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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Honorable Nancy Landon Kassebaum United States Senate

Information On The Use Of Value Engineering In Federal Design And Construction

Senator Kassebaum requested an assessment, based on prior GAO work, on the potential benefits of the increased use of value engineering--a systematic process for reducing life-cycle costs--in federal construction. GAO has issued several reports in which it noted significant potential savings through use or increased use of value engineering in the particular agencies reviewed and strongly supported its increased use.

GAO cannot, however, provide a meaningful estimate of potential governmentwide savings because of the many variables in agencies' operations, in the size and nature of their construction projects, and the uncertainty of future construction program funding levels.

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

GENERAL GOVERNMENT
DIVISION

B-217783

The Honorable Nancy Landon Kassebaum
United States Senate

Dear Senator Kassebaum:

Your September 13, 1984, letter requested that we assess the potential impact of the increased use of value engineering in federal construction based on our past and current work in various departments and agencies. We also drew on the work of others in preparing this report.

Value engineering as applied in the construction industry is a systematic process for evaluating a project's proposed design and construction methods to identify ways to achieve the lowest possible life-cycle cost without impairing the project's functional requirements. For example, a value engineering study could conclude that a building material different from the one originally proposed would be more serviceable and require less maintenance. It is important to note that value engineering, properly applied, focuses on life-cycle costs--not initial construction costs alone. Consequently, a value engineering study could result in recommendations which would increase construction costs, but reduce costs over the life of the project.

We support the use of value engineering in planning, designing, and constructing federal and federally financed facilities. Our long-standing position has been that it is a proven cost-saving technique when properly applied throughout the design and construction processes. However, we believe that its use should proceed rather carefully. The concept must be understood and applied properly to be effective. Top and middle management understanding and full support are essential for success.

Since 1969, we have issued 12 reports on value engineering. Eight of the reports discussed the use of this technique by federal agencies performing facility design and construction services. The other four reports dealt with value engineering in other areas, such as shipbuilding and weapon systems.

We do not have complete information on how many federal agencies currently use value engineering in the design and construction of federal facilities. During the period 1974 through 1984, 7 of the 15 federal construction agencies we reviewed were using it to some degree in their programs. However, we generally found that even those agencies using the concept could realize more savings if they increased its use or applied it earlier in the design process.

We cannot provide an estimate of the potential dollar savings if value engineering were used more extensively by federal construction agencies because we do not have sufficient data to make the calculation. In each of our eight facility construction reports, we noted significant potential savings through the use or increased use of the concept by the particular department or agency whose program we reviewed. However, we did not attempt to project potential savings for other agencies from these findings because of the many variables in agency functions and in the numbers and types of construction projects undertaken, probable differences in existing cost efficiencies of agency operations, and uncertainties in future construction program funding. Nevertheless, our work, and that of others, provides what we believe is convincing evidence that value engineering can result in substantial savings. Consequently, we do not believe a massive study effort to estimate potential governmentwide savings is warranted.

In its August 1983 report, the President's Private Sector Survey on Cost Control (often referred to as the Grace Commission) concluded that $662 million could be saved governmentwide, over a 3-year period, if federal agencies made greater use of value engineering. We cannot validate this estimate and, because of the many variables noted above, we do not believe that governmentwide savings can be realistically projected.

The Commission looked at the value engineering efforts of 10 of the 26 federal construction agencies. It found that federal agencies were not using value engineering to the fullest extent possible. It pointed out that the use of the concept among federal agencies, and even divisions and districts within one agency, was uneven. It also noted that only the Environmental Protection Agency had a mandated value engineering program. The Commission concluded that value engineering, when properly applied, could contribute to construction and/or life-cycle cost savings on federal construction. As indicated above, we concur with this position, even though we cannot confirm the savings estimate put forth by the Commission.

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Appendix I provides general information on the concept of value engineering and its potential uses and benefits in design and construction of federal facilities. Also, we have included brief summaries of our six most recent reports dealing with value engineering in federal construction, and have identified the remaining six reports we have issued on value engineering since 1969.

We are currently reviewing the Environmental Protection Agency's use of value engineering. We will provide you with a copy of that report when it is completed.

We trust that this information is responsive to your needs. If we can be of further assistance, please let us know. As arranged with your office, we are not planning to make further distribution of this report. However, copies will be available to other interested parties who request them.

Sincerely yours,

W. J. Anderson

William J. Anderson
Director

INFORMATION ON THE USE OF VALUE ENGINEERING IN FEDERAL DESIGN AND CONSTRUCTION

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to analyze and summarize information on value engineering contained in prior General Accounting Office (GAO) reports and other authoritative sources. We analyzed and summarized

--eight reports issued between 1974 and 1984 on value engineering in 15 federal agencies that perform facilities design and construction and

--four reports issued between 1969 and 1983 that addressed value engineering in general or in relation to areas other than facilities construction.

In addition, we obtained information on value engineering from relevant literature. A draft of this report was reviewed for technical accuracy by an engineering consultant to GAO.

VALUE ENGINEERING: WHAT IT IS AND HOW IT WORKS

The federal government and the private sector in the United States and several foreign countries, including Japan, West Germany, and India, recognize value engineering as a useful tool to reduce costs, improve productivity, and increase profits. Several colleges and universities include value engineering as an elective in their engineering curricula.

The concept of value engineering, originally developed by the General Electric Company during World War II, is a by-product of wartime material and labor shortages. These shortages led to the creation of innovative material and design alternatives. Often, the alternatives functioned as well, or better, than the originals and cost less. From this beginning, an analytical discipline has evolved which challenges the proposed way of doing things and systematically searches for less costly alternatives. Commonly known as value engineering, this concept is also called value analysis, value control, value improvement, or value management.

Value engineering, as applied in the construction industry, is a combination of heuristic and scientific techniques used to analyze either a building system, building material, or construction method. Using systematic investigative techniques, a project's proposed design and construction methods are evaluated

to identify any features or methods that could possibly be eliminated or modified to achieve the lowest possible life-cycle cost.

During this investigative process, all life-cycle costs (costs relating to design, construction, operation, maintenance, and replacement) should be considered. During a value engineering study, those items that only add costs to the project without contributing to the project's functional requirements are analyzed. The objective is to assure that the required functions of the project will be accomplished at the lowest life-cycle cost, consistent with required performance, reliability, maintainability, safety, and quality.

Achieving the lowest life-cycle cost may require redesigning, combining, or eliminating unnecessary, inefficient, or excessively costly project components or construction methods by using different, new, or more efficient technology, materials, or methods. For example, a value engineering study could conclude that a different type of heating, ventilating, and cooling system would be more energy efficient than the proposed system. Or, that marble, while having a higher initial cost, would have a lower life-cycle cost and be a better material than wood or concrete to use for stairs in a particular area due to the level of anticipated traffic.

A value engineering study is conducted by a multidisciplinary team[1] using a value engineering job plan. This plan sets forth a systematic, documented methodology for doing the study in five sequential phases.

--Information phase: (1) becoming familiar with the design and selecting for further study areas with the greatest potential for significant savings or improved performance and (2) performing function analysis.

--Speculation phase: developing ways through creative thought to achieve the same basic function of building components by different means.

--Analytical phase: screening the ideas generated in the previous phase and selecting the best ones for possible implementation.

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[1]A team might be composed of architects, engineers, cost estimators, contractors, project managers, and facility operations personnel.

--Proposal phase: preparing written recommendations for cost-reduction alternatives.

--Report phase: summarizing the results of the study, recommending specific action, and requesting implementation approval from responsible officials.

Value engineering complements rather than replaces other cost-reduction and/or cost-control techniques. In contrast to cost cutting by eliminating items or changing materials based on individual subjective expertise, value engineering analyzes a function or method by asking such questions[2] as:

--What is it? What does it do? What must it do?

--What does it cost and how much energy does it use?

--What are the needed requirements?

--What other material or method could be used to do the same job?

--What would the alternative material or method cost?

--Will the alternatives meet the functional requirements?

Value engineering is different from other cost-reduction techniques in that it achieves cost savings by questioning methods, processes, and materials that have been used for years.

As pointed out by Mr. Alphonse Dell'Isola, an internationally recognized value engineering authority, in Value Engineering in the Construction Industry,[3] value engineering is not:

--just eliminating the "gold plating";

--cutting costs by substituting components, materials, and systems which do not meet owner requirements; or

--cutting costs by degrading performance, maintainability, or reliability below owner requirements or good engineering practices.

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[2]Alphonse Dell'Isola, Value Engineering in the Construction Industry, 3rd ed. (New York: Van Nostrand Reinhold Company, Inc., 1982).

[3]Ibid.

APPENDIX I

According to Mr. Dell'Isola, the effective application of this concept requires

--using a professional effort to identify the lowest possible life-cycle costs;

--allocating sufficient time and funds for the effort;

--utilizing a management plan following the functional approach for problem solving;

--utilizing a multidisciplinary review team, trained in value engineering, whose members were not involved in previous decisionmaking on the project; and

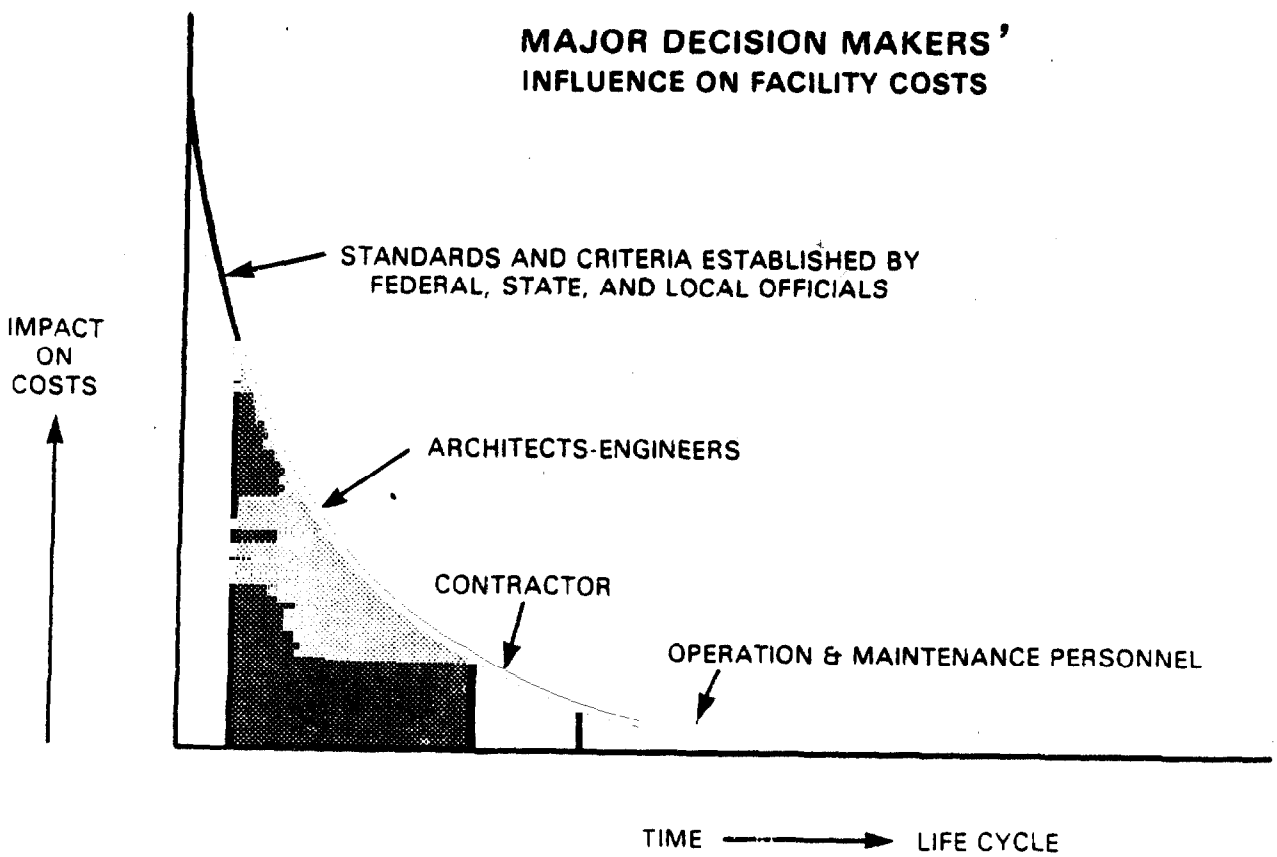
--documenting results, including a feedback system.

Value engineering concepts and techniques are promoted by the Society of American Value Engineers. Founded in 1959, the Society's members include executives, scientists, managers, administrators, architects, engineers, contractors, and purchasing agents organized into 40 chapters throughout the United States. One of the Society's functions is to designate those members who have demonstrated and maintained a high level of competence to be certified value specialists. The requirements for a certified value specialist are 4 years of college, attendance at a value engineering workshop, 2 years of full-time value engineering experience, preparation of a paper on a value topic, and a passing grade on a value engineering examination.

When should value engineering be applied on construction projects?

In construction, value engineering can be applied during any phase of a project--planning, design, or construction. According to the Society of American Value Engineers, the optimum time to use the concept to achieve the greatest benefits is during the early design stage because it is at this point that architects'/engineers' decisions have the greatest impact on total cost. Performing value engineering early in the design phase has other advantages: the prospects for implementing changes are greater, and the possible negative effects on project costs and construction schedules are less. The graph on the next page illustrates that the potential impact of value engineering is greater during the early stages of a project.

APPENDIX I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CONTRACTOR
OPERATION & MAINTENANCE PERSONNEL
TIME
LIFE CYCLE

APPENDIX I

The use of value engineering incentive provisions in construction contracts can also lead to significant savings, although not as great as when applied early in project design. Value engineering incentive programs encourage participation by contractors and subcontractors by including a value engineering incentive clause in construction contracts. The clause enables a contractor and/or subcontractor to share in savings resulting from changes suggested in methods or materials which do not detract from the utility of the construction project.

Generally, the clause provides for the contractor to submit value engineering proposals recommending changes to the design or building specifications in the contract period. Supporting each proposal, the contractor provides data documenting the cost savings and demonstrating that the proposed change will not adversely affect the utility of the structure. The proposal is reviewed by the cognizant agency and, if approved, a change order is issued.

Incentive clauses in construction contracts allow the agency to:

--take advantage of contractor know-how,

--reduce construction costs, and

--reduce construction time.

Potential benefits

The impact of value engineering is broad-based. Because it can be applied in any phase of a project, a range of benefits can occur. Since its primary objectives are to reduce life-cycle costs and improve facility performance, potential benefits occur in such areas as intended use, quality, safety, energy consumption, handicapped accessibility, maintainability, and flexibility for future uses.

One of the major benefits of value engineering is that it provides a means for looking at the total project. It allows organizational and disciplinary lines to be crossed and selected high cost items to be challenged regardless of area or discipline involved.

Design practices in the United States utilize a committee approach with each discipline designing and reviewing only its own assigned areas of responsibility; structural engineers handle the superstructure, mechanical engineers handle the mechanical system, and so forth. This approach tends to optimize performance and cost of the various subsystems individually without

regard to the effect on the total facility or other subsystems' performance and cost.

Consequently, it is possible to have a well-designed lighting system, for example, which adversely affects the mechanical system. The selected lighting system may increase the cooling requirements to remove excess heat generated by the lights, thereby increasing the building's operating costs. Value engineering provides the opportunity to correct such a problem and reduce life-cycle costs.

In addition, Value Engineering in the Construction Industry[4] lists several general potential benefits which flow from the use of value engineering. Among these are the following.

--Early application will save design time by clarifying scope, reducing false starts, and helping to prevent budget and time overruns from redesign.

--It helps ensure that simplified and/or standardized alternatives are considered to reduce costs through analysis of redundant and unnecessary functions.

--Using personnel other than the original designers helps to uncover potential design deficiencies or alternative approaches in time to consider and/or correct them during the design process and before construction begins where they would result in costly change orders.

--Problems with performance, reliability, unforeseen conditions, or quality can be assigned to the value engineering team for study and improved solutions.

--Cost control, life cycle economic analysis, energy conservation, and environmental and technical risk studies can all be enhanced by combining these with value engineering studies. The value engineering effort can provide a comprehensive umbrella to optimize all inputs.

PROBLEMS IN IMPLEMENTING A SUCCESSFUL VALUE ENGINEERING PROGRAM

Two key participants who can hinder a value engineering program's effectiveness are designers and program managers. Designers will often be exposed to a type and level of design review which may be a new experience. A natural first reaction is negative. A value engineering program also often suffers

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[4]Ibid.

from lack of top and middle management understanding and support.

Designers

As discussed earlier, buildings and other structures are designed by committee. Consequently, it takes strong leadership to prevent the designers from acting independently and to require them to seek ways of combining functions, changing components, and modifying subsystems to achieve the best results at the lowest life-cycle cost. It often takes an outside source, such as a value engineering team, to take an unbiased look at a design and change it.

Often the reaction of designers to a value engineering study is that (1) the client is questioning his/her professional capability; (2) unusual expertise or proprietary information may be exposed to competitors; (3) time will be wasted in responding to poorly thought out suggestions; and (4) the project will be delayed.

A successful value engineering program must recognize and address these concerns. The additional effort, as pointed out in Value Engineering in the Construction Industry,[5] is not a reflection on the designer's professional capability, but it is an attempt to improve the design results using a different approach. It is an effort to bring new and innovative approaches to bear on details of the design problem with a view to achieving basic functions at lowest cost.

Program managers

Establishing a formal value engineering program does not, in itself, assure an effective approach to cost control. An effective program must have strong, active top and middle management support for the value engineering effort. The Federal Construction Council's[6] study of value engineering in 1969 concluded that whether value engineering programs expand or become dormant or defunct depends on how well the agencies solve the following implementation problems:

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[5]Ibid.

[6]The Federal Construction Council is a continuing activity of the Building Research Board, which is a unit of the Commission on Engineering and Technical Systems of the National Research Council. The purpose of the Federal Construction Council is to promote cooperation among federal construction agencies and between such agencies and other elements of the building community in addressing technical issues of mutual concern.

--Getting top management to allocate the necessary resources, both in effort and in funds.

--Getting middle management to understand and believe in value engineering techniques.

--Selecting subjects for value engineering study during the design phase.

--Getting value engineering studies performed properly.

--Getting study recommendations accepted.

--Improving value engineering in construction programs.

Value engineering experts and users advised us that the characteristics of a successful value engineering program include top management support, a full-time value engineering coordinator or group, project selection criteria, the use of a multidisciplinary team with a value engineering job plan, and procedures to assure that approved value engineering recommendations are implemented.

Value engineering involves, basically, an in-depth study of a system, an item, or a technique for doing something to find the least costly solution that will satisfy the predetermined requirements for the system, item, or technique--in other words, its performance, durability, reliability, etc. The two important points here are: (1) the "least costly" solution should result and (2) an "in-depth" study is involved.

This means that, on the one hand, value engineering can save money and, therefore, should be encouraged. On the other hand, a value engineering study can cost a lot of money--it does not have to, but it can--and, consequently, it should not be undertaken frivolously. It follows, then, that a successful value engineering program must be so structured that it will promote the effective use of value engineering but minimize the chance of money being wasted. The Federal Construction Council has identified 10 key factors that can determine how this dual objective is to be realized:

1. How value engineering study proposals are generated.
2. How proposals are screened and selected.
3. Who actually performs selected studies.
4. How studies are paid for.
5. How those performing the studies are trained in value engineering methodology.
6. How such training is paid for.
7. How study costs are controlled.
8. How results are implemented.

9. How benefits are measured.
10. How the overall value engineering program is stimulated.

In his 1979 letter to the Chairman of the Senate Committee on the Budget, former Comptroller General Staats stated that

> "...nothing is more essential to the success of a value engineering program than sustained, highly visible interest, support, and promotion by top-level department and agency management. Unfortunately, that support is sometimes difficult to obtain. Much depends on the background and depth of cost concern of the people involved and their willingness to accept the implied criticism of a proposition that says they could be doing more than they have done to control costs."

Further, he told the Chairman that probably the most effective way of encouraging top management support is through the appropriation and budget process. He seriously doubted that anything approaching the full potential of value engineering can be achieved on existing or new value engineering programs in federal agencies without the influence of congressional interest.

RESULTS OF PRIOR GAO REVIEWS

Value engineering was first used on federal construction during the 1950s by the Naval Facilities Engineering Command. Over the years, at least 14 federal agencies have used value engineering with varying degrees of success. Since 1974, GAO has reviewed the following 15 construction agencies and activities to determine whether value engineering was being used and to evaluate the extent and effectiveness of its use in instances where this technique was being applied.

--Army Corps of Engineers
  Military Construction (1974), (1983)
  Civil Works (1974), (1983).
--Atomic Energy Commission (AEC) (1974).
--Bureau of Reclamation (BuRec) (1982).
--Coast Guard (1984).
--Department of the Air Force (1974), (1983).
--Department of Health, Education, and Welfare (HEW) (1974).
--Federal Aviation Administration (FAA) (1974), (1984).
--Federal Highway Administration (FHWA) (1984).
--Federal Railway Administration (FRA) (1984).
--General Services Administration (GSA) (1974).

--National Aeronautics and Space Administration (NASA) (1974).
--Naval Facilities Engineering Command (NAVFAC) (1974).
--Tennessee Valley Authority (TVA) (1974).
--Urban Mass Transportation Administration (UMTA) (1982).
--Veterans Administration (VA) (1974).

In 1974, we determined that only 4 of 10 agencies reviewed used value engineering incentive programs with construction contractors and subcontractors. Since then, our efforts have been limited primarily to selected agencies which handle water resources and transportation-related construction rather than building construction. Since 1974, we have not reviewed the use of value engineering by agencies such as GSA and VA which primarily construct buildings, and we have never reviewed the use of the concept by some agencies which do facility construction, such as the Department of State and the National Park Service. The six most recent reports we have issued are summarized below; a copy of each of these reports is also being provided under separate cover.

Potential Exists to Reduce Construction Costs Through More Effective Promotion of the Value Engineering Incentive Program (letter to the Commissioner, Bureau of Reclamation, Dec. 1, 1982)

The Bureau of Reclamation did not place enough emphasis on promoting the value engineering incentive program for its water resources construction contracts. As a result, the cost-reduction potential of the program may not have been fully realized due to limited contractor response. We recommended that the Bureau develop and implement a plan to promote the value engineering incentive program through direct contact with the contractors.

Value Engineering Has the Potential to Reduce Mass Transit Construction Costs (GAO/RCED-83-34, Dec. 29, 1982)

The Urban Mass Transportation Administration (UMTA) could have achieved substantial savings by applying value engineering to the design of federally funded rail and bus construction projects. Although UMTA provided billions of dollars annually in capital grants to transit authorities, it had no formal program to control costs and not enough regional engineers to assure that mass transit projects were constructed at the lowest cost. Instead, UMTA had an informal peer review program to control costs on new, primarily rail projects.

We recommended that UMTA establish a value engineering program for transportation construction projects and suggested how

the program should be implemented. Our value engineering consultant estimated at the time that a 3- to 5-percent budget reduction in construction program costs could be achieved if value engineering were used.

As a result of our report, the Subcommittee on Transportation, House Committee on Appropriations,[7] has directed UMTA to take all necessary steps to apply value engineering techniques to any federally funded transit construction project with an estimated cost of more than $150 million.

Water Resource Construction Costs Could Be Reduced if Value Engineering Were Applied to More Designs and Applied Earlier in the Design Process (GAO/RCED-83-127, May 11, 1983)

Although the Army Corps of Engineers had used value engineering since fiscal year 1965 to reduce water resources construction costs, potentially it could have achieved greater savings by applying value engineering to more project designs and applying it earlier in the design process. Also, the Corps needed to give increased attention to its water project value engineering program in order to realize maximum savings.

We recommended changes in the Corps' value engineering program because of the potential savings that could be derived from a more comprehensive program. We did not estimate or project the savings potential.

Improvements Needed in the Air Force's Design Process for Military Construction Projects in Europe (GAO/NSIAD-83-21, July 19, 1983)

Air Force regulations require that a continuing value engineering effort be applied on military construction projects. Procedures also require design agents to obtain Air Force clearance for value engineering on a case-by-case basis. The Air Force had, however, authorized a value engineering study for only one project in its fiscal years 1982 and 1983 military construction programs in Europe. The approved proposals saved about $1.5 million, or 43 times more than the study cost. While other projects had been identified with value engineering potential, studies had not been authorized.

Officials from the two organizations responsible for approving value engineering studies said that, although they recognized the benefits of value engineering, staff shortages

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[7]Department of Transportation and Related Agencies Appropriations Bill, 1984, Report No. 98-246.

and past unsuccessful studies prevented them from either having value engineering programs or permitting individual project studies.

We suggested that the Commander in Chief, U.S. Air Forces in Europe, consider establishing a value engineering program in Europe.

Improvements Needed in the Army's Design Process for Military Construction Projects in Europe (GAO/NSIAD-83-22, July 19, 1983)

Our analysis of the Army Corps of Engineer's European Division's value engineering program showed that acceptable value engineering proposals were being rejected because the studies were initiated too late in the design process. Project managers confirmed that value engineering study proposals were commonly rejected because they were done too late, and the savings identified could not be achieved without costly redesign and construction contract award delays.

At the completion of the review, the Corps was taking steps to ensure the timeliness of value engineering studies for fiscal year 1984 projects.

Greater Use of Value Engineering has the Potential to Save the Department of Transportation Millions in Construction Costs (GAO/RCED-85-14, Nov. 2, 1984)

The Department of Transportation (DOT) does not have a policy on the use of value engineering during the design of construction projects; however, two DOT administrations--the Federal Highway Administration and the Coast Guard--use it to some extent. To reduce costs, all DOT administrations with major construction programs used various other cost-saving methods, such as pavement recycling (a technique of combining new and existing material when resurfacing roads and highways). However, when value engineering was applied after these techniques had been used, additional potential savings were identified.

We concluded that (1) value engineering could save millions in project costs if it were required on DOT construction programs and (2) the cost of establishing, implementing, and maintaining a value engineering program would be more than offset by the savings achieved.

We recommended that the Secretary of Transportation establish and implement a policy to require DOT agencies to supplement their normal cost-reduction procedures for construction programs with a value engineering program.

In addition to these six reports, we issued two reports dealing with federal construction during 1974 and 1975:

--Potential of Value Analysis for Reducing Waste Treatment Plant Costs (RED-75-367, May 8, 1975) and

--Need for Increased Use of Value Engineering, a Proven Cost-Savings Technique, in Federal Construction (B-163762, May 6, 1974).

Between 1969 and 1983, we issued four reports on value engineering in general or on other types of procurement:

--Value Engineering Should Be Improved As Part of the Defense Department's Approach to Reducing Acquisition Costs (GAO/AFMD-83-78, Sept. 27, 1983);

--Department of Defense Value Engineering Program Needs Top Management Support (PSAD-78-5, Nov. 16, 1977);

--Value Engineering Program Needs to be Improved and Reinstated (B-118779, May 10, 1972); and

--Opportunities for Increased Savings by Improving Management of Value Engineering (Design or Manufacture Simplification) Performed by Contractors (B-165767, Aug. 25, 1969).

APPENDIX II

United States Senate

COMMITTEE ON FOREIGN RELATIONS
WASHINGTON, D.C. 20510

September 13, 1984

Mr. Charles A. Bowsher
Comptroller General of the United States
General Accounting Office
441 G Street
Washington, D.C. 20548

Dear Mr. Bowsher:

A concept known as "Value Engineering" has been brought to my attention. It has been described to me as having potential to save money and improve performance, quality, safety, and other requirements in federal construction when applied in design before construction contracting. I am informed that only a few of the 26 federal construction departments and agencies make use of Value Engineering in design.

I am writing to request an assessment of the potential of Value Engineering's impact if applied more extensively in federal construction designing. I do not want to initiate any new research, however. Instead, I understand that some of your staff recently have, and others now are, assessing Value Engineering's design and construction potential in various agencies and departments. Please extrapolate from the data currently in hand to generate an overall estimate of potential benefits and provide me with any analysis that has already been conducted.

Should your staff have any questions about this request, please have them contact Mr. Winslow Wheeler of my office at 224-4774.

Thank you for your cooperation.

Warmest regards,

Nancy

Nancy Landon Kassebaum
United States Senator

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