

FISH AND WILDLIFE SERVICE
ENGINEERING AND CONSTRUCTION

Engineering and Construction

Part 360 Engineering and Construction Management

Chapter 3 Value Engineering

360 FW 3

3.1 What is the purpose of this chapter? This chapter establishes the requirement for conducting Value Engineering (VE) reviews during the design phase of facilities if the construction value exceeds \$1,000,000.

3.2 What is the Service's policy for VE? Our policy is to:

A. Maintain an active VE program in accordance with Departmental requirements (369 DM 1).

B. Conduct a VE review on all facility construction projects with construction costs greater than \$1,000,000. VE reviews should ensure that the design for a proposed construction project:

(1) Is evaluated based on a life-cycle cost analysis,

(2) Is energy efficient,

(3) Complies with applicable energy management and sustainability performance standards, and

(4) Is evaluated for best value of materials and construction techniques and technology.

C. Analyze VE recommendations promptly to incorporate appropriate cost-effective changes into ongoing designs.

3.3 What is the scope of this chapter? This policy applies to all of our facility construction projects with a construction value of greater than \$1,000,000—regardless of what funds we use for design and construction.

3.4 What is VE? Value Engineering is an organized review of the proposed design for a construction project.

A. Goal of VE. The goal of a VE review is to identify necessary changes to a project's design that would complete the project at a minimum life-cycle cost of ownership and still meet project performance, reliability, quality, and maintenance requirements.

B. Timing for VE. Normally we conduct VE reviews near the end of preliminary project design, but we may conduct them at other times during the design process, if appropriate.

3.5 What are the authorities for this chapter?

A. Office of Management and Budget (OMB) Circular A-131, Value Engineering.

B. 369 DM 1, Value Engineering, General Criteria and Policy.

3.6 Who is responsible for the VE program?

A. The **Director** ensures we have the resources and staffing necessary to establish and maintain a VE program that fully complies with the requirements of 369 DM 1.

B. The Assistant Director - Business Management and Operations:

(1) Ensures that an organizational and management structure is in place to support a long-term VE program.

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(2) Directs the Chief, Division of Engineering, to prepare an annual plan of action as 369 DM 1 requires.

(3) Ensures that appropriate officials review and implement VE study recommendations.

C. The Chief, Division of Engineering (DEN) is the Value Engineering Program Coordinator responsible for implementing our VE program. The Chief, DEN:

(1) Develops VE policy, procedures, and budgetary guidelines.

(2) Implements VE reviews for facility construction projects not assigned to Regional Offices or the California/Nevada Operations Office (CNO).

(3) Coordinates and administers the VE program Service-wide.

(4) Approves technical and professional aspects of VE.

(5) Prepares an annual VE plan.

(6) Reviews and approves requests to waive VE requirements for projects valued at more than \$1,000,000.

D. The Regional Directors and the CNO Manager:

(1) Exercise all authority of the Director in applying our VE program to architectural/engineering planning, design, and management of facility construction projects assigned to the Region/CNO.

(2) Ensure that the Regional/CNO engineers receive VE guidance developed by the Chief, DEN.

(3) Ensure that facility construction projects satisfy VE requirements and meet Regional/CNO needs.

E. Regional/CNO Engineers are technical advisors to the Regional Director/CNO Manager for all matters pertaining to the technical feasibility, accuracy of cost estimates, and VE procedures in all Regional/CNO facility construction projects. Meeting VE goals is a critical element in the performance appraisals of Regional/CNO engineers responsible for the mandatory VE program (see 369 DM 1).

F. Project Manager. The Project Manager:

(1) Executes VE studies on assigned projects.

(2) Evaluates VE recommendations based on life-cycle or other techniques to reduce construction costs without impacting the project's scope, cost, and schedule objectives.

(3) Modifies facility designs to incorporate VE recommendations approved by the VE Review Board.

G. The VE Review Board is a team assigned to each project. At a minimum, the Board includes a Project Manager, a Contracting Officer, and either the Chief, DEN or the Regional/CNO engineer or a designee. The Board members must review and approve VE recommendations.

3.7 What happens after the VE Review Board reviews and approves a VE recommendation? After the Board approves a VE recommendation, the Contracting Officer directs the Project Manager to execute the necessary design changes.

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3.8 Are there VE study goals or requirements? The Service sets an annual fiscal year cost savings goal of 4 percent of the aggregate value of all construction projects having a construction cost greater than \$1,000,000 (see 369 DM 1).

3.9 What information does the Service use to measure savings?

A. The Regional/CNO engineer or his/her designee must provide the following information for all VE reviews:

(1) Total estimated cost of construction,

(2) Total **VE study costs** (including consultants and Service management costs),

(3) Complete list of VE recommendations and their estimated savings,

(4) Complete list of adopted modifications and the **estimated savings** achieved by each adopted modification,

(5) **Redesign costs** (including consultants and Service management costs), and

(6) The return on investment for each study computed as: **Total Estimated Savings / (Total VE Study Costs + Total Redesign Costs)**.

B. The Value Engineering Program Coordinator should receive this information on all completed VE reviews no later than September 30th of each year.

3.10 Can some projects be excluded from VE studies?

A. Yes, we may exclude projects from VE studies if:

(1) A project will use a standardized building design that has undergone a previous VE review, or

(2) A design/build construction contractor is completing the project. Because the design/build process incorporates the knowledge, input, and advice of a construction expert into the design process, these projects do not require a separate VE study. If a project is completed using the design/build process, the Regional/CNO engineer must still:

(a) Ensure that the goal of VE described in section 3.4A is met, and

(b) Carefully document the design modifications and cost savings achieved during the design process and submit them to the Value Engineering Program Coordinator (see section 3.9).

B. The Regional/CNO engineer must send a request to the Value Engineering Program Coordinator to waive VE review requirements for all projects costing more than \$1,000,000. Likely waivers include use of design/build contracts, instances where estimated VE savings will likely not exceed VE study, and redesign costs and projects that will use standardized building designs previously reviewed for VE. **The Value Engineering Program Coordinator is responsible for approving all waiver requests.**

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3.11 Is a VE review required for Federal Assistance projects? Federal funds are used to supplement approved State projects on a cost-sharing basis through the Federal Assistance Program. Federal Assistance projects should be subjected to VE review in accordance with 369 DM 1.

3.12 How does the Service use VE change proposals in construction contracts?

A. Each construction contract over \$100,000 must contain a mandatory VE clause giving an incentive to the construction contractor to submit VE change proposals to the Contracting Officer (Federal Acquisition Regulation (FAR) 48.202).

B. The Chief, DEN, or the Regional/CNO engineer must agree with the proposed modification before any work may begin that is included in the VE change proposal.

C. The Contracting Officer must accept or reject a VE change proposal within 45 days of receiving it. The Contracting Officer must compute the cost savings and issue approval for the proposed change(s) to the construction contractor through a contract modification.

D. As directed by the Contracting Officer and described in FAR 48.1, we may share cost savings with the construction contractor.



ACTING DIRECTOR

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