



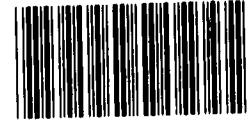
UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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RESOURCES, COMMUNITY,  
AND ECONOMIC DEVELOPMENT  
DIVISION

December 1, 1982

The Honorable Robert N. Broadbent  
Commissioner, Bureau of Reclamation  
Department of the Interior



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Dear Mr. Broadbent:

**Subject: Potential Exists to Reduce Construction  
Costs Through More Effective Promotion  
of the Value Engineering Incentive  
Program**

Since 1965 the Department of the Interior's Bureau of Reclamation has included a value engineering incentive clause in its water resource construction contracts valued at more than \$200,000. The clause is intended to reduce construction costs by encouraging contractors to submit value engineering proposals that decrease contract costs by \$10,000 or more. Contractors receive 50 percent of any savings resulting from proposals approved by the Bureau.

Since the program began, the Bureau has approved 39 contractor value engineering cost saving proposals amounting to savings of about \$2.1 million, half of which accrued to the Federal Government. Although these savings are noteworthy, the U.S. Army Corps of Engineers during the same time period achieved nearly 20 times greater savings to the Federal Government with construction appropriations that averaged only about three times the appropriations of the Bureau.

Potentially, the Bureau could realize greater reductions in water project construction costs through the value engineering incentive clause by adopting certain Corps practices related to (1) lowering various dollar limitations placed on participation in the program to encourage greater contractor response and (2) promoting contractor awareness of the existence of an incentive clause.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to identify opportunities for the Bureau to increase savings on water project construction costs from its value engineering incentive program. To determine how the Bureau might increase its savings, we compared its program results and promotional efforts with those of the Corps.

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We reviewed records to gather statistical data on program results and interviewed officials at the Bureau's headquarters in Washington, D.C., and at the Engineering and Research Center in Denver, Colorado. Through telephone contacts, we also obtained statistical data and information relating to the Bureau's efforts to promote the incentive program from all seven of its regional offices in Amarillo, Texas; Billings, Montana; Boise, Idaho; Boulder City, Nevada; Denver, Colorado; Sacramento, California; and Salt Lake City, Utah.

In addition, we obtained comparable statistical data and held discussions with officials from Corps headquarters in Washington, D.C., and Corps district offices in Kansas City and St. Louis, Missouri; Mobile, Alabama; New York, New York; Sacramento, California; St. Paul, Minnesota; and Tulsa, Oklahoma. We selected these seven Corps district offices to get a geographical dispersion of Corps activity.

This review was performed in accordance with generally accepted government audit standards.

BUREAU PROMOTION OF THE VALUE  
ENGINEERING INCENTIVE PROGRAM IS LIMITED

The Bureau has not placed enough emphasis on promoting the value engineering incentive program for its water resource construction contracts. As a result, the cost reduction potential of the program may not have been fully realized due to limited contractor response. We compared the size of each agency's construction program and value engineering savings to determine whether the Bureau had achieved savings of a magnitude similar to that of the Corps.

Neither agency had statistics readily available showing the number and amount of contracts awarded since the incentive program began. Therefore, to determine the relative volume of the agencies' construction work applicable to the incentive program, we compared water project construction appropriations made for each agency during the last decade. The Corps' construction program averaged about \$1.4 billion annually, or about three times that of the Bureau's \$503 million during this time period. The following table compared the results of these value engineering programs for the 18-year period ended June 30, 1982.

	<u>Bureau</u>	<u>Corps</u>
Proposals submitted (note a)	63	2,702
Proposals accepted (note b)	39	1,680
Total savings	\$2,124,000	(note c)
Government savings	\$1,062,000	\$21,085,000

a/Bureau figure represents submittals applicable to water project construction and supply contracts; the Corps figure applies only to water project construction contracts.

b/Represents only cost saving proposals applicable to water project construction contracts.

c/Corps figure not readily available.

Although the Corps' construction appropriations have averaged only three times the appropriations of the Bureau, the Corps has approved 43 times more cost saving proposals and realized about 20 times more savings to the Government than the Bureau.

Bureau officials have expressed concern about the limited contractor response to its value engineering incentive program. A member of the Construction Contracts Branch at the Bureau's Engineering and Research Center told us, and Bureau correspondence indicated, that the lack of contractor response may be due, at least in part, to the Bureau's low level of program promotion. The Corps places more emphasis on promoting the use of the value engineering incentive clause than does the Bureau, which we believe helps explain why the Corps' incentive program has had relatively greater success than the Bureau's. The following table illustrates the major differences in the agencies' practices in using and promoting the incentive clause.

	<u>Bureau</u>	<u>Corps</u>
Difference in use of the incentive clause:		
Minimum contract size	\$200,000	\$100,000
Minimum cost saving proposal	10,000	None
Clause required in subcontracts	no	yes

Differences in promotion  
of the incentive clause:

Letters encouraging participation sent to contractors	no	yes
Brochure describing incentive program sent to contractors	no	yes
Seminars, workshops, or briefings held in which construction company representatives may participate	no	yes

Differences in use of the  
incentive clause

The Bureau currently requires that the incentive clause be included in all contracts over \$200,000 but does not preclude its use in smaller contracts. However, six of seven Bureau regional contracting officers told us that they do not include the clause in contracts under \$200,000 because smaller contracts offer little opportunity for value engineering. Only one contracting officer told us that he occasionally included the clause in contracts under \$200,000 when it appeared there was potential for value engineering savings.

The Corps of Engineers, in accordance with the Defense Acquisition Regulation (DAR), requires the incentive clause in all contracts of \$100,000 or more. The DAR, however, does not preclude using the clause in smaller contracts. Three of seven district value engineering officers we interviewed told us that their districts included the clause in construction contracts under \$100,000.

The Bureau and the Corps also have different policies on the minimum cost saving proposal that may be submitted. The Bureau established a \$10,000 minimum in 1979--the Corps has no minimum. Several Bureau headquarters and field office officials said that the Bureau uses the \$10,000 minimum because they believe the cost of implementing smaller proposals may be greater than the savings to be realized by the Federal Government. However, the Bureau

has not maintained records to document the cost to process and implement cost saving proposals. The Corps' policy is to consider any proposal regardless of the amount. The Corps' Chief Value Engineer and various district value engineers told us that they agreed with this policy because (1) it encouraged contractors to participate in the program and may encourage them to subsequently submit larger proposals and (2) proposals may have the potential for replication in future water project designs.

Although construction contractors do subcontract work, the Bureau does not require contractors to include the value engineering incentive clause in subcontracts. A Bureau headquarters official said that the clause was not required in subcontracts because the Bureau had placed little emphasis on contractor value engineering. The Corps, in accordance with the DAR, requires the contractor to include the incentive clause in any subcontract of \$50,000 or more. The DAR also provides that the contractor may include the clause in subcontracts of lesser value.

Information was not available on a Corps-wide basis to show the number and value of proposals (1) received on contracts amounting to \$100,000 to \$200,000, (2) valued at less than \$10,000, and (3) from subcontractors. We did, however, obtain information on the number and value of cost saving proposals approved by the Corps' Kansas City District. During fiscal years 1965 through 1981, the Kansas City District approved 172 proposals. About 78 percent, or 134 of those approved, were for proposals of \$10,000 or less and amounted to \$333,640--about 16 percent of the total savings for the district.

The Office of Management and Budget is currently coordinating development of a uniform Federal Acquisition Regulation (FAR). The proposed FAR, scheduled for implementation in October 1983, will eliminate differences in the use of the incentive clause by requiring all Federal agencies to

--include the incentive clause in construction contracts valued at \$100,000 or more and

--require contractors to include the incentive clause in any subcontracts of \$50,000 or more.

The proposed regulation places no restriction on the dollar amount of a contractor cost saving proposal that may be submitted.

#### Differences in promotion of the incentive clause

Before starting construction, both the Bureau and the Corps discuss the incentive clause with the contractor awarded the construction contract. In addition, the Corps:

--Sends a letter to the contractor encouraging participation in the value engineering incentive program. One Corps district includes the following statement in its letter:

"\* \* \*I encourage you to take advantage of the Value Engineering Incentive Clause by submitting proposals through the Contracting Officer's Representative for the project. During preparation of your bid, it is possible that you may have noticed some items that might have appeared 'goldplated' and costly which if changed could result in savings without impairing the essential functions. May I suggest that you review these as well as take a 'new' look at the plans and specifications with value engineering in mind."

--Provides an informative brochure to the contractor describing the incentive clause.

--Presents seminars, workshops, or briefings on value engineering in which construction company representatives may participate.

#### CONCLUSIONS

The less restrictive incentive clause provision used by the Corps tends to (1) encourage greater contractor participation in the program and (2) contribute to the greater savings realized by the Corps. Adoption by the Bureau of similar promotional practices could result in increased contractor participation in the Bureau's program and potentially more savings to the Federal Government.

While costs to process contractor proposals may at times outweigh savings involved, Federal agencies are not obligated to process such proposals and can reject them before substantial costs are incurred in evaluating their merit.

#### RECOMMENDATIONS

*The Commission of the European Communities*

Because of the potential savings that may be derived from using the less restrictive value engineering incentive clause, we recommend that, pending implementation of the FAR, you take action now to adopt the incentive clause provisions in the proposed FAR.

We also recommend that you require a plan to be developed and implemented to promote the value engineering incentive program through direct contact with the contractors. This plan should include:

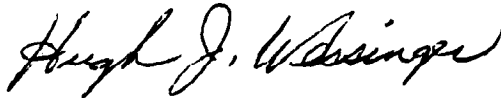
- Sending letters to contractors encouraging them to use the incentive clause. } 2
- Designing and providing an informative brochure on value engineering that at a minimum (1) explains the concept of value engineering, (2) outlines the purpose of the incentive clause, (3) discusses the contractor's role in the process, (4) sets forth guidelines to be followed in submitting proposals, and (5) discusses procedures followed in reviewing and approving proposals received. } 3
- Providing value engineering seminars and orientation sessions for Bureau personnel and construction company representatives. } 4

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We discussed this report with members of your staff at headquarters and the Engineering and Research Center, including the Assistant Commissioner for Engineering and Research, and they generally agreed with the report's contents.

We would appreciate being advised as to any actions you may take on matters discussed in this report. Copies of this report are being sent to the Director, Office of Management and Budget, and the Secretary of the Interior.

Sincerely yours,



Hugh J. Wessinger  
Associate Director Senior Level