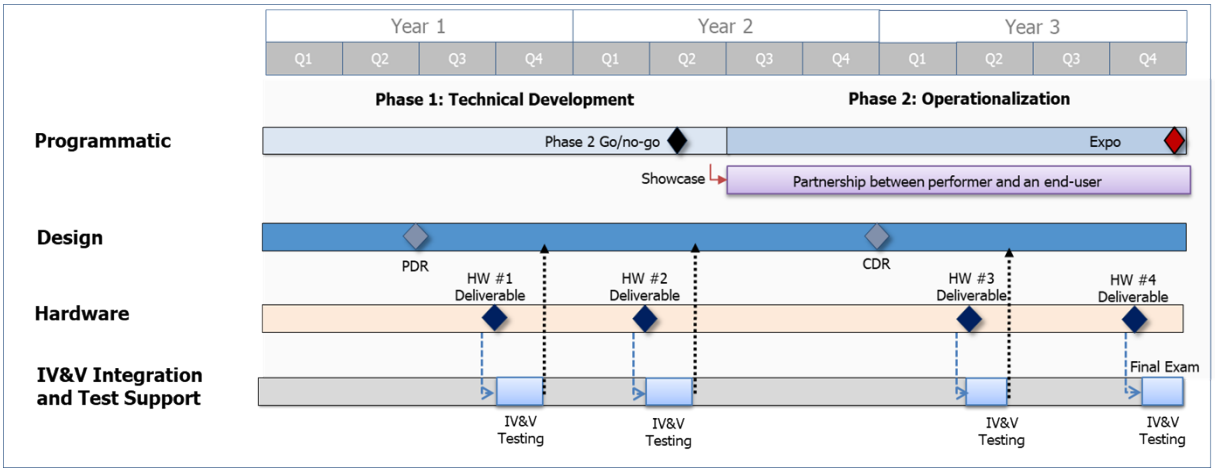
Following the Showcase Pitch Day, matched Battery Developers and End Users will collaborate closely to integrate and evaluate the battery technology within the End User's specific application. This iterative process will inform the Critical Design Review (CDR) and manufacturing plan, ensuring the technology is refined and validated within a well-defined operational context.

1.4.2.2 Expo

At Month 36 of the program, DARPA will host a "Powered by DARPA" Expo, a culminating event where all ExPEDitions Battery Developers who successfully proceeded to Phase 2 will have the opportunity to demonstrate the real-world capabilities of their technology to a broad audience of Governmental stakeholders and other industrial battery users. Battery Developers will showcase their advancements via demonstrations and technical talks, and End Users will co-present the outcomes of their collaborative efforts with performers. This highly visible event is structured to connect Battery Developers with key Government stakeholders and potential commercial partners to facilitate the further transition of their technology.

Program Schedule

The following is the schedule of the program. For planning purposes, a target start date of January 2027 may be assumed.



1.5 KEY PROGRAM MILESTONES

Key program milestones are as follows and are provided ***for informational/planning purposes only*** to assist with estimating cost at the abstract phase (all dates are notional and from contract award).

Phase 1 (Base-18 months):

- **Milestone 1 (Month 1):** Attend an in-person kick-off meeting and present initial concept from proposal and path for development.
- **Milestone 2 (Month 4):** Quarterly performance report (QPR) that documents the current battery prototype design and any modification or optimizations to the design that occurred since the beginning of Phase 1 and their rationale. Include the pathway towards delivering the Preliminary Design Review (PDR).
- **Milestone 3 (Month 6):** PDR that includes a simulation or technical validation of design for battery prototype delivered in Month 9. This will consist of a review meeting to go over a PDR document. The document must contain:
  - Preliminary designs for the performer's device.
  - Market analysis based on specific, identified use cases.
  - Manufacturability and critical materials analysis.
- **Milestone 4 (Month 7):** QPR #2. Validate all technical progress to date and provide an execution plan for the next two months. The report must confirm that the current development path ensures the successful Month 9 IV&V delivery.
- **Milestone 5 (Month 9):** Deliver a total of 16 battery cells and data package to IV&V team. The IV&V team will verify the fundamental performance and safety of battery chemistry at the individual cell level. The following components must be delivered:
  - Physical battery prototypes (total of 16 battery cells).
  - Complete safety and handling package. This must be delivered at least 3 days before the hardware is delivered for a safety review. The package should include safety data sheets (SDS), emergency procedures, and required personal protective equipment (PPE).

  - Comprehensive technical data package that includes an operational and interface guide (schematics, user manual, etc.), declared performance spreadsheet, and a known deviations report that documents differences from the PDR design.

- **Milestone 6 (Month 10):** QPR #3. Execute a critical review of the Month 9 prototype delivery. Performers must deliver a self-assessment of the IV&V build process, identify core vulnerabilities, and present a formalized risk-reduction strategy to guarantee performance targets for the subsequent Month 15 iteration.
- **Milestone 7 (Month 13):** QPR #4. Demonstrate the effectiveness of recent design upgrades and verify system readiness for the Month 15 delivery. Performers must submit a report with an execution plan outlining the steps needed to improve upon previous IV&V results.
- **Milestone 8 (Month 15):** Deliver a total of 16 battery cells and updated data package to IV&V team. The IV&V team will verify the fundamental performance and safety of battery chemistry at the individual cell level. The following components must be delivered:
  - Physical battery prototypes (total of 16 battery cells).
  - Complete safety and handling package. This must be delivered at least 3 days before the hardware is delivered. The package should include safety data sheets (SDS), emergency procedures, and required personal protective equipment (PPE).
  - Comprehensive technical data package that includes an operational and interface guide (schematics, BMS protocols, user manual, etc.), declared performance spreadsheet, and a known deviations report that documents differences from the Month 9 Milestone 5 IV&V deliverable.
- **Milestone 9 (Month 16):** QPR #5. Document all changes and progress since the previous reporting period. Present a preliminary showcase pitch to assist with preparing for the Showcase. The Government will provide feedback to assist with finalizing the pitch for End Users.
- **Milestone 10 (Month 18):** Showcase participation to highlight the advanced capabilities of the battery prototype and secure a partnership with an End User.

Phase 2 (Option- 18 months):

- **Milestone 11 (Month 19):** Phase 2 Kickoff. Present the plan for battery optimization, and if an End User partnership was made, integration plan with the End User platform.
- **Milestone 12 (Month 19):** Partnership formalization with an End User. Deliver a fully executed Associate Contractor Performer Agreement (APA) with an End User and a Joint Development Plan documenting the integration roles and responsibilities of both parties, to include delivery of prototypes from Battery Developer to End User. Note: Proposers are expected to budget for 10 prototype battery packs for End User partnership in Phase 2.
- **Milestone 13 (Month 22):** QPR #6. Establish the Phase 2 technical baseline by validating post-Phase 1 design modifications. Performers must present a risk-adjusted

plan that definitively outlines the pathway to successfully executing the Critical Design Review (CDR) in Month 24.

- **Milestone 14 (Month 24):** CDR. Design review for battery prototype to be delivered at Month 27. This will consist of a review meeting to go over a CDR document. The document must contain:
  - Designs for the performer's device based on feedback from the End User during and after the showcase period.
  - Concrete plan for manufacturing and scale-up, including analysis of materials and manufacturing costs at different scales, and clear statement of the targeted scale post-program.
  - Preliminary Intellectual Property (IP) landscape analysis and a strategy for IP protection and licensing.
- **Milestone 15 (Month 25):** QPR #7. Validate the implementation of CDR feedback and confirm readiness for battery pack delivery. This review requires a comprehensive report detailing all final technical tasks necessary to ensure the on-time delivery of the Month 27 test battery cells and packs to the IV&V team.
- **Milestone 16 (Month 27):** Deliver test battery packs and updated data package to IV&V team. The IV&V team will test the fully assembled prototype sub-system, including the BMS. The following components must be delivered:
  - Physical optimized battery packs and cells (8 battery packs and 8 cells)
  - Complete safety and handling package. This must be delivered at least 3 days before the hardware is delivered. The package should include safety data sheets (SDS), emergency procedures, and required personal protective equipment (PPE).
  - Comprehensive technical data package that includes an operational and interface guide (schematics, BMS protocols, user manual, etc.), declared performance spreadsheet, and a known deviations report that documents differences from the previous IV&V deliverable.
- **Milestone 17 (Month 27):** Confirmed delivery of devices to End User satisfying the terms in the ACA and Joint Development Plan. Upon Government approval, performers may invoice a fixed, non-negotiable payment of $250,000.
- **Milestone 18 (Month 28):** QPR #8. Execute a critical review of the ongoing end-user platform integration. Performers must identify all technical and logistical challenges encountered during integration and present a formal mitigation plan to address each.
- **Milestone 19 (Month 31):** QPR #9. Assess the results of the Month 27 IV&V testing and finalize the engineering parameters for the final IV&V deliverable. Performers must present a optimization strategy to ensure the Month 33 final battery system meets all environmental readiness requirements.
- **Milestone 20 (Month 33):** Deliver test battery system and updated data package to IV&V team. The IV&V team will test the fully assembled prototype sub-system,

including the BMS. The IV&V team will also execute environmental testing to test for operational readiness. The following components must be delivered:

- Physical optimized battery packs and cells (8 battery packs and 8 cells)
- Complete safety and handling package. This must be delivered at least 3 days before the hardware is delivered. The package should include safety data sheets (SDS), emergency procedures, and required personal protective equipment (PPE).
- Comprehensive technical data package that includes an operational and interface guide (schematics, BMS protocols, user manual, etc.), declared performance spreadsheet, and a known deviations report that documents differences from the previous IV&V deliverable.

- **Milestone 21 (Month 34):** QPR #10. Validate the final system's transition readiness by delivering a preliminary Expo pitch. This critical gate allows the Government to assess the performer's transition strategy and refine the final presentation for maximum impact with government and commercial stakeholders.
- **Milestone 22 (Month 36):** Expo participation. This may include a demonstration of the battery prototype integrated into the End User's platform, and/or a presentation to Government and commercial stakeholders to facilitate additional transition of the technology developed. The final deliverable for this milestone will be the complete design specifications of the battery.

1.6 CONTRACT DELIVERABLES

Performers will be expected to provide at a minimum the following deliverables to the DARPA team:

- Devices for evaluation to the IV&V team at months 9, 15, 27, and 33. These devices will be evaluated for progress toward program metrics, safety, and subsystem integration (including BMS) as well as other important characteristics. A complete tentative outline of the IV&V testing criteria is given in (Attachment E/Appendix A). This outline is subject to change based on the priorities of the Government team.
- 10 prototype battery packs for End User in Phase 2. Proposers are expected to account for these in their proposed budget.
- Monthly Technical Reports. Slide-based report submitted two business days prior to each monthly technical review meeting.
- Comprehensive quarterly technical reports are due on Day 15 of each quarter describing the progress made on the specific milestones as required in the TDD.
- A program completion report submitted within 30 calendar days of the end of the program, summarizing the results of the effort.

1.7 SCHEDULE, TRAVEL AND RECURRING MEETINGS

All proposals must include the following meetings and travel in the proposed costs:

- A one-day in-person Kick-off meeting with DARPA in the Washington D.C. area.

- To foster collaboration between teams and disseminate program developments, a two-day Principal Investigator (PI) meeting will be held approximately every six months (2 per year) with locations yet to be determined. For budgeting purposes, plan for six two-day meetings; three meetings in the Washington D.C. area and three meetings in the San Francisco, CA area.
- Travel to the Washington D.C. area to support the Showcase Pitch Day in Phase 1 and the Expo in Phase 2.
- Monthly teleconference meetings will be scheduled with the Government team for progress reporting as well as 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 considered out of scope.

1.8 STUDENT OPTIONS

1.8.1 DSO Fundamental Defense Research Talent Award (FDRTA) Option

University proposers are invited to include an optional task for the DSO Fundamental Defense Research Talent Award (FDRTA) in their abstract, to be further elaborated on in a proposal, if invited (FDRTA is limited to one award per Prime proposer). This option is intended to foster the development of the next generation of clearable scientific talent in strategically important areas of research by providing supplementary funding for a U.S. citizen graduate student or postdoctoral researcher involved in the proposed fundamental research.

If this option is proposed, the Government may, at its discretion, provide an additional award of up to $150,000 per year for the duration of the effort. Award of the FDRTA option is contingent upon the successful award of the base proposal. FDRTA funding decisions will be made independently based on the availability of funds and an assessment of the option's merits.

The FDRTA may be exercised only once an eligible graduate student or postdoctoral researcher has been identified and confirmed. A U.S. citizen graduate student assigned under this option can only be replaced by another U.S. citizen graduate student. If the U.S. citizen graduate student departs before the end of the option period, and no eligible replacement can be identified, the option PoP will be de-scoped to reflect the work completed, and any remaining funds will be returned to DARPA. DARPA recognizes that identifying an eligible graduate student may take time; however, the replacement process must be executed in a timely manner to ensure continued progress with the option period. Additional instructions for proposing this option will be included in the proposal instructions issued to selectable abstract submitters.

1.8.2 DSO Industry Immersion Program (IIP) Option

Industry proposers that include university teams as subcontractors are invited to propose an optional task for the DSO Industry Immersion Program (IIP) in their abstract. This option is designed to accelerate the transition of research to practice by funding one U.S. citizen graduate student (Master’s or Ph.D. student) or postdoctoral researcher from each university partner to embed within a corporate partner's facility for a nine to twelve (9-12) month period. The purpose is embed a scientist developing new capabilities into industry labs to accelerate transition and

integration of the technology being developed on the program and to help expose graduate students to integration-level work usually executed beyond the lab. Proposers should consider timing carefully as, depending on the work plan, it might be most advantageous to embed early in the period of performance for risk reduction, or later in the effort to expose them to deeper integration. Proposed option periods near the beginning of an effort are less likely to be funded as work during that time may tend to be more focused on basic research. Additional instructions for proposing this option will be included in the proposal instructions issued to selectable abstract submitters.

The Government will provide funding to cover the labor, travel, and per diem costs associated with the immersion period, up to $160,000 per student. Abstracts may include separate options for each university subcontractor, but each option is limited to a single student. The decision to fund IIP options is independent of the decision to fund the base proposal and will be made based on the availability of funds and an assessment of the option's merits. Additional instructions for proposing this option will be included in the proposal instructions issued to selectable abstract submitters.

2. ABSTRACT

2.1 GENERAL GUIDELINES FOR ABSTRACT

This solicitation contains a REQUIRED abstract phase. Proposers are required to submit an abstract to DARPA to be considered for full proposal package submission. DARPA will review the abstracts and issue an Invitation to Submit a full Proposal Package to submitters of abstracts deemed selectable. Abstracts are due no later than the date and time stated in the Overview section. Additional instructions for abstract submission are contained below and within **Attachments A** and **B.**

Abstracts shall address both Phase 1 and Phase 2 and:

- Provide preliminary technical rationale of how the proposed solution can achieve the program goals and metrics, including, but not limited to, supporting empirical data, relevant literature citations, and/or calculations. Any quantitative performance figures must be supported by discussion or mathematical theory.
- Identify potential use-cases for the developed battery technology and provide a clear justification for each.
- Outline preliminary battery performance specifications (Note: DARPA will utilize these preliminary specifications to assist in drafting the forthcoming End User solicitation), to include:
    - Baseline Performance: Benchmark "starting point" energy and power density assuming no future technological improvements.
    - Other performance specifications: including but not limited to operating temperature, pressure, or other relevant features that will affect considerations for end use.

Abstracts will be deemed non-conforming and not considered for further review if they:

- Propose primary batteries or fuel cell systems lacking a fuel regeneration component.
- Fail to address the entire solicitation by offering only partial solutions.
- Address only one Phase.
- Are received through mechanisms other than DARPA's Broad Agency Announcement Tool (BAAT), such as through Grants.gov or directly to the ExPEDitions@darpa.mil e-mail.

All proposal abstracts are required to be submitted via DARPA's Broad Agency Announcement Tool (BAAT). Please visit Proposer Instructions and General Terms and Conditions for instructions on how to submit your abstract through DARPA's BAAT. It is important to note that the terms and conditions on the remainder of the Proposer Instructions and General Terms and Conditions link above do not apply to this solicitation. The purpose of referencing the website is for you to obtain instructions for DARPA's BAAT. Questions regarding Proposal Abstracts can be sent to ExPEDitions@darpa.mil by June 19, 2026.

2.2 ABSTRACT EVALUATION

Abstracts will be evaluated by DARPA using the evaluation criteria listed below in descending order of importance, and not against other abstracts submitted in response to this PS. As stated above, proposers are required to submit an abstract for evaluation by DARPA to be considered

for any subsequent award. DARPA will respond to proposed abstracts with a statement as to whether or not DARPA invites the submission of proposal package. Upon review of abstracts, the Government may elect to invite all, some, or none of the proposers to submit proposal package. ***Only abstract submitters invited by DARPA to submit a proposal package are eligible to provide one. Proposals submitted by entities who were not invited to submit will be deemed non-conforming and will not be evaluated.***

Abstracts will be evaluated against the following evaluation criteria outlined below.

- **Technical Rationale and Approach**: The proposed idea is innovative and addresses the technical problem posed in the Program Solicitation. Scientific understanding is accurate, and technical challenges are identified. The proposed idea is supported by clear calculations or preliminary data.
- **Technical Ability**: The proposer has a demonstrated ability to realistically meet the program milestones laid out in the Solicitation.

DARPA's policy is to ensure impartial, equitable, and comprehensive abstract evaluations based on the evaluation criteria listed above and to select the source (or sources) whose abstract meets DARPA's technical, policy, and programmatic goals. DARPA will conduct a review of each conforming abstract, and all evaluations will be based solely on the technical merit against the evaluation criteria in this section.

3. FULL PROPOSAL DESCRIPTION

If DARPA requests a Full Proposal Package, the proposers will be asked to provide further details on their proposed solution. Attachment C – ExPEDitions Full Proposal Guidance provides a notional description of what will be requested in full proposals, should you be invited to submit one. Information therein is provided for ***informational purposes*** only and is subject to change. Any materials of information provided with the Invitation to Submit a Full Proposal and the accompanying proposal instructions will supersede any information provided in this solicitation or its attachments.

4. PROGRAM SOLICITATION (PS) AUTHORITY

4.1. PS Procedures

In response to this solicitation, and after verifying eligibility, proposers are required to submit an abstract as described in Section 2. Additional instructions for abstract submission are contained within Attachments A and B. Specific evaluation criteria used by DARPA to assess abstracts can be found in Section 2.2. If DARPA finds that both conditions are met, it may invite the proposer to submit a full proposal package, where the proposed technical solution will be evaluated.

DARPA will use the following process to facilitate the ExPEDitions source selection:

a. **Proposers Day (Optional, Occurred May 14, 2026):** The Program Manager held a virtual Proposers Day on May 14, 2026, where he briefly described the program and its goals *(video recording is posted on the DARPA webpage for ExPEDitions)* and solicited questions from the audience. Where possible, the Government provided answers in real time, and a comprehensive list of questions and answers will be provided via a question and answer (Q&A) document. Participation in the Proposers Day was optional and is not a requirement for proposers seeking to submit an abstract. Additional details about the Proposers Day were provided in Special Notice DARPA-SN-26-70 separate from this PS.

b. **Program Solicitation Questions and Answers (Q&A) (Informational Only):** DARPA hosted a Q&A session during the ExPEDitions Proposers Day and will post a consolidated Q&A document. The Q&A document will be available online at https://www.darpa.mil/research/programs/expeditions. Following Proposers Day, questions can be sent to ExPEDitions@darpa.mil. DARPA will respond to any relevant and/or PS clarification question(s) prior to the final abstract due date and post consolidated Q&As at the ExPEDitions program page https://www.darpa.mil/research/programs/expeditions.

c. **Abstracts (Required):** Abstracts shall be submitted as specified in Section 2 of this PS. The Government will review all submitted abstracts for Technical Rationale and Approach and Technical Ability. Selected abstract submitters will be invited to provide a full proposal package to the Government. **Notes:** Proposers must submit an abstract in response to this solicitation to be considered for participation in the ExPEDitions program. Proposers will not be invited to submit a full proposal package without participating in the abstract phase of the solicitation. Proposals submitted by entities not invited to submit a proposal will be deemed non-conforming and will not be evaluated.

d. **Proposal (Invitation Only):** Full proposals are by invitation only. DARPA will send an Invitation to Submit a full proposal package to those whose abstracts are selected. Proposal content and format, to include templates, submittal instructions, evaluation criteria, etc. are provided in Attachment C for planning purposes. Upon the selectability determination, and subject to the availability of funds, the Government may award an OT for Prototype under 10 U.S.C. § 4022 with fixed, payable milestones for both Phase 1 and Phase 2. If there is a deviation between what is provided in the PS and the Invitation to Submit a full proposal package, the instructions and guidance within the invitation take precedence.

4.2 PROGRAM LENGTH

ExPEDitions is a 36-month program in which Phase 1 (base period) will be 18 months and Phase 2 (option period) will be 18 months (note – proposed options for FRDTA and IIP in each phase must fall within the overall phase term). This PS is requesting an abstract covering both phases, and the subsequent invitation to submit a proposal will also request proposals covering both phases. It is noted that the Government is not required to exercise options. If awarded Phase 1, decisions for selection for Phase 2 are at the sole discretion of the Government and will be based on performance against the program goals and metrics, overall progress towards the ExPEDitions program objectives, and the availability of funds.

5 AWARDS

5.1 GENERAL GUIDELINES

Upon favorable review of the full proposal and subject to the availability of funds, DARPA may choose to negotiate and award an OT for Prototype Agreement. The Government Agreements Officer reserves the right to negotiate directly with the proposer on the terms and conditions prior to execution of the resulting OT Agreement, including payment terms, and will execute the agreement on behalf of the Government. Be advised, only a Government Agreements Officer has the authority to enter into, or modify, a binding agreement on behalf of the United States Government. To receive an award:

- Proposers must have a Unique Entity Identifier (UEI) number and must register in the System for Award Management (SAM). Proposers are advised to commence SAM registration upon notification of entry of the competition.
- Awardees will be required to submit invoices for payment electronically via the Wide Area Work Flow (WAWF) module in the Procurement Integrated Enterprise Environment at https://piee.eb.mil/, unless an exception applies. Registration in PIEE is required prior to any award under this PS. For assistance with PIEE, please contact 866-618-5988 or DARPAInvoices@DARPA.mil.
- Proposers must be determined to be responsible by the Agreements Officer and must not be suspended or debarred from award by the Federal Government nor be prohibited by Presidential Executive Order and/or law from receiving an award.

5.2 FUNDAMENTAL RESEARCH & FUNDAMENTAL RESEARCH RISK-BASED SECURITY REVIEW PROCESS (FRRBS)

As of the date of publication of this solicitation, the Government expects that 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 that are 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 that some awards will include restrictions on the resultant research that will require the awardee to seek DARPA permission before publishing any information or results related 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, its proposed sub-awardee's effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed sub-awardee's effort may be non-fundamental research.

In all cases, it is the potential awardee's responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

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

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

DARPA's Fundamental Research Risk-Based Security Review Process (FRRBS) 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 fundamental research awards (to include cooperative agreements and Other Transactions). The DARPA risk assessment process will be conducted separately from the DARPA scientific review process for all fundamental research effort/proposal and adjudicated prior to final award. For additional guidance on DARPA FRRBS, information and submission requirement on this process, please visit Proposer Instructions: Other Transactions.

Please note that FRRBS is not a requirement for Abstract submission, but it is a requirement for proposal package submission for fundamental research efforts. If key personnel are changed after proposal package submission, updated FRRBS paperwork is required with the final proposal.

5.3 COMPETITION SENSITIVE INFORMATION

DARPA policy is to treat all submissions as competition sensitive, and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA sponsored technical research and are bound by appropriate nondisclosure agreements.

5.4 DATA RIGHTS AND INTELLECTUAL PROPERTY

The Government expects unlimited rights for the technology and data developed and/or generated under the program but is open to flexible intellectual property (IP) proposals from proposers that are advantageous to the Government. IP proposals should, at a minimum, allow DARPA to:

- Brief U.S. Government stakeholders regarding technical progress and accomplishments.
- Allow validation of technical performance, capabilities, and accomplishments by independent technical (potentially non-Government) experts, subject to NDA restrictions.

- Facilitate discussion of technical challenges and applications with the broader technical community – for example, by starting a new DARPA program that attempts to solve a serious technical challenge that limits further progress.
- Support transition opportunities, including design and performance data required to support other acquisition activities. These latter activities may require the Government to conduct an independent performance analysis.

Proposers responding to this PS shall appropriately identify any potential restrictions on the Government's use of any intellectual property furnished by the proposer. This includes both Noncommercial Items and Commercial Items. Proposers are encouraged to identify these restrictions in a format like the table depicted below. If no restrictions are intended, then the proposer should state "NONE."

List of restrictions

Technical Data, Computer Software To be Furnished with Restriction	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(NARRATIVE)	(LIST)	(LIST)	(LIST)

5.5 RELEASE, PUBLICATION, AND USE OF DATA.

The Performer shall, with prior approval of the Agreements Officer, have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Performer in the performance of this contract.

5.6 SUBCONTRACTING

The Performer shall obtain from its subcontractors all data and rights therein necessary to fulfill the Performer's obligations to DARPA under this contract. If a subcontractor refuses to accept terms affording DARPA those rights, the Performer shall promptly notify the Agreements Officer of the refusal and shall not proceed with the subcontract award without authorization in writing from the Agreements Officer.

5.7 PROCUREMENT INTEGRITY

All awards under this PS shall be treated as Federal Agency procurements for purposes of 41 U.S.C. Chapter 21. Accordingly, the PS competitive solicitation process and awards made thereof must adhere to the ethical standards required by the PIA.

6 SUBMISSION GUIDELINES

- **ABSTRACT:** This solicitation contains a REQUIRED abstract phase. DARPA will review the abstracts and if deemed selectable, DARPA will issue an Invitation to Submit a full Proposal Package. Abstracts are due no later than the date and time stated in the Overview section. Additional instructions for abstract submission are contained within **Attachments A** and **B.**
- **COST SHARING:** Cost sharing is not required unless the proposer is a traditional defense contractor, who is not working with a non-traditional defense contractor to a significant extent. Proposers must include a statement that identifies and substantiates which of the following condition(s) are met to permit use of OTs for Prototypes in accordance with 10 U.S.C. § 4022(d)(1):
  - (A) There is at least one nontraditional defense contractor or nonprofit research institution participating to a significant extent in the prototype project;
  - (B) All significant participants in the transaction other than the Federal Government are small businesses (15 U.S.C. § 638) or nontraditional defense contractors;
  - (C) At least one third of the total cost of the prototype project is to be paid out of funds provided by sources other than the Federal Government; or
  - (D) The senior procurement executive for the agency determines in writing that exceptional circumstances justify the use of a transaction that provides for innovative business arrangements or structures that would not be feasible or appropriate under a contract, or would provide an opportunity to expand the defense supply base in a manner that would not be practical or feasible under a contract.
- **Controlled Unclassified Information (CUI) on Non-DOD Information Systems:** As of the time of publication of this solicitation, all proposal submissions are anticipated to be unclassified but may contain CUI. This program is subject to **ExPEDitions Controlled Unclassified Information (CUI) Guide (Attachment D)** signed April 24, 2026. The CUI Guide is established to help proposers determine CUI thresholds for information relevant to, and technologies developed under the program. All individuals accessing CUI agree to protect CUI in accordance with DoD Instruction 5200.48 CONTROLLED UNCLASSIFIED INFORMATION (CUI) and NIST Special Publication 800-171 Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations. Additional resources can be found here: https://www.darpa.mil/about/offices/contracts-management/proposer-general-terms/.
- All technical, contractual, and administrative questions regarding this notice must be emailed to ExPEDitions@darpa.mil. Emails sent directly to the Program Manager, or any other address, may result in a delayed or no response. DARPA will attempt to answer all questions in a timely manner and post a "Frequently Asked Questions" document on the DARPA ExPEDitions website. This will be updated on an ongoing basis until the closing date for abstract as listed above.
- **PS Attachments**:
  - **(required) Attachment A**: Abstract Summary Slide Template

- **(required) Attachment B**: Abstract Instructions and Template

- **PS Attachments for Informational Purposes**:
  - **(informational) Attachment C**: ExPEDitions Full Proposal Guidance
  - **(informational) Attachment D**: Controlled Unclassified Information (CUI) Guide
  - **(informational) Attachment E**: Appendix A. IV&V Test Plan
  - **(informational) Attachment F**: Associate Performer Agreement (APA)

7 ELIGIBILITY INFORMATION & SPECIAL CONSIDERATIONS

7.1 ELLIGIBLE APPLICANTS

7.1.1 Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and Government Entities

Due to their specialized roles and longstanding regulatory relationships with the Government, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and Government Entities to include National Laboratories present potential conflicts and advantages that would compromise fair and open competition. These entities typically may only receive funding through existing awards they hold with their sponsoring agencies. If these entities are proposed as subawardees, their costs must be clearly segregable in cost proposals. If scientifically merited, DARPA may fund work proposed by these entities with the following caveats:

- FFRDCs: (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. DARPA, under this solicitation, will not award separate contracts to FFRDCs as prime or subawardees but will instead leverage their existing sponsors' agreements.
- UARCs: While UARCs typically have statutory authority to compete with industry, internal DARPA policy views them as trusted advisors who are only eligible to act as performers in fields where they do not serve in an advisory role. Even in those situations, DARPA still considers UARCs as having organizational conflicts of interest (OCI) when applying for a performer role. Proposals with UARCs as prime or subawardees must include an OCI mitigation plan.
- Government Entities: Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. Government Entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees.

For this solicitation, DARPA will not establish new contractual agreements for their participation. Accordingly, any proposal submitted directly by these entities in a prime contractor capacity may be deemed non-conforming and not evaluated. Proposals that include a UARC, FFRDC, Government entities, or National Laboratory as a subcontractor may also be deemed non-conforming unless: (1) their role is clearly defined in the technical proposal with a point of contact, and (2) a rough order of magnitude cost is provided in the technical proposal only—cost proposals must exclude their funding, as DARPA will not fund them through the prime. It is important to note that if funded, these organizations will be required to share their work and

findings with other performers also supporting the same program. Additionally, DARPA may contact these entities directly to discuss proposed activities.

7.2 OTHER APPLICANTS

Non-U.S. organizations **cannot** participate in this solicitation. All other responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. 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.

7.3 ORGANIZATIONAL CONFLICTS OF INTEREST (OCI)

An organization cannot simultaneously provide scientific, engineering, technical assistance (SETA), advisory and assistance services (A&AS), or similar support to DARPA, and also be a performer on a DARPA research program.

If a prospective proposer believes a conflict of interest exists or may exist (whether organizational or otherwise) or has questions on what constitutes a conflict of interest, the proposer must send their contact information and a summary of the potential conflict via the specific e-mail address identified in this PS before time and effort are expended in preparing any submission documentation.