

PROGRAM ANNOUNCEMENT FOR FY 2021 ENVIRONMENTAL SECURITY TECHNOLOGY CERTIFICATION PROGRAM (ESTCP)

Federal Organizations Outside DoD Pre-Proposal Submittal Instructions

Reference: Call for ESTCP New Start Proposals,
Memorandum from the Director, ESTCP dated January 7, 2020

1. INTRODUCTION

The Environmental Security Technology Certification Program (ESTCP) is the Department of Defense's (DoD) demonstration and validation (Dem/Val) program for environmental and installation energy technologies. Throughout this document, “**technology**” refers broadly to integrated systems based on any combination of hardware (equipment) and software (processing), materials engineering processes, and resource management devices, methods, tools, or models based on scientific principles. Technologies appropriate for demonstration and validation will be sufficiently mature that all required laboratory or other proof-of-concept work has been completed. Commercial technologies already in use are not considered appropriate for demonstration and validation.

ESTCP is seeking proposals for innovative environmental and installation energy technology demonstrations as candidates for funding beginning in Fiscal Year (FY) 2021. Descriptions of the topic areas and complete solicitation details are on the [ESTCP website](#).

This Call for Proposals (CFP) is for Federal Organizations Outside DoD. DoD organizations (Services and Defense Agencies) wishing to submit proposals to ESTCP should refer to the DoD Call for Proposals. Private sector organizations should refer to the Broad Agency Announcement (BAA). Instructions for the DoD Call for Proposals and the BAA may be found on the [ESTCP website](#).

1.1 BACKGROUND

The purpose of ESTCP is to demonstrate and validate promising innovative technologies that target DoD's most urgent environmental and installation energy needs and are projected to pay back the investment through cost savings, improved efficiencies, or improved outcomes. ESTCP responds to high priority DoD environmental and installation energy technology requirements and the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by real world commitments such as environmental restoration, waste and facility management, range sustainability, energy security, and water conservation. The goal is to enable promising technologies to receive regulatory and end-user acceptance and be fielded and commercialized more rapidly. To achieve this goal, ESTCP projects create a partnership between technology developers, responsible DoD organizations, and the regulatory community. This program announcement is seeking pre-proposals from the technology development community.

ESTCP demonstrations are conducted under operational conditions at DoD facilities or locations for which DoD holds environmental responsibility. Candidate technologies are expected to have successfully completed laboratory testing and, when applicable, initial small-scale field testing. The demonstrations are intended to generate supporting cost and performance data for acceptance or validation of the technology. ESTCP demonstration projects also are required to support the future implementation of the tested technology through the development of appropriate guidance, design, and/or protocol documents. ESTCP will not support full-scale demonstrations that are primarily intended to solve an individual installation's problem. Full-scale cleanup is not performed under ESTCP. ESTCP gives priority to those projects that address multi-Service or DoD environmental requirements.

ESTCP projects must:

1. Execute the technology demonstration to validate the technology's performance and expected operational costs:
 - Each project develops one or more Demonstration Plans, as appropriate to the project, to govern the technical execution and management of the demonstration. Guidance describing the requirements of the ESTCP Demonstration Plan can be found on the [ESTCP website](#). The Demonstration Plan is reviewed and must be approved by the ESTCP Office prior to beginning any fieldwork.
 - Each project is expected to generate sufficient pertinent and high-quality data to scientifically validate all claims made for the technology.
 - Cost and performance data will be collected during the demonstration(s) to allow realistic estimates to be derived for full-scale implementation of the technology at the demonstration site and other DoD sites.
2. Transfer the technology:
 - Identify and work with the intended DoD user community to achieve their acceptance and feedback on the usefulness of the technology.
 - Publish appropriate user guidance, design, and/or protocol documents to assist the future implementation of the technology.
 - Publish a Final Report based on the [ESTCP Final Report guidance](#).
 - Publish the results of the demonstration in the scientific peer reviewed literature and present results at technical conferences, as appropriate.
 - Identify pathways to implementation of the technology.

3. Provide data and support to achieve regulatory and end-user acceptance:
 - Technologies needing regulatory approval for use will be required to engage the regulatory community at the outset of project execution. Feedback from regulators must be solicited and incorporated into the project's Demonstration Plan.
 - No single approach for working with the regulatory community is prescribed by the program. Interaction with individual state regulatory organizations, interstate groups, and the U.S. Environmental Protection Agency (EPA) is encouraged. The approach taken should be appropriate for the technology being demonstrated and the regulatory issues associated with implementing the technology.

Proposers selected for demonstration will be teamed with a DoD liaison who will be responsible for assisting in selecting the demonstration site, validating the technology's cost and performance, interfacing with the regulatory and user community, and supporting the transfer of the technology across DoD.

1.2 GENERAL INFORMATION FOR FEDERAL SECTOR PROPOSERS (OTHER THAN DOD)

Awardees under this CFP will be selected through a multi-stage review process. The technical review includes a brief pre-proposal, a full proposal, and an oral presentation. Based upon the pre-proposal evaluation by ESTCP, each proposer will be notified as to whether ESTCP requests or does not request the submission of a full proposal. Those proposers who are invited to submit full proposals but who do not have a DoD partner or a DoD demonstration site, will be assigned a liaison to assist in the identification of an appropriate demonstration site. Each full proposal will be presented in person to the ESTCP Technical Committee. The costs associated with this initial, pre-award presentation shall not be included in the proposal cost estimate. This cost is borne by the proposer.

Based on evaluation of the written full proposal and oral presentation, each proposer will be notified as to whether the Government wishes to enter into negotiations for an award. ESTCP reserves the right to recommend for award any, all, or none of the proposals received. ESTCP also reserves the right to recommend a portion of the work proposed in any single proposal for award. There is no commitment by ESTCP to make any awards, nor shall the Government be responsible for any money expended by the proposer before an award is made. Due to the volume of pre-proposals anticipated to be received, the Government will not provide debriefs on those that are not requested to submit a full proposal.

General procedural questions may be referred to the ESTCP Office at 571-372-6565. For technical questions regarding this announcement, contact the individual listed within the topic area description.

1.3 EVALUATION SCHEDULE

Pre-proposals will be evaluated based on the following schedule.

Table 1: Evaluation Schedule

DATE	ACTIVITY
January 7, 2020	CFP Released
March 5, 2020; 2:00 p.m. Eastern Time	Pre-Proposals Due to ESTCP
June 2020	Request Full Proposals
August 2020	Full Proposals Due to ESTCP
September 2020	Briefings Before ESTCP Technical Committee
October 2020	Project Selection
March – April 2021	Anticipated Awards

2. PRE-PROPOSAL INSTRUCTIONS

To be eligible for consideration, readers wishing to respond to this announcement must submit a pre-proposal. The pre-proposal must concisely describe the technology, including its level of development or maturity, and its cost/benefit. Specific DoD demonstration site(s) may be suggested in the pre-proposal but final site identifications are not required.

2.1 PRE-PROPOSAL LENGTH AND FORMAT

Pre-proposals shall be no longer than five (5) pages and type face not less than 11 point. All margins (top, bottom, left, and right) shall not be less than 1 inch. An abbreviated one-page curriculum vitae is required for each of the principal performers. One attachment of up to three pages of supporting data also may be submitted. The curricula vitae and supporting data including references are not included in the five-page limit.

2.2 PRE-PROPOSAL CONTENT

The pre-proposal must contain the following information:

1. System Generated Proposal Number: Generated by the SERDP and ESTCP Management System (SEMS) when the proposal details are entered and saved in the system as outlined in Section 3 below.
2. Proposal Title
3. Lead Principal Investigator
4. ESTCP Topic Area
5. Lead Organization: Project lead, organization, address, telephone number, and e-mail address.
6. Problem Statement: Clearly state the problem the technology demonstration is addressing and its relevance and importance to DoD. Identify the current approach (if one exists) for this problem and discuss its shortcomings.
7. Technology Description: The technology description should include the following information:
 - a) *Technical Objectives*. Briefly state the objective(s) of the proposed effort.
 - b) *Technology Description*. Describe the technology or technical approach in sufficient detail to provide an accurate and factual understanding of its theory, functionality, and operation. If appropriate, provide an overall schematic of the technology. Discuss how the technology is innovative. Compare it to the state-of-the-art, if relevant. Identify the specific performance issues that require validation.
 - c) *Technology Maturity*. Provide evidence the technology is mature enough for demonstration (include references and funding history). Discuss any development or design work that is required prior to demonstration.
 - d) *Technical Approach*. Structure the technical approach in terms of tasks to be accomplished in accordance with guidance provided in the individual topic areas. Clearly define the performance objectives for the technology, including their associated performance metrics, data requirements, and success criteria, and

- provide a table containing this information. Refer to Table 1 in the [Demonstration Plan Guidance](#) for the type of information expected. Within the technical approach, provide a broad overview of the test design of the demonstration proposed for evaluating the technology and the scale of the proposed tests. Include a brief description of a proposed site(s), if known, or the desired site characteristics. Individuals submitting to an Installation Energy and Water topic should refer to section 5.0 of the Installation ESTCP Energy and Water Demonstration Plan Guidance for more perspective on test design.
- e) *Technical Risks*. Identify potential issues of concern and technical risks in taking the technology from its current state to the proposed scale of the demonstration. Identify any assumptions that have been made that, if not realized, could impact the successful implementation of the project. Discuss risk mitigation and management. If the demonstration is not at full scale, discuss any scale-up issues that will remain at the conclusion of a successful demonstration.
 - f) *Related Efforts*. Provide information on any relationship to other similar projects. Identify funding sources for these efforts.
8. Expected DoD Benefit: Describe the expected benefit in terms of impact and/or reduced cost. Assess the benefit per site or implementation and the expected aggregate benefit for DoD. Provide realistic projections of the number of DoD sites or facilities where the technology could be deployed. Discuss how the information obtained from the demonstration will enable adoption of the technology throughout DoD. If appropriate, estimate the expected return on investment and the time for payback. Discuss the life-cycle cost advantages over current approaches.
9. Schedule of Milestones: Provide a project schedule with expected milestones and deliverables for the duration of the project in the form of a Gantt chart in accordance with any guidance provided in the topic area description. At a minimum, start and end dates for the demonstration(s) and all required deliverables must be included in the Gantt chart. Required deliverables are found in the reporting guidelines on the [ESTCP website](#). Other appropriate milestones include obtaining any required permits, completion of any planned development work or treatability studies, shake down testing, system commissioning, accreditation, permitting or operation and the like.
10. Technology Transition: All pre-proposals are expected to include a description of a specific technology transition plan that will aid in the transition of the technology to the end user and to commercialize the technology if required. Reliance on presentations at conferences, scientific publications, or final project deliverables (i.e., Final Report, Executive Summary) is not sufficient. Consider innovative methods to convey such information including user guides and web-based or electronic tools.

Specify how technology transfer methods will differ to reach appropriate audiences (e.g., regulators, consultants, energy managers, energy services companies, etc.). Describe any proposed guidance documents that will assist in future implementation (e.g., guidance, design, protocol documents, Unified Facilities Criteria and/or IEEE standards). Explicitly identify potential first DoD users and follow-on implementation. Discuss the timeline required upon completion of a successful demonstration to transition to a product or service suitable for acquisition or implementation by DoD installations. If there are known institutional or regulatory barriers that affect the transition, describe them in this section along with recommendations for addressing

these barriers.

11. **Performers**: List the name and organization of the lead person(s) for each organization involved in the proposed demonstration and their expected contributions. Provide a one-page curriculum vitae for each of the performers (not included in the five-page limit).
12. **Funding**: State the level of requested funding per year for the duration of the project, including any development, design, or treatability work. Identify costs for any major equipment to be purchased by ESTCP. For planning purposes, proposers should assume a project initiation date of April 1, 2021. Funds required should be broken out by the year in which they will be expended. Although identification of a specific demonstration site is not required for pre-proposals, include an estimate of the cost for a representative field demonstration of the technology. Ensure adequate funds are requested to meet all reporting and travel requirements. ESTCP reporting requirements are available on the [ESTCP website](#). List other sources of expected funding to support the demonstration and leveraged resources. Provide a Point of Contact and telephone number for each leveraged resource listed.

3. SUBMITTAL INSTRUCTIONS

Pre-proposals are submitted via the SERDP and ESTCP Management System (SEMS). No electronic mail, faxed, or hard copy proposals will be accepted. **Pre-proposals must be submitted prior to 2:00 p.m. Eastern Time on March 5, 2020.**

Complete all steps below in order to submit a proposal.

- Log in to [SEMS](#).
- Enter all required proposal details into SEMS. Proposal details may be saved and edited prior to final submission.
- Add the system-generated proposal number, project title, lead PI name and organization to the first page of proposal as instructed in Section 2.2 above.
- Create a single PDF file that contains all required sections outlined in the proposal guidance.
- Upload the final proposal file.
- Submit the proposal. Only proposals that have been submitted will be considered. Proposals with a “Saved” status will not be reviewed.

Note: A signed cover page is **not required** for pre-proposals.

Once the proposal has been submitted, SEMS will display an on-line confirmation message and will send an email notification to the proposer. It is the sole responsibility of the proposer to make certain the proposal is properly received by ESTCP.

The proposer may continue to modify proposal details and upload revised proposal files until the due date. Prior versions of the proposal will be over-written and **only the last version uploaded** will remain in the system. Ensure the proposal details entered into the system match the contents of the PDF proposal file. It is recommended that proposals are uploaded as early as possible prior to the deadline, to ensure a successful and timely submission.

For proposal upload questions, contact the ESTCP Office at 571-372-6565.

4. FULL PROPOSAL

After evaluation of the pre-proposals, ESTCP will contact all proposers and either request or not request each to submit a full proposal. At that time, detailed instructions will be provided for the full proposal format. Proposers selected for demonstration will be teamed with a DoD liaison who will be responsible for assisting in selecting the demonstration site, validating the technology's cost and performance, interfacing with the regulatory and user community, and supporting the transfer of the technology across DoD. If necessary, ESTCP will coordinate a partnering meeting with an appropriate DoD partner to provide input for the full proposal including, but not limited to, selection of a DoD demonstration site. Full proposals may not be submitted outside the pre-proposal process. Any full proposal that has not been reviewed in the pre-proposal phase will not be evaluated nor considered for award under this CFP.

5. EVALUATION FACTORS FOR PRE-PROPOSALS AND FULL PROPOSALS

The following evaluation factors will be the sole basis for reviewing pre-proposals and full proposals submitted in response to this CFP. ESTCP Relevance and Technology Maturity are pass/fail criteria evaluated at the pre-proposal stage only; proposals not passing these gates will not be further evaluated. Among the other evaluation factors for both pre-proposals and full proposals, Technical Merit is more important than Cost/Benefit of Technology, Transition Potential, and Cost of Proposal.

ESTCP RELEVANCE (PRE-PROPOSAL ONLY)

An assessment will be made whether the pre-proposal submission responds to the DoD requirement as described in the topic area. ESTCP Relevance is a threshold review and if the pre-proposal is determined not to be relevant, no further evaluation of the pre-proposal will be made.

TECHNOLOGY MATURITY (PRE-PROPOSAL ONLY)

An assessment will be made of the appropriateness of the proposed technology for demonstration and validation. Proposed technologies should have completed required proof-of-concept work and have evidence of the technology's capabilities. Technologies should be mature enough that within one year of project initiation any required laboratory treatability work will be completed and a field ready application can be deployed for testing. Standard commercially available instruments or approaches currently deployed at DoD sites will be considered too mature. ESTCP will not consider project submissions that fall in the categories of basic research (scientific foundation) or exploratory development (bench-scale applied research). Technology Maturity is a threshold review and if the proposed technology is determined to be inappropriate for demonstration and validation, no further evaluation of the pre-proposal will be made.

TECHNICAL MERIT

An assessment of the technical merit of the pre-proposal will be made. Factors to be considered include: (a) the methodology is scientifically sound; (b) the technology is innovative and is the current state-of-the-art; (c) the technical risks are well characterized; and (d) the technical team is qualified to execute the proposed project.

COST/BENEFIT OF TECHNOLOGY

An assessment of the cost/benefit of the proposed technology, if it were deployed, will be made. Factors to be considered include: (a) the projected cost savings and/or risk reduction are significant; (b) the projected benefits are reasonable and consistent with the proposed technology; and (c) the payoffs from the proposed technology are commensurate with the projected costs and risks.

TRANSITION POTENTIAL

An assessment of the potential for a successful transfer of the technology to the DoD user will be made. Factors to be considered include: (a) there is a well-defined DoD user for the technology; (b) there are clearly identified activities that will support and enhance the transfer of the technology; and (c) the technology can be implemented within DoD.

COST OF PROPOSAL

An assessment of the reasonableness of the proposed cost will be made. Costs should be appropriate and traceable to the level of effort required to execute the project.