Value Engineering Initiative

Program Manager 402-697-2654

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

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 optimization methodologies developed in large part at the Environmental and Munitions Center of Expertise (EM CX), which is part of the U.S. Army Engineering and Support Center, Huntsville. These programs 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; and
- the EPA Remediation System Evaluation process used for optimizing operational remediation systems.

VE Study Criteria

The Environmental Protection Agency Office of Solid Waste and Emergency Response Directive OSWER 9335.5-24, Value Engineering for Fund Financed Remedial Design (RD) and Remedial Action (RA) Projects, covers operations for this program. Specifics include:

- A VE study is required for EPA funded Superfund projects if the RA+LTRA (long-term remedial action) cost exceeds $25 million.
- A VE screen is required if the RA+LTRA cost is less than or equal to $25 million followed by a VE study if potential value is identified.
- To qualify for initial RA funding, the EPA Region certifies to the RA Prioritization Panel that the RD for that project has undergone (or will undergo) the VE process.
- The OSWER guidance also requires the VE incentive clause be included in RAs and LTRAs with a value over $100,000. The clause is also recommended for values less than $100,000.
- VE studies will be led by an experienced VE facilitator, with an experienced team not associated with the project.

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-DOD 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 $10M.
- An Environmental VE Screening process will be applied to all projects with RA-C greater than $2M.
- Projects with RA-C of $2M or more with a VE screening worksheet score greater than 5 require performance of further VE efforts.
- The VE incentive clause shall be included on all contracts in the RA-C phase over $150K.
- For RA-Operations contracts with an annual value of over $2M, RA-O contractors shall be required to incorporate VE into periodic optimization efforts.

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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, at a minimum, VE screening be performed pre-DD to ensure that the DD does not incorporate elements which restrict future VE analysis.

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.

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