

PROGRAM ANNOUNCEMENT FOR FY 2013 ENVIRONMENTAL SECURITY TECHNOLOGY CERTIFICATION PROGRAM (ESTCP) ENVIRONMENTAL TOPICS

DoD Pre-Proposal Submittal Instructions

(Reference: Call for ESTCP New Start Proposals, Memorandum from the Director, ESTCP dated January 12, 2012)

1. INTRODUCTION

The Environmental Security Technology Certification Program (ESTCP) is the Department of Defense's (DoD) demonstration and validation (Dem/Val) program for environmental technology. 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-principle work has been completed. Commercial technologies already in use are not considered appropriate for demonstration and validation.

Proposals for demonstrations of innovative environmental technologies in the topic areas shown in Table 1 are requested. Descriptions of these topic areas are in Appendix A. Complete solicitation details are on the ESTCP web site at <http://www.serdp-estcp.org/Funding-Opportunities/ESTCP-Solicitations/Environmental-Technologies-Solicitation>.

This Call for Proposals (CFP) is for DoD organizations (Services and Defense Agencies). Other federal organizations (Non-DoD) wishing to submit proposals to ESTCP should refer to the Non-DoD Federal Call for Proposals. Private sector organizations should refer to the Broad Agency Announcement (BAA). Instructions for the Non-DoD Federal Call for Proposals and the BAA may be found on the ESTCP web site www.serdp-estcp.org/Funding-Opportunities/ESTCP-Solicitations/Environmental-Technologies-Solicitation.

1.1 BACKGROUND

The purpose of ESTCP is to demonstrate and validate the most promising innovative environmental technologies that target DoD's most urgent environmental needs and are projected to pay back the investment through cost savings, improved efficiencies, or improved outcomes. ESTCP responds to high priority DoD environmental 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, and range sustainability. 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 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 are also 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 a demonstration plan to govern the technical execution and management of the demonstration. Guidance describing the requirements of the ESTCP Demonstration Plan can be found at www.serdp-estcp.org/Investigator-Resources/ESTCP-Resources/Demonstration-Plans. 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 prove the validity of 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 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 at www.serdp-estcp.org/Investigator-Resources/ESTCP-Resources/Technical-Reports.
 - Provide a draft cost and performance report for publication by ESTCP based on the ESTCP Cost and Performance Report guidance at www.serdp-estcp.org/Investigator-Resources/ESTCP-Resources/Technical-Reports.
 - Publish the results of the demonstration in the scientific peer reviewed literature and present results at technical conferences, as appropriate.
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.

Technologies needing DoD approval (i.e., those technologies that are part of or apply to weapons systems and weapons platforms) will be required to engage the appropriate communities (Program Managers, Depot Managers, etc.) at the outset of project execution and seek their support and involvement as required to achieve acceptance. Such projects will be required to seek approval of and execute a Joint Test Protocol to gain DoD approval of the new technology. Guidance for developing a Joint Test Protocol may be found in the Demonstration Plan Guidance for Weapons Systems and Platforms on the ESTCP web site at www.serdp-estcp.org/Investigator-Resources/ESTCP-Resources/Demonstration-Plans.

Proposals are requested in the topic areas listed below. Full descriptions of these topic areas are available in Appendix A.

Table 1. ESTCP DoD Topic Areas

1. Environmental Restoration	2. Munitions Response	3. Resource Conservation	4. Weapons Systems and Platforms
<ul style="list-style-type: none"> • Soils • Sediments • Surface and Ground Water 	<ul style="list-style-type: none"> • Classification • Underwater Munitions 	<ul style="list-style-type: none"> • Natural Resources • Cultural Resources • Air Quality 	<ul style="list-style-type: none"> • Manufacturing • Maintenance • Green Energetics • Noise and Air Emissions • Waste Reduction • Greenhouse Gases

1.2 GENERAL INFORMATION FOR DOD PROPOSERS

Awardees under this CFP will be selected through a multi-stage review process, including a brief pre-proposal, a full proposal, and an oral presentation. Based upon the pre-proposal evaluation by ESTCP, each of the pre-proposal submitters will be notified as to whether ESTCP requests or does not request the submission of a full proposal. Each full proposal submitter will be asked to make an oral presentation 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 proposal and oral presentation, each full proposal submitter will be notified as to whether the Government wishes to enter into negotiation for an award. ESTCP reserves the right to select for award any, all, or none of the proposals received. ESTCP also reserves the right to select a portion of the work proposed in any single proposal for award. Due to the volume of pre-proposals anticipated to be received, ESTCP will not provide debriefs on those that are not requested to submit a full proposal.

General procedural questions may be referred to Ms. Jina Banks-Saunders in the ESTCP Office at 703-696-2127. For technical questions regarding this announcement, contact the individual listed within the topic area description.

1.3 EVALUATION SCHEDULE

Table 2. ESTCP Project Selection Schedule

DATE	ACTIVITY
January 12, 2012	BAA / Call for Pre-Proposals Released
March 15, 2012; 2 p.m. Eastern Time	Pre-Proposals Due to ESTCP Office
June 2012	Request Full Proposals
August 2012	Full Proposals Due to ESTCP Office
September 2012	Briefings Before ESTCP Technical Committee
October 2012	Project Selection
March 2013	Award / Project Initiation

2. PRE-PROPOSAL INSTRUCTIONS

To be eligible for consideration, readers wishing to respond to this announcement must submit a pre-proposal. Any pre-proposal submitted shall be in response to only one of the ESTCP topic areas set forth in Appendix A of this document. The pre-proposal must concisely describe the technology, including its level of development or maturity, and its cost/benefit. Specific DoD site(s) may be suggested in the pre-proposal but are not required.

2.1 COVER PAGE

Each pre-proposal must include an ESTCP cover page prepared via the Web Proposal Tracking System (WebPTS) module within the SERDP and ESTCP Management System (SEMS) web site.

1. Go to <https://sems.serdp-estcp.org>, and follow the instructions to create a user name and password. If you already have an account, log in and click on the WebPTS tab at the top of the screen if you are not already on that page. As you make entries in the cover page, you may save data that have been entered or submit a completed cover page. A cover page **must** be completed and submitted before an electronic proposal can be uploaded via WebPTS.
2. After you submit your cover page, additional on-screen instructions will be displayed. A **signed** web-generated cover page must be included as the first page of the pre-proposal. The pre-proposal can be signed by the Principal Investigator or other individual. ***Pre-proposals lacking a Cover Page or with an unsigned Cover Page will be considered unresponsive.*** A cover letter beyond this Cover Page is neither required nor desired. The Cover Page is not included in the page limitation.

If you require assistance with WebPTS, contact Amy Kelly at akelly@hgl.com or by telephone at 910-579-8052, or the ESTCP Office at 703-696-2127.

2.2 PRE-PROPOSAL LENGTH AND STYLE

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

2.3 PRE-PROPOSAL CONTENT

The pre-proposal must contain the following information:

1. Short Descriptive Title
2. ESTCP Topic Area: Each proposal must list what topic area it addresses:
 - 1) Environmental Restoration;
 - 2) Munitions Response;

- 3) Resource Conservation; or
 - 4) Weapons Systems and Platforms.
3. Lead Organization: Project lead, organization, address, telephone number, fax number, and e-mail address.
 4. Problem Statement: Clearly state the environmental 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.
 5. Technology Description: The technology description should include the following information:
 - a) *Technical Objectives*. Briefly state the objective of the proposed effort.
 - b) *Technology Description*. Describe the technology 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.
 - 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*. Provide a broad overview of the experimental design of the demonstration proposed for evaluating the technology. Discuss the major elements of the demonstration and identify the key aspects of the overall approach as they relate to the evaluation of the technology. Include a brief description of a proposed site(s), if known, or the desired site characteristics. Discuss the scale of the proposed tests and any treatability studies that will be required prior to demonstration. Identify specific technical or performance objectives to be validated. Identify methods for measuring and assessing the performance and expected operational costs of the technology. Describe criteria for success of the demonstration and the technology. Describe the technical approach in terms of tasks to be accomplished.
 - e) *Technical Risks*. Identify potential issues of concern and technical risks in taking the technology from the research phase 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 how risks will be managed. 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.
 6. Expected DoD Benefit: Describe the expected benefit in terms of environmental impact and/or reduced cost. Assess the environmental 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. Estimate the expected return on investment and the time for payback. Discuss the life-cycle cost advantages over current approaches.
 7. 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. Ensure that all required deliverables are included in the Gantt chart. Required deliverables are found in

the reporting guidelines at www.serdp-estcp.org/Investigator-Resources/ESTCP-Resources.

8. **Technology Transition:** Describe the method by which the technology will be transitioned to end user(s) or commercialized. Specify how technology transfer methods will differ to reach appropriate audiences (i.e., regulators, consultants, etc). Describe any proposed guidance documents that will assist in future implementation (i.e., guidance, design, and/or protocol documents). Explicitly identify potential first DoD users and follow-on implementation. If there are known institutional or regulatory barriers that effect the transition, they should be described in this section along with recommendations for addressing these barriers.
9. **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 pre-proposal count).
10. **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. Although identification of a specific demonstration site is not required for pre-proposals, include an estimate for 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 at www.serdp-estcp.org/Investigator-Resources/ESTCP-Resources. 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

Your pre-proposal will be considered officially submitted upon successful on-line submission of a PDF of your complete proposal package via WebPTS. No hard copies are required. **Pre-proposals must be submitted prior to 2:00 p.m. Eastern Time on March 15, 2012.**

Once your proposal has been finalized, create a single PDF that contains all required sections. Make sure to insert the signed and scanned cover page as the first page of the PDF. You are now ready to upload your proposal to the web site.

- Log in at <https://sems.serdp-estcp.org> and go to the WebPTS Tab.
- Follow the on-screen instructions. You must SUBMIT your cover page before the proposal upload function will be activated. Instructions for creating your Cover Page can be found in Section 2.1.

NOTE: A system-generated cover page will append to your uploaded proposal as the first page. Once your proposal has been uploaded you will receive an on-line confirmation message in WebPTS and an email will be sent to the submitter.

You may continue to modify your cover page and upload revisions to your proposal until the due date. Should you need to re-upload a proposal or revise your cover page, go to **“My Cover Pages,”** select **“Edit”** next to your proposal title, and click on **“Submit”** to arrive at the proposal upload screen. Make sure any changes to the cover page are made first. Prior versions of your proposal will be over-written and **only the last version uploaded** will remain in the system. It is recommended that you upload your proposal as early as possible prior to the deadline, to ensure a successful and timely submission.

For WebPTS or proposal upload questions, contact Amy Kelly at akelly@hgl.com or by telephone at 910-579-8052, or the ESTCP Office at 703-696-2127.

4. FULL PROPOSAL

After evaluation of the pre-proposals, ESTCP will contact all submitters 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. 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. Relevance and technology maturity are pass/fail criteria: proposals not passing these gates will not be further evaluated. Among the full proposal evaluation factors, Technical Merit is most important, followed by Cost/Benefit, Transition Potential, and Cost.

ESTCP RELEVANCE (PRE- PROPOSAL ONLY)

An assessment will be made whether the submission responds to the DoD environmental requirement as described in the topic area (see Appendix A).

TECHNICAL 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).

TECHNICAL MERIT

An assessment of the technical merit of the 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 as to 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 as to 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 as to 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.

APPENDIX A DoD Topics

Topic 1: Environmental Restoration (ER)

Proposals in this topic area should address the reduction of the Department's current liabilities and prevention of future liabilities through the demonstration of technologies or tools for the cost-effective management and remediation of chemical contaminants in soil, sediments, and ground and surface water. Areas of interest include:

Monitoring

Demonstrate technologies for the assessment or long-term monitoring of chemical contamination or biogeochemical indicators in soils, sediments, and water.

Reduction in Cost to Complete

Demonstrate innovative tools, methodologies, or technologies that can reduce the Cost to Complete for contaminated groundwater by improving assessment or optimizing treatment.

Containment and Protection

Demonstrate cost-effective technologies that successfully sequester or otherwise contain contaminants for the foreseeable future, and are protective of water resources.

Exposure and Bioavailability

Demonstrate tools to assess exposure routes and the factors that affect the bioavailability of contaminants in the environment.

Risk Assessment

Demonstrate the techniques and protocols for producing accurate and consistent risk assessments of the impacts of environmental exposure to contaminants.

A recent area of interest is green and sustainable remediation related to Executive Order 13514, which sets sustainability and energy goals throughout the federal government. Specifically, DoD goals are focused on increased energy efficiency; measurement and reduction of greenhouse gas emissions from direct and indirect activities; conservation and protection of water resources through efficiency, reuse, and stormwater management; elimination of waste, increased recycling, and pollution prevention; and fostering markets for sustainable technologies and environmentally preferable materials, products, and services. When applicable, proposers should consider how such issues may be addressed within the context of management and remediation of chemical contaminants in soil, sediments, and ground and surface water.

POINT OF CONTACT:

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Topic 2: Munitions Response (MR)

Proposals in this topic area should address the reduction of the Department's current liabilities under the Military Munitions Response Program due to unexploded ordnance (UXO) and discarded military munitions or the sustainability of the current testing and training ranges through active range clearance and reducing the generation of UXO. All technologies that can potentially improve the Department's environmental performance or reduce costs are of interest. Areas of high priority include:

Classification

Technologies are needed that can discriminate munitions as small as 20-mm and 37-mm projectiles from other items in the sub-surface. A single technology need not be applicable to all possible munitions types, nor all possible site conditions. Technologies are requested for ultimate inclusion in a series of live-site Classification Demonstrations being conducted by ESTCP in three categories:

- Integrated systems (hand held, man-portable, or vehicle towed) that can survey tracts of land, detect potential munitions and discriminate munitions from clutter;
- Systems that are cued by other survey technologies which can cost effectively, non-invasively interrogate the suspected item and discriminate munitions from clutter; and
- Signal processing technologies that can exploit the current state-of-the-art magnetic and electromagnetic induction survey data to improve classification capabilities.

Underwater Munitions

Technologies are needed that can reliably detect and classify munitions that are proud or buried, either individually or in clusters, in the underwater environment. Technologies that will facilitate management of underwater munitions sites are also of interest. Munitions of interest range from small projectiles to large bombs at depths to 120 feet.

POINT OF CONTACT:

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Topic 3: Resource Conservation (RC)

Proposals in this topic area should support the sustainability of installations and training and testing areas. Areas of interest include:

Natural Resources

Demonstrate the tools, technologies, and methodologies for the sustainable management of natural resources on DoD installations.

Ecological Systems: Demonstrate the tools, technologies, and methodologies for the management of ecological systems integral to DoD installations to ensure the continued availability of realistic training scenarios and testing conditions while preserving the long-term viability of installation and regional biological diversity and associated ecological processes. Ecological systems of emphasis are: forested ecosystems, arid land ecosystems, ecosystems associated with the Pacific Islands, and coastal and estuarine ecosystems.

Living Marine Resources Ecology and Management: Demonstrate the tools, technologies, and methodologies to minimize the impacts of military operations on marine mammals and other marine resources.

Watershed Processes and Management: Demonstrate the tools, technologies, and methodologies for the management of the abiotic and biotic aspects of the land and water resources within an installation to limit the degradation of land and surface waters due to erosion, siltation, and runoff.

Species Ecology and Management: Demonstrate the tools, technologies, and methodologies for the active management of invasive species and listed and at-risk species.

Cultural Resources

Demonstrate the tools, technologies, and methodologies for the cost-effective detection, evaluation, and impact mitigation of cultural resources on installations.

Air Quality

Demonstrate the tools, technologies, and methodologies for the active management of fugitive dust and fire emissions.

DoD investigators also are encouraged to submit proposals through the DoD submittal process that respond specifically to the Broad Agency Announcement (BAA) topic area for the Resource Conservation and Climate Change program area in FY13. This topic represents an area of particular interest to ESTCP.

Note: ESTCP is not soliciting proposals in FY13 that are focused on the assessment, land-use mitigation, and adaptation aspects of climate change.

POINT OF CONTACT:

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Topic 4: Weapons Systems & Platforms (WP)

Proposals in this area should address the current and future environmental liabilities associated with the design, construction, maintenance, repair and operations of Department of Defense weapons systems and platforms. Areas of interest include:

Manufacturing and Maintenance

Alternative Materials: Demonstrate environmentally benign materials for application in weapons and platforms.

Alternative Processes: Demonstrate processes that eliminate or reduce the generation or use of hazardous or toxic materials.

Alternative Inspection Methodologies: Demonstrate new technologies for the inspection of weapons systems that would reduce the requirement for maintenance and overhaul.

Monitoring and Control of Emissions: Demonstrate technologies to detect and monitor hazardous materials used in industrial processes as well as the technologies to control the release of these materials into the environment.

Green Energetics

Alternative Materials: Demonstrate new propellants, pyrotechnics and explosive materials that reduce or eliminate the release of toxic materials into the environment.

Alternative Manufacturing Processes: Demonstrate environmentally benign synthesis and production processes for energetic materials and munitions.

Monitoring and Control of Emissions: Demonstrate technologies to detect, monitor, and control hazardous materials used in munitions manufacturing.

Noise and Air Emissions

Diesel and Turbine Engines: Demonstrate new technologies that reduce or eliminate the production of, or control the release of, hazardous or toxic air emissions or that reduce noise emitted from military turbine engines.

Weapons and Munitions: Demonstrate monitoring and control technologies that address air and noise emissions from weapons and munitions.

Waste Reduction

Ships: Demonstrate technologies that reduce or eliminate liquid wastes from ships or control their release into the environment.

Forward Operating Bases: Demonstrate technologies that reduce or eliminate solid waste streams.

Greenhouse Gases

Alternative Fuels: Demonstrate feasibility and assess the impacts of alternative fuels with reduced carbon lifecycle footprints in weapons systems.

Weapons Systems Maintenance and Operations: Demonstrate new chemical compounds with significantly lower global warming potential that replace “super” greenhouse gases such as hydrofluorocarbons (HFC) and sulfur hexafluoride (SF6).

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