



Value Engineering

(For Fund-Financed Superfund Remedial Design/Remedial Action Projects)

Office of Superfund Remediation
and Technology Innovation (OSRTI)

Circular No. A-131, issued by the Office of Management and Budget on January 26, 1988, requires the use of Value Engineering (VE), when appropriate, by Federal Departments and Agencies to identify and reduce nonessential procurement and program costs. Value Engineering is a specialized cost-control technique that uses a systematic and creative approach to identify and reduce unjustifiably high costs in a project without sacrificing the reliability or efficiency of the project.

VALUE ENGINEERING DURING DESIGN

It is the responsibility of EPA's Remedial Project Manager (RPM) to assure that VE screening (and a VE study if appropriate) is conducted on each fund-financed remedial design. Typically, the designer should be awarded a VE study task if the screening conducted during preliminary design indicated the need for the study, and an independent and objective study can be conducted within the design firm. Otherwise, the Corps of Engineers or an independent design firm with the requisite expertise should conduct the study.

The VE study is different from routine design reviews. The design reviews concentrate on functional aspects, such as whether the design works, is sufficiently reliable, and meets the designer's contractual obligations. VE, on the other hand, is focused on reducing the investment necessary to achieve those functions. It should be noted that the focus of VE does not preclude the VE team from identifying technical errors or omissions and alerting the designer so these problems can be taken into consideration during the design reviews.

The VE study should be scheduled so as to minimize

The policies and procedures set forth herein are intended as guidance to Agency and other government employees. They do not constitute rulemaking by the Agency, and may not be relied on to create a substantive or procedural right enforceable by any other person. The Government may take action that is at variance with the policies and procedures in this fact sheet.

the impact on the design schedule. If the VE decision-making process is structured to avoid adding time to the schedule (i.e., not on the critical path), then the only potential schedule impact would be caused by a design change resulting from the VE process and not from the process itself.

When planning a design project, the party contracting for design must include a VE screen (and possible VE study) in the design tasks. This begins with an initial VE screening during preliminary design to determine if the project will include any high-cost, non-industry standard items. If the screening task identifies a potential cost savings, a VE study must be initiated.

To perform this VE study, the VE study team leader selects a multidisciplinary team with VE training and experience and technical knowledge to conduct the review. Members of the team should have received the 40-hour VE training sponsored by the Society of American Value Engineers and the team leader should be certified by that organization. Guided by the team leader, this group of VE-trained technical experts completes a prescribed six-phase process that culminates in the presentation of cost saving alternatives first to the RPM and the original project design team. These six phases are: information, creativity, analysis, development, presentation, and implementation.

The primary activities of this six-phase process have been standardized and typically take the form of a one-week workshop. Projects can often be reviewed in less time, however, depending upon their complexity. A VE study may not be appropriate for a simple design, whereas a complex design may require a level of effort between 200 and 500 hours. More information about VE during design can be found in

Section 4.8 of the EPA Superfund Program's RD/RA Handbook found at http://www.epa.gov/superfund/whatis/sfproces/rdra_book.htm.

VALUE ENGINEERING DURING REMEDIAL ACTION

The VE incentive clause, found in the Federal Acquisition Regulation (FAR) at 52.248-3, should be included in federal remedial action contracts over \$100,000. Additionally, EPA's technical support contractors should include the clause in their subcontracts for remedial action, even if not directed to do so by EPA's contracting officer. States under mixed funding may choose to use a similar clause in their remedial action contracts.

The VE incentive clause provides the opportunity for the remedial action (RA) contractor to use its unique knowledge and experience as a basis for submitting a Value Engineering Change Proposal (VECP). The VECP is the RA contractor's proposal to change contract requirements in such a way that the price of the contract is reduced while still achieving remedial action objectives. To have a valid VECP, the RA contractor must submit the following information:

- A description of the proposed change and the contract requirement.
- An itemization of the contract requirements that must be changed.
- An estimate of the costs that will be reduced if the proposal is adopted.
- A prediction of any saving the change may have on operations, maintenance, or equipment.
- A statement of time by which the proposal must be implemented by the party contracting for remedial action.

To ensure the VE program's effectiveness and integrity, individuals and firms who have prior involvement in the project design or in other value engineering activity prior to remedial action are not eligible to participate, directly or indirectly, in the development and preparation of a VECP or in monetary sharing of any resulting savings.

While the VECP is being processed, the RA contractor should continue the construction activity as scheduled. As a minimum, a VECP should result in a capital cost reduction while causing no increase in the

total life cycle cost of the project and meeting the following conditions:

- The required function, reliability, and safety of the project will be maintained.
- The proposed change will not result in any contract resolicitation.
- The proposed change will not cause undue interruption of the contract work.

VE change proposals will be reviewed by the contracting officer and the RPM. If accepted by EPA, the savings resulting from the change proposal are normally shared between the RA contractor and the contracting party after the RA contractor is reimbursed for its cost of implementing the change. Prior to approval of the VECP, the party contracting for remedial action must consult the remedial designer regarding any impact on the design.

RPM CONSULTATION AND REPORTING

EPA's RPM must be consulted during the VE screening, VE study, and VECP review if there will be a delay in the completion of the design or construction, an increase in cost, or an impact on the environment or public health, Record of Decision (ROD), or basis of design, due to VE activities. The VE study team leader and VECP reviewer (if not the RPM) must prepare a written report containing costs of the study/review, recommendations and findings, and estimated cost savings of each recommendation.

When the VE study for an RD results in recommendations for design changes, the RPM should prepare (or task the project designer to prepare for the RPM's approval) a written response that explains the reasons for accepting or rejecting each recommendation. Similarly, when a VECP is received during an RA or LTRA, the RPM and contracting officer should prepare a written response to each of the contractor's recommendations, explaining the reasons for accepting or rejecting each recommendation. For each VE or VECP recommendation accepted, a cost estimate of the savings should be prepared.

OSRTI will continue track the VE and VECP recommendations and cost savings for the Superfund program. RPMs are asked to submit **an electronic version of all VE studies and VECP recommendations, responses, and estimated cost savings** to their regional coordinator in OSRTI.