



# Value Engineering Initiative

Program Manager 402-697-2566

U.S. ARMY CORPS OF ENGINEERS

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Value Engineering (VE) is a formalized technique used to evaluate projects, products and processes with the intent of achieving an optimum balance between performance, quality, safety and cost. The outcome of the VE process is the maximization of value, which is defined as function divided by cost. While it is often possible to reduce non-essential procurement and program expenditures using the VE process, the objective of VE analysis is to maximize value by increasing the reliability or efficiency of the means used to achieve project objectives, not simply to reduce cost.

The VE initiative complements the other project optimization methodologies utilized by the Environmental and Munitions Center of Expertise (EM CX), which is part of the U.S. Army Engineering and Support Center, Huntsville. These methodologies include:

- technical project planning, which is used extensively to cost-effectively plan data acquisition requirements over the life of a remedial action
- remedial design review
- the EPA Remediation System Evaluation process used for optimizing operational remediation systems.

## VE Study Criteria

USACE policy (ER 11-1-321) requires that whenever a procurement is greater than \$2M, VE must be considered. COVE Policy Letter #2021-01 provides a screening and strategy selection process that Project Delivery Teams (PDTs) and District Value Officers (DVOs) can follow to ensure that VE is properly considered. Highlights of the Screening and Strategy Selection Tool include:

- By default, projects and procurements less than \$2M do not require VE consideration unless the DVO overrides this decision based on an identification for potential value.
- Projects and procurements exceeding \$2M are divided into two categories: Low Opportunity (Category 1) or Level of Effort (Category 2). Dividing projects and procurements into these two categories is intended to identify how much opportunity there is for beneficial change. If more than low opportunity exists, a VE workshop is performed (Category 2).
- For projects that are determined to be Low Opportunity (Category 1), different subcategories of action can be followed. The minimum level of consideration is to simply complete a Value Management Plan and do nothing further when there is very little benefit for further effort. Alternatively, a Scan or Bridge effort can be conducted, relying on previous VE studies that have been completed for similar projects (Scan) or Programmatic Studies (Bridge). Scan and Bridge efforts can be led by the DVO.
- When Level of Effort (Category 2) is determined for a project, a VE workshop must be completed. All VE workshops must follow the USACE Value Standard and must be facilitated by a licensed Certified Value Specialist (CVS). There are six different strategies for VE workshops, depending on what is being studied (individual project versus programmatic/command-wide study) as well as the phase of the project. VE workshops must be at least 24 hours and should consist of multi-disciplinary teams of subject matter experts. A team of approximately five to seven individuals is typically considered ideal; PDT members can be included on the VE workshop team, but generally should not make up the entire team.

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The USACE memo, SUBJECT: Guidance to Address Federal Statutory Value Engineering (VE) Requirements for Defense Environmental Restoration Program Execution, dated 12 Nov 2014, clarified policy on execution of VE for environmental restoration projects. Specifics include:

- EPA Superfund or other non-Department of Defense environmental remediation projects managed by USACE shall follow the requirements of the respective executive agency.
- Formal VE action is not required during the Preliminary Assessment, Site Inspection and Remedial Investigation phases.
- A Value Optimization Workshop during the Feasibility Study is required whenever the Cost-to-Complete of the Remedial Action-Construction (RA-C) phases exceeds \$10 million.
- An Environmental VE Screening process will be applied to all projects with RA-C greater than \$2 million.
- Projects with RA-C of \$2 million or more with a VE screening worksheet score greater than five require performance of further VE efforts.
- The VE incentive clause shall be included on all contracts in the RA-C phase over \$150,000.
- For RA-Operations contracts with an annual value of over \$2 million, RA-O contractors shall be required to incorporate VE into periodic optimization efforts.

#### **What else should I know about VE studies?**

- VE is a statutory and regulatory requirement that applies to the Department of Defense. A typical VE study is often performed at or near the site concurrently with the site visit. A VE study takes approximately one week to perform at a cost of \$35,000 to \$100,000. Generally the team completes the report within 30 days following the site visit/study.
- VE studies are usually done after the completion of the conceptual design, but can be done any time between the Decision Document (DD) and Final Design Stage. Given the difficulties associated with modification to an accepted DD, it is strongly recommended that, for complex sites, a Value Optimization Workshop be performed pre-DD to ensure that the DD effectively addresses all critical project functions and does not incorporate elements that restrict future project execution flexibility.
- The VE process has been successfully applied by the EM CX at a number of Superfund sites. Contact the program manager for examples of completed VE studies.