

DEPARTMENT OF THE ARMY
DoD 24.4 Small Business Innovation Research (SBIR) Annual BAA
Release 8
Proposal Submission Instructions

INTRODUCTION

Where big ideas come to life. The Army SBIR and STTR programs align innovative small businesses with critical U.S. Army priorities to turnover game-changing solutions to our most critical customer – the Soldier.

Proposers responding to a topic in this BAA must follow all general instructions provided in the Department of Defense (DoD) SBIR 24.4 Annual Program BAA.

Proposers are encouraged to review the DoD Program BAA thoroughly and register for the DSIP Listserv to remain apprised of important programmatic and contractual changes.

1. The DoD Program BAA is located at: <https://www.defensesbirstr.mil/SBIR-STTR/Opportunities/#announcements>. Be sure to select the tab for the appropriate BAA cycle.
2. Register for the DSIP Listserv at: <https://www.dodsbirstr.mil/submissions/login>

Specific questions pertaining to the administration of the Army SBIR Program and these proposal preparation instructions should be directed to: Dr. Zach Harrell at zach.harrell.civ@aal.army.

February 13, 2024: Topic issued for pre-release

March 12, 2024: Army begins accepting proposals via DSIP

March 19, 2024: DSIP Topic Q&A closes to new questions at 12:00 p.m. ET

April 2, 2024: Deadline for receipt of proposals no later than 12:00 p.m. ET

From **February 13, 2024 to March 11, 2024**, this topic is issued for pre-release with the names of the topic authors. During the pre-release period, proposing firms have an opportunity to contact topic authors/Technical Points of Contact (TPOCs) through <https://calendly.com/zach-harrell-aal/tpoc-calls-farp> to schedule a time to ask technical questions about the topic. Questions should be limited to specific information related to improving the understanding of the topic's requirements. Proposing firms may not ask for advice or guidance on solution approach and you may not submit additional material to the topic author. If information provided during an exchange with the topic author is deemed necessary for proposal preparation, that information will be made available to all parties through the DSIP Topic Q&A module.

Once the Army begins accepting proposals on **March 12, 2024**, no further direct contact between proposers and topic authors is allowed unless the Topic Author is responding to a question submitted during the pre-release period. However, proposers may submit written questions through the DSIP Topic Q&A module at <https://www.dodsbirstr.mil/submissions/login>. The DSIP Topic Q&A for this topic opens on **February 12, 2024**, and closes to new questions on **March 19, 2024, at 12:00PM ET**. Once the BAA closes to proposal submission, no communication of any kind with the topic author or through Topic Q&A regarding your submitted proposal is allowed.

Deadline for Receipt: Proposals must be **completely** submitted no later than **12:00 p.m. ET**, on **April 2, 2024**. Proposals submitted after 12:00 p.m. ET will not be evaluated. The final proposal

submission includes successful completion of all firm level forms, all required volumes, and electronic corporate official certification.

DIRECT TO PHASE II PROPOSAL GUIDELINES

The Defense SBIR/STTR Innovation Portal (DSIP) is the official portal for DoD SBIR/STTR proposal submission. Proposers are required to submit proposals via DSIP; proposals submitted by any other means will be disregarded. Detailed instructions regarding registration and proposal submission via DSIP are provided in the DoD SBIR Program BAA.

Technical Volume (Volume 2)

The technical volume is not to exceed 15 pages and an optional 10-slide deck and must follow the formatting requirements provided in the DoD SBIR Program BAA.

Content of the Technical Volume

Detailed Phase II proposal instructions can be found at: <https://aal.army/assets/files/pdf/sbir-direct-phase-2-template.pdf>

Cost Volume (Volume 3)

The Direct to Phase II amount must not exceed \$1.15 million for an 18-month period of performance (PoP). Costs must be clearly identified on the Proposal Cover Sheet (Volume 1) and in Volume 3.

Company Commercialization Report (CCR) (Volume 4)

Completion of the CCR as Volume 4 of the proposal submission in DSIP is required. Please refer to the DoD SBIR Program BAA for full details on this requirement. Information contained in the CCR will be considered during proposal evaluations.

Supporting Documents (Volume 5)

All proposing small businesses are REQUIRED to submit the following documents to Volume 5:

1. Contractor Certification Regarding Provision of Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment
2. Disclosures of Foreign Affiliations or Relationships to Foreign Countries
3. Disclosure of Funding Sources

Please refer to the DoD Program BAA for more information.

Proposers can submit an optional 10-slide deck in Volume 5: Supporting Documents. The slide deck can contain information on the technical approach, the team, commercialization plans, or relevant technology/research the proposers have developed, and it should contain additional/complementary information to the technical volume. If a proposer elects to submit a slide deck, its information will be used in the evaluation process. A sample slide deck template is located here: <http://aal.army/assets/files/pdf/sbir-optional-slide-template.pdf>.

DISCRETIONARY TECHNICAL AND BUSINESS ASSISTANCE (TABA)

Discretionary Technical and Business Assistance (TABA) will not be offered for this Army topic.

EVALUATION AND SELECTION

The Army will conduct an evaluation of each responsive, timely, eligible proposal in accordance with the evaluation criteria listed in the DoD Program BAA. It is the policy of the Army to ensure equitable and comprehensive proposal evaluations based on the evaluation criteria and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

As previously stated herein, timeliness, responsiveness, and eligibility will be assessed upon initial screening, during evaluation, and after selection. Proposals that do not comply with the instructions and requirements detailed in this document, the DoD Program BAA, or the corresponding Topic posting (including the research objective(s)), will be considered ineligible, nonresponsive, untimely, or non-conforming and therefore will not be evaluated or considered for award.

Using the evaluation criteria, the Government will evaluate each responsive, timely, eligible proposal in its entirety, documenting the strengths and weaknesses relative to each evaluation criterion. Proposals will not be evaluated against each other during the evaluation process, but rather evaluated on their own individual merit to determine how well the proposal meets the criteria stated in this BAA and the corresponding opportunity.

Selected proposals are those determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the DoD Program BAA, the component-specific instructions herein, the corresponding topic posting, and availability of funding.

Proposing firms will be notified via email of selection or non-selection status for a Direct to Phase II award within 90 days of the closing date of the topic. The notification will be sent to the Corporate Official listed on the proposal cover sheet from the Army SBIR Program Office mailbox. The Army promotes transparency regarding the technical evaluation for all Army SBIR proposals. The Army will provide a technical evaluation narrative to the proposer in accordance with the SBA Policy Directive, Appendix I, paragraph 4. The selection decision notice contains instructions for retrieving the technical evaluation narrative.

Proposers must not regard the notification email (selection decision notice) as an authorization to commit or expend funds. After the Army SBIR Office has recommended a proposal for award, a Government Contracting Officer may contact the proposer to discuss and request additional information required for award. This may include representations and certifications, certified or other than certified cost data, subcontracting plan for small businesses, and/or other information as applicable to the proposed award. Proposers must not regard these communications as an authorization to commit or expend funds. Unless a Government Contracting Officer signs the award document (i.e. contract), no obligations to provide funding are made. The Government may reject the proposal or cancel the contract action at any time.

If signed by the Government Contracting Officer, the award document is the official and authorizing instrument (i.e. contract). The anticipated period of performance start date will be

determined at time of award. The Contracting Officer will email the signed, authorizing award instrument to the principal investigator (PI) and/or an authorized organization representative.

Refer to the DoD SBIR Program BAA for procedures to protest the Announcement.

AWARD AND CONTRACT INFORMATION

Please refer to the DoD Program BAA for detailed information regarding SBIR/STTR phase structure and flexibility.

Army SBIR 24.4 Topic Index
Release 8

A244-014 Helicopter Expedited Refueling Operations (HERO)

OUSD (R&E) MODERNIZATION PRIORITY: General Warfighting Requirements (GWR)

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120 – 130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730 – 774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the statement of work (SOW) tasks intended for accomplishment by the FN(s) in accordance with the announcement. Offerors are advised that foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws.

OBJECTIVE:

Develop, demonstrate, and deliver solutions that increase the efficiency of the setup, refueling operations, and disassembly of forward arming and refueling points (FARP) to reduce the amount of time rotary-winged assets are unavailable to support ground combat operations and decrease the likelihood of enemy detection and attack on the FARP.

DESCRIPTION:

The Army must modernize the operations and safety of forward arming and refueling points (FARP), where Army aircraft are refueled and re-armed. FARPs need to be more efficient and less vulnerable to enemy attack. The FARP is critical in keeping aircraft available to support troops in contact with the enemy. This requires the FARP to be in an area open enough to land aircraft and close enough to combat to be of value. This, combined with the equipment required to rearm and refuel aircraft and how long this takes, makes FARPs easy targets for enemy aircraft, artillery, or drones.

A typical FARP has four service points and requires 26 personnel, at least 10 of whom must be petroleum service specialists — eight to refuel aircraft and two to monitor the emergency shut-off valves. It also requires 16 arming personnel (two per service point). These requirements can quickly overextend the forward support company's petroleum, oil, and lubricants (POL), and ammunition personnel, especially if a second FARP is needed. For additional specifics on FARP vehicles/equipment, see the "Refueling Equipment" section beginning on page 2-6 on the ATP 3-04.17 document link in the "References" below.

Refueling times and procedures at the FARP vary depending on aircraft type and pumping/pressure capacity. Current systems ensure a steady pace while refueling so the hose and tank don't over pressurize and damage equipment, or overflow, creating fire hazards. Currently, when refueling directly from the tanker trucks, the maximum flow is 300 gallons per minute (GPM). In FARPs with more than four refueling points, the points farthest from the truck usually take more time to refuel due to hose length and the flow rate of the pump. When conducting operations using 500-gallon blivets — drums for storing and transporting liquid fuels — the pump system is only capable of pumping 225 GPM, meaning that during a refueling mission, three of the four pumps can dispense 50 GPM and the other pump dispenses 90 GPM. During extended, continuous use, there is the possibility pumps can overheat and fail.

With these limitations, refueling a helicopter platoon can take hours. FARPs are easily detected by enemies so crews and equipment must occupy a location, quickly establish the FARP, efficiently conduct required tasks, then rapidly disassemble it. Fast-paced operations can leave a FARP with limited defensive capabilities, so mobility is essential.

The Army is looking for solutions that increase the efficiency of aircraft refueling operations on FARPs will lead to increased effectiveness on the battlefield and faster support of troops in contact with the enemy.

We are interested in solutions that:

- Expedite aggregation/assembly/setup/breakdown of FARP vehicles, hoses, or equipment
- Decrease aircraft refueling times (within safety regulations, pressure limits, etc.)
- Improve pumping systems, valves, hoses, or other FARP equipment
- Decrease aircraft wait/loiter times

Solutions can be “drop-in” replacements for FARP parts/components, or augmentations to existing systems.

Cost should be considered in the SBIR proposals.

PHASE I:

Only Direct to Phase II (DP2) proposals will be accepted for this solicitation. DP2 proposals must provide documentation to substantiate that the scientific and technical merit and feasibility (listed in the following paragraph) are met, and the proposals must describe potential commercial applications of the solution. The provided documentation should contain all relevant information including, but not limited to, technical reports, test data, prototype designs/models, and performance goals/results.

DP2 proposals should build on the design formulated according to Phase I requirements: design a proof-of-concept solution that increases efficiency of the setup, refueling operations, and the disassembly of forward arming and refueling points (FARP) to reduce the amount of time rotary-winged assets are unavailable to support ground combat operations and decrease likelihood of enemy detection and attack on the FARP. The solution will be evaluated based on a holistic view of factors including its ability to integrate designated Army open standards (see “References”), cost of development, its adaptability based on individual Soldiers’ needs or scenarios, or any additional factors proposed.

PHASE II:

Refine the preliminary design developed from Phase I equivalent and create a Technology Readiness Level (TRL) 6 prototype/model/system. System refinement should include integrating existing Army systems or newly developed systems from other performers and showcasing modularity. The solution will be demonstrated at a vendor-provided, government-approved location to evaluate performance. Solutions will be evaluated based on a constellation of criteria including technical feasibility, decrease in FARP stand up or refueling times, cost reasonableness, and compatibility with existing systems.

Required Phase II deliverables include the TRL 6 system and operational demonstration for performance evaluation. Additionally, the performer will deliver monthly progress reports detailing design and performance analysis. At the end of the period of performance, the performer will submit a final technical report.

Performers may be eligible for a Sequential Phase II award after completion of the Phase II period of performance. Sequential Phase II awards can extend the period of performance with additional funding and matching opportunities to finish building solutions at the Army stakeholders’ discretion.

PHASE III:

The objective of Phase III, where appropriate, is for the small business to pursue commercialization objectives through the effort. Companies may develop a manufacturing-ready product design, capable of integration with the existing or future systems, and demonstrate technology integration. Low-rate production will occur as required. Companies will engage in laboratory or operational testing as required. Phase III deliverables include system-level integration technical data package, installation documentation, and system-level prototype for demonstration and government-sponsored testing.

WEBINAR DATE:

Two webinars will be conducted for this solicitation. The first webinar will be Tuesday, 20 February at 12:00pm CT and the second webinar will be Thursday, 29 February at 3:00pm CT.

Register for 20 FEB webinar:

https://us06web.zoom.us/webinar/register/WN_H2ZVs2aVQZieQ60pmQAyHA

Register for 29 FEB webinar:

https://us06web.zoom.us/webinar/register/WN_1KmOwmbNRe25C8jTJRdCYg

KEYWORDS:

Forward Arming and Refueling Points, FARP, Aviation, Rotary Wing, Aircraft, Fuel, Refueling

REFERENCES:

1. https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN32371-ATP_3-04.17-001-WEB-3.pdf
2. https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN36290-FM_3-0-000-WEB-2.pdf1.
3. [DSP :: MOSA \(dla.mil\)](#)
4. [Modular Open Systems Approach – DoD Research & Engineering, OUSD\(R&E\) \(cto.mil\)](#)