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Industrial Operations Command
Rock Island, IL 61299-6000

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Management

CONTRACTOR'S GUIDE TO THE VALUE ENGINEERING PROGRAM

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FOR THE COMMANDER:

Official: //signed//
JESSE A. ESLICK
Deputy Chief of Staff
For Resource Management

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1. Introduction.

a. The objective of the Department of Defense (DOD) Value Engineering (VE) Program is to motivate you, the defense contractor, to practice VE and to exercise the Value Engineering Incentive (VEI) provisions in your contracts by submitting Value Engineering Change Proposals (VECPs). The incentives are the monetary amounts you receive from a share of the cost savings resulting from VE changes to your contracts.

b. The effectiveness of a contractor's VECP is dependent upon the knowledge, understanding, and care applied to its preparation and processing. The purpose of this guide is to provide information and suggestions that contribute to the effectiveness of the contractor's VE efforts. It is designed to answer contractor questions concerning the What-Why-When-Where-Who-and How of contractual VE. It is not intended to make you an expert on VE principles or techniques, but to encourage and assist you in preparing and submitting VECPs.

c. You can obtain additional guidance from several sources. The most important is the VE clause in your contract. Personal assistance can be obtained from your Government Procuring Contracting Officer (PCO) and the VE point of contact at your Defense Contract Management Area Office (DCMAO). You can contact the cognizant IOC VE Division as follows:

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d. Appendix A provides some general guidance on VECPs.

2. What is VE?

a. Value Engineering is a systematic and creative effort that analyzes the function of items or systems to ensure required functions are achieved at lowest possible overall cost. It is distinctly different from simple cost reduction techniques that merely seek to lessen the cost of a function whose continuing need is largely taken for granted.

b. Overall cost includes the cost of acquisition, and support of an end item or system. Value Engineering is performed to eliminate or modify any element that contributes to the overall cost that is not necessary for needed performance, quality, maintainability, reliability, or interchangeability.

3. The VECP: What Is It?

a. Within DOD a VECP is a proposal submitted by a contractor to the Government in accordance with the VE provisions of the contract. It proposes a change which, if accepted and implemented, provides an eventual, overall cost savings to the Government. To name but a few examples, a VECP may be a change which updates an existing design to the current state-of-the-art, simplifies complex material by modifying/eliminating components, or updates specifications/drawings providing improved data for future procurements. The VE provisions in a contract allows the contractor to share substantially in the savings which accrue from implementing the change. In other words, VECP provides the means to lower defense procurement costs while increasing the contractor's rate of return on investment. Thus, VE becomes both a contractor and a Government management tool.

b. In order to qualify as a VECP so that a savings can be shared, the proposed change must meet two primary requirements:

(1) It must require modification of the contract under which it is submitted.

(2) It must provide an overall cost savings to the Government if accepted and implemented provided that it does not involve a change:

(a) In deliverable end item quantities only.

(b) In research and development (R&D) end items or R&D test quantities that are due solely to the results of previous testing under this contract.

(c) To the contract type only.

4. Type of VE Provisions in DOD Contracts.

a. The basic VE provision is the VEI clause of the Federal Acquisition Regulation (FAR). (See the current FAR.)

b. The basic VEI provision will be, in most contracts, for supplies and services when the contract price exceeds \$100,000. The FAR provides some exceptions where the VEI clause may be excluded. The VEI clause may be included in contracts under \$100,000 if the contracting officer believes that a potential savings through VECPs exists. When the VEI clause is in your contract, no action is required on your part; participation is voluntary. However, when you do participate in the VEI Program by originating and submitting VECPs, you will be rewarded for your ideas if they are adopted by the procuring activity.

c. The percentage sharing rate you receive will be specified in the FAR and will depend on the type of contract.

d. In addition to the basic VEI clause, the FAR contains alternative provisions that allow the contracting officer to incorporate into a contract mandatory VE activity. This is known as the Value Engineering Program Requirement (VEPR) Clause and it is a separately priced line item in the

contract. The VEPR will specify a certain level of VE activity and the portion(s) of the contract work scope to which it applies. Usually, the VEPR IOCP 5-3

provisions are used to identify certain high-cost items or systems, to be subjected to VE in an attempt to reduce the cost of those items or systems. The sharing arrangements for approved VECs (which are originated under VEPR provisions) are less than the share provided for voluntary VECs under the basic VEI provisions.

e. In some circumstances, a contract may contain both VEI and VEPR provisions. If the VEPR is directed to well defined performance areas, then the basic VEI clause can be used to cover VECs that are submitted on items not covered by the VEPR performance area. For VECs submitted on contracts containing both VEI and VEPR, the contracting officer decides if a particular VEC applies to the VEI or VEPR provisions.

5. The Benefits of Submitting VECs.

a. There are both direct and indirect advantages to be obtained from submitting VECs. Of course, the most obvious is the fact that you, the defense contractor, share in the cost savings that accrue from the implementation of VECs. Value Engineering, therefore, is a management tool for increasing your return on investment in contractual performance through proposed changes in elements; such as contract specifications, purchase descriptions, or statements of work without degradation of quality, reliability, performance, or maintainability of the items you are delivering.

b. In addition to the rewards received from sharing of savings on successful VECs, contractors who practice VE in their day-to-day engineering, manufacturing, and purchasing operations, obtain advantageous competitive positions by producing improved products at lower costs. An active VE Program also helps to establish a reputation as a cost-conscious producer. This kind of reputation is beneficial to any contractor. For those contracts which are negotiated, VE is a consideration when determining the fee for the contract. Thus, a contractor with an active VE Program might obtain a larger percentage fee than a contractor without a VE program, all other things being equal.

c. The end results of successful contractual VE are:

- (1) An improved profit structure for the contractor.
- (2) The needed defense hardware with minimum expenditure of tax dollars.

6. Sharing of VEC Savings. DOD has been encouraging submission of VECs since the Defense Acquisition Regulation (DAR) was first revised for VE in 1959. Many changes have been made over the years which have served to simplify the FAR/DAR language and to increase the contractor's share of savings. There are two basic types of savings that can be shared when a VEC is approved and implemented; these are acquisition and collateral savings. (NOTE: The sharing ratios used in the following discussion are for Firm Fixed Price (FFP) contracts.)

a. Acquisition Savings.

(1) Acquisition savings may include savings obtained on the instant contract, concurrent contracts, and future contracts. In other words, acquisition savings reduce the procuring agency's cost to procure the item on your contract (instant contract), other contracts for the same item with other procedures (concurrent contracts), or future procurements of the same item (future contracts).

(a) The instant contract is the contract under which the VECP is submitted. If the VECP is accepted and implemented on items delivered on this contract, you will receive 50 percent of the net savings which accrue as a result of your VECP. In calculating these savings, your costs of developing and implementing the VECP, and the Government's cost of implementation are all taken into consideration. Therefore, it is important that you identify and record, for audit purposes, the costs you incur in the development and implementation of the VECP. Development costs are those costs incurred after it has been determined a VECP will be prepared and prior to acceptance of the VECP by the Government. Implementation costs are those costs incurred in implementing the change after the VECP has been approved.

(b) Concurrent contracts are those contracts which you and/or other contractors have for essentially the same item from the same contracting office which accepted your VECP. If the contracting office directs that your VECP be incorporated into those other contracts, you will receive 50 percent of the net savings which are obtained on those contracts. Your instant contract total price will then be increased by this amount.

(c) Future contract savings can be shared in a few ways.

<1> If the buying activity can predict with some degree of certainty the number of these items to be procured in the next 3 years, and this number is not classified, the 'lump sum' method of settlement can be used if you, the contractor, and the buying activity, so agree. The contract modification incorporating the VECP will specify the anticipated future procurement quantity. The cost savings per unit are then multiplied by the expected 3 year procurement quantity and your instant contract is increased by 50 percent of that amount.

<2> The second method of sharing savings, used when the savings in the instant contract and current contract(s) of the submitting contractor approximate the savings expected in the remaining 3 year sharing period is called a 'no-cost' settlement method. The contractor accepts 100 percent savings on their contract(s) as full and final payment.

<3> The third method of sharing on future contracts is known as the 'royalty' method. Here, the number of additional units to be procured is unknown or uncertain. Under this method, you will receive 50 percent of the savings which the procuring office obtains by incorporating your VECP on its future contracts. This sharing applies to items scheduled for delivery within 3 years after acceptance of the first item which incorporates your VECP. If you have a long-range contract that will run for more than 3 years after this first item is accepted, your sharing period will cover all items accepted prior to the originally scheduled completion date of your contract. It is your responsibility to maintain records for up to 3 years after the date the first unit incorporating the VECP is accepted.

(2) Whenever the procuring office who approved your VECP issues a new contract during this period for essentially the same item and your VECP has been incorporated into the contractual documents, you should submit an invoice to the procuring activity involved. Payment will be made to you pursuant to the contract under which the VECP was originally accepted.

(3) Normally, the savings per unit that were calculated for the original contract will be multiplied by the number of units scheduled for delivery prior to the expiration of your sharing period. If your VECP is submitted during the design or limited to the production phase, your future sharing is based on the quantity of units equal to the highest 36 months of anticipated production as based on the Five Year Defense Program (FYDP) or other planning documentation existing when your VECP is accepted.

b. Collateral savings are those measurable net reductions in costs of operation, maintenance, logistics support, shipping costs, or Government furnished equipment (GFE), when these savings are a result of an accepted VECP. In some situations, a VECP might increase the acquisition cost of an item but result in substantial collateral savings. For collateral savings, the contractor is entitled to 20 percent of the savings which the purchasing office estimates will be realized during an average one year period. However, the contractor's share shall not exceed \$100,000 or the value of the instant contract, whichever is greater. The amount of collateral savings is determined by the procuring activity, and its determination is not subject to the 'disputes' clause of your contract. The collateral savings provision may be excluded from some contracts at the discretion of the contracting officer.

c. As stated previously, the discussions and examples above refer to sharing percentages for Firm Fixed Price (FFP) contracts. These percentages will vary with other types of contracts. In addition, incentive contracts may contain special provisions which provide that no adjustments be made to targets or ceilings when a VECP is approved. This results in instant contract VECP savings being rewarded under the overall contract cost incentive. If your instant contract has 'design-to-cost' requirements, the future acquisition savings method may also be modified by special clauses. Whatever the type of contract may be, it is the Government's intent to offer a full range of motivation to contractors while precluding duplication of incentives.

7. Sharing Procedures.

a. Settlement of the VECP at No Cost to Either Party. In this method, the contractor would keep all of the savings on the instant contract and on his concurrent contracts. The Government would keep all other concurrent contract savings, all future savings, and all collateral savings. Use of this method must be by mutual agreement of both parties for each individual VECP.

This method will normally be used only when there will definitely be additional production quantities required.

b. Lump Sum Payment. (A single payment for instant and future savings.) Under the lump sum method, future savings are based on the PCOs estimate of the number of units forecast for delivery during the sharing period. The lump sum method shall be selected whenever both parties agree it is practical

and equitable. It can readily be used if the program office has funds necessary to make the lump sum payment.

c. Royalty Method. Payment of savings on the instant contract and payment of future savings on future contracts as they are awarded.

8. Submitting VECPs.

a. When should VECPs be submitted? A VECP can be submitted anytime you have an active contract. The VECPs originated during the early stages of a program normally produce greater savings because they are applicable to a larger number of units and implementation costs (e.g., changes to tooling, facilities, drawings, and manuals) are not as great. As a program ages, the potential for savings decreases, but this does not rule out application of VE at later stages. As long as the potential for savings exceed the cost of developing and implementing a VECP, the VECP can be profitable. Potential savings are thus a function of total quantity to be produced and the life cycle cost structure of the item.

b. Areas for VE.

(1) Many items in DOD inventory are procured in accordance with old specifications and are procured in large quantities on a regular basis. Due to advances in technology, materials, and processes, the applicable specifications become outdated and 'technological regression' by a contractor may be needed in order to produce to the old specifications. Therefore, any items procured on a repetitive basis to old specifications are good candidates for VE.

(2) Another area that offers potential for VE is when you have an item that was designed and developed on a stringent schedule to meet urgent requirements. Under these conditions, the designers would often incorporate the 'old reliable' components or subsystems into the design simply because time would not permit qualification of an improved substitute. However, at the present time, a newer, less expensive and more reliable alternative may have been developed and proven which can now be introduced into the item by a VECP. Whenever this kind of situation exists, submitting a VECP to incorporate the newer, improved component or subsystem should be considered.

9. Preparing VECPs.

a. Basic Requirements. Once the decision has been made to submit a VECP, the individual(s) responsible for preparing it should realize the likelihood of the VECP being approved is largely proportional to the care and effort applied to its preparation. Sufficient information must be present so a thorough evaluation can be conducted by the Government with minimum delay. Failure to provide adequate data will result in requests for additional information, or may possibly result in a rejection of the VECP. Your preparation of a VECP should be done with the same careful approach that you would use if you were submitting a proposal in response to a procurement solicitation. Following is the FAR description of the minimum information that you must submit on a VECP.

(1) Describe the difference between the existing requirement; i.e., the basic contract, a specification, a drawing, or a Statement of Work, and the proposed change. List the comparative advantages and disadvantages of each method. Provide justification when a function or characteristic of the item is being altered. Describe the effect which you believe the proposed change will have on the performance of the end item and include pertinent objective test data.

(2) Make an analysis and itemization of each contractual requirement which must change if the VECP is accepted and include any recommendations you may have for changing specifications.

(3) Provide a detailed cost estimate for both the old and proposed methods. Make sure you account for your estimated development and implementation costs, and include any costs attributable to subcontractors. Also, you must include a description and estimate of the cost the Government may incur in implementing the VECP; e.g., test, evaluation, operating, and support costs.

(4) Predict, as best you can, the collateral cost savings, or increases which the Government would experience if the VECP is implemented.

(5) Identify the point in time in which a contract modification implementing the VECP must be issued in order to obtain maximum possible savings and note any effect on the delivery schedule or contract performance time.

(6) Identify any previous submissions of the VECP, giving the dates submitted, agencies involved, contract numbers, and previous actions by the Government, if known.

(7) Identify the unit; i.e., item or task, to which your VECP applies.

b. Format.

(1) Although the FAR clause relative to VE does not specify a particular format to be followed in preparing a VECP, it is highly probable that MIL-STD 973 is listed in your contract as being applicable. This 'Configuration Control' standard will govern the format to be followed in submitting your VECP. If no format is specified in the contract, ask the Contracting Officer (CO) or Administrative Contracting Officer (ACO) what format to use.

(2) MIL-STD 973, which replaced MIL-STD 480 and 481, required the use of DD Form 1692 until release No. 3, dated 13 Jan 95. Release No. 3 to MIL-STD 973, does not require the Forms 1692 through 1692/6. The VECP can be prepared in contractor format, however, the information required must be in the sequence so MIL-STD 973 is necessary for reference. Whether contractor format or DD Form 1692 is used, it is very important to type the following phrase at the top of the page, VALUE ENGINEERING CHANGE PURSUANT TO THE CONTRACT CLAUSE and to use 'V' as a justification code, reference Appendix D of MIL-STD 973.

(3) The Forms 1692 and 1692-1 through 1692-5 are used to submit changes to complex equipment or systems where the contractor has participated in the original design or development of the item or system, and could reasonably be expected to be aware of the overall effect of proposed changes. For less complex VECPs and where the submitter was not involved in the design or development of the item/system, a single Form 1692 with attachments (short form) should be adequate. Note the requirements for a VECP in FAR 52.248-1(c), VECP Preparation.

(4) Use of the short form is appropriate in contracts involving either multi-application items not peculiar to specific systems, or a procurement from a contractor who cannot reasonably be expected to know all of the consequences of a VECP. In these situations, the major portion of the analysis of the impact of a VECP on associated items is transferred from the contractor to the procuring activity.

(5) While MIL-STD 973 illustrates the basic forms used in submitting VECPs, and the FAR lists minimum requirements; it must be remembered that in order to 'sell' a proposal, complete information must be supplied. This may include sketches or drawings, test data, details of performance in a commercial application, proposed changes to specifications and/or drawings, and any other applicable data which will aid the cognizant agency in evaluating the proposal.

c. Transmittal Letter. Preparation of a transmittal letter forwarding the VECP to the PCO and the ACO is also a very important step toward achieving success in contractual VE. The transmittal letter should state that the VECP is being submitted pursuant to the VE provisions of your contract. Also, the transmittal letter should serve as a summary of the contents of a VECP; it should briefly state the estimated price changes and nature of the proposed change, with the reference to where complete details can be found in the proposal. The transmittal letter serves both as a 'Table of Contents' of the proposal and as a marketing document which brings out the 'highlights' of the proposal, both in the area of technical advantage and in the area of overall cost reduction to the Government. The contractor shall submit VECPs to the contracting officer unless the contract states otherwise. If the contract is administered by other than the contracting office, the contractor shall submit a copy of the VECP simultaneously to the contracting officer and to the administrative contracting officer.

d. Restricting Data.

(1) If your VECP contains information that you wish to restrict from use prior to Government approval, you should include an appropriate legend on each page or sheet of the VECP. The FAR language (see Part 52.248-1 of the current FAR) for this legend is - 'These data, furnished under the VE clause of Contract No. _____, shall not be disclosed outside the Government or duplicated, used or disclosed outside the Government or duplicated, used or disclosed, in whole or in part, for any purpose other than to evaluate a VECP submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it

has been obtained or is otherwise available from the contractor or from another source without limitations.'

(2) However, if the VECP is approved, the Government then has the right to use any and all data contained in the VECP and its supporting documents. If the VECP contains data which you wish to restrict, a statement to that effect must be included in the letter of transmittal and the proposal. Details should be given in the proposal and you must take exception to the 'data' clause of the FAR to the extent consistent with the restriction statement in the proposal. You should realize that a VECP which results in a 'sole source' condition for future acquisitions may not be as readily accepted as one which does not impose this restriction on sources.

(3) In conclusion, make sure your VECP meets all of the above requirements. Review the VECP and ask the following questions.

(a) Does the contract contain VE provisions? (If not, see 'What If I Have A VE Idea But Do Not Have VE Provisions in My Contract'?)

(b) Is this actually a VECP? Is Government approval necessary to implement this idea? If so, will there be a reduction in cost to the Government, on this or future contracts, or in the collateral area?

(c) Does the VECP contain all of the information required by the FAR/DAR?

(d) Does the contract specify MIL-STD 973 as being applicable? If so, has the format specified by the applicable standard been followed? If DD Forms 1962, DD 1692-1 through -5 have been used, have you changed the 'ECP' term to read 'VECP'?

(e) Does the VECP contain any data which should be restricted prior to approval? If so, has the 'Data' clause of the current FAR been marked on all sheets containing such data? If proprietary data are involved, has exception been taken to the standard 'data' clause and has the proprietary data been identified?

(f) Has the letter of transmittal been prepared? Will the letter help or hamper selling the idea?

(g) Does the proposal contain answers to all questions the evaluator might ask? Is there any other supporting data which could be provided to help the evaluation process along?

10. Keys to a Successful VECP. The probability of success for your VECP is largely dependent upon the amount of effort you expend in preparing it. The proposal should contain sufficient information and support so it will answer all reasonable questions the evaluator might have. Keep in mind that you are trying to 'sell' your idea. If insufficient information is provided, the evaluator may feel that you have not thoroughly investigated all areas or that you may be withholding negative aspects. You can keep this from happening by submitting a carefully prepared VECP. The following keys should aid your success.

a. Key 1 - Be Complete. The VECF should communicate the proposal to the evaluating officer in as clear a manner as possible to avoid any misunderstanding, be specific as to the proposed changes citing both what is present and proposed, be accurate with respect to dimensions and tolerances, etc., and thoroughly address all items which are affected by this proposal. The goal is to provide the technical manager with a set of yes or no decisions to be made and not have a set of blank spaces to be filled in which may require further analysis.

b. Key 2 - Use the Proper Government Forms If Required. Use of the format required by the Government will communicate the proposal in a manner familiar to the evaluator. This will ease the evaluator's burden as to where to locate the data and further ease his burden of communication with the technical advisor. The more effort expended in communicating your proposal through the use of the required format, the greater your chance of having the VECF accepted. The Engineering Change Form, DD Form 1692, is not required as of Jan 95 but, the contractor's format must present the information in the same Block Number sequence. The Notice of Revision, DD Form 1695, is also not required, however, the contractor's format should convey the same information for ease of communication.

c. Key 3 - Provide Back-up. You should consider the following detail items as examples of data which will be required for the evaluation: Benefits and risks to the Government, tolerance study, material study, impact on gages, manuals, interchangeability, test data, compatibility with explosives, interface with modernization projects, life cycles cost impact, and implementation need date with impact. This list is solely for sample purposes although it is appropriate for all configuration proposed changes. Your own judgement should be used for nonconfiguration proposals with respect to what the technical evaluator will require in order to arrive at their decision.

d. Key 4 - Testing Needed. Provide the results and description of the test performed to demonstrate the acceptableness of the proposed change. Information regarding the adequacy of your test plan may be obtained from the Government prior to submittal. Tests witnessed by the Government are highly recommended. If you believe additional Government testing may be required, provide a sample or, at least, indicate whether a sample is available.

e. Key 5 - Give Oral Presentation. A presentation should be offered through the procuring contracting officer where the VECF is of a high dollar value and/or presents a radical departure from current technology. The offer should be made to brief both the configuration/functional manager and their board of advisors as well as the evaluating organization.

f. Key 6 - Support the Configuration/Functional Manager. Do not assume a vast experience by the manager with the subject of the proposal. Assist the manager with information to both educate and provide evidence which will allow that a correct decision will be made which will benefit both the taxpayer and, most important, the soldier affected by this proposal.

g. Key 7 - Provide Economic Analysis. Address all of the potential costs and benefits of this VECP. Do not hesitate to make estimates where data is not available. In addition to direct savings, address savings which would accrue through operation and maintenance; i.e., collateral savings. Be reasonable in your estimates to enhance your credibility.

h. Key 8 - Develop Reputation. You will develop a good reputation by adherence to Keys 1 through 7 above. Once this reputation is established for successful VECPs, your future proposals will be greeted with greater acceptance and less skepticism.

11. Getting Assistance in Preparing and Processing VECPs. As a defense contractor, your primary point of contact is the cognizant ACO. When your contract is administered by your local DCMAO, you will find the ACO for your contract in that office. Through the ACO you can obtain technical and administrative assistance concerning preparing and handling VECPs. Within each DCMAO region there is a VE specialist and numerous other engineers who are trained in VE practices and procedures. These trained technical people can advise you on all aspects of contractual VE. Also, assistance and information are available through the procuring agency that generated your contract and from its supporting technical agency. They can also be contacted through the ACO.

12. Where Do I Send My VECP?

a. The VECP and appropriate copies should be sent to the addresses stated in the configuration control clause and/or DD Form 1423 of your contract. At IOC it is generally in Section C of your contract. Adherence to the VECP distribution as specified in your contract will ensure all of the appropriate organizations are made aware of your proposal simultaneously. This will reduce processing time and maximize the support of your proposal in evaluation.

b. The local DCMAO office is responsible for periodic follow-up on all VECPs during the evaluation process. Also, the ACO will assist in expediting the evaluation and support the accept/reject decision process by the PCO. Timely receipt of your VECP, as stated in your contract, allows all elements to maximize their support to both you and the PCO.

13. The 'Preliminary' VECP - What Is It? A preliminary VECP is a vehicle for submitting an idea to the Government Procuring Office which might result in the submission of a 'full-blown' VECP. A preliminary VECP can be submitted to get an idea on whether or not a potential VECP should be pursued. This action would be beneficial if the development of the VECP would require risking significant funds. You would notify the PCO that you believe a certain item showed potential for application for VE, indicating the approximate costs for developing the VECP and the estimated savings which might be achieved. The PCO would then indicate if the idea deserved additional study, or if it should be dropped due to conditions known only by the PCO. You should be aware that an indication from the Procurement Office that the idea has potential does not guarantee that your formal VECP will be accepted. As with any VECP, there is the possibility that it might be rejected, and there is some element of risk involved. However, the idea behind preliminary VECPs is to reduce this risk so that you do not expend

significant funds on ideas that have little or no chance of being accepted. Also, your preliminary VECP does not establish your right to the idea as a formal VECP does.

14. What If I Have a VE Idea But Do Not Have VE Provisions in My Contract?

It is possible that you have an idea for a VECP, but your contract does not contain VE provisions. In this case, you have two methods you can use to submit a VECP.

a. The first method would be to notify the PCO that you have an idea and would like to submit a VECP, and request that a contract modification be issued as soon as possible incorporating the applicable FAR/DAR provisions. When the modification is issued, the VECP can then be submitted. While this method is acceptable, it consumes too much time.

b. The other method, which is preferred because it is faster, is to prepare the VECP, or a preliminary VECP, and submit it to the PCO. The transmittal letter should state the applicable contract does not contain VE provisions, that the right to use the idea is contingent upon incorporation of the appropriate FAR/DAR VE provisions into the contract, and if the idea is accepted, acceptance will be pursuant to the VE clause.

15. What If I Have A VE Idea But Do Not Have A Contract? Unsolicited VE Proposals (UVEPs). Previously, ASPR 1-1708 made specific provisions for the submission of cost reduction proposals with regard to supplies and services for which the proposer did not have a current contract. These proposals were termed UVEPs. However, with publication of the Defense Procurement Circular #76-9, the use of UVEPs was eliminated. Likewise, they are not permitted under the new FAR. The FAR still provides for unsolicited proposals outside of the VE provisions. Section 15, Part 5, of the FAR states that it is the policy of the Government to foster and encourage the submission of unsolicited proposals. However, the FAR restricts unsolicited proposals to 'unique or innovative methods or approaches which are proposed for the purpose of securing a contract for (i) research and development of the methods, approaches, or ideas it contains, or (ii) the conduct of the activity or services or the delivery of the items it proposes'.

16. Subcontractor VE.

a. Prime defense contractors are encouraged to extend VE provisions to their subcontractors. The FAR requires primes to extend VE to their subcontractors on contracts of \$100,000 or greater; however, VE may be extended to subcontractors on contracts of lesser value (See current FAR).

b. Prime to subcontractor VE arrangements can be made by the prime extending to the subcontractor a percentage of whatever amount the prime receives as their share, including 'instant' or current contract share, 'collateral' share, and 'future acquisition' share. For example, a simple paragraph could be included in a subcontract which might provide a 50 percent share of whatever dollar amount the prime might receive in the three areas of sharing on a successful VECP.

c. The sharing between prime and subcontractor can be a matter of negotiation between them and should provide motivation for the subcontractor

to do VE and to submit VECs to the prime. It should also provide a fair share to the prime who is responsible for putting a subcontractor's VEC into proper format and for 'selling' it to the Government. Any development and implementation costs of the subcontractor, and the share of instant contract savings extended to the subcontractor, are considered to be part of the prime contractor's development and implementation costs. However, it should be noted that the agreement made between the prime and the subcontractor are not permitted to reduce the Government's share of concurrent, future, or collateral savings.

d. A subcontractor must submit his VEC to the prime contractor who in turn submits it to the Government.

17. Settlement of Approved VECs.

a. If the VEC settlement terms are not definitized in the contract modification approving the VEC, the contractor will be required to submit a new cost proposal reflecting any changes that may have occurred since the VEC was submitted. The update should address the following:

(1) Incorporation Point. This is the date that the first item incorporating the approved VEC was accepted by the Government.

(2) Cost Data. New information gathered from the implementation should be utilized.

(3) Quantity Affected. This is the number of items produced by the contractor on instant or concurrent contracts which incorporate the VEC.

(4) Changes. Any changes or conditions made by the Government or contractor; e.g., the VEC may be approved by the Government with modification.

(5) Variances/Rates. The unit price before and after the VEC implementation should be listed together with any other change in cost or quantities.

b. The data must be supported by hard evidence wherever possible; e.g., purchase orders, quotations, actual prices, price history, and when these documents are not available, provide estimates based on good judgement factors.

c. The updated cost proposal should then be submitted to the Government acquisition officer (PCO) through the ACO with all the back-up data for fact finding. At this point, the contractor can significantly aid their claim by factual back-up to their cost data. Fact finding will then be performed and lead to a Government position. Upon completion of the fact finding, the parties will then proceed to negotiate, in good faith, an agreement for incorporation into the contract.

d. During the negotiation, particular emphasis should be focused on sharing elements (unit cost, sharing period, Government and contractor implementation costs), instant contract savings, concurrent contract savings,

future contract savings, collateral contract savings, and the type of settlement, e.g., royalty.

e. Once the negotiation has been completed, the VECP is definitized by a supplemental agreement to the instant contract. This supplemental agreement is very important as it will be the reference document during the life of the VECP. This agreement should state the following:

- (1) Type of settlement.
- (2) Government's share of the Instant Contract Savings (ICS).
- (3) Contractor's share of the ICS.
- (4) Government cost (those costs over and above normal administrative costs for the evaluation and implementation of the VECP).
- (5) Royalty share during the royalty period.
- (6) Royalty period.
- (7) Collateral savings and contractor's share.
- (8) Contract line number for VE royalty and collateral payments.

f. It is important that the VECP be settled as soon after implementation as possible to ensure accurate information is obtained and that personnel knowledgeable of the VECP can participate in the negotiation. It is advisable to settle the VECP by the most advantageous administrative process.

18. Additional Guidance for Practicing VE.

a. Remember - when you bid or price a contract and you have a VECP item in mind, do not set your price with the expectation that the Government is required to accept any contemplated VECPS.

b. When you submit a VECP for Government approval, do not initiate action to implement it until you receive a formal go-ahead from the Government, e.g., a contracting officer's letter or contract modification. Until you are given a formal go-ahead, you are obligated to perform in accordance with the original contract.

c. When you submit a VECP, always set forth a specific time period within which your VECP must be accepted or rejected.

d. When you submit a VECP, always identify other similar or related contracts to which your VECP may apply.

e. When you undertake a VECP effort, be sure to keep records of your development and implementation costs and require your subcontractors to do likewise.

f. Be as accurate as you can in calculating your implementation costs and insist the Government provide accurate and complete data when it calculates its own implementation costs.

g. When your VECP is incorporated into your contract(s), maintain internal records identifying the first delivered item containing the VECP and place a note to that effect on the appropriate acceptance/payment document (DD Form 250).

h. You need not be hesitant about submitting a VECP that involves a Government property right, but do exercise extreme caution when data rights of other parties might be involved.

APPENDIX A

GENERAL INFORMATION

Acronyms/Abbreviations

ACO	Administrative Contracting Office
ARDEC	U.S. Army Armament Research, Development and Engineering Center
CCB	Configuration Control Board
CDRL	Contract Data Requirement List
CM	Configuration Management
COTR	Contracting Officer's Technical Representative
DA	Department of the Army
DAR	Defense Acquisition Regulation
DCMAO	Defense Contract Management Area Office
DLA	Defense Logistics Agency
DOD	Department of Defense
DOD-STD	Department of Defense Standard
ECP	Engineering Change Proposal
FAR	Federal Acquisition Regulation
FFP	Firm Fixed Price
FYDP	Five Year Defense Program
GFE	Government Furnished Equipment
ICS	Instant Contract Savings
IOC	U.S. Army Industrial Operations Command
MIL-STD	Military Standard
PCO	Procuring Contracting Officer
Prime	Prime Contractor
TDP	Technical Data Package
VE	Value Engineering
VECP	Value Engineering Change Proposal
VEI	Value Engineering Incentive
VEP	Value Engineering Proposal
VEPR	Value Engineering Program Requirement

APPENDIX A (continued)

VECP Definitions

Before discussing a VECP, two other closely related terms, ECP and VEP, need to be identified and defined.

An ECP is developed by either the contractor or Government personnel and submitted in accordance with the 'Change Clause' of the contract to initiate a change, a requirements change, to correct an error, etc. An ECP may be cost saving or cost incurring. Any savings that result from an ECP belong to the Government because there are no provisions in the FAR (Part 52-243) under 'Change Clause' for sharing with the contractor.

A VEP is developed internally by Government personnel which results in an overall program savings. Since the VEP is developed by Government personnel, the savings are not shared with the contractor. The Government may use a third party contractor for the VEP effort.

A VECP is a proposal submitted to the Government by a contractor in accordance with the Value Engineering provision of the contract. It proposes a change which, if accepted and implemented, provides an eventual overall cost savings to the Government. For example, a VECP may be a change to update an existing design to the current state of the art design, simplify complex material by modifying or eliminating components, or update specifications/drawings providing improved data for future procurement. The Value Engineering provisions in a contract prescribe that the contractor shares substantially in the savings which accrue from implementing the change. In other words, the VECP provides the means to lower defense procurement costs while increasing the contractor's rate of return on investment. Thus, the VECP becomes both a contractor and a Government management tool.

In order to qualify as a VECP so that a savings can be shared, the proposed change must meet two primary requirements:

- o It must require a change to the instant contract to implement.
- o It must result in reducing the overall projected cost to the Government without impairing hardware performance and attributes.

There is not a requirement that the VECP result from a scientific effort, engineering effort, or original thought. Any proposal that meets the criteria listed above as a minimum qualifies.

Potential VE Applications

Potential for VE may be found in almost any aspect of a DOD contract or program. A general listing of these aspects (not all inclusive) follows:

APPENDIX A (continued)

a. Contract Requirements

Technical
Support
Data
Delivery Schedules

b. Hardware

Procurements

Fabrications and Assemblies
Government Furnished Equipment

c. Manufacturing

Procedures/Processes
Tooling Philosophy
Test Procedures/Equipment

d. Installation

Equipment Requirements
Layout/Procedures

e. Operations

Policy/Procedures
Staffing

f. Maintenance

Repair Policy/Procedure
Repair Level/Cycle
Test Equipment

g. Software

h. Logistics

Factors Leading to VE Changes

Percent of total actions	Percent of total actions	Factor	Definition
13.9	23.2	Advances in technology	Incorporation of new materials, components, techniques, or processes(advances in the state-of-the-art) not available at the time of the previous design effort.

APPENDIX A (continued)

Factors Leading to VE Changes (continued)

Percent of total actions	Percent of total actions	Factor	Definition
23.1	22.2	Excessive Cost	Prior design approved technically adequate, but subsequent cost analysis revealed excessive cost.
14.4	17.7	Questioning	User's specifications were examined, Specifications questioned, determined to be inappropriate, out-of-date, or over specified.
27.8	14.8	Additional	Application of additional skills, Design Effort ideas, and information available but not utilized during previous design effort.
5.2	11.8	Change In User's	User's modification or redefinition Need of mission, function, or application of item.
6.8	4.0	Feedback From	Design modification based on user Test/Use tests or field experience suggesting that specified parameters governing previous design exaggerated.
4.6	3.8	Design	Prior designs proved inadequate in Deficiencies use; e.g., was characterized by inadequate performance, excessive failure rates, or technical deficiency.
4.2	2.5	Miscellaneous	Other factors not included above.

VE Applications Checklist

Following is a suggested listing of specific questions that can be posed when applying VE to your contract. This is offered only as a guide and should not be considered a substitute for other proven VE techniques.

a. General.

- Can the design be changed to eliminate parts?
- Can the present design be purchased at lower cost?
- Can a standard part be used?
- Would an altered standard part be more economical?

APPENDIX A (continued)

If the part is to improve appearance, is its presence justified?
Is there a less costly part that will perform the same function?
Can the design be changed to simplify the part?
Will the design permit standard inspection equipment be used?
Can a part designed for other equipment be used?
Can a less expensive material be used?
Can the number of different materials be reduced?
Are there newly developed materials that can be used?
Can the design be modified to permit manufacture on automatic machinery?

b. Machining.

Are all machined surfaces and finishes necessary?
Will a coarser finish be adequate?
Does design permit the use of standard cutting tools?
Are tolerances closer than they need be?
Can another material be used that would be easier to machine?
Can a fastener be used to eliminate tapping?
Can weld nuts be used instead of a tapped hole?

c. Assembly.

Can two or more parts be combined?
Can parts be made symmetrical?
Is there a newly developed fastener to speed assembly?
Are a minimum number of hardware sizes used?
Are stock components called for, if feasible?
Can roll pins be used to eliminate reaming?

d. Specifications and Standards.

Can a MIL-SPEC be replaced by a commercial part/application?
Can a MIL-STD be replaced by a non-Government standard?
Is there a standard part that can replace a manufactured item?
Can an altered standard part be used instead of a special part?
Can any specification be changed to effect a cost reduction?
Is standard hardware used?
Are all threads standard?
Can standard cutting tools be used?
Can standard gages be used?
Is there available material with tolerances and finish that will eliminate machining?

e. Quality Assurance

Are inspection standards realistic?
Is the present level of testing necessary?
Can redundant inspections or tests be eliminated?
Would redesign eliminate a quality problem?
Can the design be modified to simplify inspection?

APPENDIX A (continued)

f. Packaging.

Is the present level of packaging needed?
Can the package be simplified?
Could different packing material be used?
Is bulk packing possible? Palletizing?
Can packaging be redesigned for automatic machinery?
Is packaging arranged for lowest cost total material handling?

g. Logistics.

Transportation
Field Maintenance
Improve Life Expectancy, etc.

A Contractor's Checklist for an Effective VE Program

Following is a suggested listing of questions to help you determine some of the internal management attitudes and disciplines needed to have a viable effective VE Program in your company.

- a. Do you set company goals for VECP income?
- b. Are VECP goals established for line department and program managers?
- c. Does top management review VECP income and approve VE operating goals and budgets?
- d. Does top management consult with key customer personnel to agree on VECP goals and processing on major contracts and programs?
- e. Do personnel, such as marketing, work on the 'team' and do they receive credit for approved VECPs or are they 'penalized' due to reduced credit for reduced contract price?
- f. Do your negotiators understand the VE provisions in the FAR/DAR?
- g. Do you place VE sharing provisions in your subcontracts?
- h. Is VECP income identified separately by accounting so that:
 - (1) Top management can recognize VE's contribution?
 - (2) Management can be kept abreast of expenditures and receipts in the VE effort?
- i. Do you assign resources to the development of specific VECPs?
- j. Do you operate so that you minimize time to:
 - (1) Develop a VECP?

APPENDIX A (continued)

(2) Obtain internal company approval prior to submittal to the Government?

k. Do you conduct formal VE workshops to expand your in-house capabilities?

VECP Payment/Settlement Requirements

VECP _____

Payment for savings generated as a result of the Government's acceptance of an approved VECP will be contractually recognized by 1 of 3 settlement methods: Lump Sum Payment, Royalty Payment Method, or the Alternate No-Cost Settlement Method.

In order to provide settlement of all VECPS in a timely manner, the following specific information must be furnished by the contractor to assist in the determination of the appropriate method of settlement.

- a. Number of items affected in the instant contract _____.
- b. Gross unit savings \$_____.
- c. Contractor development and implementation cost \$_____.
- d. Estimate of average annual collateral savings (if applicable) \$_____.
- e. Date of acceptance by the Government of the first item incorporating the VECP _____.
- f. Originally scheduled delivery date of the last affected item under the instant contract _____.
- g. Projected royalty period beginning _____ ending _____.
- h. Known future contracts (an option to instant contract, etc.) into which the VECP has been or will be incorporated and the number of units scheduled for delivery during the royalty period:

CONTRACT	NUMBER OF UNITS UNDER ROYALTY
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TOTAL UNITS UNDER ROYALTY _____

i. Applicable NSN _____.

APPENDIX A (continued)

Applicable Documents

Regulations: There are two major regulations which govern the application of value engineering on Government contracts. The first is the Defense Acquisition Regulation (DAR) which has two major changes; Defense Acquisition Circular (DAC) Number 76-26, 15 Dec 80 and DAC Number 76-39, Oct 82.

These two DACs are replacement pages for the 1976 edition of the DAR. The DAR covers General Provision Part 17-Value Engineering (1-01700 to 1-1707). It also covers the contract clauses and solicitations provisions for VE in paragraph 7-104.44.

The entire DAR (as it relates to VE) was replaced by the Federal Acquisition Regulation (FAR) in Apr 84. The latest is the 1990 edition of the FAR which replaces the 1984 edition including Federal Acquisition Circulars 84-1 through 84-58. The new VE General Provisions are covered in Part 48 - Value Engineering (48.00 to 48.105) and the contract clauses and solicitations provisions are covered in FAC 90-3, 22 Jan 91, in Paragraph 52.248-1.

Knowledge of both the DAR and the FAR are required as long as you have contracts dating prior to Apr 84. Any contract awarded after Apr 84, by law, will have the FAR as the applicable document.

Military Standards MIL-STD 973. This standard provides:

- a. Requirements for maintaining configuration control of configuration items.
- b. Requirements for the preparation and submission of proposed engineering changes, deviations, waivers, and notices of revisions.
- c. Requirements for submitting the information necessary to maintain the configuration identification in a current status.

MIL-STD 1771. This standard establishes the minimum requirements for a contractor's VE program and prescribes a minimum standard of contractor's VE performance.

Army Documents

Department of the Army Regulation (AR) 5-4. Chapter 4 in this regulation identifies the scope, policy, objectives, and responsibilities for the VE Program in the Army.

Other Documents

DOD Handbook 4245.8-H. This handbook is considered to be an excellent document for identifying all of the functional areas involving VE studies and VE applications in the contracts. How to manage a VE organization in DOD, VE training and marketing VE ideas or other important tasks are outlined in the handbook.

