CONTRACTOR PARTICIPATION IN VALUE ENGINEERING

Mr. F. W. Rozell
Value Engineer

I want to thank Colonel Bidwell for his fine presentation and for making our job of encouraging contractors to practice Value Engineering (VE) a lot easier.

Value engineering has grown so much and so fast in the past 5 years that it is difficult to determine how much each company knows about it. There are representatives in the audience from companies that are experts in the use and application of Value Engineering. They are fully aware of its theory, practice, benefits and shortcomings. There are also representatives that have heard of VE, have thought of installing it in their companies, and want to know more about it.

I hope you experts will bear with me if my presentation is too basic. My purpose is to get greater contractor participation in VE. The experienced contractor will participate, the inexperienced will not until he knows more. Private industry started VE during the days of World War II when finding suitable substitutes for war time shortages was a big problem. It was found that studying the function of a part gave a greater depth for solution of the problem than simply making it of another material. Functions frequently could be combined or eliminated, and the overall assembly simplified. The result was a better product at less cost.

The Navy first tried VE in 1954. It was started in the Bureau of Ships on a trial basis. The third year resulted in savings of $15 million/year. This convinced the Navy that a VE Program should be permanently adopted.

The Department of Defense got aboard in 1961. It started a five point program to establish uniform policy, training and incentives. For the first time, the Government offered to share savings with contractors. One of their first acts was to establish a definition and set the stage. The DOD's official definition states:

"Value Engineering is an organized effort directed at analyzing the function of defense hardware with the purpose of achieving the required function at the lowest overall cost".

The organized effort involves many and varied techniques designed to eliminate areas of high cost and to develop less expensive alternates. We will not go into these techniques, but one simple set of 5 questions gives the idea of the functional approach. They are:

1. - What is it?
2. - What does it do?
3. - What does it cost?
4. - What else will do the job?
5. - What does that cost?

In order to gain greater and wider participation, the DOD issued Defense Procurement Circular #11 in 1964. This revised the existing Armed Services Procurement Regulation to increase the incentive offered to contractors. This extended the sharing arrangement to:

1. - Follow-on contracts

2. - Collateral savings

3. - Subcontractors

These regulations are presently being revised by an Industry-Government Committee. They are attempting to clarify the regulations and to eliminate portions that have raised objections. The revisions are in final review and should be released shortly.

The Government has put a lot of emphasis on value engineering in recent years - why?

Private Industry has reacted with a great deal of effort - why?

The value of value engineering is in what can be gained from practicing it. An expected return of $10 for each dollar spent is not unusual. As you know, the Government cannot pocket profits but it can obtain more products for the same amount of defense dollars. VE is not window dressing to the DOD. It is a necessity. It is a partial solution to a desperate situation. The DOD is caught in the squeeze of national emergencies and spiraling costs. Exhorbitant taxes are economically and politically unfeasible. Items continually get more complex, more sophisticated, and more expensive. Either we get more value - or we shortchange our servicemen by not getting the goods that may save their lives - or we shortchange the taxpayer by making his earnings buy less.

At the last yearly report, the Government had realized savings of $500 million from VE. By 1969 I am sure we will exceed our long range goal of $600 million. This savings is in validated savings. It is not cost avoidance where we simply delay procuring an item to the next Fiscal Year.

The Government is not the only beneficiary of VE. Their contractors benefit from the extra profits gained from this discipline. The contractor share of a $100,000 saving, on a 50 - 50 split, would be $50,000. This would be equivalent to a 6% profit on a contract worth $833,000. That's a fair return for an idea. The contractor will probably have more available time to use his labor and facilities on other jobs, also paying a reasonable profit. He is therefore making his normal profit plus his share of the VE saving on his present contract. His idea may also have application to future Government acquisitions, where he would obtain more profits. Other sources of profits from VE could come from his subcontractors ideas, or even from collateral savings.

Value Engineering also puts a company in a better competitive position to obtain additional contracts. Its cost saving techniques allow them to bid lower on follow-on contracts and thus increase their opportunities for more work. It also give them the assurance that their personnel can find ways of overcoming unforeseen contingencies. It generates a cost conscious attitude among employees that can reap untold benefits. Personnel are motivated to become more creative, and to use more initiative and imagination. These are certainly qualities that help any company grow and develop.

At a recent DPC #11 briefing to Defense Contractors, the Honorable George Fouch, Deputy Assistant Secretary of Defense, explained how the Government has a $1 billion pot to share with contractors that can reduce their contracts by 10%.

There are a few simple requirements that a contractor must meet to qualify for the sharing of value engineering savings on Class I changes:

a. The contractor must have either a VE incentive or program requirement clause in his contract.

b. He must submit a Value Engineering Change Proposal (VECP), properly identified as such, to the Contracting Officer. It must be the result of a VE effort either by himself or his subcontractor.

c. The VECP must be approved by the Contracting Officer and its implementation must result in an overall saving to the Government without the sacrifice of essential functions and characteristics.

These requirements, however, only apply to Class I Changes, where Government approval is required to implement the change. Class II Changes can be adopted by any contractor at any time, with 100% retention of savings.

The Center has published a guideline for our contractors in preparing, submitting and getting Government approval on VECP's. Copies have been forwarded to most of our major contractors. It is referred to as NTDC Bulletin 33-2. It can be obtained from our Specification Control Division, Code 334. If you want, you can contact me and I will arrange to have a copy forwarded to you.

The particular VE contract clause is the basic guide on what a contractor must do to qualify for profits from VE. Types of clauses, applicability to future contracts and collateral savings, and percent sharing arrangements are selected prior to issue of contract.

The Armed Service Procurement Regulations, and DPC #11, provide some guidelines in the establishment of sharing arrangements between the Government and contractors. The general idea is to give the contractor taking the higher risk, the larger sharing arrangement. A somewhat smaller percentage is shared with contractors having program requirement clauses, since they are already being paid to perform VE. This applies to both current contracts and to future acquisition clauses. Collateral savings are generally limited to 10% because of the difficulty in validating actual savings.

We mentioned before that subcontractors may also share in VE savings. However, the Government cannot infringe on negotiations between a prime and a subcontractor. The Government does encourage prime contractors to extend VE privileges to their subcontractors by allowing the prime a portion of any savings resulting from a VE change proposal initiated by the subcontractor. Contractors are permitted to charge off the subcontractors share as an implementation cost.

The Center manufactures very few hardware items. Our contractors do it for us. We depend on two approaches to meet our target goal. The first, is our own in-house effort. It has been quite successful in relation to our potential. Our second and potentially most profitable approach is through you, as our contractors.

You have the advantage of a second look at our specifications, you are recognized as being well versed in the latest state-of-the-art, for both technological advances and training techniques, and in some cases you have the capabilities for determining errors of omission and commission in our specifications.

To date, contractors have been slow in taking advantage of the potential profits available to them. However, one contractor has realized about $30,000 worth of extra profits in 1 year. He has recognized a good thing and is making it pay off.

This year we are expanding our efforts to make all of our contractors aware of their potential VE benefits. I mentioned before that NTDC Bulletin 33-2 was sent to our major contractors. We also sent them a VE survey sheet. Reply is voluntary, but through this survey, we hope to determine who requires VE help, his type of VE organization, and who would be the best contact point for VE liaison between our organizations.

Initial results from these major contractors indicate that all practice VE to some degree. All consider it beneficial to their operations, and the majority have submitted

VE Change Proposals and have had them accepted. At least half of them have full time VE Supervisors and an operating VE Training Program. This would indicate that most of you are in a position to benefit both your own company and the Center, and we should expect a significant increase in submitted VE Change Proposals.

Our System Effectiveness Division, which includes the value engineering discipline, has established a project control for all contracts of major consequence. Visits have been and will continue to be made to various contractor plants to generate a more co-operative and productive VE effort. Some DOD contracts include VE results in the calculation of incentive fees, consideration is now being given to rating contractors for their VE potential in the evaluation of proposals.

I think we realize that we are mutually dependent on each other for obtaining the benefits available from value engineering. VE is not usually a requirement. We do not believe this is necessary since it more than pays its own way. It pays you with greater profits and more business, and gives us greater efficiency and more products. No one person or organization is perfect. They cannot possibly see, or be specialist in everything.

This transparency illustrates how difficult it sometime is to perceive the whole picture. We tend to see what we want to see. I will bet that the majority of the audience sees a young girl of the "Gibson" type looking away from you. An old woman with a hook nose and a pointed chin is also looking toward you. Both are so evident that when you see one, it is difficult to see the other. This is what we mean when we say your specialists are in a position to help both of us. We are willing to pay for ideas that you can see and we can not, so long as it results in improvements, lowers the overall cost, and supplies all the necessary requirements. Frankly, I cannot see how you can afford not to participate in value engineering. There is just too much to gain. It has been successful wherever effort has been put into it. It takes work and imagination, but it pays off.

Industry-Government cooperation has taken giant strides in the past few years. The new ASPR will reflect this. The increase in submitted value engineering change proposals and the resulting reported savings, also indicate greater effort and interest. We recognize that this is impossible without proper incentives and mutual understanding.

The future is bright. We are looking forward to greater efforts, greater profits, and more and better training devices. Value Engineering can help us accomplish this.