



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

December 26, 2013

CIRCULAR NO. A-131 (REVISED)

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Value Engineering

1. Purpose. This Circular provides guidance to support the sustained use of value engineering (VE) by Federal Departments and Agencies to reduce program and acquisition costs, improve performance, enhance quality, and foster the use of innovation. Agencies should maintain policies and procedures to ensure VE is considered and integrated, as appropriate, into the planning and development of agency programs, projects, activities, as well as contracts for supplies and services, including performance based, architect-engineering, and construction contracts.
2. Supersession Information. This Circular supersedes and cancels OMB Circular No. A-131, *Value Engineering*, dated May 21, 1993.
3. Authority. This Circular is issued pursuant to 41 U.S.C. 1121, 1711.
4. Background. VE, which is also referred to as value analysis, value management, value planning, or value control, is a methodology for analyzing functions of an item or process to determine “best value,” or the best relationship between worth and cost. For purposes of this Circular, “best value” is represented by an item or process that consistently performs the required basic function at the lowest life-cycle cost while maintaining acceptable levels of performance and quality. VE contributes to the overall management objectives of streamlining operations, improving quality, and reducing or avoiding costs. VE challenges program and project managers, and organizations that provide support to them, to continually consider if they have properly identified the right need, and provides a disciplined and tested process for making changes to plans, contracts, and other documents used to carry out agency missions. The results of VE may indicate that best value requires an initial expenditure of funds in order to meet basic functions at a lower cost over the life of the project, program, or system.

The use of VE as a savings and efficiency methodology originated in the industrial community during World War II and was adopted by Federal government agencies that recognized its potential for yielding a large return on investment. Over the years, VE has frequently been cited as an effective technique for fostering innovative practices, technologies, and products to lower cost while maintaining necessary quality and performance levels. VE has been applied to hardware and software, development, production, and manufacturing, specifications, standards, contract requirements, and other acquisition program documentation; and facilities design and construction.

VE is a well-established commercial practice for cutting waste and inefficiency that can help Federal agencies reduce program and acquisition costs, improve the quality and timeliness of performance, and take greater advantage of innovation to meet 21st century expectations and demands. This Circular is being revised to ensure that the Federal Government has the

capabilities and tools to consider the use of VE for new and ongoing projects, whenever appropriate.

5. Definitions. The following definitions shall apply to the implementation of this Circular:
 - a. Agency. An executive department, a military department, a Government Corporation, or an independent establishment within the meaning of sections 101, 102, 103(1), and 104(1), respectively, of Title 5, United States Code.
 - b. Life-cycle cost. The total cost of a system, building, program, project, or other product, computed over its useful life. It includes all relevant costs involved in acquiring, owning, operating, maintaining, and disposing of the system, project or product over a specified period of time, including environmental and energy costs.
 - c. Cost savings. A reduction in actual expenditures below the projected level of costs to achieve a specific objective.
 - d. Cost avoidance. An action taken in the immediate time frame that will decrease costs in the future. For example, an engineering improvement that increases the mean time between failures and thereby decreases operation and maintenance costs is a cost avoidance action. Cost avoidance may be considered an additional benefit to quality or other non-quantifiable value engineering improvement.
 - e. In-house savings. Net life-cycle cost savings achieved by in-house agency staff using VE techniques.
 - f. Integrated Project Team (IPT). A multi-disciplinary team with experts in project management, resource management, procurement, and other disciplines, as necessary, to evaluate all aspects of the project. The IPTs typically (1) establish or review a baseline inventory of existing assets, (2) analyze and recommend alternative solutions, (3) manage or review the acquisition, if approved, and (4) oversee the asset (or service) once in use.
 - g. Contracted savings. Net life-cycle cost savings realized by contracting for the performance of a VE study or by a value engineering change proposal (VECP) submitted by a contractor.
 - h. Capital assets. Land (including parklands), structures, equipment (including motor vehicle and aircraft fleets), and intellectual property (including software) which are used by the Federal Government and have an estimated useful life of two years or more. Capital assets exclude items acquired for resale in the ordinary course of operations or held for the purpose of physical consumption, such as operating materials and supplies. The cost of a capital asset is its full life-cycle cost, including all direct and indirect costs for planning, procurement (purchase price and all other costs incurred to bring it to a form and location suitable for its intended use), operations and maintenance (including service contracts), and disposal. Capital assets

may or may not be capitalized, i.e., recorded on an entity's balance sheet, under Federal accounting standards.

- i. Major acquisition. Capital assets that, in the determination of the Department or agency, require special management attention because of their importance to the agency mission; high development, operating, or maintenance costs; high risk; high return; or their significant role in the administration of agency programs, finances, property, or other resources.
- j. Net life cycle cost savings. Savings from value engineering that is determined by subtracting the Government's cost of performing the value engineering function over the life of the program from the life-cycle savings generated by the value engineering function. The Government's cost should include the administrative costs of processing VECPs that were excluded in calculating VECP saving shares.
- k. Value engineering (VE). A systematic process of reviewing and analyzing the requirements, functions and elements of systems, project, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life-cycle cost consistent with required levels of performance, reliability, quality, or safety. The process is generally performed in a workshop environment by a multidisciplinary team of contractor and/or in-house agency personnel (such as an IPT), which is facilitated by agency or contractor staff that is experienced, trained and/or certified in leading VE teams through the following phases:
 - (1) *Information phase* where the team gathers information to understand the project and constraints that may be impeding performance;
 - (2) *Functional analysis phase* where the team identifies basic project functions and goals and identifies any performance shortcomings or mismatches between identified functions and customer needs for further study;
 - (3) *Creative phase* where the team conducts brainstorming to generate new ideas and alternatives for improvement in a project, product, or process, with particular focus on high cost variables, speed of execution, quality and performance;
 - (4) *Evaluation phase* where the team ranks ideas to find the best to meet the project value objectives;
 - (5) *Development and presentation phase* where the team develops best ideas into viable alternatives with net life-cycle cost savings and implementation details and presents them to stakeholders; and
 - (6) *Implementation phase* where the agency incorporates selected alternatives into the project.

- l. Value Engineering Change Proposal (VECP). A proposal submitted by a contractor consistent with the VE clause(s) in the contract that, through a change in the contract, would lower the project's life-cycle cost to the Government without impairing essential functions, characteristics, or performance. The contract change requirement can be the addition of the VECP to the contract with attendant savings. VECPs are applicable to all contract types, including contracts with performance-based specifications.
 - m. Value Engineering Proposal (VEP). An in-house agency-developed proposal, or a proposal developed by a contractor under contract to provide VE services, to provide VE studies for a Government project/program.
 - n. Value engineering (VE) study. The formal process of applying VE on an individual project or program. VE studies may be tailored to meet the individual needs of the project or program. For example, the level of effort for each phase of VE may be scaled (truncated, eliminated, etc.), as appropriate, based on factors such as the cost or complexity of the project, the stage of project planning or development, and project schedule.
6. Policy. Federal agencies shall consider and use VE as a management tool to ensure realistic budgets, identify and remove nonessential capital and operating costs, and improve and maintain acceptable quality in program and acquisition functions. Consistent with the guidelines in the Circular, senior agency management shall ensure that agency VE policies and practices support effective, efficient, and environmentally sound arrangements for conducting the work of their agencies and provide a sound basis for identifying and reporting accomplishments.
 7. Agency responsibilities. Agencies subject to the Chief Financial Officers Act of 1990 (Public Law 101-576) (CFO Act) shall designate a senior accountable official (SAO) at a level with sufficient authority within the Department or Agency to coordinate, oversee, and ensure the appropriate consideration and use of VE. SAO responsibilities shall include the following, at a minimum, which may be delegated to appropriate agency officials:
 - a. Maintaining agency guidelines and procedures for identifying agency programs and projects with the most potential to yield savings from VE studies.

Agency guidelines shall:

- (1) Include a process for determining the level of effort (scale) for VE studies of agency projects and programs, based on factors such as the cost or complexity of the project, the stage in the project lifecycle, and project schedule. Factors should take into account that potential savings from VE are likely to be greatest when applied to the highest dollar value programs for the agency during the feasibility, planning, design, and other early phases of development.

(2) Address when full or scaled VE will be required for new and ongoing projects and programs and the process for obtaining waivers consistent with the following:

- i. *New projects and programs.* VE shall be required for new agency projects and programs when the project cost estimate is at least \$5 million or such lower dollar threshold as determined by the SAO and identified in the agency's VE guidelines. For purposes of determining whether a lower threshold is appropriate, agencies are encouraged to consider the historical costs of their major acquisitions or projects that have a significant impact on lifecycle costs or agency operations or a significant potential for repeat savings, such as manufacturing projects where savings can be applied to future units produced.
- ii. *Ongoing projects and programs.* Agencies shall have the discretion to establish the extent to which VE is required for ongoing projects and programs. At a minimum, agencies shall establish criteria to help agency officials determine when VE may be suitable for such activities. Criteria might include a combination of factors such as: (A) priority of the program or project to the agency (e.g., is the program or project supported by a major acquisition), (B) total life-cycle cost, (C) the complexity of the program or project, (D) the presence of cost overruns, performance shortfalls, and/or schedule delays, (E) the potential for greater repeat savings or increased savings resulting from environmentally-sound and energy efficient considerations, (F) potential for greater efficiency, such as improved reliability, quality, or maintainability, (G) the amount of time since a VE study was last performed, and (H) the availability of cost and performance data and other information necessary to support a VE study.
- iii. *Waivers.* Agency guidance shall provide for waivers from required VE studies when approved by the senior accountable official or the official's designee.

(3) Address how to measure the net life-cycle cost savings from VE.

(4) Ensure that applications of VE to federal contracts adheres to the acquisition requirements in the Federal Acquisition Regulation (FAR), including the use of VE clauses set forth in FAR Parts 48 and 52 and the criteria in FAR 48.201(a) for granting waivers.

- b. Ensuring training for program, project, acquisition, information technology (IT), and other agency personnel. Training should specifically cover (i) management responsibilities for developing plans, (ii) process for developing VEPs, (iii) best practices for soliciting and evaluating VECs, and (iv) reminders of when VE is not required to be incorporated into a contract.

- c. Maintaining plans for using VE in the agency. At a minimum, the plans should be prepared before the beginning of the fiscal year and identify both in-house and contractor projects, programs, systems, products, etc., to which partial or full VE studies will be conducted during the next fiscal year, and the estimated costs of these projects. These projects should be listed by category. VEPs and VECPs should be included under the appropriate category. Annual plans shall be made available for OMB review upon request.
 - d. Ensuring that funds necessary for conducting agency VE studies are identified and included in annual budget requests to OMB.
 - e. Maintaining files on projects and programs that meet thresholds and/or criteria for the required use of VE. Documentation should include reasons for granting waivers of VE studies on new projects and programs which met the threshold identified in this Circular, or such lower threshold as the agency established, and on any existing projects and programs where VE is required by agency policy. Reasons for not implementing recommendations from VE studies should also be documented.
 - f. Reporting annually to OMB on VE activities, as outlined in section 8.
8. Reports to OMB. Each CFO Act agency shall report the fiscal year results of using VE annually to OMB's Administrator for Federal Procurement Policy. Reports are due to OMB by December 31st of each calendar year, and should include the previous fiscal year results as well as the current name and contact information for the agency's SAO.

The reporting format is provided in the Attachment.

Part I of the report asks for net life-cycle cost savings achieved through VE. In addition, it requires agencies to show the project/program dollar amount thresholds the agency has established for requiring the use of VE if other than \$5 million. If thresholds vary by category, agencies shall show the thresholds for all categories. Savings resulting from VE proposals and VE change proposals should be included under the appropriate categories.

Part II asks for a description of the top five projects utilizing VE for the fiscal year. Agencies shall list the projects by title and show the cost savings, cost avoidances, and quality improvements achieved through application of VE.

- 9. Related guidance. For detailed guidance on how to account for the time value of money in value engineering analysis, refer to OMB Circular No. A-94, section 8.c. For detailed policies and procedures for using and administering value engineering techniques in contracts, refer to FAR Part 48.
- 10. Relationship to other management improvement processes. VE can be used as a stand-alone tool or with other management techniques and methodologies to improve performance and quality and reduce costs. The complementary relationship between VE and other management improvement processes increases the likelihood that overall management

objectives will be achieved. For example, lean six sigma analyses that focus on improving process flows can be used with VE studies of agency operations to challenge requirements, identify functions that cost more than they are worth, and integrate innovative practices, technologies, and products. In addition, life-cycle costing, cost as an independent variable, concurrent engineering, and design-to-cost approaches are effective analytical tools for process and product improvement that can also be used with VE analysis to achieve management objectives.

VE can also be used with acquisition and commodity management techniques to improve performance and quality, lower or manage costs more effectively, and shorten project delivery. For example, as agencies pursue strategic sourcing efforts, VE can be used to support activities that enable the government to leverage its buying power, such as by helping to identify suitable products and services where there are opportunities to save money such as by pooling resources or standardizing requirements across multiple organizations and agencies. VE may also be a beneficial tool for helping agencies to implement modular development and acquisition approaches by breaking requirements into more manageable chunks with more frequent deliveries to improve investment manageability and budgetary feasibility, reduce overall risk, and support rapid delivery of incremental new functionality. VE can also be used to achieve the best overall value from acquisitions that use performance-based specifications, or the design-build project delivery process for construction.

VE can result in the increased use of innovative materials, technologies or practices, and environmentally-sound and energy-efficient practices and materials. For example, the application of VE to facilities construction can yield a better value when the development, design, acquisition, and construction phases of the project are approached in a manner that considers community and environmental commitments and project constraints, and incorporates environmentally-sound and energy-efficient practices and materials.

11. Effective date and implementation. This Circular takes effect 30 days after its final revisions are published in the *Federal Register*. Heads of departments and agencies are responsible for taking all necessary actions to achieve effective implementation of the revisions to the Circular, such as disseminating this Circular to appropriate program, acquisition, and other staff, reviewing and updating existing agency policies to ensure VE is considered and integrated into the planning of agency programs, projects, activities, and contracts, and guiding the development of implementation strategies, including staff training. Agency guidance should be developed or updated to be consistent with the guidelines set forth in section 7a above within 6 months of the publication date of this Circular.
12. Inquiries. Further information about this Circular may be obtained from the Office of Management and Budget (OMB), 725 17th Street, NW, Washington, DC 20503. Telephone 202-395-3501.

Attachment

Department/Agency – Fiscal Year XXXX – Annual VE Report

PART I

Senior Accountable Official Responsible for VE Program:						
Name:						
Title:						
Address:						
Phone:		Fax:		Email:		
Agency VE Expenditures (\$'s Invested in VE this fiscal year):						\$
Number of Value Engineering Change Proposals (VECP) Submitted:						
Number of VECPs approved:						
Number of VECPs disapproved or withdrawn:						
Dollar Share of Savings Provided to Contractors (VECP):						\$
Dollar Thresholds for VE for New Projects, Existing Projects, Major Acquisitions, if different than \$5 million:						\$
Number of Major Acquisitions which use VE:						
Number of Major Acquisitions which were granted a waiver:						
Number of VE Studies performed:						
Return on Investment (annual implemented savings divided by cost):						
Total Fiscal Year VE Savings (\$'s):						\$
TOTAL AGENCY NET LIFE-CYCLE COST SAVINGS ATTRIBUTABLE TO VE						
A. A summary of cost savings and avoidances reported by category (See B. below):						
	VE Expenditures		Cost Savings		Cost Avoidance	Total Savings
	1	2	1	2	1	
	In-House	Contractor	In-House	Contractor	In-House	
	\$	\$	\$	\$	\$	\$
B. Total Agency VE Net Life-Cycle Cost Savings by Category:						
VE Studies						
Acquisition						
Administrative						
Other (be specific)						
C. Steps Taken to Validate the Reported Cost Savings (through IG Audit or other measures):						
D. Methodology used to calculate the savings, e.g., savings accepted at the conclusion of the VE study or at the time of manufacturing or construction:						

PART II

List the top five VE projects by name. Describe any quality or other non-quantifiable improvements resulting from VE.						
Project Title	VE Expenditures		Cost Savings		Cost Avoidance	
	In-House	Contractor	In-House	Contractor	In-House	Contractor
VE Studies						
Project No. 1						
Project No. 2						
Project No. 3						
Project No. 4						
Project No. 5						
Description of Quality of other Non-Quantifiable Improvements, e.g., environmental, security, or schedule improvements.						
Project Title	Quality/Non-quantifiable Improvement					
Project No. 1						
Project No. 2						
Project No. 3						
Project No. 4						
Project No. 5						
Notes:						

VE Studies	Funded studies by the government, e.g., construction and administrative studies.
Acquisition	Savings in acquisition cost is evidenced by a change in contract price.
Administrative	Savings in the operations of the agency. These should also be reported in the VE Studies category.
Other	Set forth categories for which you have gathered other specific information, e.g., IT, E-Commerce, Power, etc.