AN OVERVIEW OF THE SERDP AND ESTCP PROGRAMS

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Introduction

Now in its eleventh year, the Strategic Environmental Research and Development Program (SERDP) is the Department of Defense's (DoD) corporate environmental research and development program, planned and executed in partnership with the Department of Energy (DOE) and the Environmental Protection Agency (EPA), with participation by numerous other federal and non-federal organizations. Within its broad areas of interest, the Program focuses on Cleanup, Compliance, Conservation, Pollution Prevention, and Unexploded Ordnance technologies.

SERDP identifies, develops, and transitions environmental technologies that relate directly to defense environmental needs. The development and application of innovative environmental technologies will reduce the costs, environmental risks, and/or time required to resolve environmental problems while simultaneously enhancing safety, health, and military readiness. SERDP-developed technologies enhance mission readiness by (1) ensuring the long-term sustainability of training and testing ranges; (2) improving detection and discrimination of unexploded ordnance; (3) accelerating cost-effective cleanup of contaminated defense sites; (4) reducing defense industrial and operational waste streams through aggressive pollution prevention; and (5) facilitating full compliance with environmental laws and regulations.

Technology that is developed by SERDP and others must be tested and proven for field use. The Environmental Security Technology Certification Program (ESTCP) is the DoD's environmental technology demonstration and validation program. ESTCP's goal is to identify, demonstrate, and transfer technologies that address DoD's highest priority environmental requirements. ESTCP promotes innovative, cost-effective environmental technologies through demonstrations at DoD facilities and sites. These technologies provide a return on investment through improved efficiency, reduced liability, and direct cost savings.

ESTCP's strategy is to select lab-proven technologies with broad DoD and market application. Technologies selected for demonstration are teamed with a military service partner, who is responsible for assisting in the selection of 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. These projects are aggressively moved to the field for rigorous trials under operational field conditions at DoD facilities. The trials document the cost, performance, and market potential of the technology. Technology demonstrations address DoD environmental needs in the areas of Cleanup, Compliance, Pollution Prevention, and Unexploded Ordnance; evaluate innovative technologies at DoD sites in operational settings; verify and validate the cost, cost avoidance, and performance data of emerging technologies for DoD end-users and the regulatory community; result in the transfer of effective and affordable technologies across DoD; and facilitate regulatory approval and end-user acceptance.

Methods - SERDP

SERDP funds both federal and private organizations to perform environmental research and development through a competitive process. There generally are two annual solicitations – a 'Core' solicitation and a **SE**RDP **E**xploratory **D**evelopment (SEED) solicitation to select projects to be funded in the next federal fiscal year. The Core solicitation normally is released in mid-November as both a Broad Agency Announcement (BAA) to the non-federal (industry and academia) sector via the *Federal Business Opportunities* and a Call for Proposals to the federal sector. The SEED program is designed to provide initial funding of $100,000 maximum for up to one year for high-risk, high-payoff, proof-of-concept projects. Projects that are successful in this first year will have the opportunity to compete for additional follow-on funding. The SEED solicitation is released in November to both federal and non-federal sectors.

SERDP uses a multi-step competitive process for Core proposals to select projects for funding. Statements of Need (SONs) represent high-priority DoD requirements. Only proposals addressing the SONs are reviewed. The BAA uses a pre-proposal process for the initial screening of projects. Federal sector proposals are submitted to SERDP as full proposals after each agency conducts an internal down select of proposals. Full proposals from both the BAA and the federal Call are simultaneously subjected to an external peer review. Following the technical peer review, the top-ranked proposals are reviewed by panels of Government technical experts from the DoD, DOE, and EPA to recommend specific proposals for funding. These recommendations may include funding only part of a proposal. Upon acceptance by the SERDP Executive Director, each of these proposals is required to make an oral presentation before the SERDP Scientific Advisory Board (SAB). Assuming a positive recommendation by the SAB, projects then receive formal approval by the SERDP Council.

The SEED proposals go through a simplified selection process. They undergo an initial screening review at the SERDP Program Office. Meritorious proposals then are reviewed by multi-agency Government technical workgroups that make recommendations for funding to the SERDP Executive Director.

Methods – ESTCP

On an annual basis, ESTCP solicits proposals from the DoD, non-federal organizations (industry and academia), and other non-DoD federal agencies.

A Call for Proposals is issued to DoD organizations in January. Only DoD organizations are allowed to serve as the lead organization under this call; however, participation by non-DoD organizations is encouraged through partnership with the proposed DoD team. A two-phase process first solicits pre-proposals that then are reviewed and downselected by a Multi-Agency Review Committee in June. Pre-proposals that are successful in this first phase are asked to submit a full proposal and present an oral briefing to the Review Committee in September.

Non-federal organizations are solicited via a Broad Agency Announcement issued in the *Federal Business Opportunities* in mid-January. Pre-proposals are requested for submittal in March and then are reviewed and downselected by a review committee composed of members from the DoD. Successful proposers are requested to submit full proposals, and a DoD partner is selected to aid in identifying an appropriate demonstration site and understanding DoD needs. A Multi-Agency Review Committee will evaluate these full proposals and receive an oral briefing on each proposal in September.

Federal participants, other than those from the DoD, are provided a Call for Proposals. Pre-proposals are requested from this group with a subsequent selection process similar to the non-federal process.

Results

Within the Cleanup focus area, SERDP and ESTCP have invested in technologies to improve site characterization and monitoring; facilitate expeditious, less costly remediation that is protective of human health and the environment; and develop user-based risk assessment methodologies. Technologies that target many contaminants, including chlorinated solvents, energetic compounds, metals, and fuels, have been investigated. Specific successes will be covered in this presentation.

Results from SERDP projects are disseminated primarily through technical presentations, publications, and the SERDP website. All SERDP projects are required to submit and publish a final technical report. The Final Report

is a complete compilation of procedures, results, conclusions, and transition plans. Appendices include technical publications produced under the project. The Final Report is made available to the public through the Defense Technical Information Center (DTIC). The Publications & Products Search Page on the SERDP website provides citations for publications based on SERDP-funded research. In addition, a summary of project-specific accomplishments can be found within the Research Projects section of the SERDP website.

ESTCP project teams are responsible for (1) executing the technology demonstration; (2) validating the technology's performance and expected operational costs; (3) transferring the technology by identifying and working with the intended user community to achieve its acceptance and feedback on the usefulness of the technology; and (4) providing data and support to achieve regulatory and end-user acceptance. All ESTCP projects are required to submit and publish a final technical report. A list of final reports for completed projects can be found within the Technical Documents section of the ESTCP website. In addition, each project prepares a Cost & Performance Report that is essentially an executive summary of the Final Report. Cost & Performance Reports are published by ESTCP and also can be found within the Technical Documents section of the ESTCP website. Many projects also prepare technology-specific guidance, design, and/or protocol documents. A summary of project-specific accomplishments can be found within the Projects section of the ESTCP website.

SERDP and ESTCP annually host the Partners in Environmental Technology Technical Symposium & Workshop in the Washington, DC area. The partners concept reflects not only the partnership formed by the two host organizations but, more significantly, highlights the many different partnerships that play a pivotal role in the success of federal technology development. Through this process, SERDP and ESTCP strive to provide a forum for users in the field to examine these technologies that may offer solutions to their most pressing problems.

References

SERDP website – www.serdp.org
ESTCP website – www.estcp.org