

GOVERNMENT ACCOUNTING CONFERENCE

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My purpose is to aid in communication and understanding. You are the key that can unlock additional profits and perhaps additional orders in the present customer environment.

I want to bring this understanding so that you will...

- ... support extra profit value engineering clauses;
- ... have and use additional effective sources of appeal in order to assure profitable effectiveness.

To accomplish this objective, I will report to you...

- ... attitudes and contracts of the top of the military departments;
- ... some examples of value engineering extra profit work;
- ... some questions and answers which came forth at the recent NSIA/DOD mtgs.

Then we would like to have your own questions and problems.

The Department of Defense, in cooperation with NSIA, has just completed five one-day meetings throughout the U.S. for presidents and general managers of the 100 largest military contractor companies in the U.S. Their purpose was...

- ... to show that incentive contract language is now available which will provide extra profits for the good use of value engineering;
- ... to show that they are thoroughly back of the proposition of working out any additional contractual problems so that the value engineering system will be used to bring more profits to the contractors and lower costs to the government.

More details on this can be learned by any of you who require it by getting a copy of the proceedings.

The men who made the presentation were:

Brig. Gen. Goshorn, U. S. Army
R. Adm. E. Fawkes, U. S. Navy
Brig. Gen. Smith, U. S. Air Force
R. Adm. C. A. Blick, Def. Supply Agency

Also on each program was Assistant Secretary Morris who is responsible, as you know, for the procurement, the maintenance, and the logistics of all military equipment.

Also on the panel in each case was Col. Thybony who is responsible for establishing appropriate contract language in connection with value engineering incentives. Furthermore, the top auditor was on the panel in each case and usually he had in the audience four to six of his head auditors who he introduced. He always advised that they were there so they would understand the full intent and help execute this program successfully. These men showed crystal clear that while they know their organizations still contain hundreds or thousands who must also learn and change viewpoint, they expect to, and from now on are openly dedicated to the task of causing the value engineering system to be used and creating a proper framework so that it will achieve high success.

A few extracts from these men are as follows:

Brig. Gen. Goshorn:

"During mid-1959 special contractual provisions were negotiated requiring the establishment of value engineering groups at selected contractor plants. Since that time there have been additional efforts in missiles, electronic and communications items, fire control equipment and weapons. With the advent of the new policy, we have been moving in support of that broad program. Latest information indicates that there are 137 active army contracts containing value engineering provisions. Approximately one-third involve provisions wherein the contractor effort is financially supported by the army. The remaining two-thirds are of incentive character. Effort expended on these contracts is financially supported by the contractor. Upon approval, the proceeds of a change are shared by the contractor and government.

"What does the record show has been accomplished in this contractual area? At latest count, 384 value engineering proposals have been received --- 206 have been accepted, only two have been rejected, 178 are pending.

"For the future, we in the army visualize that more and more contracts will progressively contain value engineering provisions--that your firms will be required to have a background and know-how in the concepts and applications of value engineering.

"Cost in production must assume the stature of a major parameter in design, a parameter equal to the present attention given to technical performance and to urgency of delivery."

R. Adm. Fawkes

"In the last four months, value engineering clauses were included in 51 BuWeps contracts involving 37 contractors. The Electric Boat Division of General Dynamics has performed under value engineering sharing arrangements about six years. Their rather modest effort (3 to 4 men) resulted in 375 projects of which 168 were implemented. This represents \$2,389,000 in net cost reduction which was split 50-50 with the contractor.

"Martin-Marietta, Orlando, produced BULLPUP missiles with different sharing arrangements. Martin's performance in value engineering shows net cost reductions totalling \$1,998,000 which was split...

"We also have experiences on the other end of the scale. McDonnell Aircraft submitted thirteen proposals, tried to push them through the Bureau, spent about \$60,000, eventually had one approval, received 50% of \$4000... gave up on value engineering incentive contracts.

"We must refine it and make it a workable tool for contractors as well as the military. OSD has issued its value engineering policy directive. Contractual provision in the ASPR have been refined. The Navy will carry out these orders in the best way possible.

Brig. Gen. Smith

"I understand that value engineering was originated by industry some time around 1947, but it wasn't until 1958 that the Air Materiel Command began organizing and defining the Air Force value engineering program.

"We published Air Force Regulation 70-16 that provided policy guidance. It restated the mandatory requirement for value engineering clauses in our development, production, and modification contracts in excess of \$100,000. And to minimize any resistance to the program within our own contracting organization, we imposed a requirement for any exceptions to be fully documented and approved by the head of the procuring command. Finally we provided for value engineering in any contract regardless of dollar value if it showed reasonable promise of reductions.

"It is rather obvious that from an internal management standpoint we have done a 180° reversal policy. I think that the Air Force is now placing the kind of emphasis on value engineering that will allow us all to benefit from the increased cost reduction that should result from this effort.

"At last count, we had over 400 contracts containing value engineering clauses and the number is increasing daily.

"I want to emphasize that the Air Force will continue to support the value engineering effort on a top priority basis. We consider our current policies and procedures fundamentally sound, but will make such changes as required when problems are identified. We are depending on industry to let us know what could or should be done to improve these procedures."

R. Adm. Blick

"In a supply operation such as ours, we feel that one of the greatest potentials for value engineering savings must come from you in industry. For example, it was found that requirements for a saw used in Air Force survival kits stated that the saw must be capable of cutting through metals, wood, plastics, and glass. The glass cutting capability was not essential. Elimination of it resulted in a saving of \$69,565. Scissors for Civil Defense survival kits specified hot forged steel. By changing to cold forging, equivalent scissors and better delivery resulted with cost reduction of \$177,500. (These vendor actions are necessary in the supply business if we are to obtain more value for the money spent.)"

In examining the results of research and development work, we find that some is extremely good but we also find that much is very poor so far as economic factors of appropriate cost factors are concerned. For example, under the name of research and development, a specific piece of equipment was designed and developed at large expense to the taxpayers for the purpose of moving the reinforced concrete cover from the Minuteman buried silos. The task then was basically this...

...to drag off or slide off a concrete cover 8 or 9 ft. in diameter, weighing a few tons, from the top of a hole during peace time for maintenance (for firing, the cover is blasted off).

Most of us would expect that any cost above \$10,000 was unacceptable waste. However, the repetitive cost of this equipment which was used in every installation was \$550,000 each. This should make crystal clear the nature and amount of unnecessary cost associated with research and development work as it is now conducted in substantial immunity from value engineering concepts. As General Smith pointed out, "fortunately" this equipment did not perform satisfactorily and a value analysis study was made on it which resulted in a completely reliable equipment for \$80,000, with a \$7,000,000 saving.

For another example, I held in my hand a few weeks ago, a box made of light metal 4x4x6" long. It had a hole in one end and a switch on the side. It contained two flashlight batteries and a flashlight bulb. It was used on a missile site for occasionally viewing through transparencies. It cost \$52 each. Money was spent under the heading of research and development, special drawings and shapes were designed and drawn, special tooling was made to fabricate this \$50 "flashlight". Of course, when its function is studied, it is seen that a high-grade \$2 flashlight, readily available, will perform the total functions better. This is the type of present "lock-in" of costs under the name "research and development" work.

Now, with the new clauses, contractors can eliminate this and receive a significant additional profit while doing so.

Although we might say, "this equipment was designed perhaps two years ago, we certainly aren't doing anything of this nature now," such is not the case. We have not changed much in two years. At this very minute, there are probably 10,000 designers and draftsmen putting exactly this type of detail on the drafting board which will take our tax dollars two years from now. The Department of Defense now sees it, knows it, and is determined to change the trend by making it profitable to use value engineering in all stages of essentially all types of contracts.

You will want to accumulate specific information for your guidance. I can review to you a few cases of questions and answers from the DOD/NSIA meeting. The question was asked in the Los Angeles meeting, "How should value engineering be charged...is it direct or indirect expense?"

The question was referred to Mr. Wilson, general manager of the Boeing Aerospace Minuteman operation. He said, "Our Minuteman contract is cost plus multiple incentive fees." The incentives have been performance, delivery, and cost. More recently we have had a value engineering incentive in which, instead of a 50-50 split, Boeing receives 40% of value engineering savings. The logic back of this is that we already, under our cost incentive fee, received some benefit for the lower costs and this makes it work out about right, I don't know how the value engineering should be charged. It is charged by us to overhead.

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The question was asked in each session, "What view will the re-negotiation board take of these value engineering profits?" This was answered by Colonel Thybony who in essence said, "The purpose of the renegotiation board is to prevent unearned profits and windfalls. Value engineering is an earned profit which is spelled out by contract conditions. We have discussed it thoroughly with them and they understand the objectives and the importance of it. We have had no problems of any kind of this nature and don't expect any." He continued by saying that with reference to the statutory limit of 10 per cent on fixed price contracts and 15 per cent on cost plus contracts, he did not foresee problems. He said the return of the contractors was usually considerably below this amount and that these statutory limits would probably not affect the situation. He said that if such examples arose, they would have been worked out on their merits.

The question was always asked about the length of time to get approvals for change through the various military departments. The answers came from the various admirals and generals and were in the following tone... "We recognize that unless we streamline our channels for approval of good suggestions this whole operation would be a farce. It must be and is being streamlined. We recognize that many of the procedures in the past have been made for the purpose of delaying or preventing large numbers of changes which improve performance, if at all, by only slight degrees. Now the objective of this program is exactly the reverse and our operation will be put into gear with the objective of approving value engineering changes at the earliest possible moment. We have some experience where they are now being approved in five days and we hope that large numbers of the proposals can be dealt with in three weeks."

In summary, it is now crystal clear that the heads of all of the military purchasing areas have an attitude to promote the award of contracts into areas which have good value engineering, to include contract clauses which will make good value engineering profitable, to teach and activate their organizations so that the type of results will be accomplished and to promptly find answers to the problem areas which retard progress toward more use of value engineering with more profit to the contractors.