

## SECTION 3-8: VALUE ENGINEERING

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### 3-8-00 POLICY

This section describes HHS policy and procedures for value engineering (VE) in Architectural/Engineering (A/E) and construction contracts for federally-owned HHS real property assets. VE is mandatory for projects where the construction cost is \$1 million or greater. (See OMB circular A-131.) HHS requires an independent VE analysis by a specialized consultant or Government personnel for projects with a total project cost of \$10 million or more.

HHS exempts Design-Build projects that are procured using full and open competition and are awarded based on a best value selection process from further VE.

Each OPDIV facilities office that performs technical management of A/E and construction contracts shall designate a value engineering coordinator (VEC) to coordinate the OPDIV's VE activities. The VEC shall receive formal Society of American Value Engineering (SAVE) approved training in value engineering. The Contracting Officer, in consultation with the VEC, is responsible for determining which contracts are subject to VE and for accepting or rejecting VE proposals.

#### A. DEFINITIONS

Base Year – The base year is the first year of the Value Engineering study period.

Discounted Payback Period – The time required for the cumulative benefits from any investment to pay back the investment cost and other accrued costs considering the time value of money.

Function – The natural or characteristic action performed by a product or service.

Funds Invested – Estimates should include salaries and overhead expenses of value engineering, training costs for contracting for value engineering services, value engineering proposal development and implementation costs, and any other costs directly associated with the VE program.

Internal Rate of Return – The compound rate of interest that, when used to discount study period costs and benefits of a project, will make the two equal.

Life Cycle Cost (LCC) – The sum of all costs over the useful life of a building, system or product including the costs of design, construction, acquisition, operation, maintenance, repairs, disposal and salvage (resale) value, if any, using present worth costs. Consistent with 42 USC § 8254 the study period for determining life cycle costs shall not exceed 40 years from beneficial use. For evaluating proposed capital investment projects the modes of analysis to be used include:

- a. Total Life Cycle Costs
- b. Net Savings
- c. Saving-to-Investment Ratio
- d. Discounted Payback Period
- e. Internal Rate of Return

Net Savings – The net savings is the time-adjusted savings less time-adjusted costs taken over the study period.

Present Worth (PW) – The time-equivalent value of past, present, or future cash flows as of the beginning of the base year.

Savings-to-Investment Ratio – The ratio of present worth savings to present worth investment costs.

Sustainable Design Features – Aspects of the design including material selection, systems, selection, or construction process intended to comply with Federal sustainability requirements or to achieve certification through a third-party sustainability rating system. Sustainable design features support the Department’s Mission “to protect the health of all Americans and provide essential human services, especially for those who are least able to help themselves.” Contained in the HHS Strategic Sustainability Performance Plan are specific Departmental goals for sustainability.

Value – A quantifiable metric used in VE analysis, defined as the ratio of function to cost ( $Value = Function \div Cost$ ).

Value Engineering (VE) – The formal technique by which contractors may (1) voluntarily suggest methods for maximizing value and share in any resulting savings or (2) be required to establish a program to identify and submit to the Government methods for maximizing value. Value engineering attempts to optimize value by lowering overall costs, increasing overall function, or through a combination of both. In some cases, value engineering may increase value without reducing cost or may even increase cost. Value engineering is not a means to reduce initial cost without consideration of long term impacts.

Value Engineering Change Proposal (VECP) – A proposal developed by a construction contractor under a value engineering clause in its construction contract that typically involves sharing in any resulting savings. VECPs are intended to optimize value by lowering overall costs, increasing overall function, or a combination of both. In some cases, proposals may increase value without reducing cost or may even increase cost.

Value Engineering Proposal (VEP) – As used in this section, a VEP in connection with an A/E design contract, is a proposal for change developed by the A/E design firm, employees of the Federal Government, or a specialized VE consulting firm. The proposal is similar to the VECP described above and is generally performed on a partially completed facility design. However, it is noted that there is no cost sharing of projected savings during the

design phase. In some cases, proposals may increase value without reducing cost or may even increase cost.

### 3-8-10 PROCEDURES

#### A. VALUE ENGINEERING IN DESIGN CONTRACTS

General – Federal Acquisition Regulations (FAR) Part 48 requires the Contracting Officer to include a VE clause in solicitations and contracts for A/E services whenever the Government requires and pays for a specific VE effort in A/E contracts.

Projects Requiring HHS Capital Investment Review Board Approval and a total project cost of \$10 Million or More – OPDIVs shall obtain independent VE analysis from a specialized consultant or Government personnel. The specialized consultant must be an independent party from the project A/E.

Projects with a construction cost of \$1 million or greater – OPDIVs may accomplish value engineering through the A/E contractor, a specialized independent consultant, or Government personnel at the discretion of the VEC and the Contracting Officer.

Sustainable Design Features – Integration of sustainable design features into construction projects is mandated by law, regulation, executive order, and policy. Specific goals are established in planning and early design phases of every project. Many sustainability goals have benefits in that they reduce external environmental impacts without providing direct benefit to the project in terms of cost or performance. When sustainable design features are being evaluated during the VE process, OPDIVs must take into consideration these benefits in addition to all costs including but not limited to direct/indirect, design and maintenance costs, etc., overall project budget limitations, durability and performance considerations and their integration throughout the overall design.

Regardless of who performs VE, the value engineering analysis shall be done at the end of schematic design phase or no later than the midpoint of the design development phase. In addition, the VE team shall include a certified value specialist team leader and A/E professionals with VE training and experience.

1. When projects meet the thresholds for VE, the VEC should proceed as follows:
  - a. In conjunction with the Contracting Officer, determine the scope of VE analysis to be undertaken, considering the size and type of the project, and document to the contracting file.
  - b. If being accomplished by Government personnel, appoint a VE team. The VE team shall consist of members with expertise in the areas or disciplines to be reviewed for the project.
  - c. Upon completion of analysis, file a VE report.
  - d. Maintain copies of VE proposals and supporting documentation in the contracting file.

2. The following information shall be included in each VEP whether done by the A/E, specialized consultant or Government personnel:
  - a. Description and Comparison – A description of the difference between the existing and proposed design, the comparative advantages and disadvantages of each, a justification when an item's function is being altered, the effect of the change on system or facility performance, and any pertinent objective test data. This may include but is not limited to sketches, calculations, models, etc.
  - b. Specifications – A list and analysis of design criteria or specifications that must be changed if the VEP is accepted.
  - c. Project Cost Impact – A separate detailed estimate of the impact on project cost of each VEP, if accepted and implemented by the Government.
  - d. Implementation Costs – A description and estimate of costs the Government may incur in implementing the VEP, such as design change cost and test and evaluation cost.
  - e. Life Cycle Costs – A prediction of any effects the proposed changes may have on life cycle cost. Cost comparisons shall assume a 40 year building life.
  - f. Benefit Analysis – A description of the impact of each VEP on the Department's ability to perform its mission.
  - g. Sustainable Design Impact – A description of the impact on sustainable design features, established sustainability goals, or third-party certification.
  - h. Schedule Impact – The effect the VEP will have on design or construction schedules.

## B. VALUE ENGINEERING IN CONSTRUCTION CONTRACTS

General – FAR Part 48 requires the contracting officer to include a VE clause in construction solicitations and contracts when the contract amount is estimated to be above the simplified acquisition threshold (\$150,000), unless an incentive contract is contemplated or the agency has granted an exemption. The Contracting Officer may include a VE clause in construction contracts of lesser value, if the Contracting Officer sees the potential for significant savings.

Sustainable Design Features – VECPs that negatively impact sustainable design features needed to comply with EISA 2007 and Executive Orders 13423 and 13514 shall not be permitted unless they incorporate alternate provisions that achieve established sustainability goals and third-party certifications.

1. Sustainability goals may have benefits in that they reduce external environmental impacts without providing direct benefit to the project in terms of cost or performance.
2. As a minimum each VECP submission from the contractor shall include the documentation required under FAR Part 48.

3. The OPDIV will review and objectively evaluate each VECP, and document the contract file with the rationale for acceptance or rejection of the VECP. If a VECP is accepted, the Government and the contractor shall share the savings, as prescribed in FAR Part 48.
4. Each OPDIV is responsible for establishing guidelines for processing VECPs consistent with FAR Part 48 requirements.

### 3-8-20 GUIDANCE AND INFORMATION

The payment for VE services performed by non-governmental employees is an authorized expense of project design funds. These services must be separately priced in the A/E contract and are not included in the six percent fee limitation for the A/E design services. VE services will be quantified in terms of "level of effort" rather than as a deliverable.

Below is a list of the primary Federal regulations governing value engineering for HHS projects:

1. OMB Circular A-131, Value Engineering
2. FAR, Part 48 and Part 52.248
3. 10 CFR 436 subpart A – Life Cycle Cost methods and criteria contained in the Federal Energy Management Program (FEMP) rules.

### 3-8-30 REPORTING REQUIREMENTS

OMB Circular A-131, "Value Engineering," requires that HHS maintain data on the VE program. The VEC shall maintain records on the number of VECPs received from construction contractors, the number of VEPs prepared on design contracts and the amount of potential savings accepted by the Government within each of these categories. This information will be compiled and provided to the Division of Planning and Construction, OFMP, OS to fulfill the annual reporting requirements to the Office of Management and Budget.