Final Report of the Process Action Team on Value Engineering Change Proposals

July 1997

Office of the Under Secretary of Defense
for Acquisition and Technology
Washington, DC 20301-3000

THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-3010

ACQUISITION AND
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AUG 7 1997

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Improving the Effectiveness of Value Engineering Change Proposals

One of DoD's highest priorities is to reduce the total ownership cost of systems and equipment while maintaining the high level of performance the user requires. The Value Engineering Change Proposal (VECP) offers many programs an effective mechanism for lowering cost, but the VECP has not been used to its full potential. A Department-wide VECP Process Action Team (PAT), established through the Defense Manufacturing Council (DMC, now the Defense Systems Affordability Council (DSAC)), concurred with this view and identified barriers to the effectiveness and use of the VECP. The PAT developed an action plan for reducing or eliminating those barriers and for making the VECP a more attractive cost-reduction tool. The Systems Engineering Steering Group (SESG) and the DMC have accepted the PAT's recommendations (a copy of the PAT report's executive summary is attached and contains the PAT recommendations). This memorandum asks your cooperation in the following, to assure successful implementation of the PAT's recommendations:

- Each DoD Component with acquisition and support responsibilities should appoint VE advocates who can help program offices recognize where VE can be applied, motivate generation of VECPs and facilitate VECP processing. Components are also encouraged to establish VE savings goals to help motivate its application.

- Each Component should promote the use of IPTs to manage the VECP approval process. Components should establish aggressive goals for the average VECP processing time (as measured from formal submission to implementing contract action) and should staff, empower and motivate IPTs to meet these goals. These goals and the management actions to achieve them should be reviewed annually until the VECP process ceases to be a deterrent to VECP submission.

- I have asked the DUSD(L) to work with the Comptroller and the Components to modify the Reliability, Maintainability and Supportability (RM&S) Program so that it serves as a continuing, timely source of funds for VECPs. On completion of these efforts later this year, each Component should take action to ensure that maximum advantage is taken of those available dollars.

- The Director, Defense Procurement has published a class deviation to the FAR which allows flexibility to increase the sharing period from the current 3 years to a range of 3 to

5 years; the incentive sharing arrangement from the current, fixed rate of 50 percent for the contractor to a range of 50 to 75 percent; and the contractor share of collateral savings from the current, fixed rate of 20 percent to a range of 20 to 100 percent. The Director, Defense Procurement has also published guidelines for use of the Undefinitized Contract Action (UCA) to allow VECPs that reduce cost on the instant contract to begin following technical approval. Each Component should take action to ensure that these guidelines are widely disseminated and used to maximum advantage.

- The DUSD(AR) and Director, Test, Systems Engineering & Evaluation, working with the components, should develop VECP training materials for use in Defense Acquisition University curricula and the Defense Acquisition Deskbook and support establishment of a DoD VE Home page.

For these changes to be effective, they must be combined with our aggressive efforts to encourage contractor development and submission of VECPs. I cannot overemphasize the role of the PEO, PM and Item Managers in making this happen. Continued attention to cost reduction and the host of implementing tools necessary to its success is critical. Request components report back to me within 60 days on their plans for implementing the above guidelines and their efforts to take better advantage of the VECP. When VE is combined with competition, Integrated Product and Process Development, Cost as an Independent Variable, the Single Process Initiative and other cost-reduction tools, we can make significant strides in reducing the cost of our acquisition and support programs.

R. Noel Longuemare
Acting Under Secretary of Defense
(Acquisition and Technology)

2 Attachments:
1. Executive Summary from the Final Report of the PAT on VECPs
2. Final Report of the PAT on VECPs

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MEMORANDUM FOR PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE
FOR ACQUISITION AND TECHNOLOGY

THROUGH: DIRECTOR, TEST, SYSTEMS ENGINEERING, AND EVALUATION

SUBJECT: Final Report of the Process Action Team (PAT) on Value Engineering Change Proposals (VECPs)

In September 1996, you chartered a Process Action Team (PAT) to identify the role of the Value Engineering Change Proposal (VECP) in the acquisition environment, to identify existing barriers to the VECP, and to develop an action plan for reducing those barriers. The objective of the PAT was to make the VECP a more attractive mechanism for reducing the cost to acquire and support Defense programs.

The PAT has completed its study and documented its findings and recommendations in the attached report. The recommendations are intended to enhance the use of the VECP to reduce cost and enhance the performance of all DoD programs, particularly those in the production and sustainment phase.

The ultimate effectiveness of the PAT recommendations will be reflected in the annual *Department of Defense FYxx Value Engineering Report,* through increased savings over an extended period of time.

Stephen French
Chairman, VECP PAT

cc:
Members, Defense Manufacturing Council
Members, Systems Engineering Steering Group
Members, VECP PAT

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The Office of the Under Secretary of Defense for Acquisition and Technology (OUSD(A&T)); Director, Test, Systems Engineering, and Evaluation (DTSE&E) appreciates the efforts of the Military Services and Defense Organizations without whose support this report would not be possible. In particular, DTSE&E thanks the following Process Action Team members and the organizations they represent:

OSD

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DTSE&E also appreciates industry inputs on VE from the Council of Defense and Space Industries Associations (CODSIA), Electronics Industries Association (EIA), American Defense Preparedness Association (ADPA), and the National Center for Advanced Technologies (NCAT); and the timely assistance from support contractors including TRW, QUADELTA Inc., ANSER Corporation, and the Atlantic Rim Group, Inc. A roster of PAT participants, with phone numbers and email addresses, is at Annex B.

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Annexes:

EXECUTIVE SUMMARY

ES 1.0 The VECP Process Action Team

The DoD Value Engineering Change Proposal (VECP) Process Action Team (PAT) was chartered by the PDUSD(A&T) on September 16, 1996, in response to reductions in the VECP savings reported in the DoD VE Annual Report. The PAT included representatives from the Offices of the Secretary of Defense (OSD), Army, Navy, Air Force, Ballistic Missile Defense Organization (BMDO), Defense Logistics Agency (DLA), Defense Contract Management Command (DCMC), and the defense industry. The PAT's mission was to:

- Define the role of the VECP in today's acquisition environment
- Identify Program Manager and contractor barriers to VECPs
- Develop an action plan to remove or minimize those barriers thereby increasing VECP savings

The objectives of the PAT were to identify and remove the impediments to the VECP and thereby improve the incentives for contractors to identify life cycle cost savings opportunities for the Government.

The PAT analyzed the VECP process, the service implementing programs and the changes in the acquisition environment that may have contributed to the lower achieved savings. Initial results and proposed solutions were discussed with a spectrum of Program Managers and Defense contractors involved in systems acquisition and supply support of fielded systems. Preferred recommendations were identified and an Action Plan was developed. The Defense Manufacturing Council endorsed the PAT recommendations on March 3, 1997 and the Action Plan on April 14, 1997.

ES 2.0 Role of the VECP

The PAT concluded that in today's acquisition reform environment, the VECP can provide for system enhancements and cost reduction changes, which might not otherwise become available to the Government. The VECP can be used at any point during acquisition but the historical application has been and continues to be in the production and support phases of a program. Principal application of the VECP is in the production environment where the Government maintains configuration control over the product or its components and in the support phase where the Government is actively seeking enhancements which reduce operating and support costs and which improve system performance or extend its service life. In addition, there will remain for some time to come, a large number of legacy systems for which the VECP provides one of the most

effective means for incentivizing cost reduction and system improvement through redesign, upgrade and technology insertion.

ES 3.0 Barriers

The VECP PAT found that resolution of the following barriers was key to the continued effectiveness of the VECP.

1. From the Program Manager's viewpoint.

   A. The VECP process is too lengthy, complex and resource intensive.

   B. The VECP puts a funding burden on the PM by requiring that they fund the implementation costs and the contractor's share of collateral savings. This burden has deterred PMs from aggressively supporting the VE program.

   C. There is little motivation for the PM to aggressively pursue the VECP because any savings are taken from his future budget.

   D. For most programs, cost reduction has not been made a program requirement.

   E. Lack of top level management attention to the VECP decreases PM attention to the program.

2. From the Contractor's viewpoint:

   A. The PM's negative attitude toward the VECP overshadows the current limited incentives for submitting a VECP.

   B. Contractors view the VECP as a high risk investment, which often has insufficient return on investment to justify their initial investment.

   C. The excessive complexity of the VECP process consumes resources, delays payment, and decreases the opportunity for significant return on investment.

   D. The Federal Acquisition Regulations and other VE guidelines are perceived as inflexible and too restrictive in their incentive guidelines.

3. From the Supply Support Perspective.

   A. Most supply/support purchases are too small (less than $25K) to support investment in VECP development.

B. Many supply/support contractors have engineering capability which is too limited to support development of VECPs.

C. The length and complexity of the process deters VECP development and submission.

ES 4.0 Recommendations

The VE PAT proposed the following recommendations and associated actions to reduce the barriers found in the VECP process.

1. Increase senior level management emphasis on VE. Request that the USD(A&T) send a memorandum to the Component Acquisition Executives (CAEs) promoting the VECP, identifying the actions necessary to stimulate its use, streamline the VECP process, improve the incentives, and provide for VECP funding. Components should appoint the VECP advocates necessary to facilitate program implementation.

2. Simplify and Shorten the VECP Approval Process. Empower the Integrated Process Teams (IPTs) to expedite the VECP approval process. Give the program level Cost Performance IPT management responsibility to establish goals, set suspenses, task and motivate lower level IPTs to review, approve and negotiate settlement on VECPs in a timely manner. The Principal Contracting Officer (PCO) will, of course, remain the final approval authority for contract modifications. Components should establish aggressive goals for the average processing time of a VECP, as measured from formal submission to implementing contract action, and should staff, empower and motivate IPTs to meet these goals.

3. Quickly communicate, through a guidance memorandum or other appropriate mechanism, the acceptability of using the Undefinitized Contract Action (UCA) to allow VECP implementation to begin immediately after technical approval when the following conditions apply:

   - the contractor guarantees a minimum savings, and
   - there is a cap on the implementation cost to the Government.

4. Provide a Funding Source. Modify the scope of the Reliability, Maintainability and Supportability (RM&S) Program to encompass the funding of VECPs. Ensure the fund is self-replenishing in nature and provides adequate funds to cover implementation costs and the contractor's collateral savings share, both of which are now a funding burden to the PM. Ensure that implementation provides the funds in a timely manner so as to preclude extended delays in the VECP processing, approval, and implementation time.

5. Process the Army proposed FAR Revision. Modify the FAR to give the PCO the flexibility to increase the contractor savings share from 50% to 75%, to extend the sharing period from 3 to 5 years, and to raise the contractor collateral savings share from 20% to 100% of an average year's savings.

6. Process the Industry Proposed FAR Revision. Modify the FAR to include the provisions of the Industry-proposed FAR revision (Annex F) and to include a provision to base sharing on quantities rather than time. These changes clarify the regulation, relax existing constraints, and expand the applicability of VE.

7. Improve VECP Education and Training.

    A. Develop a training module for the Program Managers' Course, PMT 302. This training should address VE's role in cost reduction, IPT management of VECP processes, sources of implementation funds, means for motivating VECP submission and approaches to establishing a win-win business agreement with the contractor.

    B. Incorporate material in PMT 302 including best practices, lessons learned, and recommended VECP strategies into the Defense Acquisition Deskbook and a VE Home Page on the Internet.

    C. Update Defense Acquisition Workforce Improvement Act (DAWIA) VE Training Per OMB Circular A-131. Task the DAWIA Functional Boards to develop Terminal Learning Objectives (TLOs) for VE and to develop and integrate VE material into applicable courses.

ES 5.0 Action Plan

Table ES-1 below summarizes the 14 action items the PAT suggests be executed in order to implement all of the PAT's recommendations above.

Table ES-1. Suggested SESG Action Items

No.	Action Description	Responsibility	Due Dates
97-V1	Obtain SESG and DMC approval of VECP PAT final report.	VECP PAT	15 June 1997
97-V2	Draft USD(A&T) memorandum to CAEs: • Endorsing report recommendations • Establishing Component VE Advocates • Requesting CAE and DUSD(L) support • Summarizing VECP program changes	VECP PAT	15 June 1997
97-V3	Publish class deviation of Army Far Case	DDP	30 April 1997
97-V4	Report status and schedule for processing Army and Industry FAR Cases	DDP	Quarterly
97-V5	Review and publish class deviation on Industry FAR change when received from VE ESG.	DDP	30 August 1997
97-V6	Develop appropriate mechanism (DDP memo, DFAR change, etc.) to facilitate VECP implementation with UCA whenever: • savings exceeds an established minimum • government investment is capped	DDP	30 June 1997
97-V7	Support DUSD(L) actions to finalize RM&S guidance	VE ESG	30 August 1997
97-V8	Develop FAR case for Industry proposed FAR change including provision to base share period on quantity vs. Time	VE ESG	30 June 1997
97-V9	Develop content of VE/VECP material to be included in "drop in cost reduction module" for PM Course	VE ESG	30 August 1997
97-V10	Develop VE/VECP section of Defense Acquisition Deskbook.	VE ESG	30 August 1997
97-V11	Establish a VE Home Page in Acq Web site.	VE ESG	30 August 1997

97-V12	Develop Terminal Learning Objectives (TLOs) for VE/VECP.	DAWIA Functional Boards	TBD
97-V13	Develop course material in support of TLOs.	DAU/DAWIA Functional Boards	TBD
97-V14	Integrate course material into appropriate course curricula.	DAU/DAWIA Functional Boards	TBD

Value Engineering Change Proposal Process Action Team

Final Report

1.0 The VECP Process Action Team (PAT)

1.1 Introduction and Overview

The Value Engineering Change Proposal (VECP) Process Action Team (PAT) was initiated following publication of the FY 1994 and 1995 annual DoD Value Engineering Reports. Those reports showed a disparity across the services in the savings realized by the service VE programs (Table 1-1). Some service organizations received large numbers of VECPs and achieved significant savings. Other organizations showed little VECP activity and showed little savings. The disparity in the number of VECPs received and the amount of savings achieved both across and within the services led the Under Secretary of Defense for Acquisition and Technology [USD(A&T)] to ask what factors were motivating or deterring defense contractors from using the VECP process. The USD(A&T) asked the Defense Manufacturing Council (DMC) to look into the VE program and recommend actions necessary to reinvigorate the program. The DMC recommended that the Principal Deputy USD(A&T) [PDUSD(A&T)] establish a Process Action Team to explore the barriers to the success of the VECP and to develop an action plan to overcome those barriers.

1.2 Scope and Mission

The DoD-wide Value Engineering Change Proposal (VECP) Process Action Team (PAT) was chartered by the PDUSD(A&T) on September 16, 1996. The charter memorandum is at Annex A. This charter focused on contractor initiated VECPs; thus, the PAT did not investigate government-initiated "VE Proposals (VEPs)" or other "internal" VE savings.

The VECP PAT included representatives from the Offices of the Secretary of Defense (OSD), Army, Navy, Air Force, Ballistic Missile Defense Organization (BMDO), Defense Logistics Agency (DLA), Defense Contract Management Command (DCMC), and the defense industry. A roster of VECP PAT members is provided at Annex B.

Table 1-1. DoD FY 1994 and 1995 annual VE Reports

	1995				1994			
	Army	Navy	Air Force	DLA	Army	Navy	Air Force	DLA
VE Potential (TOA -$M)				4571.8*				4020.8*
O&M	21524	24055	23336		19669	22906	23711	
PROCURMENT	6090	16646	18218		6885	16098	18112	
MILCON	822	2150	616		959	1491	1338	
FAMILY HOUSING	1274	1083	1054		1298	1142	978	
TOTAL	29710	43934	43224	4571.8*	28811	41637	44139	4020.8*
Program Participation								
% MDAPS w/ VE	41%	7%	5%	--	25%	4%	12%	--
In - House VEPs								
Received	197	1395	52	5187	237	2330	22	6400
Approved	267	579	56	3339	379	1231	19	3347
Savings ($M)	386.674	109.2	13.084	102.59	326.63	175.85	65.69	110.56
Investment ($M)	17.938	8.735	1.034	6.487	32.43	2.89	2.00	6.74
ROI (xx:1)	21.6	12.5	12.7	15.8	10.10	60.90	32.80	16.40
Contractor (VECPs)								
# Clauses	23	0	0	0	91	0	4	0
# VECPs Received	194	59	37	56	260	158	36	83
# VECPs Approved	115	34	25	15	133	100	30	8
Ave days to process	230	98	132	165	297	135	208	149
# > 45 days to process	32	11	10	14	39	90	11	6
Savings ($M)	76.524	7.359	9.149	2.87	40.59	42.23	82.59	1.35
Investment ($M)	1.664	7.638	0.21	0.03	3.14	20.52	180.00	0.00
ROI (xx:1)	46	1	43.6		12.90	2.10	0.50	0.00
Manpower								
Full-Time	55	7	6	85	64	6	8	91
Other (man-years)	59.2	17.4	10.9	5.0	75.0	8.3	18.9	5.0
Total	114.2	23.9	16.9	90.0	139.0	13.8	26.9	96.0
Training								
PAVE	367	0	0	0	367	--	--	--
CAVE	95	0	58	8	95	--	58	8

* DLA's VE Potential/savings goals are based on Materiel Obligations and not TOA. Materiel obligations equate to approximately 80 percent of DLA's TOA.

The mission of the VECP PAT was to:

- Define the role of the VECP in today's acquisition environment
- Identify Program Manager and contractor barriers to VECPs
- Develop an action plan to remove or minimize those barriers in order to precipitate an increase in VECP savings

Today's acquisition reform environment has increased emphasis on cost reduction so that the Department can better meet its modernization and readiness goals. There are many vehicles through which a PM can reduce cost including Cost As an Independent Variable (CAIV), Design to Cost (DTC), Single Process Initiative (SPI), and service-specific programs such as the Army's Operating and Support Cost Reduction (OSCR) program. The PAT feels it is important to recognize that although it's mission is to increase the number of VECPs submitted and the savings achieved through the VECP, its real objective is to ensure the VECP is a viable contributor to an overall cost reduction strategy. Submission of VECPs at the expense of, or in place of, other options for cost reduction is not intended by the PAT.

1.3. Objectives

The objectives of the PAT are to identify and remove the impediments to the VECP and thereby improve the likelihood that contractors will identify life cycle cost savings opportunities for the Government. PAT effectiveness will be demonstrated in three ways: 1) in the near term, when increasing numbers of VECPs are submitted across the full spectrum of DoD activities, 2) in the longer term, when consistent submission of VECPs is achieved across a broad spectrum of Defense contractors, and 3) when there is consistent, wide acceptance of those VECPs by the Government. Specific objectives are to:

a. Increase the number of VECPs submitted and accepted.
b. Decrease the VECP settlement time and costs.
c. Increase the number of participating programs and DoD organizations.
d. Increase the number of participating contractors.

1.4 Methodology

1.4.1 Background: The PDUSD(A&T) signed the VECP PAT charter on September 16, 1996 which called for the PAT's conclusions by the end of

January 1997. Between October 9, 1996 and March 4, 1997 the PAT met 17 times (almost weekly). On January 28, 1997, the VECP PAT chairman briefed results to the Systems Engineering Steering Group (SESG). At that meeting, many changes to the VECP briefing were recommended. Consequently, the chairman, with help from the PAT, re-worked the briefing and presented it individually to the SESG principals and then again to the group at the SESG meeting on February 28, 1997. The SESG concurred with the revised briefing and it was presented to the PDUSD(A&T) at the Defense Manufacturing Council (DMC) meeting on March 3, 1997. The DMC requested refinement of the VECP PAT action plan. The revised action plan was approved by the SESG on March 31 and by the DMC on April 14, 1997.

1.4.2 Approach: The overall approach taken by the PAT is diagrammed below in Figure 1-1.

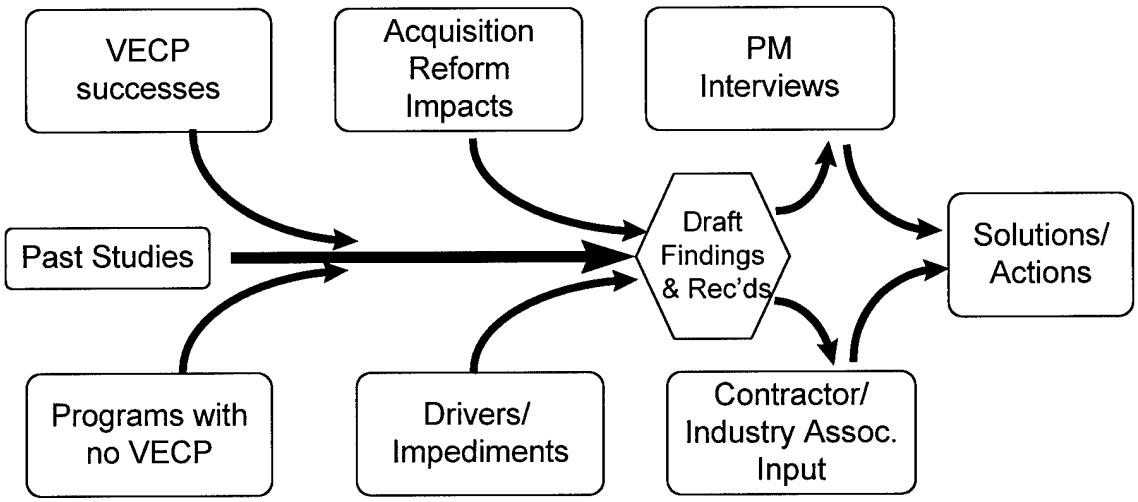


Figure 1-1. VECP PAT Approach

Initial PAT efforts included the analysis of the VECP process and service implementing programs and a review of past VECP studies. The PAT used the results of these activities to generate an initial list of barriers and potential solutions which it then used as the basis for discussions with industry representatives and government program managers. The objective was to draw from the services, OSD, DLA, DCMC, and BMDO VE experts, a "first cut" at the principal problems and suggested approaches to solutions, and to develop an approach for communicating with and generating ideas from the principle stakeholders in the VECP process. As a result, the PAT validated, rejected or added to the initial list of barriers and solutions, identified additional opportunities for use of VECPs, and developed a more clear understanding of the factors influencing the VECP process and its success. More in-depth discussions were

then held with appropriate special interest groups to explore particular barriers, solutions, or opportunities.

Table 1-2 List of Interviewed Program Offices and Contractors

	Company / Program Office			Company / Program Office	
1.	ATACMS/BAT	Army	19.	F-16	Air Force
2.	HAWK	Army	20.	Recon Aircraft	Air Force
3.	FMTV	Army	21.	AMRAAM	Air Force
4.	APACHE	Army	22.	AEGIS	Navy
5.	Outdoor Venture Corp.	DLA	23.	EASI	DCMC
6.	DPSC (Cloth & Textile)	DLA	24.	Raytheon	DCMC
7.	DPSC (Subsistence)	DLA	25.	Sikorsky	DCMC
8.	DISC	DLA	26.	Bell Helicopter	DCMC
9.	PATRIOT	Army/BMDO	27.	PEO Cruise	Navy
10.	FA-18	Navy	28.	MICOM VE PM	Army
11.	F-22	Air Force	29.	Javelin	Army
12.	FTS	Air Force	30.	Cadillac Products, Inc	DLA
13.	AV-8B Harrier	DLA	31.	Burke Products	DLA
14.	T-45	VECP PAT	32.	Treadwell	DCMC
15.	United Aircraft	VECP PAT	33.	REMTEC	DCMC
16.	DSCR	DLA	34.	Hughes Missile Systems Co.	DCMC
17.	Mid American Aviation	DCMC	35.	Flagpoles Inc.	DCMC
18.	Rolls-Royce	DCMC			

DPSC - Defense Personnel Supply Center
DISC - Defense Industrial Supply Center
DSCR Defense Supply Center Richmond
FTS - Flight Training Systems
EASI - Engineering Air Systems, Inc.

1.4.3 Industry Involvement: Industry input was sought through industry associations and through interviews with selected contractors. PAT objectives were briefed at the September 1996 Value Engineering Symposium in Albany, NY and industry input was actively solicited. The Electronics Industries Association (EIA) hosted the PAT at its Value Management meeting in Charlotte, NC, October 22-25, 1996. The meeting resulted in a list of principal VECP barriers and recommended solutions as viewed by the defense industries represented. This list was then coordinated through the Council of Defense and Space Industries Associations (CODSIA) to validate or augment the initial findings with a much wider representation of defense industries. Final barrier and solution recommendations from industry were provided as input to the PAT and are found at Annex C. Halfway through the study effort, a representative from the National Center for Advanced Technologies (NCAT) joined the PAT to help frame emerging barriers and solutions. In addition, a spectrum of defense industry representatives were interviewed by PAT members to directly solicit industry ideas on barriers and solutions. Participating companies are shown in Table 1-2 above. By actively seeking the industry perspective the PAT hoped to

ensure that its findings and recommendations would have a high probability of being effective in reducing or eliminating the barriers to the VECP.

1.4.4 Program Manager/Program Management Office Involvement: Initial contact with Program Managers was made at the September 1996 Value Engineering Symposium in Albany, NY. PMO inputs were solicited along with those of industry. Program managers interviewed and companies represented are shown in Table 1-2 above. Later, the PAT interviewed a number of program managers using the initial barriers and solutions as the basis for questions and discussion areas. PM inputs became a major component of PAT discussions and played a significant role in the prioritization of potential solutions.

1.4.5 Special Interest Group Involvement: Throughout the PAT process, specific topics were addressed with the Office of the Under Secretary of Defense (Defense Procurement), DCMC, the DoD Comptroller, Defense Logistics Agency, and members of the Science and Technology communities whenever necessary to ensure stakeholder groups were kept informed of PAT developments. This ensured that constructive, actionable solutions were developed which have a reasonable probability of success.

1.5 References

a. OMB Circular A-131, Value Engineering, May 21, 1993.

b. USD(A&T), DoD FY 1996-97 Strategic Value Engineering Plan, August 1996.

c. USD(A&T), Reducing Life Cycle Costs for New and Fielded Systems, (CAIV Memorandum), December 4, 1995.

2.0 Value Engineering

2.1 DoD VE Program

The DoD Value Engineering (VE) Program, required by Public Law 104-106, Defense Authorization Act, February 10, 1996, Sec. 4306., was started in 1963. VE is the systematic effort directed at analyzing the functional requirements of systems, equipment, facilities, processes, and supplies for the purpose of achieving essential functions at the lowest total cost, consistent with needed performance, safety, reliability, maintainability and quality. VE methods can be used throughout a system's life to simultaneously optimize system functionality and reduce cost. The DoD VE program incentivizes both government and contractor work-forces to submit ideas for improving products, processes and production methods. Government ideas are submitted using the Value Engineering Proposal (VEP) and if accepted, the originator may be rewarded by a cash award. Contractor ideas are submitted using the Value Engineering Change Proposal (VECP) and are rewarded through the sharing of savings from the instant contract, related contracts, and future contracts. Shares are also granted to the contractor on collateral or life cycle savings.

2.1.1 The VECP. The purpose of the VECP Program is to incentivize the contractor to propose contract modifications which reduce cost without reducing product or process performance. Two aspects of the VECP make it unique in achieving its purpose: the requirement that the VECP result in a contract modification, and the incentive paid to the contractor for reducing costs. The Value Engineering Change Proposal (VECP) is the formal document a Contractor uses to submit a cost saving recommendation to the government in accordance with the VE provisions of their contract. A VECP must be submitted under an existing contract and must result in a change to that contract. In addition, the change must result in a reduction in the system's life cycle cost to the Government. VECPs are solicited in two ways - through the VE Incentive Clause, or through the VE Program Requirements Clause.

2.1.1.1 The VE Incentive Clause. The VE incentive clause is a contract provision that provides a voluntary mechanism through which a contractor can develop and submit cost saving ideas (VECPs). These proposals are developed using the contractor's own funds, which are put at risk. If a contractor's idea is not accepted by the government, the contractor has no opportunity to recoup their investment.

2.1.1.2 The VE Program Requirements Clause. The VE Program Requirements Clause is a government funded contract provision that requires contractors to engage in a specific level of VE activity. Cost saving ideas which result in VECPs are incentivized, but rewards paid under the VE Program

Requirements Clause are less than those paid under the VE Incentive Clause because the contractors have none of their own money at risk.

2.2 Acquisition Environment

2.2.1. VE History. For over three decades the VECP has had a notable history as an effective savings program for the Government. Countless programs have used the VECP to reduce cost and improve both product and process. Contractors have used the VECP to increase their profits and to ensure continuing improvement to their products. Use of the VECP was particularly effective in the 1980s when large defense budgets and significant production programs provided a wealth of opportunity to reduce costs and upgrade products. Government use of military specifications and standards, insistence on organic maintenance and support, and ownership and control over configuration management made use of the VECP attractive to both industry and government. These older Defense practices provided significant opportunities for use of the VECP to save government money and increase industry profit.

2.2.2 Acquisition Reform. Since 1993, Defense policies have reformed many aspects of the acquisition process. Past reliance on military specifications and standards has been replaced with a preference for the use of performance specifications. Contractors have been given increasing control over their product configurations. Two key reforms, Cost as an Independent Variable (CAIV) and the Single Process Initiative (SPI) have been implemented to further control costs.

Throughout DoD, both the number of new weapon developments and the size of many procurements have been significantly reduced. For increasing numbers of programs, organic maintenance and support has been replaced with Contractor Logistics Support. Defense "downsizing" has caused the merger of many defense industries. Although there are fewer competing companies, the competition is often more intense and continued survival may be determined by the result. The "business equation" which governs the interaction between government and industry has changed and that change has impacted the use of the VECP.

2.2.3. Performance Specification Impact. The DoD is transitioning to the use of Performance Specifications as the preferred contracting approach on both development and procurement contracts. Many PMs and contractors expressed the view that use of Performance Specifications means the end of the VECP. In their view, when Performance Specifications replace the lower level Technical Data Packages (TDPs) as the contract requirement, the only remaining opportunity for a contract change (a basic requirement for a VECP) is to change the top level Performance Specification. They felt that there would be few VECPs proposing change to the Performance Specification, and that this would

in effect, eliminate the VECP as a primary savings mechanism. The substantial number of Program Managers, Contractors and VE professionals which perceived the transition to the use of Performance Specifications to be a significant detriment to the viability of the VECP led the PAT to look closely at the use of performance specifications and how it impacts the role of the VECP in cost reduction.

In a performance based contract, the government Statement of Work (SOW) includes top level performance specifications, lower level performance specifications in some cases, and any system or component form, fit, function and interface (F^3I) requirements. The contractor responds with a proposal which addresses how they intend to meet the requirements in the SOW and which includes lower level specifications and technical data if required by the SOW. The detail provided in the contractor proposal is governed by the explicit SOW language and that language varies significantly across the spectrum of acquisition programs. Typically, the level of detail required in the SOW and/or included later in the contract, is governed by the level of risk and the degree to which the government wants to maintain configuration control over components or items. On aircraft contracts, components, subassemblies, etc. may be called out as "flight worthy" or "flight safe" components and require both revalidation and contract modification if they are to be changed. On programs where organic maintenance is planned, the contract may require full configuration control by the government. Depending on these type of considerations, the government may or may not include the contractor's proposed specifications and detailed technical data packages in the contract. To the extent they are included, the government maintains configuration control over the product. Where they are not made contractually binding, the contractor is free to change the configuration. The specific contract requirements governing the change control or configuration management determine the degree to which traditional application of the VECP applies to a given contract. Today's acquisition programs utilize a wide variety of approaches to configuration control. As such, the degree to which traditional use of the VECP can be used as a principal savings vehicle varies widely. Many opportunities remain for the VECP to provide an effective incentive to reduce cost and improve product.

2.2.4 Sustainment. Traditionally, VECPs have been used most often on procurement contracts. More recently, the lower number of new acquisition systems and lower production quantities have heightened the attention paid to the sustainment of existing systems. Approximately 60 percent of the funds in the DoD's Total Obligation Authority (TOA) are in Operations and Support (O&S). Replacement systems are not being developed as often as in the past, resulting in an increase in the number of Service Life Extension Programs. Contractor Logistics Support (CLS) is being used more frequently to maintain existing systems. Manpower reductions are increasing the value of improvements in reliability and maintenance and reductions in supply

requirements. Use of open system architectures is facilitating system upgrades and insertion of new technologies. Through the Technology Reinvestment Program (or Dual Use Technology Program), the government is encouraging the contractor to develop and use commercial technologies in defense systems. Mechanisms are being sought to incorporate improved technologies into existing systems to extend service life, reduce the O&S cost burden and ensure existing systems can continue to meet developing threats. This heightened interest in the sustainment of existing systems offers an increased opportunity for use of the VECP.

2.2.5 Reduced Defense Spending. A quick look into the impact of reduced defense dollars on annual procurement quantities was made for major Army programs (time precluded a more in-depth investigation across all services). Data from the 1990 and 1995 Selected Acquisition Reports (SARs) was used to compare planned yearly procurement quantities from 1985 - 2005. Where comparable data existed (i.e. both SARs were available and units reported were comparable) many showed a substantive decrease in the yearly procurement rates. Data are shown in table 2-1 below.

Program Name	Percent Change in Production Quantity
JOINT STARS GSM	93%
SINCGARS	26%
UH-60L BLACK HAWK	0%
LONGBOW HELLFIRE	-6%
FAAD C2I	-23%
SADARM	-24%
AFATDS	-30%
FMTV	-42%
JAVELIN (Marine Corp)	-44%
JAVELIN (Army)	-49%

Table 2-1. Changes in Production Quantities

This decrease in production rate reduces the ability of the contractor to make a profit on a VECP and as such reduces the motivation to invest in VECPs.

2.2.6 Successful VECP Applications. Despite the significant downturn in the effectiveness of the DoD VECP program, there is substantial data to show that the VECP is and can remain an effective savings vehicle. The VECP PAT was briefed on a number of programs with recent and successful VECP efforts. Two prerequisites stood out as critical to success: a) an aggressive Program Manager driven to seek the savings potential of the VECP, and b) personnel and funding resources made available to ensure success. Where both prerequisites existed, a variety of traditional and innovative approaches yielded significant

savings. Due to the pockets of significant success and the spectrum of conditions under which success was achieved, the PAT concluded that VECPs remain a viable savings program and that a significant increase in achieved savings could be realized by making appropriate changes to the program and its implementation.

2.3 Role of the VECP

In today's Acquisition Reform environment, the VECP has a vital role as one of the proven tools for reducing program cost and improving product and process performance. As one element in a more comprehensive cost reduction program, the VECP can provide for system enhancements and cost reduction changes which might not otherwise become available to the Government. The VECP can be used at any point during acquisition but the predominant application has been and continues to be in the production and support phase of a program. Principal application of the VECP will be in the production environment where the Government maintains configuration control over the product or its components and in the support phase where the Government is actively seeking enhancements which reduce operating and support costs and which improve system performance or extend its service life. In addition, there will remain for some time to come, a large number of legacy systems which have not fully implemented acquisition reform. On these legacy systems, the VECP remains one of the principal, established and proven tools for reducing cost and enhancing system performance.

2.4 The VECP Process.

The current process governing the VECP, as developed by the PAT, is shown in the diagram below. Previous efforts to define the process at a more detailed level were reviewed and used as the basis for this process. However, the PAT found that those process models were too detailed and that differences in process implementation among the services, among specific commands and, in some cases, among acquisition programs, were so varied that greater detail creates more confusion than core understanding. The more simplistic model below was chosen to articulate the principal process steps in the most typical sequence.

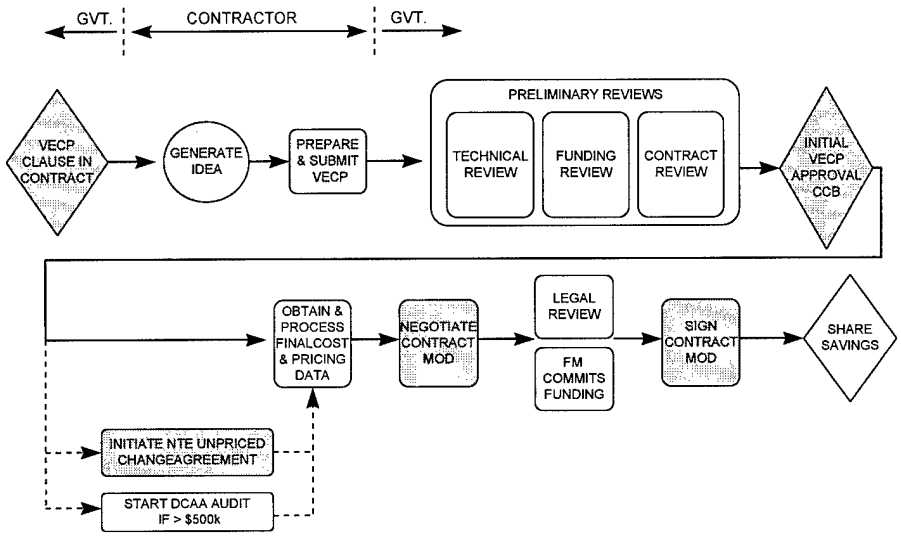


Figure 2-1. Typical VECP Flowchart

The following paragraphs detail the purpose, product and major players in each step in the VECP process.

1. Change Clause In Contract. The VE clause is added to a contract. It invites the contractor to identify changes to reduce cost or improve the product and makes provision for the contractor to substantially share in the savings which accrue from implementing the change. In order to qualify as a VECP, the proposed change must 1) require modification to the contract under which it is submitted, and 2) provide an overall cost savings to the Government if accepted and implemented.
Product: A VE clause is added to the contract. Most government contracts over $100K include a VE clause.
Major Player(s): Program Management Office, Principal Contracting Officer (PCO).

2. Generate Ideas. The Contractor identifies a way to save costs by simplifying the design, changing the material, by changing the managerial, accounting, quality control, or manufacturing processes required in the contract.
Product: An idea that saves money
Major Player(s): Contractor

3. Prepare and Submit VECP. The contractor prepares a VECP containing contract number; points of contact; title; description of change; need

for change; effect on delivery schedule; related contracts; list of components/ parts/sub-systems which are affected by the change; implementation costs; savings; schedule changes; and diagrams/charts/drawings.
Product: VECP
Major Player(s): Contractor engineers, cost analysts, and contracting personnel.

4. Preliminary Reviews. The VECP is submitted to the PM and/or Configuration Control Board where it is reviewed for completeness and distributed for technical, funding, and contractual review.
Product: A recommendation to the PM and Configuration Control Board
Major Player(s): Government VE Program Manager or Project Engineer, DCMC.

5. Technical Review. Program Office functional experts determine if the recommended change is advantageous and if it needs to be tested or validated. If the change applies to a product that is on a qualified products list, air worthiness certified or similarly qualified, the technical review may identify the requirement for component testing to verify that the system performance has not been degraded. The functional experts determine what components, sub-systems, drawing, specifications, regulations, processes, provisions, training, technical manuals, packaging, preservation, and other elements are affected by the change. The VE program manager or project engineer collects the recommendations from reviewers for presentation to the PM and the Configuration Control Board.
Product: Determination of technical acceptability and desirability.
Major Player(s): Government PMO engineering and other functional experts

6. Funding Review. PM representatives review the VECP cost and savings section and assess its accuracy. Funds must be available or be made available to pay all costs. If there are savings in the first year, the Contractor gets their share by an increased obligation on the instant contract.
Product: Validation that funds are available and in the correct appropriation.
Major Player(s): Government Program Management Office Program Analysis

7. Contract Review. The PCO determines the source of the idea (contractor or government), its applicability to current contract(s), its potential to generate collateral savings, and the extent to which the cost/savings are allowable.
Product: Internal government report
Major Player(s): PCO

8. Initial VECP Approval by Configuration Control Board. The CCB approves all changes to the system baseline and maintains all drawings, specifications, and other technical data concerning the system.
Product: VECP approval/disapproval, or request for additional data.

Major Player(s): Government PM; Engineering, Logistics, Safety, and Quality personnel.

9. Initiate Not-to-Exceed (NTE) Undefinitized Contracting Action (UCA). A NTE UCA is an optional, quick contract modification that allows the contractor to begin implementing the VE change before the final contract modification is negotiated and definitized. Saving shares are negotiated later and the contract action is completed with a final supplemental agreement (SA). The NTE is included to set a limit on the amount the contractor can charge for the effort. The savings are calculated as usual with royalties starting when the SA is done. The savings are always shown as a net amount, i.e., after all costs have been recovered.
Product: A contract modification using a NTE UCA
Major Player(s): PCO

10. Start DCAA audit if savings are greater than $500K. The Defense Contract Audit Agency (DCAA) provides contract audit services, to include accounting and financial advisory services. If the savings are greater than $500K policy requires that DCAA audit the contractor's accounting system.
Product: Audit Report to the PCO
Major Player(s): DCAA, PCO

11. Obtain & Process Final Cost & Pricing Data. The PCO performs a price or cost analysis to establish a baseline from which to negotiate a "fair and reasonable price" for the Government. In addition, the cost or pricing data must be current and correct on the date the negotiations are complete. The PCO uses the provisions in Public Law 87-653, Truth in Negotiation Act (TINA), to obtain cost or pricing data from the contractor.
Product: Cost or Price Analysis
Major Player(s): PCO, Price Analyst, Buyer and DCMC/DCAA

12. Negotiate Contract Modification. The PCO negotiates the fair and reasonable agreement for the Government. Areas of discussion include the statement of work, skill level of labor, period of performance, test and validation requirements, delivery rates and sharing ratios.
Product: Draft Contract Modification
Major Player(s): Contractor and Government Procurement Officers, PM's, Project Engineers and Lawyers

12. Legal Review. A legal review assures the contract modification is executable, contains clear direction, and is unambiguous.
Product: Final Draft Contract Modification
Major Player(s): Contractor and Government Lawyers

13. Financial Manager Commits Funding. If there is a negative instant contract savings, the Government identifies and commits the funds. If collateral savings are realized, the Government must also identify and commit funds for this savings.
Product: Funding commitment documentation
Major Player(s): Government Fiscal Resource Manager

14. Award Contract Modification. The PCO awards the contract modification and the Government incurs an obligation or de-obligation. The contractor is obligated to perform the change.
Product: Contract Modification Award
Major Player(s): Contractor and Government Contracting Officers.

15. Share Savings. The contractor receives their share of the savings. The savings are paid after contract modification and following receipt of deliveries modified per the VECP.
Product: Additional profits for the contractor and additional program funds for the government.
Major Player(s): Government PM and Contractor's owners.

In the process of developing this top level description, the PAT identified a number of characteristics which contribute to the frequent lengthy delays in the Process execution. These characteristics include:

1. There are numerous stakeholders in the process, each with the ability to delay its completion.
2. There is a perception that the government responsibility is to maximize the Government savings rather than achieve a win-win compromise.
3. Legal, procurement and auditing complexities can halt even the most promising VECPs.
4. No single person seems to have the responsibility or authority to control the VECP process.
5. The process is serial in its execution.

2.5 The Service VE Programs

2.5.1 Air Force Program. The Air Force's Value Engineering (VE) Program is structured to comply with the requirements of DoD 5000.2-R, OMB Circular A-131 and the FAR. Policy guidance for the field is provided by Air Force Policy Directive 63-8, which is directive in nature, and Air Force Instruction 63-801 which acts as guidance to field personnel. VE is generally viewed as one of several cost control/cost reduction techniques available to program

management and contracting personnel. This is encouraged and they are expected to choose the tool most appropriate to controlling or reducing the cost of their particular program, in accordance with Performance Based Business Environment (PBBE).

Administratively, there are, on average, seven Air Force people working VE full time in the Air Force Materiel Command (AFMC) – the Air Force principal acquisition command. In addition, 10 to 15 individuals serve part-time as VE points-of-contact at our other eight MAJCOMs and several AFMC product and logistic centers. On occasion, contract support personnel are also tasked to work VE. Five, for example, are on contract to support the Advanced Medium Range Air-to-Air Missile (AMRAAM) SPO's VE program. All of these individuals are expected to administer, promote and facilitate the VE program within their own organizations and the acquisition programs their organization supports.

Historically, the majority of the VECPs come from AFMC's Aeronautical Systems Center (ASC) because it is the largest acquisition center in the Air Force and staffs numerous acquisition programs. One of their programs, AMRAAM, has been very successful and is still an active VE program. The remaining program offices have chosen other methods to control costs or are not emphasizing VECPs because of limited production quantities. Air Logistics Centers encourage in-house VE, but currently they seldom actively seek VECPs from their contractors.

No dedicated budget is provided for the Air Force-wide VE program. Program offices are expected to fund any VECPs from internal management reserves, such as, an engineering change order pool. Only the AMRAAM JSPO program specifically funds for VECPs each year. They apply for funds through their POM, and have successfully averaged $10M to $20M in VECP development and implementation funds each fiscal year. The average VECP in the Air Force costs $2.83M to develop and implement and requires 1.24 years to completely process from contractor submission to issuance of final contract supplemental agreement.

The majority of VECPs processed are voluntary with the contractor funding the development up to a paper study or prototype stage. When the AF buys the VECP, it reimburses the contractor's development and implementation cost plus the amount needed to incorporate the VECP into production items. Between 40% to 60% of the total VECPs are submitted under the VE Program Requirements Clause (VEPR) and thus are mandatory.

The future success and expansion of the VE program lie with all the VE process stakeholders, and most importantly the program managers that are charged to develop, field, and sustain the needed systems and components. This report indicates that we lack the funds to support or attract sound cost

saving ideas from our contractors and this has had a significant adverse impact on the VE program. Other factors, such as, increased training and management emphasis will be necessary to return this program to the level of only a few years ago.

2.5.2 Army Program. The Army Materiel Command (AMC) has approximately 60 full time VE personnel distributed to its ten Command activities. The program is governed by: AR 5-4, AMC-R 70-8 Draft, Public Law 104-106, and FAR Parts 48 and 52, and operates on four basic tenets:

1) funding is retained by the saving organization,
2) AMC Commander is involved,
3) training (1-2 days) is tailored to the need, and
4) the VE staff is continuously involved.

The Army's VE program has broad management support. All participating organizations are required to submit an annual master plan which establishes command-specific VE savings goals. Specific training/education is required of both government and contractors. Quarterly video conferences are used to review program status and the AMC VE staff makes annual visits to assist in command implementation and to review records. An automated reporting system is used to track VE activity and there are strong savings/cost-avoidance requirements.

Key elements in the success of the Army VE program are the management support and involvement, the education and training requirements of contractors prior to submitting VECPs, the education of Government personnel on the cost reduction benefit of the VECP; at technical reviews VECPs have high priority. When re-testing is required, the training provided to PCOs on how to do settlements, and continuing efforts to obtain timely audits and settlements and to resolve "color of money" issues.

2.5.3 Navy Program. The Department of the Navy (DON) Value Engineering (VE) Program is based on the requirements for VE found in DoD 5000.2-R, OMB Circular A-131 and the FAR. VE is recognized as one of many cost control/cost reduction tools available to DON Weapon System Program /Acquisition Managers (P/AMs). It is the P/AMs prerogative and responsibility to choose the most appropriate tool(s) for a particular application on their program. This tailoring of a program's cost reduction/cost control efforts is a function of the program's technologies, acquisition strategy, the acquisition phase of the program, etc. Navy P/AMs apply the tool or tools which are most appropriate for the program's unique situation and may or may not include VE, or may include

VE in combination with another cost reduction method like Design-to-Cost, Cost-as-an-Independent-Variable, etc.

Within the DON, two of the Acquisition Commands have issued unique VE instructions. One Command included VE direction as part of their overall Weapon System Acquisition Instruction. Two Commands have no unique VE direction and rely on the DoD 5000 series documents and OMB A-131. The Naval Facilities Engineering Command is the only Command with dedicated full-time, VE Program Managers at each of their Major field divisions.

Various Programs/Commands have developed means to improve responsiveness and expedite the VECP process and the incentives for Industry participation in the VECP program. These include: Undefinitized Contract Actions (UCAs), where the Contractor can begin technical Implementation of an approved VECP after agreeing to a maximum development/implementation cost and a minimum unit cost savings; extension of the sharing period from 3 years to 5 years; and an increase in the share ratio on collateral savings from 20% of one year's typical savings to 100% of the savings. For example, the AN/ARC-210 Electronic Protection Radio used the contract VE clause to implement their acquisition reform program efforts, including unit cost reduction, reliability improvements, reductions in the use of military specifications and standards, a Reliability Improvement Warranty, and a Commercial Depot.

The DON believes the principal barriers and influences on the VECP process can be either active or passive and occur in four basic areas. In order of priority these areas are: the government Program/Acquisition Manager (P/AM), the contractor, the government Procuring Contracting Office/Administrative Contracting Office, and the government Technical/ Engineering Community. The P/AM is the key player in the VECP process. A P/AM, who wants a particular VECP will usually find a way to implement it.

2.5.4 BMDO Program. As all BMDO programs are service managed, the service's VE program personnel and procedures are used exclusively. Thus, BMDO has no in-house VE personnel.

2.5.5 DLA Program. DLA has 100 full-time Value Management (VM) resources. Hardware Centers Value Management Offices range from 17 full-time people to 50 responsible for In-House VE Proposals, Contractor VECPs, Reverse Engineering, Intrinsic Value Analysis (should cost), Spare Parts Breakout, and the Price Challenge Program. The Defense Personnel Support Center (DPSC) has 1 full time VE Program Manager in each commodity area - Clothing & Textiles, Subsistence, and Medical. DPSC Value Management mostly deals with in-house VE Proposals and VECPs. All people in the VE Office are required to take the Principles and Applications of VE (PAVE) training. Those who deal with VECPs (usually one per office) are also required to take the

Contractual Aspects of VE (CAVE) course. Hardware Centers Value Management Personnel also provide VE orientation to educate those outside the VE Office.

Guidance relative to VECPs is contained in DLAR 4140.21, "DLA Value Engineering Program." It requires each Defense Supply Center (DSC) VM Office to submit an annual program plan prior to each fiscal year. Program plans show projected training, in-house studies, VECPs, and associated savings for the fiscal year. These are reviewed by HQ DLA and either accepted as written or adjusted based on past performance and materiel obligations for that Center.

For those outside the VM Office, DLA encourages use of VE with token awards (coffee cups, coasters, and pens). These are used when VE ideas are submitted. DLA also maintains a million dollar club which recognizes those outside the VM Office who have saved $1M (cumulative) though VE. There are $1M, $3M, and $5M club awards which consist of plaques and a letter signed by a flag-level official. For the occasional $10M winner, DLA has a special ceremony/plaque. For contractors, DLA includes promotional letters in all contracts of $25,000 or more. (DLA has reduced the threshold for VE incentive clauses to $25,000.) In addition, DLA promotes VE at Business Opportunity Fairs, Small Business Workshops, Conferences, etc.

As recognized by OMB and DoD, VE's savings potential is greatest during the planning, design, and early development phases of projects, programs, systems, and products. DLA is seldom involved in these phases of development, rather DLA gets involved in the later phases of production and when deployment begins. At that later point, DLA's ability to apply VE and make design changes is limited. The primary function of the DSCs is supply support. Thus, DLA has found the best way to maximize their VE Programs' return on investment is to optimize the method and means of procurement.

In light of the above, and because the majority of DLA's contracts fall below $25,000, there is only limited potential for VECPs. However, Hardware Center VM Program Managers feel that they would get more VECPs if they could acquire technical data rights from contractors as a VECP. If accepted as a VECP, the Government and contractor would benefit equally by sharing in any savings that would be realized by the release of data rights (competition). In addition, there would be minimal or no cost to the Government to acquire the data.

2.5.6 DCMC Program. DCMC's role in VECP management starts before a VECP is developed. Early in the contract, DCMC provides or arranges VECP training for the contractor. When the contractor first identifies an idea for a VECP, DCMC assists the contractor in its preparation, proofs the draft to make sure that all required information is present in sufficient detail to support the

PMO's review. DCMC encourages the use of a Preliminary VECP to obtain Program Office support before significant expense is incurred.

After the VECP is prepared and submitted to the ACO, the ACO will send parallel copies to the PMO and the DCMC office for review. DCMC reviews the VECP to ensure that the change proposal is a true VECP which benefits the government and makes sense to do, and to identify any technical concerns that the buying activity should consider, such as effects on logistics or training. These comments are forwarded to the PMO to assist in their review. If the VECP is accepted and the PMO requests a review of the implementation costs and savings, the DCMC office will put together a joint pricing/engineering team to conduct this review.

DCMC then assists the contractor in expediting the government's review of their proposal. Every 30-45 days, DCMC contacts the Program Office to check on the status of the review. If there are problems, DCMC provides assistance where possible. Where delays are occurring, DCMC facilitates the process resolution of the delay. DCMC may also help prepare for negotiations on the modification.

As a final function, DCMC oversees the implementation of the VECP. DCMC verifies changes to drawings and process sheets and that changes are implemented on the unit specified by the PMO.

2.5.7 Service Program Conclusions. The PAT was unable to identify a single program which would effectively serve as a model program for all services. Each service's attitudes towards VE and VECPs, however, were clearly very different. There was a clear correlation between the success of service Value Engineering programs and the extent to which each service applied personnel and funding resources and aggressively pursued Value Engineering. The PAT believes that improvement can be achieved only by a combination of factors:

1. Increased top-down encouragement and attention to VE
2. Increased training and education
3. More definitive/effective planning and pursuit of success.

2.6 Related Cost Reduction Programs

The PAT received numerous comments from industry and government Program Managers that stressed the variety of cost savings approaches currently available for use in acquisition cause confusion regarding the best methods to use. DoD programs such as Cost as an Independent Variable (CAIV), Design to Cost (DTC), Value Engineering (VE), and Single Process Initiative (SPI), along with service programs such as the Air Force Reliability Availability and Maintainability Technology Improvement Program and the

Army's Cost Reduction Program, and Operating and Support Cost Reduction Program (OSCR) combine to create a wide variety of approaches to cost reduction. Recently, through the use of "CAIV Plans," the DoD has begun focusing program offices on cost reduction. The CAIV Plan, currently required only on major programs past Milestone II, requires the PM to develop a comprehensive approach to cost reduction and to identify the tools planned for use. The PAT considered the expanded use of this approach to be a constructive way to address overall cost reduction.

2.7 Conclusions

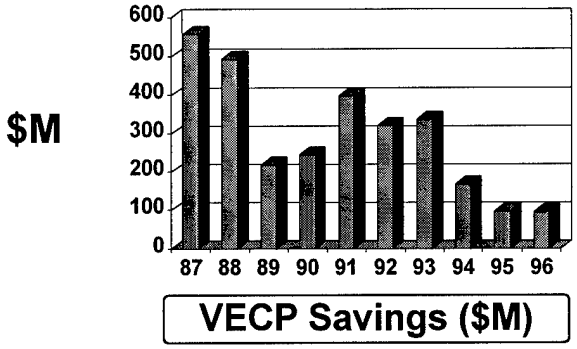
After considering the purpose of the VECP, a number of programs both successful and unsuccessful in implementing the VECP, the changes taking place in the acquisition environment, the process though which the VECP is administered and the various component implementing programs, the VECP PAT concluded that:

- VECPs make a unique and valuable contribution in achieving Acquisition Reform goals.
- Transferring configuration control to the contractor reduces opportunities for traditional VECPs.
- VECP opportunities in the Operations and Support (O&S) arena are growing.
- Effective cost reduction does not happen by itself, it requires aggressive leadership.

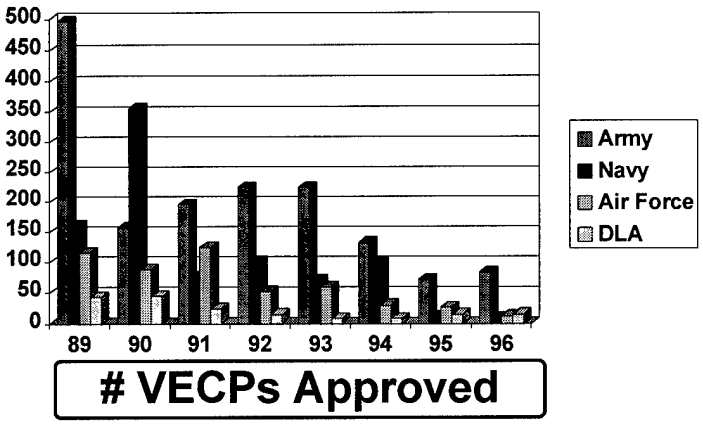
3.0 Problems and Perceptions

3.1 Value Engineering Trends

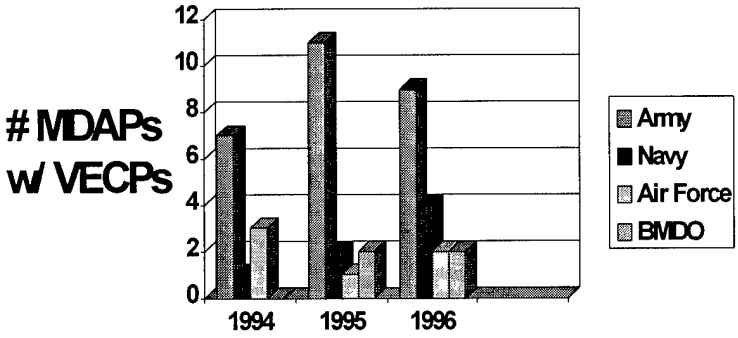
The chart to the right shows the savings reported in the DoD Annual Report over the last decade. The significant downward trend in the data can be attributed in part, but not entirely, to the downturn in defense spending. The 1996 VECP savings ($95M) is only 17% of the 1987 savings ($558M). This six fold decline in VECP savings occurred while the procurement TOA dropped 47%, from ($83B) to ($44B) and the O&M TOA shows a modest increase from ($76B) to ($93B). Eighty two percent of the 1996 savings came from the Army.



The chart to the right shows the trend in the number of VECPs approved from 1989 to 1996. Again the significant downturn shows that the effectiveness of the VECP as a savings vehicle has waned. It is significant that the Army data (excluding the 1989 data which could be considered an outlier) shows a 63% decrease in approved VECPs from 224 (a decade high in 1992 and 1993) to 84 in 1996. This decrease parallels the above 47% drop in procurement TOA over the same period to a reasonable degree. The other services show a significantly sharper decrease in the number of VECPs approved. The Navy dropped 90% (from 101 to 10 - excluding the 1990 data as it could also be considered an outlier) and the Air Force dropped 80% (60 to 12). The significant difference between Army and other service trends shows that other factors, and not just the decrease in TOA, are behind the downward trend in VECP effectiveness.



The next chart shows the number of Major Defense Acquisition Programs (MDAPs) with VECP activity over the past three years. It shows that although the Army has sustained a fairly consistent level of VECP activity, the other services show almost negligible participation from their programs.



Except for the Army, it is clear from these data that the VECP has not generated savings at levels equivalent to those prior to the reduction in defense budgets and the adoption of acquisition reform policies. The extent to which these factors explain the reduction in VECP activity is not completely clear. However, the continued levels of savings achieved in the Army indicates that a substantial increase in savings could be realized if the other services more effectively encouraged use of the VECP. Also, comments from across the services indicated that in addition to the down turn in defense spending, there were significant barriers which precluded the VECP from reaching its potential savings. The remainder of this section addresses the principle barriers which surfaced during the PAT investigations.

3.2 The PM Perspective

3.2.1 The VECP Process. The VECP process, described in Section 2, was universally reported by both Program Managers and contractors as the biggest problem with the VECP. The process is too lengthy, complex and demanding of the PM's attention. Figure 3-1 shows the average processing time for a VECP over the past eight years. The 181 day average is biased downward by the inclusion of a large number of construction VECPs which are typically approved within 30 days. Thus, the average processing time for weapon system VECPs is significantly longer. All Program Managers contacted reported that if the VECP is to become a significant savings vehicle in acquisition, the PAT needed to find some way to significantly reduce the time from submission of a VECP to its implementation.

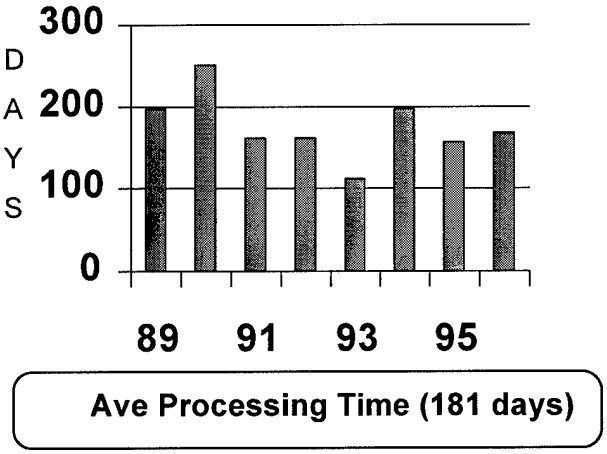


Figure 3-1. Average Processing Times

3.2.2 Funding Burden. The funding burden placed on a PM by a VECP was reported as the second biggest problem for the PM. When a VECP is

approved, the PM is typically required to identify funds necessary to cover the implementation costs. These costs are usually reimbursed to the PM from the instant contract savings but the need to provide these funds up front creates a problem when funds of the right color are not readily available. In addition when the VECP saves operating and support (O&S) costs the contractor's share is typically 20% of one average year's savings. This contractors savings share must be paid out of the PMs budget. Since the PM can not effectively budget for an VECP as yet to be identified, this again comes out of the PMs available funds. In cases where a VECP generates negative savings on the instant contract then the PM must also find unprogrammed procurement money to cover the expenses.

3.2.3 Limited Motivation. The PMs motivation to aggressively pursue the VECP is limited. As stated above, the VECP process is arduous, the VECP can be a financial burden, and it may add risk to their program. There is little incentive for the PM to actively pursue the VECP unless their program is in jeopardy due to high cost and they are forced to pursue every avenue to reduce that cost. PMs are motivated to an extent by the possibility of delivering a "better" or less expensive system to the field. The only reward given a PM for the effort is that they can keep the government's share in the first year's savings on the instant contract. Sometimes they are also able to keep the government's share on the second or third year of savings but this is not assured. Consistent PM and contractor comments reflect that a principle reason for the PM's lack-luster support for the VECP is that the reward doesn't make up for the problems. With a successful VECP, savings are reflected in reduced budgets for the PM; this is rarely an incentive.

3.2.4. Top Level Management Emphasis. Evidence across the DoD shows that where there is emphasis on Value Engineering by Senior Leadership, VE activity is more broad-based in its application and successful in its implementation. The complexity of the VECP process and the funding burden the VECP places on the PM keep it from being aggressively pursued as a matter of its own accord. Therefore, continuing top level emphasis is required to achieve the full potential of the program. Where resources are applied the VECP is a predominant savings vehicle. It takes management commitment to identify those resources and make them available. Numerous comments were received from PMs and contractors that the lack of top level attention to the VECP manifested itself in many locations by the lack of VECP personnel, training, funding and a clear preference for other approaches to cost reduction. Where continuing top level emphasis was evident, the above deficiencies were not found and significant savings from the VECP were being realized.

3.3 The Contractor Perspective

"Contractors do not strongly support a function that the customer feels is an irritant."

3.3.1 Customer Focus. Industry representatives consistently reported that the profit incentives for submitting a VECP are less important than good customer relations. The contractor's top priority is to establish and maintain a good working relationship with their customers. Contractors reported that before they would invest in development of a VECP, they needed a clear indication that it would be well received by the PM. Without this indication early in the process, industry investment was unlikely. They indicated that the ability to achieve a positive return on their investment was in most cases not enough incentive to overcome a PM's resistance. Despite the myriad factors which weigh in the business decision of whether or not to submit a VECP, industry made it clear that it is driven more by the PMs interest (or lack thereof) in a VECP than by the potential for increased profit. In the words of one contractor:

> "The greatest concern is that contractors do not want to jeopardize good customer relations. ... Contractors recognize government resistance to VECPs. ... Contractors do not strongly support a function that the customer feels is an irritant."

The limited incentives offered by short term profits are often inadequate to convince a contractor to submit a VECP to a reluctant PM.

3.3.2 ROI Risk. The business decision underlying whether or not to invest in development of a VECP is complex, especially since the VECP may reduce the value of the instant or future contracts which may in time lead to layoffs. The contractor funds development of the VECP and must be able to recover his investment and achieve a sufficient return from shared savings. If the VECP is disapproved the contractor loses his investment. As processing delays are extended the time-value-of-money reduces their profit potential. Uncertainties in production quantity, past rejections, and unsure funding (especially for collateral savings shares) increase the risk of achieving a positive Return on Investment (ROI) and can all deter the contractor from investing. Taken as a whole the contractor sees significant risk to his investment funds and is often unwilling to take that risk without significant support from the PM.

3.3.3 Lengthy Process. The excessive processing time for the VECP is as big a barrier for the contractor as it is for the PM. The contractor's investment is not repaid until the VECP is awarded, and savings are lost on units produced before VECP implementation. Contractors complain that process delays reduce their profit opportunity due to the time-value-of- money. As delays mount and accounting data become out-of-date, the contractor incurs additional (and often

unnecessary) cost to update that data. The disincentive caused by the complexity of the VECP process was repeatedly expressed by the contractor's interviewed as a principal factor in their decision not to invest in a VECP.

3.3.4 Unrecognized FAR Flexibility. The Federal Acquisition Regulations (FAR) and other VE guidelines are perceived as inflexible. Contractors do not recognize the flexibility which accompanies current guidelines and see the waiver process as a "last resort." When developing a business case, the explicit FAR criteria are used and unless the result is positive, little effort is put forth to determining what changes would be necessary to make the result positive. This results in a decision not to invest in a VECP where, if the flexibility to change the guidelines were recognized, a more positive result would be identified. The waiver process is itself seen as too tedious and is another barrier.

3.4 The Supply Support Perspective

3.4.1 Limited Incentives. Opportunities for motivating improvements to fielded systems through the VECP are currently limited by existing procurement practices. Most purchases of parts or components are below $25K and provide those under contract with little incentive to invest in the improvements typically sought through the VECP.

3.4.2 Limited Engineering Capability. Many of the components required in support of fielded systems are procured from smaller industries which specialize in "build to print" manufacturing or assembly operations. Contracts contain few if any engineering requirements as these industries are typically limited in the available engineering talent and are not able to suggest redesigns, upgrades or other cost reduction enhancements. This limitation is a principal factor in the limited number of Value Engineering Change Proposals currently submitted on supply/support contracts.

3.4.3 Lengthy Process. The long and complex VECP process impacts the VECPs related to supply/support items in the same way as it impacts acquisition programs. The problem may even be more acute because so many of the supply/support contracts are so short in duration.

4.0 Potential Solutions and Recommendations

This section suggests potential solutions to the previously identified barriers and recommended actions to eliminate or minimize the effects of these barriers.

4.1 Motivate the Program Manager

4.1.1 Discussion: The DoD has a number of cost saving programs/tools available. Each has a distinct role and is most effective at a particular point in the life of a program. Industry and program manager comments indicated that the shift of DoD management emphasis from one program to another has diluted the effectiveness of the VECP. The large number of cost reduction programs, tools and management initiatives have confused the issue of what programs apply, and when and how to apply them. The result has decreased the effectiveness of the VECP as it has moved out of their focus.

Most Program or Acquisition Managers are consumed by the long, complex and continually changing process of managing their acquisition programs to meet the cost, schedule and performance requirements established in their Acquisition Program Baseline (APB). Because VECPs are seen as a risk and a burden to execute, they get the attention of many PMs only when they become necessary to the success of the program or when the perceived return or value added clearly justifies the increased risk or required investment. Programs with aggressive VECP efforts were typically driven by the need to reduce high unit cost. AMRAAM, JAVELIN, and AN/ARC-210 had particularly effective VECP efforts driven, at least in part, by their high unit cost. DoD would see an increase in VECP activity if there were a more effective forcing function to drive the PM to use of the VECP.

There appears to be an inadequate understanding of the VECP contractual process and functional analysis, the core methodology of VE. This leads to little or no encouragement by the PM to use the VE methodology or submit VECPs. One PM noted that in the DSMC training course for PMs, the VE and VECP content lasted only one hour out of the four months of acquisition training provided. Further, he commented that the instructor neither understood the subject nor was enthusiastic about it.

Cost reduction must become as systemic as cost, schedule and performance. Most PM's indicated they felt little if any pressure to "break out" of their program established thresholds for cost, schedule and performance. PM efforts to control growth in cost and schedule and prevent degradation in performance tend to preserve the "status quo." In order to promote proactive efforts to improve performance or reduce cost, DoD needs to help make cost reduction a "Standard Operating Procedure" by providing the necessary

planning, resources and management attention. In general, Industry supported these ideas during the interviews but some Program Offices commented that cost reduction was already an inherent part of the "systemic" cost area. One Program Office commented that rather than grading the PM on their failure to use VE, a better approach would be to structure VE with sufficient incentives to make PM's eager to use it.

4.1.2 Potential Solutions:

1. Provide the PM with subject matter experts to work the VE process.

Management of a PM's cost reduction initiatives is resource intensive. When VE is used, it takes time, people, and most importantly, expertise to structure effective business agreements and facilitate the VECP process. The 1994 Air Force VE PAT found the VECP process to be so complicated, that the Air Force PAT took over 6 months to diagram it. If a program had access to additional resources and VE expertise, it would be more likely to commit to VE and encourage industry to submit more VECPs. A VE advocate or ombudsmen is used effectively in some services to provide this expertise. Where they are utilized, there is almost universal recognition that they lead to a higher success rate for identifying VECPs and bringing them to a successful conclusion following initiation. Although the advocate or ombudsman addresses only the personnel resource requirement, improvement in the number of successful VECPs should become evident if used in combination with the other solutions recommended here. Comments received from the interviewed PMs indicate that this is a good idea.

2. Increase emphasis on cost.

Cost goals in the APB elevate the visibility of program cost and encourage PMs to focus their efforts on achieving those goals. Aggressive cost goals motivate PMs to identify, in their Acquisition Strategy, cost reduction tools such as the VECP, and the funding and other resources required to ensure they can be effectively applied. Increased attention should be given to the development, review and implementation of Acquisition Strategy documentation. VE advocates should participate in the review of the Acquisition Strategy in order to ensure the use of VE has been integrated into the program plans when and where appropriate.

3. Provide a share of the VE/VECP savings to the Program/Acquisition Manager (P/AM) as a personal bonus.

The PAT considered the possibility of trying to encourage personal interest in the development, submittal and completion of VECPs by providing a personal incentive to the P/AM. The PAT considered the potential for providing

some fraction of the VECP savings to the P/AM as an incentive for reducing cost. However, the potential for establishing an image of "greed" with such a bonus system didn't sit well with the PAT and the potential to create peer envy or jealously among those who don't receive similar rewards or didn't have similar opportunities argued against making this a recommendation. There was concern that this idea might result in failure to establish a "team player" atmosphere in situations where individuals perceive they are competing for such bonuses. Program Offices were "lukewarm" to this idea since they felt their staff was already working these areas as part of their jobs. One Industry comment was negative, while most didn't respond.

4. Require PMs to report rejected VECPs to the SAE.

If rejected VECPs had to be reported and reviewed by senior management, there would be strong motivation to approve submitted VECPs unless they were obviously poorly thought out. PMs would not arbitrarily reject industry submitted VECPs without considering the fact that their rejection decision would be "reviewed" by the SAE. The objective is to force PMs to carefully consider the VECP and only reject those that they could develop a good rationale for doing so. However, the PAT recognized that this may cause the P/AM to kill the submission of all VECPs to avoid reporting rejected VECPs to the SAE. Comments from Industry tended to support this solution and stressed having the P/AM provide detailed reasons to the SAE for rejecting the VECP in question. Program Management Offices felt this was just more opportunity to "second guess" the P/AM's decision. They also questioned how the SAEs would find time or resources to review rejected VECPs and what they were going to do about it once they were reviewed.

5. Increase the visibility of Senior Management interest in the VECP.

Program and item managers tend to put their emphasis on those things they view as important to their senior leadership. An increase in the visibility of Senior management's interest in the VECP would spark PM and contractor interest. In addition to continued focus on cost reduction by senior management, specific attention to the contribution of the VECP to that goal would be constructive. Service development and use of VE goals at the major command level is a proven way to increase this attention. The Army has had a history of success using VE goals established for major commands.

4.1.3 Recommendations. The PAT recommends adopting solutions 1, 2, and 5. A forcing function is required to make the VECP more desirable or necessary to the PM's mission. These recommendations add emphasis on and focus to the cost reduction and program cost objectives. The intent is to focus the PM's interest in cost reduction and to drive him to encouraging his contractor to do the same.

4.1.4 Required Actions:

1. Identify/designate a Value Engineering Advocate position at appropriate commands to provide subject matter expertise and facilitate achievement of cost reduction goals.

2. Request USD(A&T) issue a memorandum to senior leaders urging increased attention in the establishment of cost reduction objectives and development of strategies for achieving them.

4.2 Provide Required Funding.

4.2.1 Discussion: Funding limitations adversely impact the PM's ability to pay the costs associated with a VECP. These funding limitations occur for a variety of reasons: there is no source of unobligated funds to pay VECP implementation costs and savings share, funds in one category of expense cannot be used in a timely fashion to pay costs associated with another procurement account, costs can not be applied against accounts outside the program manager's control, major funding demands are placed on program offices when VECP savings do not accrue to the instant contract.

Although not readily supported by statistical data, the substantial anecdotal evidence collect by the VE PAT indicates that these funding limitations have substantially contributed to the decline in VECPs. Government personnel working VE in the field frequently related this view to the PAT and most program offices interviewed agreed with the premise. The EIA input to the PAT (Annex E) identified funding limitations as one of the top three barriers to the VECP program. Industry representatives related that the perception of lean funding profiles for program offices leads to an attitude by contractors that voluntary company developed VECPs are high risk ventures. Due to a combination of bad VE experiences in the past and the poor defense business outlook, contractors will not risk their own money to develop a tenuous VECP. The industry view that there is inadequate program office funding to pay contractor and government implementation costs and savings shares presents a substantial barrier to increased cost reduction potential of the Value Engineering program.

One of the four Industry Association recommendations was to establish a "Public Enterprise Revolving Fund." This fund would be used to cover VECP settlement costs: development costs, implementation costs, and the contractor's share of the VECP savings for both production cost reductions and operation and support cost savings. The PAT carefully considered this recommendation along with similar ones from Program Management Offices in response to this funding barrier.

Current difficulties with the VECP program cannot be attributed solely to lack of funds or structural impediments to a program manager's use of existing funds. However, the VE PAT believes that funding limitations play a substantial role in restricting or impeding the contractor VECP program and must be addressed, if the VE program is to improve.

4.2.2 Potential Solutions:

1. Use the PPBS Process:

The established mechanism for securing funding is to prepare a specific initiative and compete in each service/agency PPBS process. Thus one option for solution is to have the Defense Manufacturing Council:

- Use the Defense Planning Guidance (DPG) to encourage the services and defense agencies to budget funds to support value engineering in their Program Objective Memorandums (POMs).

The advantages of this approach is that it is the routine and fairest manner of allocating funds for all service and agency manpower and funding requirements. It would allow each service and agency to prioritize its needs, recognizing that some funds should be set aside for additional cost reduction efforts. In fact, other cost reduction programs already exist and are funded. The DPG would encourage additional funds to be set aside for the VE program.

From a corporate viewpoint, this approach would essentially create another annual expenditure item and burden the POM process each fiscal year. Funding requests to support VE would most probably, be incorporated into each program's Program Element Group (PEG). With several hundred PEGs impacted, it is likely that funding will be spotty at best in the current budget environment. If funded, program managers may chose to give up these cost reduction funds when programs are "taxed" by higher headquarters to pay operational bills attributed to peacekeeping missions, etc.

In general, attempts to secure funding for service VE programs through the PPBS have been unsuccessful. None of the services currently has a specific VE budget line within programs. Some minor dollar amounts are available to DLA because it has rolled VE into a another cost reduction effort. In the early 1990s, one of the services did secure funding for VE within their service POM; however, these dollars disappeared in later years as the service's budget was reduced.

The VE PAT has little confidence that a viable long-range and stable funding source will result from a recommendation to use the Defense Planning Guidance (DPG) to encourage the services and defense agencies to budget funds to support value engineering in their POMs.

2. Create a Revolving Fund:

An alternate means of creating a viable long-range stable funding source to support the VECP program is to create a revolving fund. Public enterprise

(revolving) funds are used for programs authorized by law to conduct cycle of business-type operations, primarily with the public, in which outlays generate collections. The collections and the outlays of the fund are recorded in the same account. Intra-governmental funds are revolving funds that conduct business-type operations primarily within and between Government agencies. Numerous revolving funds exist within the executive branch and within the DoD. They are an established method of doing business.

As envisioned, a legislative request would be made to establish a revolving fund to support the VE program. The fund would be initially capitalized at $50 million with a ceiling established at $100 million. When and if the ceiling was reached, surplus funds would be directed into another account, such as the Defense Modernization Account created in the FY 96 Authorization Act. Management of this fund would be the responsibility of a Fund Manager established for that purpose. The fund would grow because a 20% surcharge would be added to amounts loaned. This surcharge is necessary to ensure that the fund retains its liquidity in the near-term, and increases to support additional programs in the future. Specific language would be included to authorize reimbursement of the fund from the appropriation benefiting from the cost reduction effort.

The PAT departed from the industry association's recommendation to size a revolving fund to include contractor settlement savings. Although this approach appeals more to industry, the PAT believes that it would require significantly greater capitalization to ensure liquidity and that its use to fund settlement savings would restrict the settlement options currently available to procurement contracting officers.

Procurement Savings: In effect, the recommended fund would act like a bank. It would lend money to a program office to defray initial contractor development and implementation costs. The program manager would secure this loan by agreeing to repay within 36 months, the amount lent plus 20%. The funds to repay the loan would come from the savings accrued by the VECP and would come from the appropriation benefiting from the VECP. Program managers would still retain the bulk of any savings, since savings of 2:1 or 3:1 from mandatory VECPs and 8:1 to 10:1 from voluntary VECPs are not unusual. It must be noted that this mechanism is viable only when the funding needed to repay the loan is controlled by the program manager. This would be the case in the envisioned fund.

Operations & Support Savings: Funds which provide for system support are under control of an appropriation manager, item manager, etc. Although these funds are managed in a way similar to accounts under a program manager's control, these funds are in fact under someone else's control. Money in the recommended revolving fund could be used to pay development and

implementation costs for VECPs which reduce support costs provided the benefiting agency which controls the money agrees to reimburse the fund within the 36 month period. In a particular circumstance, if O&S savings accrue rapidly and the benefiting agency approves, then the revolving fund could be used. If savings were not generated quickly enough or the benefiting agency did not agree to reimburse the fund, the loan would not occur. Thus, a revolving fund has the potential to assist in reducing O&S costs, but is not the complete solution to this vexing problem.

Contractor Impacts: The PAT believes that a revolving fund has the potential to substantially reduce the contractor perception that voluntary company developed VECPs are high risk ventures. A well publicized fund available to program offices to defray development and implementation costs should mitigate these fears and have a positive impact on contractor business decisions regarding VECPs.

3. Use an Existing Fund:

The difficulty of establishing a new revolving fund for the VECP must be recognized. There is a general reluctance to draw dollars away from mainstream development and acquisition efforts in an effort to reduce down-stream operating and support expenses. As a result the PAT considered the possibility of restructuring an existing fund to achieve the same objective.

One effort, the Reliability, Maintainability and Supportability (RM&S) program, has been established as a source of funds to cover high return-on-investment efforts focused on reducing Operating and Support cost of fielded systems. This program has the biggest potential as a funding solution because the PM's biggest funding problem related to a VECP is that of funding the contractor's collateral savings share. The VECP is a logical source of projects for the RM&S program while the RM&S program can relieve the VECP funding burden on the PM. To make the RM&S fund an acceptable solution to the VECP funding problem, a number of changes are required:

a) Additional funds would need to be identified to cover VECPs which would be a new source of cost saving ideas over and above what the program (fund) was originally planned to encompass.

b) The fund would need to be structured and managed so that it provided a recurring source of funds. The PAT believes that the program (fund) is not now a revolving fund and is in danger of not receiving adequate funding in future years. For the RM&S program to be an effective solution to the VECP funding problem, future availability of funds adequate to cover VECPs with substantive return-on-investment must be clear.

c) The fund must be managed to allow timely access to the funds. Application for use of these funds must not add to the already burdensome process for approving the VECP.

The DUSD(L) has plans to revise the RM&S program in response to Service comments on the earlier guidance established in draft DoDI 4xxx. This provides an excellent opportunity to incorporate the above provisions into the program. If it were structured properly, this approach would be significantly easier to implement and could be as effective as establishing a new fund.

4.2.3 Recommendations:

The VE PAT members believe that use of the existing RM&S fund offers the most practical solution. In the ideal situation, creation of a separate revolving fund to support the VE program has the best characteristics for reducing the impact of current funding limitations. It responds effectively to contractor and program office concerns regarding these funding limitations and holds the promise of providing a long-term, stable funding source for VECPs. However, due to the difficulty of establishing a new fund which so clearly overlaps with the purpose of the RM&S fund, the PAT recommends use of the existing RM&S program as the approach most likely to succeed.

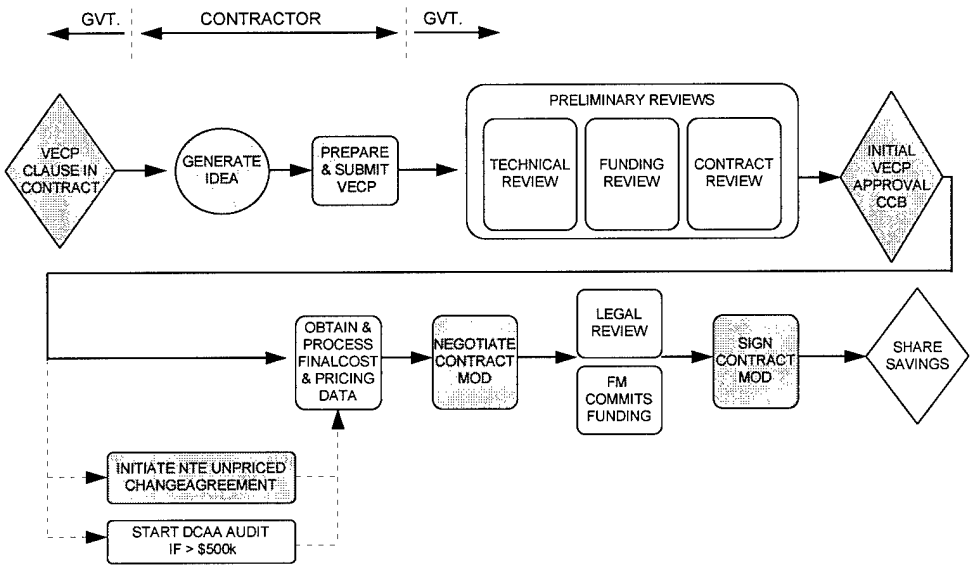
4.2.4 Required Actions:

1. Assist DUSD(Logistics) in revising their RM&S program to ensure there is continued funding, ensure there are adequate funds to encompasses VECPs and to ensure there is timely access to the funds.

2. If the action recommended above proves too difficult to implement in the near-term, the PAT recommends the Director, TSE&E and the DoD Comptroller jointly draft a legislative request supporting the establishment of a separate revolving fund for inclusion in the Department's FY99 legislative package.

4.3 Fix the Process.

4.3.1 Discussion: Attempts to map the detailed VECP process quickly overwhelmed the VECP PAT. Differences in application across and among the services and differences in the way different types of VECPs are handled[1] quickly precluded the orderly dissection of the process into requisite steps, inputs, products and players. Many of these differences had grown out of service or organizational practices which had been established to preclude past problems. Few were established by regulatory or legal requirements. To overcome the diversity in VECP implementation practices, the PAT developed the top level view of the VECP process, shown below. This process has been the same across and within the services for many years and shows the top level steps which are necessary and sufficient to execute a VECP. The more detailed steps which complicate the process[2] are internal to the steps shown and do not require detailed discussion to understand the process.



[1] VECPs with negative instant contract savings are processed differently from those with positive savings, those with collateral savings are processed differently from those which save on the instant contract, those with savings over $500K have additional steps over those which save less, etc.

[2] Lower level steps such as tailoring the contract clause, identifying cost drivers, generating cost and saving data, identifying the effects on future business base, protecting proprietary technology, testing, qualifying components, identifying bill payers, determining collateral contracts, preparing for the configuration control board, developing a business clearance memorandum, drafting the standard contract, drafting post negotiation memoranda and other steps in contract award have been omitted to keep the process understandable and generic.

Although recent VECP successes are limited in number at some organizations, their existence shows that the VECP process can be used effectively to reduce costs. However, analysis of the process and its service implementations showed that it is:

- complex.
- serial in its execution.
- at the mercy of participants with no stake in its outcome.
- full of opportunities for delay.
- fraught with checks to maximize Government savings.
- without a mechanism to force it to conclusion.

The PAT efforts to query Program Managers and Industry representatives on the effectiveness of the VECP process consistently surfaced three principle problems: 1) the frequency of long delays, 2) the workload associated with the process and 3) the frequency with which viable VECPs were rejected. Many reasons were given for these process problems but none resulted in identifiable fixes to the process.

Some Program Managers stressed their reluctance to introduce a change(s) to an existing configuration or process until all ramifications were identified, tested and understood. The result was frequent questions, additional coordination loops and lengthy testing requirements. Some stressed the delays which occur when there were inadequate funds (or funds of the wrong appropriation) to pay for either the implementation costs (in the case of negative instant contract savings) or the collateral savings due the contractor. Many indicated that significant time delays occurred in order to validate the cost and pricing data and determine appropriate share ratios. Many noted that any contract modification is burdensome and adds to the workload of contracting officers, pricing officials, lawyers, and technical support staff. More often than not, a contract modification related to a VECP was not a first priority with the requisite personnel and, combined with staff reductions due to downsizing, resulted in frequent and lengthy delays. Other comments from PMs and contractors included:

1) "the VECPs are often scrutinized and delayed until they are either approved with less overall savings due to fewer incorporated units or disapproved due to lack of significant savings as a result of the delay."

2) "The Government is often skeptical of the projected savings even with supporting data and contractors are put in the defensive position which leads to long deliberations. Most contractors

believe that it is best to avoid this conflict and that it is not worth the VECP savings shares awarded."

3) "Approval/disapproval responses should be required within a limited amount of time." The FAR has a 45-day response requirement but it is rarely met.

4) "Each government agency should have a VE office which actively facilitates the VECP review cycle. Having proactive VE counterparts has proven to be very helpful to the overall success of a VE program."

The time value of money was also considered an important factor by the contractor. When considering whether or not to invest in the development of a VECP, he considers along with the probability of successful implementation, the length of time before he is likely to recoup his investment. If he expects a year or two (these times are not atypical) for VECP approval and implementation and another year or longer before he sees a share of the savings, the time value of his savings will be reduced and this reduction becomes a factor in his investment decision.

Regardless of the excuse or circumstance, it was obvious to the PAT that no simple fix was evident. The basic problem seemed to be the "we"/"they" approach to processing the VECP. There was little evidence of a cooperative approach, a singular objective, or a willingness to compromise on the lesser important factors in order to achieve a more important goal.

4.3.2 Potential Solutions:

1. Use the Integrated Product Teams (IPTs) to process VECPs.

The PAT sought a comprehensive change to the existing process - one which capitalized on ongoing acquisition reforms and which had a real chance to overcome the myriad process problems. It saw as a solution, the use of government and contractor staffed Integrated Product Teams (IPTs) to process VECPs. PAT members believe that if an IPT, such as the Cost IPT, were given the authority and responsibility to process the VECP up to the final contract modification approval (which must remain the responsibility of the PCO), the bulk of the existing opportunities for delay could be circumvented. In a well run IPT, both Government and Contractor members develop a common understanding of a problem and its solution and in the process develop a common understanding of the priority and value of the change. The IPT will be an effective forum for quickly resolving issues, developing a win-win approach for sharing achieved savings, and developing an effective contract modification. In addition they are

better able to make compromises on non critical issues as the IPT tends to have a singular motivating goal for all of its members.

The PAT members recognize that for any IPT to be effective in overcoming the existing problems in the VECP process, it needs to be properly resourced and responsibly led. An IPT will not magically eliminate the adversarial attitudes, the tendency to maximize the Government savings at the expense of a win-win compromise, the reluctance to accept risk, etc. If subcontractors are IPT members, care must be taken to avoid compromising the Privity of Contract relationship between the prime contractor and its subcontractors. Some perceive that the close working relationship between the Government and contractor will weaken the Government's negotiating position. The PAT recognized both issues but feels that IPTs offer the best chance at overcoming the almost debilitating complexity of the existing process -- a complexity which was alleged by a number of those interviewed as the principle reason for the lackluster performance of the VECP program. If properly run however, the IPT can establish within its members, a common sense of purpose, control over competing priorities, a willingness to compromise, and a forum for the personal interactions necessary to encourage a success oriented, team approach to problem solving and cost reduction.

2. Establish a mechanism to reward the IPTs

The PAT also recognized that the IPT must be motivated to be effective. One program reported some limited success using existing Government "on the spot" awards. However, the utility of this approach is likely to be limited by the reward amounts. It could be substantially enhanced by the ability to use a fraction of the VECP savings to reward IPT members. There is no existing mechanism to do this today, but the PAT understands that the recently established OMB VE task force is exploring mechanisms to make these rewards viable. The PAT endorses this effort and recommends that the DoD implement such a reward system as soon as it is established by OMB.

As a final consideration in this regard, a number of Program Managers identified the need to provide an incentive to the contractor IPT members to generate VECPs. Without a direct incentive, there was little motivation to drive down costs and current guidelines do not provide for this type of incentive. One proposed mechanism is for the PM to offer during initial SOW discussions, the possibility of increasing the contractor savings share if, in the contractor's proposal, he would propose using some fraction of the increase to motivate his personnel to submit effective VECPs. Care is required not to require or dictate how the contractor disposes of his savings share, but if he proposes to use some fraction of his savings to motivate his IPT members, the PM should consider increasing the savings share to provide that motivation.

3. Use the Undefinitized Contract Action (UCA) to begin implementation while accounting and contract negotiation activities are completed.

Where a proposed VECP reduces the cost of the instant contract, another option for facilitating the VECP process is to encourage use of the Undefinitized Contract Action (UCA) (or Unpriced Contract Modification) to implement the VECP after technical approval. The UCA allows the contractor to implement the change while the VECP is being settled. This approach is used in the Navy. The UCA incentivizes those executing the VECP process to act expeditiously since the "clock is running" and any delay may adversely impact program costs/savings. Currently, the Procurement community does not routinely embrace the use of UCAs because it compromises the Government's negotiating position. The Navy currently controls this impact by 1) limiting its use to VECPs which reduce cost on the instant contract, and 2) bounding the problem by establishing a not-to-exceed (NTE) cost for the contract change and a minimum per unit accepted savings requirement for the Government. However, there is still some risk in this approach because if the VECP is not implemented after it is processed, the Government is liable for costs incurred by the Contractor. Properly used, the UCA can provide significant leverage to facilitate VECP execution. Although UCA's are not the entire answer, they can greatly expedite the contract modification process and allow contractors some VECP risk mitigation.

4. Use the Preliminary VECP to reduce risk of acceptance.

Routine use of the Preliminary VECP provides a mechanism for 1) limiting the contractor investment until Program Manager "buy-in" is established, 2) encouraging PM and Industry to work together on achieving a common goal, and 3) reducing the likelihood of rejection. Although the PAT believes use of the Preliminary VECP is a good idea, it is not seen as a principal solution because in organizations where use of the Preliminary VECP is common, significant process problems and lengthy processing delays continue to exist.

5. Establish a goal for VECP processing times and require measurement and reporting of achieved times against that goal.

One can argue that "what gets measured and reported gets accomplished." To take advantage of this adage, the PAT considered as a solution, the development of process performance metrics that recognize and promote expeditious VECP processing and resultant savings. This solution will help focus PMs and IPTs on the importance of expeditious processing and should promote improved performance.

4.3.3 Recommendations:

The PAT recommends immediate implementation of all five solutions. By encouraging VECP ownership by the IPTs and authorizing IPT members to manage the approval of the VECP, the PAT believes significant improvements can be achieved. These improvements can be further improved by encouraging use of the UCA to begin implementation while accounting activities and contract negotiations are completed. By establishing and paying attention to process metrics, the DoD can increase the motivation to expeditiously process VECPs and help eliminate the biggest barrier to VECP savings. Solutions 2 and 4 require no changes to implement. They should be highlighted in the guidance material related to the VECP to encourage their use and promote their benefits.

4.3.4 Required Actions:

1. USD(A&T) sign a memorandum to Service/Component Acquisition Executives establishing the IPT as the preferred approach to process VECPs. The memo should establish a goal of 90 days for VECP processing times and require measurement and reporting of achieved times against that goal.

2. Develop an appropriate mechanism (DDP memo, DFAR change, etc.) to facilitate VECP implementation with UCA whenever:
   a) savings exceeds an established minimum, and
   b) government investment is capped.

3. VE ESG include in training materials the recommendation to:
   a) encourage submission of Preliminary VECPs to reduce the risk of acceptance and to facilitate processing.
   b) offer increased savings share if the contractor proposed use of a fraction of the increase to reward contractor IPT members for successful VECP submission.

4.4 Increase the Incentives

4.4.1 Discussion: The purpose of the VECP is to incentivize the contractor to propose contract modifications which reduce cost without reducing product or process performance. The incentive takes many forms, but the contractor's ability to share in the savings was established as the principle incentive mechanism. VECPs provide an opportunity to leverage industry's considerable resources, expertise, and insight into their product and processes for the purpose of developing cost reducing changes. In contrast to other cost reduction approaches, the VECP approach has the contractor assume the risk and make the initial investment. For the VECP program to remain successful, the DoD needs to ensure there is an effective incentive for the contractor to make these investments and to assume this risk.

The FAR is the principle document which governs the VECP incentive. The current VECP clause reflects a time when large defense budgets were supporting acquisition programs with large production volumes and rates. The recent defense downsizing has limited program procurement quantities and production rates so as to reduce the contractor's ability to reap significant savings from a VECP. The contractor's ability to achieve an acceptable return on investment (ROI) is directly related to the unit cost savings on the product and the number of affected units. When production rates are low the yearly savings is low and the contractor may be unable to achieve an acceptable ROI on his investment. Due to the reduced profit opportunity, the incentive provided by the VECP clause is no longer effective in many cases.

The current acquisition environment projects a growing need to reduce operation and support costs. Current budgets show almost 70% of the projected annual program expenditures will be for operation and support (O&S). The current VECP clause provides little incentive in this area and is difficult to use when the expected savings is collateral (O&S) savings. Historically, the FAR restricts the contractor's collateral savings share to 20% of one year's typical life cycle savings, limits this savings share to the value of the contract and subjects approval of any collateral savings share to the discretion of the PCO. In addition, funding to cover development and implementation costs and the contractor's share of the collateral savings is not usually available within the instant contract. This imposes a funding burden on the PM as contract savings, which occur outside the instant contract, cannot be used to fund these costs.

Value Engineering FAR guidance has not changed in response to the changes in the DoD environment. FAR Part 48 and the FAR clause 52.248-1 requires revision to provide sufficient contractor incentive to encourage increased VECPs in this DoD acquisition environment. The PAT has identified a number of FAR changes which, if approved, will increase the flexibility to achieve a win-win business agreement. Each of the recommended changes can be

applied on a case-by-case basis and should only be used when they make sense.

For the VECP to be successful, the Program Manager must also have a positive incentive. Most PMs are motivated by their desire to deliver a "better" system to the field. However, VECP approval takes time, consumes personnel resources, introduces risk, and has the potential to cost the PM money (in the short term). The PM typically keeps the government's share of the first year's savings on the instant contract and is sometimes able to keep the government's share of the second or third year of savings. However, consistent PM and contractor comments indicate that this is not a big enough or sure enough reward to motivate the PM. A major disincentive to the PM is that the VECP savings are reflected in reduced budgets for his program.

4.4.2 Potential Solutions:

1. Implement the Army's proposed FAR clause change that is currently before the DAR Council for review.

The FAR clause change proposed by the Army gives the PCO the authority to increase the contractor's savings share from 50% to 75%, to extend the share period from 3 to 5 years, and to increase collateral savings from 20% to 100% of an average year's savings. Doing so will provide the additional flexibility needed to ensure a meaningful return to the contractor for each VECP. A number of FAR deviations to increase the share rate and share period have been requested and approved. However, the process of obtaining a deviation adds time and complexity to the process and is seen by the contractor as an additional risk factor. Instead of continuing in this ad hoc manner, the PAT recommends making the proposed FAR change permanent. This will eliminate the unnecessary step of formally seeking a FAR deviation and will send the message to industry that the government wants to incentivize VECPs. This specific FAR change was supported by the ADPA and EIA Report (Annex C) provided in support of this PAT study. Implementation of the Army's proposed FAR change was considered a priority solution by the PAT members as well as the contractors and DoD program offices/major commands interviewed.

2. Allow PM to keep savings beyond current funding year.

One of the principal deterrents to the success of the VECP program is the PM's reluctance to assume the funding, time and personnel burden of the VECP. If the PM can recognize VE as a source of money to a) fund overruns, b) invest in additional savings ideas, and c) improve system performance, then he will be more receptive to VECPs and more likely to actively encourage contractors to develop VECPs. This proposal was considered a top priority by PMs who were interviewed. However, DUSD(Comptroller) representatives felt this was an

impractical solution. They contend that DoD's main thrust in trying to reduce weapon system development costs is to free money to cover additional requirements. If any significant portion of the saved funding went back to the PM then this would defeat the purpose of the cost reductions. On this basis, the PAT felt it would be non productive to pursue this recommendation. However, it was felt that service efforts to refrain from taking all of the savings generated would help motivate the PM.

3. Implement the American Defense Preparedness Association (ADPA) and Electronic Industries Association (EIA) proposed change to Parts 48 and 52.248-1, -2 and -3 of the FAR (Annex C).

The American Defense Preparedness Association (ADPA) and Electronic Industries Association (EIA) have proposed changes to Parts 48 and 52.248-1, -2 and -3 of the FAR stemming from the EIA Value Management Group's evaluation of FAR incentives. The proposed changes recognize the impact of the changing acquisition environment on the VECP and encompass, but extend well beyond, the proposed Army FAR change. The PAT has summarized the specific industry association proposals in paragraphs a-g below and supports processing this proposal as a FAR change. However, because the Army FAR change is already in the process, it is recommended that work be continued on the Army FAR change first and that the industry proposal be addressed as a second change. The complete ADPA and EIA FAR proposal is found at annex F. The following paragraphs summarize significant elements of the industry-proposed changes which are in addition to those encompassed by the Army FAR changes:

a) Eliminates the dollar limitation to the contractor's share of collateral savings. In the current FAR policy, the net savings share paid to the contractor shall not exceed the overall value of the contract that implemented the change or $100,000, whichever is greater. This FAR paragraph (sub-part 48-104-2b) has caused concern to some small and mid-size contractors who propose a VECP with multi-million dollar life cycle savings. [found in FAR Parts 48.104-2(b), 52.248-1(j) and 52.248-3(g)]

b) Provides the contractor with a negotiated savings payment for future cost avoidance in circumstances where the VECP reduces the requirement for the item or its future support. Currently, the FAR restricts the government from providing the contractor a savings share based on a reduction in annual demand for the system or support material. Where a VECP improves the Reliability, Availability, Maintainability or Durability (RAM-D) of a component without decreasing its unit cost, the contractor is not authorized to share in the saving which result from any resultant decrease in the annual demand for that component support. This reduces the basis from which contractor savings shares can be calculated. Continued use of this restriction deters a

contractor from submitting VECPs reducing life cycle costs. This change incorporates the provisions of the expired DoD Reliability and Maintainability deviation, RAM-D. [found in FAR 48.001 (definitions of "annual acquisition savings" and "instant unit cost reduction"), in Part 48.103(c)(4) and in 52.248-1(b) (same definitions), and in 52.248-1(g)(4)]

c) Establishes the use of "deferred contractor's development and implementation costs" to handle a negative instant contract savings situation where the Government does not have the money (or the desire) to fund the overage. [found in FAR Part 48.001 (definition added and included in definition of "negative instant contract savings"), 52.248-1(g)(1), (g)(2) and (g)(3), (h)(2) and (4), and (l)(2) and (l)(3)]

d) Recommends clarification of wording used in the Army's Acquisition Reform Initiative clause to indicate that a VECP can be submitted on anything that is contractually specified. [found in FAR Part 48.001 (definition of Value Management Change Proposal) and in 52.248-1(b) (same definition)]

e) Clarifies the instructions on how to adjust various types of contracts when the alternate no-cost settlement method is used. [found in FAR Parts 48.104-3 and 52.248-1(l)(5)]

f) Clarifies how incentive-type contracts are handled [found in FAR Part 48.104-1(a)(2)(ii) and in 52.248-1(g)(3)] and how subcontractor-submitted VECPs are handled [found in FAR Part 52.248-1(l)]

g) Changes the name "Value Engineering" to "Value Management." This change refocuses the "VECP" away from the "engineering" context and into the more comprehensive and meaningful term, "Value Management."

4. Adds a provision to the FAR to base savings on quantity instead of time. Using quantity as the basis for determining savings share ensures that regardless of changes in production rate, the contractor will still be able to achieve a profit on his investment.

5. Allows the government share of the savings to be in the form of additional goods and services on the current contract (Vice a reduction in contract price. This has been done with the Single Process Initiative (SPI)). The PAT feels this is a constructive suggestion but would not likely be a principal factor in overcoming the identified barriers.

6. Adds a cost reduction factor in past performance evaluation during source selection. The PAT believes that although this is a good idea, current work ongoing to incorporate past performance evaluations in source selection are

adequately considering cost reduction. Nothing outside the scope of those activities is recommended.

7. Reconstitute the DAR subcommittee on VECPs, disbanded for two years following retirement of the principal member. This VECP subcommittee advised the DAR council on VE FAR issues and offered a sounding board for discussion with DAR members. Although not a primary consideration, this solution should be considered if necessary to effectively consider the scope and importance of the recommendations associated with the Industry proposed FAR change.

4.4.3 Recommendations. Based on the potential for the solutions considered above, the PAT makes the following recommendations to increase the VECP incentives:

1. Implement the Army-proposed FAR changes

2. Implement the appropriate industry-proposed FAR changes

3. Add a provision to the FAR to base savings on quantity instead of time.

4.4.4 Required Actions:

1. Publish class deviation encompassing "Army FAR Case."

2. Process the Army FAR Case through the DAR council.

3. Develop a FAR Case based on the Industry proposed FAR revision.

4. Review and publish class deviation encompassing appropriate elements of Industry FAR Case and including a provision to base savings on quantity instead of time.

5. Process the FAR Case based on the Industry proposed revision.

4.5 Improve VECP Training and Education.

4.5.1 Discussion: Despite the changing DoD acquisition environment, the Defense Acquisition Workforce Improvement Act (DAWIA) and the training requirements in the current OMB circular A-131, "Value Engineering," DoD VE training and education has not been revised or expanded for years. Further, DSMC's Program Management Course offers only one hour of VE training during entire 12 week course.

The current Principles and Applications of Value Engineering (PAVE) and Contractual Aspects of Value Engineering (CAVE) are both voluntary courses and reflect the acquisition environment of the 1980's where high production rates and long production runs were the rule. The course content, which focuses on VE savings in the production phase of a program, needs to be revised to reflect DoD's current acquisition environment. It should train acquisition personnel on how to exploit VE and the VECP process where there are low production rates and uncertain production runs and where control of support costs is of paramount importance.

All training of the DoD Acquisition Workforce is managed through the Defense Acquisition University (DAU) and the DAWIA Functional Boards. The Functional Boards establish professional competencies within their Functional Area and the DAU Consortium Schools develop and present the training to the workforce. Despite the training requirements called out in OMB A-131, no Functional Boards have identified any necessary VE related competencies in their Functional Areas. The result is that, with the exception of DoD PM candidates, DoD Acquisition Workforce members receive no mandatory VE training.

Recent developments in the use of automation to provide ready access to large amounts of data has opened the way to use of the Internet and hypertext data-bases for training and reference purposes. Internet Home Pages offer ready access to timely material and guidance documents. The Defense Acquisition Deskbook offers hypertext access to a wealth of acquisition specific information not easily available in the past. Automated training tools such as interactive learning tools add significantly to the ability to train large numbers of people inexpensively and in a timely manner. However, none of these technologies have been pursued by the DoD to facilitate the initial and ongoing training requirements of the Value Engineering Community.

4.5.2 Potential Solutions:

1. Review/add VE/VECP training in the mandatory Defense Acquisition Workforce functional training objectives for the appropriate career fields.

VE training is required by OMB A-131, and the most important VE training is that which develops the necessary VE competencies in the Defense Acquisition Workforce. The Acquisition Career Fields cut across the entire DoD acquisition process spectrum so essentially all members of a Program-Level IPT, fully qualified in their field, would have the necessary skills and knowledge to support the PM's VE efforts.

2. Revise the DSMC PM Course curriculum to increase the emphasis and time allotted to the VE/VECP program.

A "cost reduction" training module is under development for the PM course at DSMC. It is currently being developed without any VE content. As the PM is the person best able to affect the implementation of VE on his program, he requires training the most. The VE Executive Steering Group (VE ESG) should outline the training required for a Program Manager and take action to include it in the "drop in" cost reduction module being developed for the PM course. Adequate training of PMs in VE principles will increase their support for the VECP program and their encouragement to their industry counterparts.

3. Design a VE/VECP training module for both the DoD Acquisition Web Page and the Defense Acquisition Deskbook which addresses:

a) the role of the VECP in cost reduction and its unique areas of applicability
b) management of the VECP process using an IPT
c) best practices and lessons learned
d) innovative approaches to establishing a win-win business arrangement

Because use of the VECP can be a complicated mechanism, continued training needs to be made available to everyone in a program office or supporting activity who has a significant VE role. The VE ESG should develop what they believe is the most appropriate reference material and provide it via an Internet Home Page and the Defense Acquisition Deskbook. Initial ideas recommended for inclusion in these guidance media are provided at the end of this training section.

4. Revise and update the current Contractual Aspects of VE (CAVE) and Principles and Applications of VE (PAVE) courses to reflect the new DoD Acquisition environment and the changes implemented as a result of this PAT. Develop and provide a tailored version of these courses to program-level IPTs.

There will always be a need for dedicated, specialized VE training for the DoD VE professionals which reflects the current DoD Acquisition environment and regulations. VE function analysis methodology is unfamiliar to most members on a Program IPT, including many engineers who are not members of the VE discipline. The FAR VE clause and the VECP process are not well

understood even by contracts personnel. A common understanding of the VECP process by all members of the IPT will facilitate execution and lessen the misunderstanding and confusion among team members.

4.5.3 Recommendations. Cost reduction training, including VE, should be presented in an integrated approach across the Acquisition Workforce and should be part of the mandatory training. In this way, the individuals will have the required VE competency to perform the VE functions necessary to their jobs. Because the PM has the most influence on VE, the DSMC PM Course should be strengthened to reflect the PM's role in the VECP process. Next, revise the PAVE and CAVE courses, and in the process develop shortened, tailored versions for use by IPTs.

4.5.4 Required Actions:

1. Task the Defense Acquisition Workforce Functional Boards to develop the necessary VE competencies within their curricula to ensure DoD compliance with the VE requirements of OMB circular A-131.

2. Task the DAU/DSMC to review and revise the DoD PM course to more fully address DoD cost reduction efforts including VE/VECPs to ensure PMs are proactive in this area.

3. Direct the DoD VE Executive Steering Group (ESG) to ensure the PAVE and CAVE courses are reviewed, updated and supported.

4. Include a VE/VECP section in a DoD Internet Home Page and the Defense Acquisition Deskbook the below recommended material which addresses innovative approaches to establishing a win-win business arrangements:

a) An effective means of communicating the desire for VECPs is to use the VE Program Requirements (VEPR) clause in addition to the voluntary clause. On contracts which include the mandatory VEPR clause, VE activity is usually more intense. On these contracts, the risk is absorbed by the government and the contractor need to fund VECP development is eliminated. There is also no confusion as to the PM's interest in VE - it is required and the above problems are eliminated. VE should be required only on large contracts because mandatory VE results in the contractor incurring the expense of setting up a VE staff to manage the effort. While use of the VEPR clause to encourage smaller, less expensive VE efforts is not prohibited, it should be used with caution on contracts below $1 million.

b) Use of the VEPR clause on all contracts over $1 million should be seriously considered. The PAT recommends use of the requirements clause in conjunction with the incentive clause on all contracts over $1 million. Each

should contain a line item funded between $10K and $100K depending on the value of the contract, to be used as "seed money" for VE. This seed money is intended to support the development of a cost saving idea to a level sufficient to support a Preliminary VECP. Its purpose is to generate one good cost reduction idea supported by the customer. A $10K amount would allow for roughly 100 engineering hours and should be adequate to generate a Preliminary VECP (PVECP). The objective for this approach is to demonstrate Government interest in the VECP to the contractor and to encourage him to invest in further VECP developments. Contractor use of funds in the VEPR clause would be optional and if not used would be available to the PM to cover unfunded requirements.

c) The Defense Logistics Agency (DLA) has developed an idea for acquiring technical data using VECPs. The primary function of DLA is supply support. The majority of DLA's VE activity is directed at reducing the price paid for spare parts. Because of diminishing manufacturing sources and inadequate data packages, they must often provide technical data packages for competitive procurements and additional manufacturing sources. Many Original Equipment Manufacturers are not interested in supporting low dollar or low volume items. A company may want to drop a product line due to insufficient production requirements or aging process equipment for which updating cannot be justified. These situations can create "no-bid" responses to government solicitations or situations where prices significantly increase because there is no competition for a remaining supplier. This causes DLA difficulty in finding and qualifying a new source and usually results in high initial startup cost as a result of qualification testing to verify the new source's technical data. DLA records indicate that competition substantially reduces the price of an item. For contracts where competition has been introduced into a procurement, DLA has seen an average price reduction of 47 percent over the last few years. In light of the above, DLA is proposing that acquiring technical data rights from contractors as a VECP as a way to increase the number of VECPs received at DLA. As with any VECP (using the incentive clause), the offer of technical data would be voluntary. The contractor providing the technical data would share in any price reductions achieved by the government as a result of using the TDP in competition. A major incentive for companies would be that they could generate income on future contracts without having to compete or produce anything. A bigger incentive, would be for the government, who would not have to incur the whole expense of developing and qualifying a new source.

d) The VECP clause should be used on all competitive, high dollar or quantity spares contracts. There is a tendency to contract for these items in smaller lots using a "just-in-time" delivery philosophy. This approach provides little motivation for the contractor to invest in cost saving improvements as there is little if any opportunity to recoup his investment. However, the VECP opportunities would be significantly increased if the procurement approach were changed to combine a number of the planned smaller procurements into an

extended contract with multiple options. The procurement approach could be to guarantee the options without competition if cost reduction goals established as part of the original solicitation are achieved.

e) Increased use of the VECP could be motivated by using the VECP Program Requirements (VEPR) clause to fund VECP development. The solicitation could be structured to require bidders to include in their bid, the cost of the VEPR required to meet a specified unit cost reduction. Further motivation can be provided by increasing the savings share for achievement above the specified unit cost reduction.

f) The Navy ARC-210 Radio program made effective use of the "No Cost" VECP to generate substantial program cost reduction and product improvement through the VECP. They negotiated up front, cost reduction and performance improvement expectations and the contractor provided a reliability improvement warrantee which guaranteed additional units if those expectations were not met. The Government agreed to give the Depot Maintenance to the contractor (it was originally planned as organic Depot Maintenance) and not to compete the option years in the contract if these expectations were met. This is an example of using additional business as the motivating factor rather than the typical savings share.

g) Increased submission of VECPs can some times be motivated by providing an incentive to the contractor IPT members. Without a direct incentive, motivation to drive down costs may be limited. One mechanism to provide this incentive is for the PM to discuss with interested contractors during initial SOW discussions, the possibility of increasing the contractor's VECP savings share if in the contractor's proposal, he would propose using some fraction of the increase to motivate his personnel to submit effective VECPs. Care is required not to require or dictate how the contractor disposes of his savings share, but if the PM can convince him to propose using some fraction of his savings to motivate his IPT members, the PM should consider increasing the savings share to provide that motivation.

h) Routine use of the Preliminary VECP provides a mechanism for 1) limiting the contractor investment until Program Manager "buy-in" is established, 2) encouraging PM and Industry to work together on achieving a common goal, and 3) reducing the likelihood of rejection. Routine use of the Preliminary VECP should be encouraged for all VECPs.

5.0 Action Plan

The VECP PAT recommended actions from the previous section are summarized below and mapped into the proposed SESG Action Item Table, table 5-1. The Action Item Table shows the specific implementing actions, the recommended action organization and recommended suspense. The Gantt chart in figure 5-1 shows the Action Plan implementation schedule. On April 14, 1997, the Defense Manufacturing Council (DMC) endorsed this plan and approved the responsibilities and due dates as shown.

1. Motivate the Program Manager

    1. Identify/designate a Value Engineering Advocate position at appropriate commands to help program offices recognize where VE can be applied, motivate generation of VECPs and facilitate VECP processing. Action 97-V2

    2. Request USD(A&T) issue a memorandum to senior leaders urging increased attention in the establishment of cost reduction objectives and development of strategies for achieving them. Action 97-V2

2. Provide Required Funding.

    1. Assist DUSD(Logistics) in revising their RM&S program guidance to ensure there is continued funding, ensure there are adequate funds to encompasses VECPs, and to ensure there is timely access to the funds. Action 97-V7

3. Fix the VECP Approval Process.

    1. Request USD(A&T) send a memo to Service/Component Acquisition Executives establishing the IPT as the preferred approach to process VECPs. Establish a 90 day goal for VECP processing and require measurement and reporting of achieved times against that goal.

    2. Develop an appropriate mechanism (DDP memo, DFAR change, etc.) to facilitate VECP implementation with UCA whenever:
        a) savings exceeds an established minimum, and
        b) government investment is capped. Action 97-V6

    3. VE ESG include in training materials the recommendation:

a) to encourage submission of Preliminary VECPs, to reduce the risk of acceptance, and to facilitate processing. Action 97-V(9-14)

b) offer increased savings share if the contractor proposed use of a fraction of the increase to reward contractor IPT members for successful VECP submission. Action 97-V(9-14)

4. Increase the Incentives

1. Publish class deviation encompassing Army FAR Case. Action 97-V3

2. Process the Army FAR Case through the DAR council. Action 97-V4

3. Develop a FAR Case based on the Industry proposed FAR revision. Action 97-V8

4. Review and publish class deviation encompassing appropriate elements of Industry FAR Case and including a provision to base savings on quantity instead of time.
Action 97-V5

5. Process the FAR Case based on the Industry proposed revision. Action 97-V5

5. Improve VECP Training and Education.

1. Task the DoD Acquisition Workforce Functional Boards to develop the necessary VE competencies within their Functional Areas to ensure DoD compliance with the VE requirements of OMB circular A-131. Action 97-V(12-14)

2. Task the DAU/DSMC to review and revise the DoD PM course to more fully address DoD cost reduction efforts including VE/VECPs to ensure PMs are proactive in this area. Action 97-V(12-14)

3. Direct the DoD VE Executive Steering Group (ESG) to ensure the PAVE and CAVE courses are reviewed, updated and supported. Action 97-V(12-14)

4. Add/expand VE/VECP as a section of a DoD Internet Home Page (Acq Web) and the Defense Acquisition Deskbook, recommending approaches proven to motivate VECP submission resulting in government/industry win/win business arrangements.

   Action 97-V(10,11)

Table 5-1. Suggested SESG Action Items

No.	Action Description	Responsibility	Due Dates
97-V1	Obtain SESG and DMC approval of VECP PAT final report.	VECP PAT	15 June 1997
97-V2	Draft USD(A&T) memorandum to CAEs: • Endorsing report recommendations • Establishing Component VE Advocates • Requesting CAE and DUSD(L) support • Summarizing VECP program changes	VECP PAT	15 June 1997
97-V3	Publish class deviation of Army Far Case	DDP	30 April 1997
97-V4	Report status and schedule for processing Army and Industry FAR Cases	DDP	Quarterly
97-V5	Review and publish class deviation on Industry FAR change when received from VE ESG.	DDP	30 August 1997
97-V6	Develop appropriate mechanism (DDP memo, DFAR change, etc.) to facilitate VECP implementation with UCA whenever: • savings exceeds an established minimum • government investment is capped	DDP	30 June 1997
97-V7	Support DUSD(L) actions to finalize RM&S guidance	VE ESG	30 August 1997
97-V8	Develop FAR case for Industry proposed FAR change including provision to base share period on quantity vs. Time	VE ESG	30 June 1997
97-V9	Develop content of VE/VECP material to be included in "drop in cost reduction module" for PM Course	VE ESG	30 August 1997
97-V10	Develop VE/VECP section of Defense Acquisition Deskbook.	VE ESG	30 August 1997
97-V11	Establish a VE Home Page in Acq Web site.	VE ESG	30 August 1997

97-V12	Develop Terminal Learning Objectives (TLOs) for VE/VECP.	DAWIA Functional Boards	TBD
97-V13	Develop course material in support of TLOs.	DAU/DAWIA Functional Boards	TBD
97-V14	Integrate course material into appropriate course curricula.	DAU/DAWIA Functional Boards	TBD

ID	Task Name
1	Obtain SESG approval of PAT Report
2	Draft USD(A&T) Memo
3	Publish Class Deviation on Army Far Case
4	Report Status of Army/Industry Far Cases
5	Publish Class Deviation on Industry Far Change
6	Develop mechanism to facilite process w/UCA
7	Support DUSD(L) actions to finalize RM&S
8	Develop DAR case for Industry FAR Rewrite
9	Develop VE module for PM course
10	Develop VE/VECP section of Deskbook
11	Establish VE Home Page
12	Develop Learning Objectives
13	Develop Course Material
14	Integrate course material in curriculum

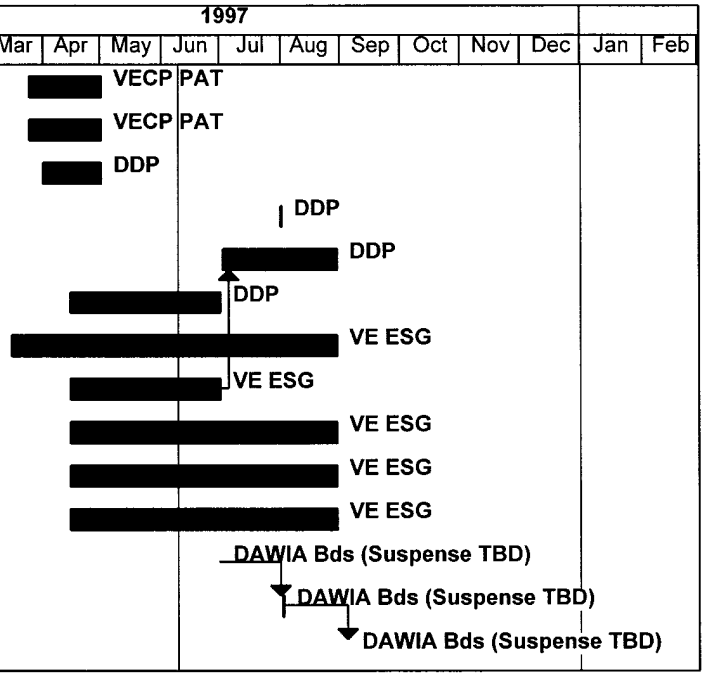


Figure 5-1. Action Plan Schedule

Annex A

Sep 17, 1996

MEMORANDUM FOR ARMY ACQUISITION EXECUTIVE
NAVY ACQUISITION EXECUTIVE
AIR FORCE ACQUISITION EXECUTIVE
DIRECTOR, BALLISTIC MISSILE DEFENSE ORGANIZATION
COMMANDER, DEFENSE CONTRACT MANAGEMENT COMMAND

SUBJECT: Value Engineering Process Action Team

Value Engineering (VE) has long been a valuable tool within the DoD, contributing more than $20 billion in annual savings since 1983. However, I believe that we can exploit the potential of VE even further with a fresh look at why VE works well in some cases and not so well in others. In order to answer these questions and increase the successful use of VE within the Department, I am establishing a Process Action Team (PAT) at the recommendation of the Defense Manufacturing Council to: 1) identify Program Manager and contractor barriers to Value Engineering Change Proposals (VECPs); and 2) develop a long term action plan to remove or minimize those barriers. I would like the effort to be completed by January 1997.

The Army was asked to lead this effort because of their pro-activity in VE. In FY95, 80% of the total DoD VECP savings were reported by the Army and 41% of their MDAPs are participating. Mr. Stephen French, Office of the Assistant Secretary of the Army (Research, Development and Acquisition) has been selected to lead the PAT.

Please identify two senior individuals to support this PAT effort and provide their names and phone numbers to Mr. French by October 4th, 1996. The individuals should have program office experience, preferably from a program with a positive history of VE. The first meeting of the PAT will be on October 9th, 1996, in Pentagon room 2E715B from 0900-1200. Questions can be directed to Mr. French at (703) 697-2615 or via e-mail at: frenchs@sarda.army.mil.

With your support and an aggressive, forward thinking PAT, we can broaden the effectiveness and scope of our Value Engineering program.

/S/
R. Noel Longuemare

Annex B

Value Engineering Change Proposal PAT Roster

NAME	ORG	TELEPHONE	E-MAIL
Robert Brainard, Jr.	QDI	703/414-0191	brainardr@mail.etas.com
Susan Caso	DLA/DPSC	215/737-3274	paa3805@dpsc.dla.mil
Lt.Col. Paul Coutee	Air Force	703/697-1715	couteep@af.pentagon.mil
Frank Doherty	OSD	703/695-2300	fdoherty@acq.osd.mil
Greg Donovan	ARG	703/415-1011	argdonovan@aol.com
Stephen French (Chairman)	Army	703/697-2615	frenchs@sarda.army.mil
Sam Fukuda	AMC	703/617-4473	sfukuda@hqamc.army.mil
John Gilchrist	QDI	703/413-3150	gilchristj@mail.etas.com
Keith Grant	BMDO	703/693-1745	(retired)
CDR Alan Haggerty	BMDO	703/693-1569	alan.haggerty@bmdo.osd.mil
Paul Hambrock	QDI	703/521-3818x7647	hambrock@erols.com
Mary Hart	DLA	703/767-1637	mary_hart@hq.dla.mil
Richard H. Hartke	NCAT	202/371 8453	hartke@ncat.com
Martin Jacobs	ANSER	703/697-1715	jacobsm@af.pentagon.mil
Jim Knowles	AMC	703/617-5100	jknowles@hqamc.army.mil
Mike LaVersa	ARG	703/415-1011	argmike@erols.com
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Aristides Maldonado	DCMC	703/767-3355	a_maldonado@hq.dla.mil
Dennis Malloy	NAVAIR	703/604-3910 X6008	malloydl.ntrprs@navair.navy.mil
Bill McAninch	DON	703/602-2390	mcaninch-william@hq.secnav.navy.mil
Terry L. Miller	Air Force	937/255-3449	millertl@asc-en.wpafb.af.mil
Larry Paulson	OSD	703/681-4535	paulsolw@acq.osd.mil
Martin Rogers	DASAF	703/697-1140	rogers@af.pentagon.mil
Mary Ann Stasiak	BMDO	703/693-1676	maryann.stasiak@bmdo.osd.mil
Roger Thiesfeld	ARMY	703/695-2647	thiesfer@sarda.army.mil
Steven Titunik	DCMC	617/238-2404	bre6350@dcrb.dla.mil
Randa Vagnerini	Army	703/602-2760	vagnerm@hqda.army.mil

Annex C

American Defense Preparedness Association
Electronic Industries Association

October 1, 1997

Mr. Stephen A. French
VECP PAT Chairman
SARD-DE
103 Army Pentagon
Washington, DC 20310-0103

Dear Mr. French:

The American Defense Preparedness Association (ADPA) and the Electronic Industries Association wish to thank the Department of Defense Value Engineering Change Proposal - Process Action Team (VECP-PAT) for the opportunity to participate in your investigation and development of solutions to overcoming the barriers to successful VECPs.

We have conducted a survey of our members and are pleased to report that there is strong agreement with the VECP-PAT on the three identified barriers to successful VECPs. Almost all industry comments focused on one of the three barriers: (1) current FAR inadequacies, (2) funding sources and restrictions, and (3) lack of government emphasis.

DISCUSSION

Barrier (1): Current FAR Inadequacies:

Fundamental among association members is the recognition that the acquisition process has and is significantly changing and that governing regulations, the FAR, must change to meet the new challenges. The existing perception, in industry as well as government, that VECPs apply to "engineering design" or "hardware" changes on high rate production contracts is creating new beliefs that VECPs are no longer relevant. As testimony to those perceptions, NASA and the Army have recently created separate clauses that are essentially modified VECP clauses but are worded to address inherent problems with the current VE clause. Without revisions to and clarifications within the FAR, these

perceptions will continue to grow. As an example of the current condition, the following scenario is provided by one of our members:

"The Government will not accept VECP changes for items that are not discretely priced in the contract, but will accept the change as an ECP with the Government getting all of the savings. Example: If a $4.94 part is used in 22 places on the vehicle and a VECP change can lower the cost to $3.50 that is a $1.44 savings each and $31.68 per vehicle savings. Since parts under $5.00 are priced as part of overhead per contract there is no savings recognized. Parts under $5.00 become automatically ineligible for the VECP Program. Other items such as qualification tests also fall into this category even though the cost is over $5.00."

(Note: Many VE professionals, in industry and the government, would argue that the interpretation, since a part is not separately priced you can't have a VECP, is incorrect. The "unit" in this case is the vehicle and not the individual part. There have been many successful VECPs where the item changed is not discretely priced, in fact, where the specific change was less than 1/10 of a cent change. However, the many 1/10 of a cent changes in a "unit" may result in significant savings.)

Through the work of the Electronic Industries Association Value Management Group (EIA/VMG), the focal group within the industry dealing with Value Engineering matters, we are pleased to enclose with this letter a proposed revised FAR PART 48 and the specific associated clauses at 52.248-1, -2, and -3. This revised FAR is a culmination of over two years' effort by both industry members and government associates of the EIA/VMG. The cover sheet of the enclosure provides an executive summary of the proposed revisions. In general though, the proposed revision removes many of the barriers that currently exist or are perceived to exist through addition of clarification language, deletion of irrelevant provisions and revision of terms to align the clause with current acquisition realities. If the revised FAR was adopted, the above example above would not have been a frustration to the company but would have been another successful VECP that would have created a measurable savings to the government and a positive incentive for the company to look for more VECP opportunities.

Barrier (2): Funding Sources and Restrictions

Closely following the real and perceived problems with the FAR, is the problem of identifying funds to pay the "up front" investment cost of a VECP. This is a problem both of insufficient funds and restrictions imposed on the funds that may be available. In short, the government today is more and more unable to come up with the down payment to buy the new house or car. In many cases, they can't even come up with the first and last month's deposit to rent the same.

The result is that the sellers, industry, knowing that the government doesn't have a source of investment funding, is not proposing changes, even when those changes could generate large future savings. In the second enclosure to this letter, an example is shown of this problem. For the lack of $7.8 million dollars total investment on four VECP's, the government lost an opportunity to net $78.6 million in savings.

Again, through the work of the EIA/VMG, there are proposed solutions to this problem. First, in the FAR revisions, there is a provision for the government to defer payment of the initial investment funds required to accept a VECP until the savings are actually realized. This alternative would have to be mutually acceptable by the government and the contractor. The second alternative would be through the creation of a "Public Enterprise Revolving Fund" to act as a bank for government programs. Agencies/programs could obtain loans to cover investment costs that exceed initial savings and repay the loans as savings are generated. In either alternative, the big winner is the government and the taxpayers. True, long term savings will be realized and not lost because of the lack of the proverbial "horseshoe nail."

Barrier (3): Lack of Government Emphasis

The third major barrier to submittal and acceptance of VECP is the lack of government focus and, therefore, a lack of industry initiative. This barrier is less quantifiable than either the FAR deficiencies or the funding restrictions. However, frequently heard today is that; no one has the personal resources or time to work VECPs, everyone is downsizing so the "VE staff" is being reassigned, and VECPs are not part of the planning, programming and budgeting process of a program and therefore are a perturbation that causes turmoil. In reality, what has happened is that both the government and industry managers responsible for VECPs have become frustrated at the lack of success and have chosen other avenues to focus their resources. The result has been a proliferation of "Band-Aid" fixes that attempt to capture some of the savings that could be achieved through VECPs. At the extreme are the programs that have eliminated any attempt to use VECPs. The axiom, "what is measured and reported is worked" is certainly applicable to VECPs. Those programs that have defined goals and are measured by the results in achieving those goals have the most successful programs. For those programs that report results of VECPs as an after thought generally have little to report.

There is probably no material change like a revision to the FAR or establishment of a revolving fund to remove this barrier. The solution involves commitment. Commitment by senior management and down through every echelon to the technical evaluator of the proposed change. At all levels this commitment must be communicated and measurable, realistic goals established. The attitude must focus on how VECPs can be accepted to achieve maximum savings not how to get rid of them. Not only should the industry contractor that proposes the change be rewarded, the government program team should be rewarded for pursuing the proposal to successful acceptance.

RECOMMENDATIONS

(1) The most important recommendation is for senior management within the Department of Defense to commit to an aggressive pursuit of savings on government contracts through the use of VECPs. The Defense Manufacturing Council (DMC) should establish VECP implementation goals and objectives for each service and DLA.

(2) Establish a Senior Executive Service (SES) level as the full time single point of focus for Value Management in DoD. This executive would be responsible for oversight and, where required, development of training materials and programs for Value Management. This would include informational training for industry, services and programs as well as detailed training for those engaged in development, submittal, evaluation, acceptance and implementation

of VECPs. If created, this SES would be the DoD manager of the revolving fund established to effect early settlement of VECPs.

(3) Initiate action to submit, review, coordinate and implement the enclosed FAR revision. [On an interim basis: expedite acceptance of an existing FAR case that adjusts the sharing periods and allows for a negotiated sharing rate on collateral savings.]

(4) Initiate action to establish a "Public Enterprise Revolving Fund" for VECP settlements. Maximum benefit would be obtained if this were established by Congress and applicable to all federal agencies. However, as an interim approach, with Congressional approval, a smaller revolving fund could be established within the department. This one action would have the greatest impact on increasing savings to the department immediately and for the foreseeable future.

Again, thank you for the opportunity to address a serious problem that we both are facing in the new acquisition environment. Working together on refining and implementing the above recommendation will reinvigorate the Department's Value Management program. The trend of declining savings from industry generated VECP can be quickly turned around, even with the smaller procurement levels. The total life-cycle savings available through implementation of quality VECPs is opportunity that must be harvested.

Sincerely,

/S/	/S/
Lawrence F. Skibbie	Dan C. Heinemeier
President	Vice President
American Defense Preparedness Association	Electronic Industries Association

Enclosures

Proposed FAR Revisions, PART 48, subpart 52.248-1, -2, -3 2.
Value Engineering Settlement Account (VESA) ["Public Enterprise Revolving Fund"]

Annex D

National Center for Advanced Technologies
1250 Eye Street N.W., Suite 11OO, Washington, D.C., 20005
FAX 202 371 8470 Voice 202 371-8458 Internet ncatt@millkern.com

NCAT

VIA FAX 9 December 1996

TO: Mr. Steve French, OSD

FROM: Joe Syslo, Director, Defense Programs

SUBJECT: Value Engineering Change Proposals (VECP)

The Defense Manufacturing Council Executive Secretary asked us to poll our resources in the Industry affordability Task Force for comments regarding the VECP program. The following is the generalized response to the polling. A copy of the Correspondence soliciting comments is enclosed to provide a reference context to the responses we received.

1. What do you see as the greatest barrier to participation (in VECP) and how would you fix it?

The process itself appears to be the biggest hindrance to the program. The process is burdensome to operate within at the local level, that is, at the level of the contracting officer who deals directly with the company or the purchasing contracting officer at the buying office. While submittal of the VFCP is for the most part a routine, form filling process, the length of the process from acceptance to negotiation to compensation is unacceptable long, While not universal, negotiations that follow are also usually long and arduous, with more attention to "consideration" for change of scope than for incentives for cost cutting or savings reaped. "Trust" appears to be an underlying factor here as some people feel that change proposals are done to correct bad initial work, An additional comment that revolves around process is there are other vehicles that provide more incentive and better return. The Component Improvement Program (CIP), typically used in propulsion programs, is an example of a more streamlined win-win method of incentivizing engineering improvements.

A possible fix offered would be to model the program more like CIP, or streamline the negotiations so that the period of time from start of VECP to the point of compensation would be such that a VECP could be completed within the engineering upgrade timeframe. Under the present system the time necessary to complete a VECP might be

longer in duration than the effect of the proposed change. With a different contractual vehicle for negotiating the change proposal the improvement could be feasibly inserted and benefits to the overall project could be enjoyed before the change is overtaken by events.

Those comments arc a result of an impromptu short-notice query to out participants response to Mr. O'Donohue's request. A more in-depth answer could be achieved through face to face discussion with company representatives at the next PAT meeting, or second workshop on the subject with increased industry participation. Whatever your choice we can assist in providing the industry comment to the program.

ANNEX E

SUBJECT: BARRIERS TO CONTRACTOR GENERATED VECPs

Mr. John Burt, Director of Test, Systems Engineering and Evaluation for the Office of the Under Secretary of Defense (Acquisition & Technology) has been tasked to determine the barriers to participation in the Value Engineering (VE) initiative and to propose improvements to the existing system. This specific query is from Defense Contract Management Command (DCMC) to the Value Engineering group at [Contractor Name Removed to Ensure Non Attribution]. The response is solely for the purpose of soliciting problem areas experienced by [Name Removed] and to suggest improvements.

I believe the two improvements mentioned below would have the largest impact. First, include a VE Program Requirement in large contracts so to ensure performance and support. Secondly, allocate VECP funding separate from production contract money. One additional suggestion for changing the Federal Acquisition Regulation would be to remove unilateral contract modifications under Sections 48 and 52. A unilateral modification requires only one signature, that of the government contract officer. This is not conducive to contractor participation in such a program.

a. What do you and your contractors feel are the barriers to successfully generating VECPs?

Contractors recognize government resistance to VECPs. The top government officials want Value Engineering to be performed, while the administrative level is pressed for time and money. Contractors do not strongly support a function that the customer feels is an irritant. The government customer prefers to fund ideas that improve platform capability, which are visible and tangible, not ideas to reduce acquisition cost or operating and support cost. Some government administrators believe they should not pay contractors for VECP savings shares, but that the ideas should be submitted under the existing government supported program via unsolicited ECPs. Government needs to recognize that a major incentive for contractor initiated ideas is the savings share.

b. What are some of the more questionable excuses that have been used to turn down VECPs?

1. Government did not want to wait for deliberations over the contracting of a VECP and requested the idea to be submitted as an unsolicited ECP. The concern is that the VECP takes longer than a standard ECP, which should not be true since the processing is basically the same. The VECPs are often scrutinized and delayed until they are either approved with less overall savings

due to fewer incorporation units or disapproved due to lack of significant savings with the delay.

2. Government has stated that they will not reward contractors for imperfect designs. Reliability and maintainability improvements are usually from technological advancements and not due to design flaws.

3. There is a misconception at the government administrative level that VECPs are an additional risk to the government. The risk assessment with VECPs is no different than implementing standard ECPs and is sometimes less due to contractors investing their own money into Independent Research and Development (IR&D) prior to offering preliminary VECPs. VECP savings shares reward contractors for taking risks.

4. The Government procuring the production system is not always the beneficiary of the cost savings idea. The production program is requested to pay the up-front cost for the nonrecurring and the contractor savings share but the field will reap the savings, therefore, ideas are disapproved due to lack of funding for those type of cost savings ideas.

c. Are your contractors hesitant about submitting VECPs? If so, What are their primary reasons?

The greatest concern is that contractors do not want to jeopardize good customer relations. In addition, contractors do not like spending Bidding & Proposal money on ideas that may not come to fruition. Government is often skeptical of the projected savings even with supporting data and contractors are put in the defensive position which leads to long deliberations. Most contractors believe that it is best to avoid this conflict and that it is not worth the few VECP shares awarded.

d. What steps would they/you recommend to improve contractor participation in VE?

1. Incorporate a VE Program Requirement in all large government contracts. This will require both government and contract support to the VE program.

2. Broaden the Federal Acquisition Regulation (FAR) to have more flexible sharing arrangements which increase incentives for contractors to solicit VECPs. Increasing the sharing period from 3 years to 3-5 years is currently under review by government agencies. The FAR awards a collateral savings share of 20% of one average year savings and is proposed as 20-100% of one average year savings. The proposed sharing arrangement is left to the discretion of the contracting officer.

3. Identify the various available funding opportunities for contractors to solicit. Identify and market these agencies and their programs.

4. Recognize that contractors will value what the government customer values. If the administrative government customer wants VECPs, then contractors will submit them.

e. What steps would they/you recommend to improve the acceptance of VECPs? (Give separate, detailed comments for improvements that will both improve processing time and increase the chances of VECPs being acceptable to the buying activity.)

1. Implement a check and balance system. There are many ways to do this. One way is to incorporate a VE Program Requirement clause in the contract instead of a VE Voluntary clause. This will ensure that the government customer is concerned with the contract requirement and will be responsible for supporting and reporting the effort. With the combination of gaining customer support and having a contract requirement, the contractors will more actively support VE.

2. DoD needs to identify separate VE funding so that production ECPs do not overrule VECPs. This money should be readily available for funding ideas for acquisition and collateral savings.

3. VECPs are more cost effective when implemented on more units. Government skepticism costs time and money if decisions are delayed. Approval/disapproval responses should be required within a limited amount of time. The FAR has a 45-day response requirement but it is adhered to seldomly.

4. Each government agency should have a VE office which actively facilitates the VECP review cycle. Having proactive VE counterparts has proven to be very helpful to the overall success of a VE program.

In conclusion, [Contractor Name Removed] has been the recipient of three DoD Value Engineering awards from the Defense Logistics Agency (DLA), Army, and Navy. We currently employ two full-time Value Engineers supporting the [Program Names Removed] programs. On the [Program Name Removed] program, Value Engineering has submitted over 70 preliminary VECPs and has contracted 13 proposals. In addition, [Contractor Name Removed] has successfully contracted 5 Army VE Program Requirements. Under the Voluntary VE clause on the [Program Name Removed] program, Value Engineering has submitted over 25 preliminary VECPs and contracted 6 proposals. Numerous more studies have been performed on both the [Program Names Removed], but only the most attractive proposals were solicited to the government customers.

Improvements to the Value Engineering initiative would increase contractor participation and improve the success rate of contracting VECPs. Millions of dollars have been saved by our Value Engineering program, but many more dollars could be saved by eliminating the barriers. VECPs not only generate profit, but also allow contractors to continue improving the value of their product.

[Name Removed]

Annex F

Recent acquisition reforms (i.e. adoption of commercial practices, transfer of configuration management to the contractor, reduction of "how to" requirements on the contractor, reduced defense spending and reduced manpower resources (both contractor and government)) have significantly changed the Acquisition process.

The American Defense Preparedness Association (ADPA) and Electronic Industries Association (EIA) have drafted changes to Parts 48 and 52.248-1, -2 and -3 of the FAR in response to these acquisition reforms. The FAR changes stem largely from the EIA Value Management Group exploration of those elements of the VECP guidance in the FAR which has surfaced issues or given trouble over recent years. The proposed changes recognize the impact of the changing acquisition environment on the VECP and attempt to respond accordingly. The changes, if made, will increase the flexibility within which a win-win business decision can be crafted. Each of the recommended changes can be applied on a case-by-case basis and are only intended for use when they make sense. Specific policy changes which are reflected in the proposed FAR rewrite include:

1. lengthening the sharing period from 36 to 60 months (including changing the period described in the "LRIP" modification to the clause) (found in FAR Parts 48.001, definition of "sharing period," 52.248-1(b), definition of sharing period, and in 48.102(g)

2. inserting the variable sharing rate for collateral savings that was introduced by the AMC FAR case (found in FAR Parts 48.104-2(b), 52.248-1(j) and 52.248-3(g)

3. eliminating the dollar limit to the contractor's share of collateral savings (since collateral is where much of the savings is coming today) (found in FAR Parts 48.104-2(b), 52.248-1(j) and 52.248-3(g)

4. incorporating what was previously contained in the gone-away RAM-D deviation to account for cost avoidances (as you're aware, the clause as currently written does not permit sharing on future contracts unless there is, in fact, a future contract awarded - no contract award; no future share) (found in FAR 48.001 (definitions of "annual acquisition savings" and of "instant unit cost reduction"), in Part 48.103(c)(4) and in 52.248-1(b) (definitions of "annual acquisition savings" and of "instant unit cost reduction"), and in 52.248-1(g)(4)

5. inclusion of the "deferred contractor's development and implementation costs" as a way to handle a negative instant contract savings situation

where the Government does not have the money (or the desire) to fund that overage (found in FAR Part 48.001 (definition added and included in definition of "negative instant contract savings"), 52.248-1(g)(1), (g)(2) and (g)(3), (h)(2) and (4), and (i)(2) and (i)(3).

6. inclusion of some of the clarifying words used in the Army's Acquisition Reform Initiative clause (to indicate that a VMCP can be submitted on ANYTHING that is contractually specified (found in FAR Part 48.001 (definition of Value Management Change Proposal) and in the same definition in 52.248-1(b)

7. a major clarification as to how incentive-type contracts are handled (found in FAR Part 48.104-1(a)(2)(ii) and in 52.248-1(g)(3)

8. another major clarification as to how subcontractor-submitted VECPs are dealt with contractually (found in FAR Part 52.248-1(l)

9. a clearer set of instructions as to how to adjust various types of contracts when the alternate no-cost settlement method is used (found in FAR Parts 48.104-3 and 52.248-1(i)(5)

10. eliminating the troublesome phrase "value engineering" for the clause and substituting a term that more accurately describes what we are attempting to do: "Value Management." Of course, that makes what were VECPs now VMCPs. Since the name Value ENGINEERING came into existence because of the funding constraints of a military service and was a corruption of the original name for the concept - Value Analysis - this would be an appropriate time to eliminate what shouldn't have been there in the first place and substitute a more meaningful name. (found throughout the clauses)

PART 48 VALUE MANAGEMENT ~~ENGINEERING~~

48.000 Scope of part.

This part prescribes policies and procedures for using and administering value management **~~engineering~~ techniques in contracts.**

48.001 Definitions.

"Acquisition savings," as used in this part, means savings resulting from the application of a value management **~~engineering~~ change proposal (VM~~E~~CP) to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include -**

(a) Instant contract savings, which are the net cost reductions on the instant **contract ~~under which the VECP is submitted and accepted,~~ and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VM~~E~~CP, less the** allowable **contractor's ~~allowable~~ development and implementation costs;**

(b) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VM~~E~~CP is accepted; ~~and~~

(c) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units scheduled for delivery during the sharing period (but see 48.102(g)). The term "scheduled for delivery" shall mean the delivery schedule that is established on future contracts when the future contracts are awarded. Future contract savings include any increases in quantities after acceptance of the VMCP that are due to contract modifications, exercise of options, additional orders or, if the instant contract is a multiyear contract, quantities funded after VMCP acceptance; and. ~~**If the instant contract is a multiyear contract, future contract savings include savings on quantities funded after VECP acceptance.**~~

(d) Annual acquisition savings, which are the net reduction in acquisition cost to the Government of an item, resulting from an accepted VMCP, which the Government determines to reduce the quantity requirement on either the instant contract, concurrent and/or future contracts during the sharing period. All annual acquisition savings will be considered as future contracts for sharing purposes. However, because reduction in quantity can occur for reasons totally unrelated to the specifics in the accepted VMCP (budget reductions, mission changes, requirements curtailment, changes in design or processes, etc.), the decision as to the amount of reduced demand that is due to the VMCP as well as the determination of any and all costs, savings and other calculations regarding acquisition determinations must be left to the contracting officer and be removed from the Disputes process. The contracting officer's decision as to the amount of savings in the reduced quantity requirements that are attributable to the accepted VMCP shall be final and not subject to the Disputes

clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

"Agency," as used in Department of Defense contracts, shall mean the military department accepting the VMCP (or the next equivalent level below the Department of Defense level).

"Collateral costs," as used in this part, means agency costs of operation, maintenance logistic support, or Government-furnished property

"Collateral savings," as used in this part, means those measurable net reductions resulting from a VMECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office," as used in this part, means the contracting office that the contracting officer and the contractor agree will form the sharing base. **Contracting office includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.**

"Contractor's development and implementation costs," as used in this part, means those allowable, allocable and reasonable **costs the contractor incurs on a VMECP specifically in developing, testing, preparing, and submitting the VMECP** ("development costs"), **as well as those costs the contractor incurs to make the contractual changes required by Government acceptance of a VMECP** ("implementation costs").

"Deferred contractor's development and implementation costs" is the excess of the contractor's development and implementation costs over the instant contract savings on an accepted VMCP. If this option is agreed to as the method to accept a VMCP involving negative instant contract savings, the contracting officer shall consider providing consideration for the deferred amount. Any consideration provided on the deferred contractor's development and implementation costs are not Government costs as used in this clause and shall not be offset against savings. Deferred contractor's development and implementation costs will be paid to the contractor from concurrent and/or future savings before any Government costs are offset and before sharing.

"Future unit cost reduction," as used in this part, means the instant unit cost reduction adjusted as the contracting officer considers necessary only **for** the following two factors: (1) **projected learning; or** (2) **changes in quantity during the sharing period. It is calculated at the time the VMECP is accepted and applies either (a) throughout the sharing period, unless the contracting officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (b) to the calculation of a lump-sum payment, which cannot later be revised.**

"Government costs," as used in this part, means those agency costs that result directly from developing and implementing the VMECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the

VM~~E~~CP, ~~or~~ **any increase in instant contract** price, target price and ceiling price, target cost or estimated **cost ~~or price~~ resulting from negative instant contract savings** or any deferred contractor's development and implementation costs, including any consideration.

"Instant contract," as used in this part, means the contract under which the VM~~E~~CP is submitted and accepted. **It does not include increases in quantities after acceptance of the VM~~E~~CP that are due to contract modifications, exercise of options, ~~or~~ additional orders** or multiyear quantities funded after VMCP acceptance. These quantities are to be considered future contract quantities. ~~**If the contract is a multiyear contract, the term does not include quantities funded after VECP acceptance.**~~ **In a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.**

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any contractor's development or implementation costs) resulting from using the VM~~E~~CP on the instant contract or the amount of savings in annual acquisition cost per unit resulting from the procurement of a reduced annual demand. **In service contracts** and non-hardware related changes on supply contracts, **the instant unit cost reduction is normally equal to the number of hours per line-item task** or process steps **saved by using the VM~~E~~CP on the instant contract, multiplied by the appropriate contract labor rate.** Unit cost reduction for savings in annual acquisition cost will be determined by: Old annual demand (OAD) of the old unit multiplied by the old unit cost (OUC) minus the new annual demand (NAD) of the new part multiplied by the new unit cost (NUC) and this quantity divided by the new annual demand (NAD). In formula form, this translates to: [(OAD X OUC) - (NAD X NUC)] ÷ NAD.

"Negative instant contract savings" means the increase in the instant contract price, target price and ceiling price, target cost, **or** estimated **cost ~~or price~~ when the acceptance of a VM~~E~~CP results in an excess of the contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.** Should this situation exist, there are at least two options available: (1) the Government can agree to fund the excess and recover the negative instant contract savings from concurrent or future contracts before any savings are shared; or (2) the excess can be considered deferred contractor's development and implementation costs and that deferred amount shall be paid to the contractor from concurrent or future savings before any Government costs are offset and before any sharing occurs.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, ~~and~~ future contract and annual acquisition **savings, less Government costs.** Instant contract savings are normally calculated first and then concurrent, future and annual acquisition contract savings are calculated. Government costs are only subtracted until they are fully offset.

"Sharing base," as used in this part, means the number of affected end items on contracts of the contracting office accepting the VM~~E~~CP.

"Sharing period," as used in this part, means the period beginning with acceptance of the first unit incorporating the VM~~E~~CP (under any contract - instant, concurrent or future) and ending at the later of (a) 5 ~~3~~ years after the first unit affected by the VM~~E~~CP is accepted or (b) the last scheduled delivery date of an item affected by the VM~~E~~CP under the instant contract delivery schedule in effect at the time the VM~~E~~CP is accepted (but see 48.102(g)).

"Unit," as used in this part, means the item or task to which the contracting officer and the contractor agree the VM~~E~~CP applies.

"Value management ~~engineering~~," as used in this part, means an organized effort to analyze the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life cycle cost consistent with required performance, reliability, quality, and safety.

"Value management ~~engineering~~ change proposal (VM~~E~~CP)" means a proposal that --

(a) Requires any ~~a~~ change to the instant contract to implement. Such changes can be to any Government-directed processes or requirements that are specified for use in the performance of this contract and that provide an opportunity to reduce contractor costs of performance while still meeting contractual performance requirements; and

(b) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; *provided,* that it does not involve a change --

(1) In deliverable end item quantities only;

(2) ~~In research and development (R&D) items or R&D test quantities that are due solely to results of previous testing under the instant contract; or~~

~~(3)~~ To the contract type only.

"Value management ~~engineering~~ proposal (VMP")," as used in this part, means, in connection with an A-E contract, a change proposal developed by employees of the Federal Government or contractor value management ~~engineering~~ personnel under contract to an agency to provide value management ~~engineering~~ services for the contract or program.

SUBPART 48.1 - POLICIES AND PROCEDURES

48.101 General.

(a) Value management ~~engineering~~ is the formal technique by which contractors may (1) voluntarily suggest methods for performing more economically and share in any resulting savings or (2) be required to establish a program to identify and submit to the Government methods for performing more economically. Value management ~~engineering~~ attempts to identify

~~eliminate~~, without impairing essential functions or characteristics, anything that increases acquisition, operation, or support savings ~~costs~~.

(b) There are two value management ~~engineering~~ approaches:

(1) The first is a voluntary ~~an incentive~~ approach in which contractor participation is left to its discretion ~~voluntary~~ and the contractor uses its own resources to develop and submit any value management ~~engineering~~ change proposals (VM~~E~~CP's). The contract provides for sharing of savings and for payment of the contractor's allowable development and implementation costs only if a VM~~E~~CP is accepted. This voluntary approach should not in itself increase costs to the Government.

(2) The second approach is a mandatory program in which the Government requires and pays for a specific value management ~~engineering~~ program effort. The contractor must perform value management ~~engineering~~ of the scope and level of effort required by the Government's program plan and included as a separately priced item of work in the contract Schedule. No value management ~~engineering~~ sharing is permitted in architect-engineer contracts. All other contracts with a program clause share in savings on accepted VM~~E~~CP's, but at a lower percentage rate than under the voluntary approach. The objective of this value management ~~engineering~~ program requirement is to ensure that the contractor's value management ~~engineering~~ effort is applied to areas of the contract that offer opportunities for considerable savings consistent with the functional requirements of the end item of the contract.

48.102 Policies.

(a) Agencies shall provide contractors a substantial financial incentive to develop and submit VM~~E~~CP's. Contracting activities will include value management ~~engineering~~ provisions in appropriate supply, service, architect-engineer and construction contracts as prescribed by 48.201 and 48.202 except where exemptions are granted on a case-by-case basis, or for specific classes of contracts, by the agency head.

(b) Agencies shall: (1) establish guidelines for processing VM~~E~~CP's; (2) provide expeditious response to a contractor's notification of the undertaking of significant expenditures for VMCP effort (see paragraph (c) of the value management ~~engineering~~ clauses prescribed in Subpart 48.2); (3~~2~~) process VM~~E~~CP's objectively and expeditiously; and (4~~3~~) provide contractors a fair share of the savings on accepted VM~~E~~CP's.

(c) Agencies shall ~~consider~~ require~~ing~~ incorporation of value management ~~engineering~~ clauses in appropriate subcontracts.

(d)(1) Agencies other than the Department of Defense shall use the value management ~~engineering~~ program requirement clause (52.248-1, Alternates I or II) in initial production contracts for major systems programs (see definition of major system in 34.001) and for contracts for major systems research and development except where the contracting officer determines and documents the file to reflect that such use is not appropriate.

(2) In Department of Defense contracts, the VM~~E~~ program requirement clause (52.248-1, Alternates I or II), shall be placed in initial production solicitations and contracts (first and second production buys) for major system acquisition programs as defined in DoD Directive 5000.1, except as specified in subdivisions (d)(2)(i) and (ii) of this section. A program requirement clause may be included in initial production contracts for less than major systems acquisition programs if there is a potential for savings. The contracting officer is not required to include a program requirement clause in initial production contracts --

(i) Where, in the judgment of the contracting officer, the prime contractor has demonstrated an effective VM~~E~~ program during either earlier program phases, or during other recent comparable production contracts.

(ii) Which are awarded on the basis of competition.

(e) Value management ~~engineering~~ incentive payments do not constitute profit or fee within the limitations imposed by 10 U.S.C. 2306(d) and 41 U.S.C. 254(b) (see 15.903(d)).

(f) ~~Generally,~~ P~~p~~rofit or fee on the instant contact should not be adjusted downward as a result of acceptance of a VM~~E~~CP. Profit or fee shall be excluded when calculating instant or future contract savings.

(g) In the case of contracts for items requiring an extended period for production (e.g., ship construction, major system acquisition), agencies may prescribe sharing of future contract savings on all future contract units to be delivered under contracts awarded for essentially the same item during the sharing period, even if the scheduled delivery date is outside the sharing period. For engineering-development and low-rate-initial-production contracts, the future sharing shall be on scheduled deliveries equal in number to the quantity required over the highest 60 ~~36~~ consecutive months of planned production, based on planning or production documentation at the time the VM~~E~~CP is accepted.

(h) In the case of contracts for architect-engineer services, the contract shall include a separately priced line item for mandatory value management ~~engineering~~ of the scope and level of effort required in the statement of work. The objective is to ensure that value management ~~engineering~~ effort is applied to specified areas of the contract that offer opportunities for significant savings to the Government. There shall be no sharing of value management ~~engineering~~ savings in contracts for architect-engineer services.

(i) Agencies shall establish procedures for funding and payment of the contractor's share of collateral savings and future contract savings.

48.103 Processing value management ~~engineering~~ change proposals.

(a) Instructions to the contractor for preparing a VM~~E~~CP and submitting it to the Government are included in paragraphs (c) and (d) of the value management **~~engineering~~ clauses prescribed in Subpart 48.2.** Upon receipt of written notification from the contractor of intention to undertake significant expenditures for VMCP effort, the contracting officer or other designated official shall respond expeditiously to such notification. **Upon receiving a VM~~E~~CP, the contracting officer or other designated official shall promptly process and objectively evaluate the VM~~E~~CP in accordance with agency procedures and shall document the contract file with the rationale for accepting or rejecting the VM~~E~~CP.**

(b) The contracting officer is responsible for accepting or rejecting the VM~~E~~CP within 45 days from its receipt by the Government. If the Government will need more time to evaluate the VM~~E~~CP, the contracting officer shall notify the contractor promptly in writing giving the reasons and the anticipated decision date. The contractor may withdraw, in whole or in part, any VM~~E~~CP prior to its acceptance by the Government. ~~**not accepted by the Government within the period specified in the VECP.**~~ Any such withdrawn portion may be subsequently implemented by the Government by change order with no obligation to pay Value Management shares to the contractor. **Any VM~~E~~CP may be approved, in whole or in part, by a contract modification incorporating the VM~~E~~CP. Until the effective date of the contract modification, the contractor shall perform in accordance with the existing contract. If the Government accepts the VM~~E~~CP, but properly rejects units subsequently delivered or does not receive units on which a savings share was paid, the contractor shall reimburse the Government for the proportionate share of these payments** unless the alternative lump-sum settlement payment method is selected (see 48.104-1(a)(6)). **If the VM~~E~~CP is not accepted, the contracting officer shall provide the contractor with prompt written notification, explaining the reasons for rejection.**

(c) The following Government decisions are not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613):

(1) The decision to accept or reject ~~a~~ all or part of any **VM~~E~~CP.**

(2) The amount **~~determination~~ of collateral costs or collateral savings.**

(3) The decision as to which of the sharing rates applies, including **when Alternate II of the clause at 52.248-1, Value Management, is used.**

(4) The decision as to the amount of reduced demand due to a VMCP, as well as the determination of any and all costs, savings and other calculations regarding acquisition determinations in the case of Annual Acquisition VMCPs.

48.104 Sharing arrangements.

48.104-1 Sharing acquisition savings.

(a) *Supply or service contracts.* (1) The sharing base for acquisition savings is normally the number of affected end items on contracts of the contracting office accepting the VM~~E~~CP. The sharing rates (Government/contractor) for net acquisition savings for supplies and services are based on the type of contract, the value management **~~engineering~~ clause or alternate used, and the type of savings, as follows:**

GOVERNMENT/CONTRACTOR SHARES OF NET ACQUISITION SAVINGS
(figures in percent)

	Sharing Arrangement			
	~~Incentive~~ (Voluntary)		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (other than incentive-type)	50/50	50/50	75/25	75/25
Incentive-type (fixed-price or cost reimbursement) i.e., FPI-F, FPI-S, CPIF	*	50/50	*	75/25
Cost-reimbursement** (other than incentive-type)**	75/25	75/25	85/15	85/15

* In incentive-type contracts, the contractor's benefit from the VMCP will be realized through **~~Same sharing arrangement as~~ the contract's profit or fee adjustment formula.**

** Cost-reimbursement contracts i**~~Includes~~ cost-plus-award-fee contracts.**

(2) Acquisition savings may be realized on the instant contract, concurrent contracts, and future contracts. The contractor is entitled to a percentage share (see subparagraph (1) above) of any net acquisition savings. Net acquisition savings result when the total of acquisition savings becomes greater than the total of Government costs and any negative instant contract savings. This may occur on the instant contract or it may not occur until reductions have been negotiated on concurrent contracts or until future contract savings are calculated, either through lump-sum payment or as each future contract is awarded.

(i) When the instant contract is not an incentive-type contract, the contractor's share of net acquisition savings is calculated and paid each time such savings are realized. This may occur once, several times, or, in rare cases, not at all.

(ii) When the instant contract is an incentive-type contract, the contractor shares in instant contract savings through the contract's incentive structure

on instant contract items affected. The effect of this is that the contractor will receive a benefit through the instant contract's incentive structure (however, will not receive an instant savings share) but will share in any concurrent or future contract savings or collateral savings realized. **In calculating acquisition savings under incentive-type contracts, the contracting officer shall add any negative instant contract savings to the target cost or to the target price and ceiling price and then offset these negative instant contract savings and any Government costs against concurrent and future contract savings.**

(3) The contractor shares in the savings on all affected units scheduled for delivery during the sharing period (but see 48.102(g)). The contractor is responsible for maintaining, for 3 years after final payment on the contract under which the VMECP was accepted, records adequate to identify the first delivered unit incorporating the applicable VMECP.

(4) Contractor shares of savings are paid through the contract under which the VMECP was accepted. On incentive-type contracts, the contractor's share of concurrent and future contract savings and of collateral savings shall be paid as a separate firm-fixed-price contract line item on the instant contract.

(5) Within 3 months after concurrent contracts have been modified to reflect price reductions attributable to use of the VMECP, the contracting officer shall modify the instant contract to provide the contractor's share of savings.

(6) The contractor's share of future contract savings may be paid (1) **as subsequent contracts are awarded;** (2) as deliveries are made on subsequent contracts; **or** (3) **in a lump-sum payment at the time the VMECP is accepted.** Methods (2) or (3) may be used **only if the contracting officer has established that this is the best way to proceed and the contractor agrees.** Consideration should be given to the time value of money if methods (2) or (3) are agreed to. **The contracting officer ordinarily shall make calculations as future contracts are awarded and, within 3 months after their award, modify the instant contract to provide the contractor's share of savings.** If Method 2 (paying as future contract deliveries are made) is mutually agreed to, the instant contract shall be modified within 3 months following delivery to provide the contractor's share of savings. Some other mutually agreeable period may be agreed to - e.g., payment for all deliveries made within a 3-month period, a 6-month period, a 12-month period or whatever period is mutually agreed to. In any event, payment of the future share will be made within 3 months following the occurrence of the agreed-to event or time period. **For future contract savings calculated under the optional lump-sum method, the sharing base is an estimate of the number of items that the contracting office will purchase for delivery during the sharing period. In deciding whether or not to use the more convenient lump-sum method for an individual VMECP, the contracting officer shall consider --**

(i) The accuracy with which the number of items to be delivered during the sharing period can be estimated and the probability of actual production of the projected quantity;

(ii) The availability of funds for a lump-sum payment; and

(iii) The administrative expense of amending the instant contract as future contracts are awarded.

(b) *Construction contracts.* Sharing on construction contracts applies only to savings on the instant contract and to collateral savings. The contractor's ~~Government's~~ share of savings on the instant contract is determined by subtracting Government costs from instant contract savings and multiplying the result by (1) 55 ~~45~~ percent for fixed-price contracts; or (2) 25 ~~75~~ percent for cost-reimbursement contracts. Value management ~~engineering~~ sharing does not apply to incentive-type construction contracts.

(c) *Architect-engineering contracts.* There shall be no sharing of value management ~~engineering~~ savings in contracts for architect-engineer services.

48.104-2 Sharing collateral savings.

(a) The Government shares collateral savings with the contractor, unless the head of the contracting activity has determined that the cost of calculating and tracking collateral savings will exceed the benefits to be derived (see 48.201(e)).

(b) The contractor's share of collateral savings is negotiable between 20 percent and 100 percent of the estimated savings to be realized during an average (arithmetic mean) year of use but shall not exceed ~~(1)~~ the contract's ~~firm-fixed-~~price, target price (for fixed-price-incentive contracts), target cost (for cost-plus-incentive-fee contracts), or estimated cost, at the time the VM~~E~~CP is accepted. ~~or (2) $100,000, whichever is greater~~. In determining collateral savings, the contracting officer shall consider any degradation of performance, service life, or capability. (See 48.104-1(a)(4) for payment of collateral savings through the instant contract.)

48.104-3 Sharing alternative -- no-cost settlement method.

To minimize the administrative costs for both parties when there is a known continuing requirement for the unit, consideration should be given to the settlement of a VM~~E~~CP submitted against the VM~~E~~ Voluntary ~~Incentive~~ clause of the contract at no cost to either party. Under this method of settlement, the contractor would keep all of the savings on the instant contract, and all savings on its concurrent contracts only. The Government would keep all savings resulting from concurrent contracts placed on other sources, savings from all future contracts and all collateral savings. Use of this method must be by mutual agreement of both parties for individual VM~~E~~CPs. With all contract types, the instant contract must be changed by modification to accept the change

proposed by the VMCP. No other financial modifications need be made to firm-fixed-price, fixed-price contracts with economic price adjustment, fixed-price contracts with prospective or retrospective price redetermination, or firm-fixed-price, level-of-effort contracts. For fixed-price-incentive and cost-plus-incentive-fee contracts, in addition to modifying the instant contract to accept the change proposed by the VMCP, the target cost must be reduced by the amount of instant contract savings. The contractor's share of instant contract savings (which is the total savings on the instant contract) shall be paid by adding a separate firm-fixed-price CLIN to the instant contract for the amount of the instant contract savings. For cost-plus-fixed-fee contracts, the estimated cost shall be reduced by the amount of the instant contract savings and that instant contract savings amount shall be added to the fixed fee. On cost-plus-award-fee contracts, the contractor's instant contract savings share is added to the base fee by modification (in addition to modifying the instant contract to accept the change proposed by the VM~~E~~CP).

48.105 Relationship to other incentives.

Contractors should be offered the fullest possible range of motivation, yet the benefits of an accepted VM~~E~~CP should not be rewarded both as value management **~~engineering~~ shares and under performance** incentives (as in incentive-type contracts), reliability-improvement warranty, **design-to-cost,** process improvement, technology insertion, operation and support cost reduction, portions of an award fee plan under a cost-plus-award-fee contract **or similar incentives** contained in **~~of~~ the contract. To that end, when performance,** reliability improvement, **design-to-cost,** portions of an award fee plan under a cost-plus-award-fee contract **or similar targets are** established **~~set~~ and incentivized, the targets of such incentives affected by the VM~~E~~CP are not to be adjusted because of the acceptance of the VM~~E~~CP. Only those benefits of an accepted VM~~E~~CP *not* rewardable under other incentives are rewarded under a value** management **~~engineering~~ clause.** If this contract specifies targets but provides no incentive to surpass them, the value management sharing shall apply only to the amount of achievement better than target.

SUBPART 48.2 - CONTRACT CLAUSES

48.201 Clauses for supply or service contracts.

(a) ***General.*** **The contracting officer shall insert a value** management **~~engineering~~ clause in solicitations and contracts when the contract amount is expected to be $100,000 or more, except as specified in subparagraphs (1) through (5) and in paragraph (f) below. A value** management **~~engineering~~ clause may be included in contracts of lesser value if the contracting officer sees a potential for significant savings. Unless the chief of the contracting office authorizes its inclusion, the contracting officer shall *not* include a value** management **~~engineering~~ clause in solicitations and contracts --**

(1) For research and development other than engineering and manufacturing development ~~full-scale development~~. However, if any part of the statement of work in such a contract reflects a Government specification that might profit from or be improved by application of VM techniques, the contracting officer shall consider inserting a value management ~~engineering~~ clause to refer to that part;

(2) For engineering services from not-for-profit or nonprofit organizations;

(3) For personal services (see Subpart 37.1);

(4) Providing for product or component improvement, unless the voluntary **value** management ~~engineering incentive~~ **application is restricted to areas not covered by provisions for product or component improvement;**

(5) For commercial products (see Part 11) that do not involve packaging specifications or other special requirements or specifications; or

(6) When the agency head has exempted the contract (or a class of contracts) from the requirements of this Part 48.

(b). *Value management* ~~engineering~~ *stimulus.* **To provide a value** management ~~engineering~~ **stimulus, the contracting officer shall insert the clause at 52.248-1, Value Management, in solicitations and contracts except as provided in paragraph (a) above (but see subparagraph (e)(1) below).**

(c) *Value management* ~~engineering~~ *program requirement.* **(1) If a mandatory value** management ~~engineering~~ **effort is appropriate (i.e., if the contracting officer considers that substantial savings to the Government may result from a sustained value** management ~~engineering~~ **effort of a specified level), the contracting officer shall use the clause with its Alternate I (but see subparagraph (e)(2) below).**

(2) The value management ~~engineering~~ **program requirement may be specified by the Government in the solicitation or, in the case of negotiated contracting, proposed by the contractor as part of its offer and included as a subject for negotiation. The program requirement shall be shown as a separately priced line item in the contract Schedule.**

(d) *Voluntary v~~V~~alue management* ~~engineering~~ *and program requirement.* **(1) If both a** voluntary **value** management ~~engineering~~ effort ~~incentive~~ **and a mandatory program requirement are appropriate, the contracting officer shall use the clause with its Alternate II (but see subparagraph (e)(3) below).**

(2) The contract shall restrict the value management ~~engineering~~ **program requirement to well-defined areas of performance designated by line item in the contract Schedule. Alternate II applies a value** management ~~engineering~~ **program to the specified areas and a** voluntary **value** management ~~engineering~~ effort ~~incentive~~ **to the remaining areas of the contract.**

(e) *Collateral savings computation not cost-effective.* **If the head of the contracting activity determines for a contract or class of contracts that the cost of computing and tracking collateral savings will exceed the benefits to be derived, the contracting officer shall use the clause with its --**

(1) Alternate III if a voluntary **value** management ~~engineering~~ effort ~~incentive~~ **is involved;**

(2) Alternate III and Alternate I if a value management ~~engineering~~ **program requirement is involved; or**

(3) Alternate III and Alternate II if *both* a voluntary value management ~~engineering~~ effort ~~an incentive~~ **and a program requirement are involved.**

(f) *Architect-engineering contracts.* **The contracting officer shall insert the clause at 52.248-2, Value Management -Architect-Engineer, in solicitations and contracts whenever the Government requires and pays for a specific value** management ~~engineering~~ **effort in architect-engineer contracts. The clause at 52.248-1, Value Management, shall not be used in solicitations and contracts for architect-engineer services.**

48.202 Clause for construction contracts.

The contracting officer shall insert the clause at 52.248-3, Value Management -- Construction, in construction solicitations and contracts when the contract amount is estimated to be $100,000 or more, unless an incentive-type **contract is contemplated. The contracting officer may include the clause in contracts of lesser value if the contracting officer sees a potential for significant savings. The contracting officer shall not include the clause in incentive-type construction contracts. If the head of the contracting activity** has determined ~~determines~~ **that the cost of computing and tracking collateral savings for a contract will exceed** any expected ~~the~~ **benefits to be derived, the contracting officer shall use the clause with its Alternate I.**

52.248-1 Value Management ~~Engineering~~.

As prescribed in 48.201, insert the following clause in supply or service contracts to provide a value management **~~engineering~~** stimulus **~~incentive~~ under the conditions specified in 48.201. In solicitations and contracts for items requiring an extended period for production (e.g., ship construction, major system acquisition), if agency procedures prescribe sharing** using this modification, the Contracting Officer shall, at the direction of the Program Executive Officer (PEO), or equivalent, **~~of future contract savings on all units to be delivered under contracts awarded during the sharing period, the contracting officer shall~~ modify ~~subdivision (i)(3)(i) and~~ the first sentence under subparagraph (3) of the definition of acquisition savings** and subdivision (i)(3)(i) **by substituting "under contracts awarded** from the date of acceptance of the VMCP until the end of **~~during~~ the sharing period" for "during the sharing period." For engineering-development and low-rate-initial-production solicitations and contracts, the Contracting Officer shall modify** the first sentence under subparagraph (3) of the definition of acquisition savings and **subdivision (i)(3)(i) ~~the first sentence under subparagraph (3) of the definition of acquisition savings and~~ by substituting** "a number equal to the quantity required over the highest 60 consecutive months of planned production, based on planning or production documentation at the time the VMCP is accepted." **for "the number of future contract units scheduled for delivery during the sharing period." ~~"a number equal to the quantity required over the highest 36 consecutive months of planned production, based on planning or production documentation at the time the VECP is accepted."~~**

VALUE MANAGEMENT **~~ENGINEERING~~ (MAR 1989)**

(a) *Sharing arrangement.* ~~*General.*~~ **The Contractor is encouraged to develop, prepare, and submit value** management **~~engineering~~ change proposals (VM~~E~~CP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VM~~E~~CP's, in accordance with the** voluntary **~~incentive~~ sharing rates in paragraph (f) below.**

(b) *Definitions.* **"Acquisition savings," as used in this clause, means savings resulting from the application of a VM~~E~~CP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include --**

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VM~~E~~CP, less the allowable **Contractor's ~~allowable~~ development and implementation costs;**

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VMECP is accepted; ~~**and**~~

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units scheduled for delivery during the sharing period. The term "scheduled for delivery" shall mean the delivery schedule that is established on future contracts when future contracts are awarded. Future contract savings include any increases in quantities after acceptance of the VMCP that are due to contract modifications, exercise of options, additional orders or, if the instant contract is a multiyear contract, quantities funded after VMCP acceptance; and. ~~**If this contract is a multiyear contract, future contract savings include savings on quantities funded after VECP acceptance.**~~

(4) Annual acquisition savings, which are the net reduction in acquisition cost to the Government of an item, resulting from an accepted VMCP, which the Government determines to reduce the quantity requirement on either the instant contract, concurrent and/or future contracts during the sharing period. Any savings *clearly attributable to an accepted VMCP* that result in reductions in quantity requirements can be shared with the contractor in accordance with paragraph (g)(4) below. All annual acquisition savings will be considered as future contracts for sharing purposes. The contracting officer's decision as to the amount of savings in the reduced quantity requirements that are attributable to the accepted VMCP shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

"Agency," as used in Department of Defense contracts, shall mean the military department accepting the VMECP (or the next equivalent level below the Department of Defense level).

"Collateral costs," as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VMECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office" means the contracting office that the Contracting Officer and the Contractor agree will form the sharing base (see subparagraph (h)(6) below) and **includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.** Expansion of the sharing base by the agency head is not required to establish a successor office.

"Contractor's development and implementation costs," as used in this clause, means those allowable, allocable and reasonable **costs the Contractor incurs on a VMECP specifically in developing, testing, preparing, and submitting the VMECP** ("development costs"), **as well as those costs the Contractor incurs to**

make the contractual changes required by Government acceptance of a VM~~E~~CP ("implementation costs").

"Deferred Contractor's development and implementation costs" is the excess of the Contractor's development and implementation costs over the instant contract savings on an accepted VMCP. If this option is agreed to as the method to accept a VMCP involving negative instant contract savings, the Contracting Officer shall consider providing consideration for the deferred amount. Any consideration provided on the deferred Contractor's development and implementation costs are not Government costs as used in this clause and shall not be offset against savings. Deferred Contractor's development and implementation costs will be paid to the Contractor from concurrent and/or future savings before any Government costs are offset and before sharing.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary only **for** the following two factors: (1) **projected learning; or** (2) **changes in quantity during the sharing period. It is calculated at the time the VM~~E~~CP is accepted and applies either (1) throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (2) to the calculation of a lump-sum payment, which cannot later be revised.**

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VM~~E~~CP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VM~~E~~CP, ~~or~~ any increase in this contract's price, target price and ceiling price, target cost, or estimated **cost** (see subparagraph (h)(2) below) **~~or price~~ resulting from negative instant contract savings** or any deferred Contractor's development and implementation costs, including any consideration provided.

"Instant contract," as used in this clause, means this contract, under which the VM~~E~~CP is submitted and accepted. **It does not include increases in quantities after acceptance of the VM~~E~~CP that are due to contract modifications, exercise of options, ~~or~~ additional orders** or multiyear quantities funded after VMCP acceptance. These quantities are to be considered future contract quantities. **~~If this is a multiyear contract, the term does not include quantities funded after VECP acceptance.~~ If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.**

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VM~~E~~CP on this, the instant contract or the amount of savings in annual acquisition cost per unit resulting from the procurement of a reduced total annual demand. **If this is a service contract** or for non-hardware related changes on supply contracts, **the instant unit cost reduction is normally equal to the number of hours per line-item task**

or process steps **saved by using the VM~~E~~CP on this contract, multiplied by the appropriate contract labor rate.** Unit cost reduction for savings in annual acquisition cost will be determined by: Old annual demand (OAD) of the old unit multiplied by the old unit cost (OUC) minus the new annual demand (NAD) of the new part multiplied by the new unit cost (NUC) and this quantity divided by the new annual demand (NAD). In formula form, this translates to: [(OAD X OUC) - (NAD X NUC)] ÷ NAD.

"Negative instant contract savings" means the increase in this contract's ~~**the instant contract**~~ price, ~~**cost**~~ target price and ceiling price, target cost, **or** estimated cost (see subparagraph (h)(2) below) ~~**price**~~ **when the acceptance of a VM~~E~~CP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.** Should this situation exist, there are at least two options available: (1) the Government can agree to fund the excess and recover the negative instant contract savings under concurrent or future contracts before any savings are shared; or (2) the excess can be considered deferred Contractor's development and implementation costs and that deferred amount shall be paid to the Contractor from concurrent or future savings before any Government costs are offset and before any sharing occurs.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings and annual acquisition savings, **less Government costs.** Instant contract savings are normally calculated first, using subparagraph (g)(2) below and then concurrent and future contract savings and annual acquisition savings are calculated, using subparagraphs (i)(2) and (i)(3) below. Government costs are only subtracted until they are fully offset.

"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VM~~E~~CP.

"Sharing period," as used in this clause, means the period beginning with acceptance of the first unit incorporating the VM~~E~~CP (under any contract - instant, concurrent or future) **and ending at the later of (1)** 5 ~~**3**~~ **years after the first unit affected by the VM~~E~~CP is accepted or (2) the last scheduled delivery date of an item affected by the VM~~E~~CP under this,** the instant, **contract's delivery schedule in effect at the time the VM~~E~~CP is accepted.**

"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VM~~E~~CP applies (see subparagraph (h)(7) below). Unit may be a component, a subsystem, the next-higher-order assembly or the end item itself.

"Value management ~~**engineering**~~ **change proposal (VM~~E~~CP)" means a proposal that -**

(1) Requires any ~~**a**~~ **change to this, the instant contract, to implement**. Such changes can be to any Government-directed processes or requirements that are specified for use in the performance of this contract and that provide an

opportunity to reduce contractor costs of performance while still meeting contractual performance requirements;; **and**

(2) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; ***provided,*** **that it does not involve a change --**

(i) In deliverable end item quantities only;

(ii) ~~**In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or**~~

~~**—(iii)**~~ **To the contract type only.**

(c) *VM~~E~~CP preparation.* **As a minimum, the Contractor shall include in each VM~~E~~CP the information described in subparagraphs (1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VM~~E~~CP preparation.** The Contractor is encouraged to provide written notification to the Contracting Officer before undertaking significant expenditures for VMCP effort. **The VM~~E~~CP shall include the following:**

(1) A description of the difference between the existing contract requirement and the proposed requirement, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, the effect of the change on the end item's performance, and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VM~~E~~CP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VM~~E~~CP applies.

(4) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VM~~E~~CP. The cost reduction associated with the VM~~E~~CP shall take into account the allowable **Contractor's** ~~**allowable**~~ **development and implementation costs, including any amount attributable to subcontracts under the Subcontracts paragraph of this clause, below.**

(5) A description and estimate of costs the Government may incur in implementing the VM~~E~~CP, such as test and evaluation and operating and support costs. If the Contractor is unable to estimate the costs, an estimate of the hours required in the various Government activities associated with acceptance and implementation shall be considered an adequate response to this requirement.

(6) A prediction of any effects the proposed change would have on collateral costs to the agency.

(7) A statement of the time by which a contract modification accepting the VM~~E~~CP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(8) Identification of any previous submissions of the VM~~E~~CP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) *Submission.* The Contractor shall submit VM~~E~~CP's to the Contracting Officer, unless this contract states otherwise. If this contract is administered by other than the contracting office, the Contractor shall submit a copy of the VM~~E~~CP simultaneously to the Contracting Officer and to the Administrative Contracting Officer.

(e) *Government action.* (1) The Contracting Officer shall notify the Contractor of the status of the VM~~E~~CP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer shall notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government shall ~~will~~ process VM~~E~~CP's expeditiously; however, it shall not be liable for any delay in acting upon a VM~~E~~CP.

(2) ~~(3)~~ Any VM~~E~~CP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until the effective date such a contract modification applies a VM~~E~~CP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VM~~E~~CP and the decision as to which of the sharing rates applies (including when Alternate II to this clause is used) shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

(3) ~~(2)~~ If the VM~~E~~CP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VM~~E~~CP, in whole or in part, at any time before it is accepted by the Government. Any such withdrawn portion may be subsequently implemented by the Government by change order with no obligation to pay value management shares to the Contractor. ~~The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.~~ [moved to paragraph c]

~~(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP and the decision as to which of the sharing rates applies shall be~~

~~final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).~~

(f) *Sharing rates.* If a VM~~E~~CP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon (1) this contract's type (fixed-price, incentive-type, or cost-reimbursement), (2) the sharing arrangement specified in paragraph (a) above (voluntary ~~incentive~~, program requirement, or a combination as delineated in the Schedule), and (3) the source of the savings (the instant contract, or concurrent and future contracts), as follows:

CONTRACTOR'S SHARE OF NET ACQUISITION SAVINGS
(figures in percent)

	Sharing Arrangement			
	~~Incentive~~ (~~v~~Voluntary)		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (other than incentive-type)	50	50	25	25
Incentive-type (fixed-price or cost reimbursement) i.e., FPI-F, FPI-S, CPIF	*	50	*	25
Cost-reimbursement **(other than incentive-type)**	25	25	15	15

* In incentive-type contracts, the Contractor's benefit from the VMCP will be realized through ~~Same sharing arrangement as~~ the contract's profit or fee adjustment formula.

** Cost-reimbursement contracts i~~I~~ncludes cost-plus-award-fee contracts.

(g) *Calculating net acquisition savings.* (1) Acquisition savings are realized when (i) the price or cost ~~or price~~ is reduced on the instant contract, (ii) reductions are negotiated in concurrent contracts, (iii) future contracts are awarded, or (iv) agreement is reached on a lump-sum payment for future contract savings (see subparagraph (i)(4) below). Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs and deferred Contractor's development and implementation costs and any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive-type contracts, Government costs and any deferred Contractor's development and implementation costs and any price or cost increases resulting from negative instant contract savings shall be offset

against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). The instant contract savings portion of net acquisition savings is normally calculated first and then concurrent and future contract savings are calculated using subparagraphs (i)(2) and (i)(3) below. **Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized.**

(3) If this is an incentive-type **contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor** will receive a benefit on instant contract items affected through the instant contract's incentive structure but will not, however, receive an instant contract savings share. ~~**shall share through the contract incentive structure in savings on the instant contract items affected.**~~ The Contractor will receive any concurrent or future contract savings shares and collateral shares otherwise due. There shall be no adjustments to any of the targets on the instant contract as a result of the accepted VMCP except that a~~**A**~~**ny negative instant contract savings** (not treated as deferred Contractor's development and implementation costs) **shall be added to the** target price and ceiling price or to the **target cost** ~~**or to the target price and ceiling price**~~ (see subparagraph (h)(2) above)**, and the amount shall be offset against concurrent and future contract savings.**

(4) If the VMCP results in a reduced quantity requirement, and that reduction can be clearly attributable to the accepted VECP, the Unit Cost Reduction for both Instant and Future contracts can be calculated in the following manner: Old annual demand (OAD) of the old unit multiplied by the old unit cost (OUC) minus the new annual demand (NAD) of the new part multiplied by the new unit cost (NUC) and this quantity divided by the new annual demand (NAD). In formula form, this translates to: [(OAD X OUC) - (NAD X NUC)] ÷ NAD. Once the reduced quantity requirement instant unit cost reduction and/or future unit cost reductions are determined, the calculations described in paragraphs (g)(2) and (i)(3) can be made as described in those paragraphs.

(5) **If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments.** No adjustments will be made if the lump-sum settlement method for payment of future contract savings shares is elected (see subparagraph (i)(4) below).

(h) *Contract adjustment.* **The modification accepting the VM~~E~~CP (or a subsequent modification** or modifications (see subparagraph (h)(9) below) **issued as soon as possible after any negotiations are completed) shall --**

(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive-type **contract;**

(2) When the amount of instant contract savings is negative, there are at least two options available to the Contracting Officer: (1) the Government can agree to fund the excess and recover the negative instant contract savings under concurrent or future contracts before any savings are shared; or (2) the excess can be considered deferred Contractor's development and implementation costs and that deferred amount shall be paid to the Contractor from concurrent or future savings before any Government costs are offset and before any sharing occurs. If the former is chosen, **increase the contract price** (for all fixed-price contracts except fixed-price-incentive contracts), **target price and ceiling price** (for fixed-price-incentive contracts), **target cost** (for cost-plus-incentive-fee contracts), **or estimated cost** (for all cost-reimbursement contracts except cost-plus-incentive-fee) **by** the absolute value of **that amount**.

(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment. If a lump-sum settlement is not chosen, the method of payment (either a series of payments over time as future contracts are awarded or as deliveries are made on future contracts) shall be specified;

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings. If the deferred Contractor's development and implementation cost method is chosen to settle a negative instant contract savings situation, specify the amount of any deferred Contractor's development and implementation costs to be offset in determining net acquisition savings realized from concurrent and/or future contract savings; **and**

(5) Provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(i) Fixed-price contracts -- add to contract price.

(ii) Cost-reimbursement contracts -- add to contract fee.

(iii) Incentive-type contracts – add Contractor's share of concurrent or future contract savings or collateral savings as a separate firm-fixed-price line item.

(6) Specify what the Contracting Officer and the Contractor agree the contracting office shall be for the purpose of establishing the sharing base by inserting the following into the modification accepting the VMCP: "For purposes of this VMCP, the Government and the Contractor agree that the 'Contracting Office' is understood to be _____."

(7) Specify, in detail, the unit that the Contracting Officer and the Contractor agree the VMCP applies by inserting the following into the modification accepting the VMCP: "For purposes of this VMCP, the Government and the Contractor agree that the 'Unit' is understood to be _____."

8) Provide the deferred Contractor's development and implementation costs and accrued interest, if any, as a separate firm-fixed-price line item when realized from concurrent and/or future contract savings.

9) If the VMCP is accepted by one modification and there is a subsequent modification or modifications issued as soon as possible after any negotiations are completed, the modification accepting the VMCP shall, to limit the Government's liability, contain "not-more-than" limits on Contractor development and implementation costs and on Government costs as well as an agreed-upon "not-less-than" savings amount.

(i) *Concurrent and future contract savings.* **(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above.** ~~**For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract.**~~ **The Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.**

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any deferred Contractor's development and implementation costs and/or **Government costs** and/**or negative instant contract savings** (absolute value) **not yet offset and (ii) multiplying the result by the Contractor's sharing rate.** The deferred Contractor's development and implementation costs take precedence and shall be paid to the Contractor, along with any consideration provided, before any Government costs are recovered.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by the number of future contract units scheduled for delivery during the sharing period, (ii) subtracting any deferred Contractor's development and implementation costs and/or **Government costs** and/**or negative instant contract savings** (absolute value) **not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.** The deferred Contractor's development and implementation costs take precedence and shall be paid to the Contractor, along with any consideration provided, before any Government costs are recovered.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid either: (1) **in a single lump sum** or (2) as deliveries are made on future contracts **rather than in a series of payments over time as future contracts are awarded;. Under** the ~~**this**~~ **alternate** lump-sum settlement **procedure, the future contract savings may be calculated when the VMECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.**

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-3 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(iii) For all contract types, modify the instant contract to accept the change proposed by the VMCP. No other financial modifications need be made to firm-fixed-price, fixed-price contracts with economic price adjustment, fixed-price contracts with prospective or retrospective price redetermination, or firm-fixed-price, level-of-effort contracts. For fixed-price-incentive and cost-plus-incentive-fee contracts, in addition to modifying the instant contract to accept the change proposed by the VMCP, the target cost must be reduced by the amount of instant contract savings. The Contractor's share of instant contract savings (which is the total savings on the instant contract) shall be paid by adding a separate firm-fixed-price CLIN to the instant contract for that amount. For cost-plus-fixed-fee contracts, the estimated cost shall be reduced by the amount of the instant contract savings and that instant contract savings amount shall be added to the fixed fee. On cost-plus-award-fee contracts, the Contractor's share (the instant contract savings) are added to the base fee by modification (in addition to modifying the instant contract to accept the change proposed by the VMCP).

(j) *Collateral savings.* **If a VM~~E~~CP is accepted, the instant contract amount shall be increased, as specified in subparagraph (h)(5) above, by** an amount negotiated to be between **20 percent** and 100 percent **of any projected collateral savings determined to be realized in a** average (arithmetic mean) ~~typical~~ **year of use after subtracting** from the total identified collateral savings **any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed** ~~(1)~~ **the contract's** ~~firm-fixed~~**-price, target price** (for fixed-price-incentive contracts)**, target cost** (for cost-plus-incentive-fee contracts)**, or estimated cost, at the time the VM~~E~~CP is accepted** (before any VM~~E~~CP adjustments are made)~~, or (2) $100,000, whichever is greater~~**. The Contracting Officer shall be the sole determiner of the amount of collateral savings, and that amount shall not be subject to the Disputes clause or otherwise subject to litigation under 41 U.S.C. 601-613.**

(k) *Relationship to other incentives.* The ~~Only those~~ **benefits of an accepted VM~~E~~CP** shall not be rewarded both as value management shares and ~~not rewardable~~ **under performance** incentives (as in incentive-type contracts),

reliability-improvement warranty, **design-to-cost ~~(production unit cost, operating and support costs, reliability and maintainability)~~,** process improvement, technology insertion, operation and support cost reduction, portions of an award fee plan under a cost-plus-award-fee contract **or similar incentives** contained in the contract. **~~shall be rewarded under this clause.~~** To that end, when performance, reliability improvement, design-to-cost, portions of an award fee plan under a cost-plus-award-fee contract or similar targets are established and incentivized, **~~However~~ the targets of such incentives affected by the VMECP shall not be adjusted because of VMECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value** management **~~engineering~~ sharing shall apply only to the amount of achievement better than target.**

(l) *Subcontracts.* **The Contractor shall include an appropriate value** management **~~engineering~~ clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price** or estimated cost and fee **for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include,** in addition to its own allowable development and implementation costs, **any subcontractor's allowable development and implementation costs, and any value** management **~~engineering~~** share **~~incentive~~ payments to a subcontractor, clearly resulting from a VMECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value** management **~~engineering~~ incentive payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings,** annual acquisition savings **or collateral savings.** The effect of this is that the subcontractor will receive first rights to any instant contract savings shares and the subcontractor's share will, consequently, have to be calculated first, using the sharing arrangement specified in the contract between the Contractor and the subcontractor.

(m) *Data.* **The Contractor may restrict the Government's right to use any part of a VMECP or the supporting data by marking the following legend on the affected parts:**

"These data, furnished under the Value Management clause of contract ....., shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value management **~~engineering~~ change proposal 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."**

If a VMECP is accepted, the Contractor hereby grants the Government unlimited rights in the VMECP and supporting data, except that, with respect

to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VMECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

Alternate I (APR 1984). If the Contracting Officer selects a mandatory value management ~~engineering~~ program requirement, substitute the following paragraph (a) for paragraph (a) of the basic clause:

(a) *Sharing arrangement* ~~*General.*~~ The Contractor shall (1) engage in a value management ~~engineering~~ program, and submit value management ~~engineering~~ progress reports, as specified in the Schedule and (2) submit to the Contracting Officer any resulting value management ~~engineering~~ change proposals (VMECP's). In addition to being paid as the Schedule specifies for this mandatory program, the Contractor shall share in any net acquisition savings realized from accepted VMECP's, in accordance with the program requirement sharing rates in paragraph (f) below.

(R 7 - 104.44(b) 1974 APR)

Alternate II (APR 1984). If the Contracting Officer selects *both* a voluntary value management ~~engineering~~ effort ~~incentive~~ and a mandatory value management ~~engineering~~ program requirement, substitute the following paragraph (a) for paragraph (a) of the basic clause:

(a) *Sharing arrangement* ~~*General.*~~ For those contract line items designated in the Schedule as subject to the value management ~~engineering~~ program requirement, the Contractor shall (1) engage in a value management ~~engineering~~ program, and submit value management ~~engineering~~ progress reports, as specified in the Schedule and (2) submit to the Contracting Officer any resulting VMECP's. In addition to being paid as the Schedule specifies for this mandatory program, the Contractor shall share in any net acquisition savings realized from VMECP's accepted under the program, in accordance with the program requirement sharing rates in paragraph (f) below. For remaining areas of the contract, the Contractor is encouraged to develop, prepare, and submit VMECP's voluntarily; for VMECP's accepted under these remaining areas, the voluntary ~~incentive~~ sharing rates apply.

(NM)

Alternate III (APR 1984). When the head of the contracting activity determines (prior to contract award) that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a contract or class of contracts calling for ~~a~~ value management ~~engineering~~ sharing ~~incentive~~, delete

paragraph (j) from the basic clause and redesignate the remaining paragraphs accordingly. The effect of this Alternate III is that the Contractor will not share in any collateral savings.

52.248-2 Value Management ~~Engineering~~ -- Architect-Engineer.
As prescribed in 48.201(f), insert the following clause:

VALUE MANAGEMENT ~~ENGINEERING~~ - ARCHITECT-ENGINEER
(MAR 1990)

(a) *General.* The Contractor shall (1) perform value management ~~engineering~~ (VM~~E~~) services and submit progress reports, as specified in the Schedule; and (2) submit to the Contracting Officer any resulting value management ~~engineering~~ proposals (VM~~E~~P's). Value management ~~engineering~~ activities shall be performed concurrently with, and without delay to, the schedule set forth in the contract. The services shall include VM~~E~~ evaluation and review and study of design documents immediately following completion of the 35 percent design state or at such stages as the Contracting Officer may direct. Each separately priced line item for VM~~E~~ services shall define specifically the scope of work to be accomplished and may include VM~~E~~ studies of items other than design documents. The Contractor shall be paid as the contract specifies for this effort, but shall not share in savings which may result from acceptance and use of VM~~E~~P's by the Government.

(b) *Definitions.* "Life cycle cost," as used in this clause, is the sum of all costs over the useful life of a building, system or product. It includes the cost of design, construction, acquisition, operation, maintenance, and salvage (resale) value, if any.

"Value management ~~engineering~~," as used in this clause, means an organized effort to analyze the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life cycle cost consistent with required performance, reliability, quality, and safety.

"Value management ~~engineering~~ proposal ("VMP")," as used in this clause, means, in connection with an A-E contract, a change proposal developed by employees of the Federal Government or Ceontractor value management ~~engineering~~ personnel under contract to an agency to provide value management ~~engineering~~ services for the contract or program.

(c) *Submissions.* After award of an architect-engineering contract the Contractor shall -

(1) Provide the Government with a fee breakdown schedule for the VM~~E~~ services (such as criteria review, task team review, and bid package review) included in the contract schedule;

(2) Submit, for approval by the Contracting Officer, a list of team members and their respective resumes representing the engineering disciplines required to complete the study effort, and evidence of the team leader's qualifications and engineering discipline. Subsequent changes or

substitutions to the approved VME team shall be submitted in writing to the Contracting Officer for approval; and

(3) The team leader shall be responsible for prestudy work assembly and shall edit, reproduce, and sign the final report and each VMEP. All VMEP's, even if submitted earlier as an individual submission, shall be contained in the final report.

(d) *VMEP preparation.* As a minimum, the Ceontractor shall include the following information in each VMEP:

(1) A description of the difference between the existing and proposed design, the comparative advantages and disadvantages of each, a justification when an item's function is being altered, the effect of the change on system or facility performance, and any pertinent objective test data.

(2) A list and analysis of the design criteria or specifications that must be changed if the VMEP is accepted.

(3) A separate detailed estimate of the impact on project cost of each VMEP, if accepted and implemented by the Government.

(4) A description and estimate of costs the Government may incur in implementing the VMEP, such as design change cost and test and evaluation cost.

(5) A prediction of any effects the proposed change may have on life cycle cost.

(6) The effect the VMEP will have on design or construction schedules.

(e) *VMEP acceptance.* Approved VMEP's shall be implemented by bilateral modification to this contract.

(End of clause)

52.248-3 Value Management ~~Engineering~~ -- Construction.

As prescribed in 48.202, insert the following clause:

VALUE MANAGEMENT ~~**ENGINEERING**~~ **- CONSTRUCTION**
(MAR 1989)

a) *General.* **The Contractor is encouraged to develop, prepare, and submit value** management ~~**engineering**~~ **change proposals (VM~~E~~CP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VM~~E~~CP's, in accordance with paragraph (f) below.**

(b) *Definitions.* "Agency," as used in Department of Defense contracts, shall mean the military department accepting the VMCP (or the next equivalent level below the Department of Defense level).

"Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VM~~E~~CP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those allowable, allocable and reasonable **costs the Contractor incurs on a VM~~E~~CP specifically in developing, testing, preparing, and submitting the VM~~E~~CP** ("development costs"), **as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VM~~E~~CP** ("implementation costs").

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VM~~E~~CP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VM~~E~~CP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VM~~E~~CP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value management ~~**engineering**~~ **change proposal (VM~~E~~CP)" means a proposal that --**

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the overall projected cost to the agency ~~**contract price or estimated cost**~~ **without impairing essential functions or characteristics;** ***provided,*** **that it does not involve a change --**

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) *VMECP preparation.* **As a minimum, the Contractor shall include in each VMECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VMECP preparation.** The Contractor is encouraged to provide written notification to the Resident Engineer at the worksite before undertaking significant expenditures for VMCP effort. **The VMECP shall include the following:**

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VMECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VMECP. The cost reduction associated with the VMECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VMECP, such as test and evaluation and operating and support costs. If the Contractor is unable to estimate the costs, an estimate of the hours required in the various Government activities associated with acceptance and implementation shall be considered an adequate response to this requirement.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VMECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VMECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) *Submission.* **The Contractor shall submit VMECP's to the Resident Engineer at the work site, with a copy to the Contracting Officer.**

(e) *Government action.* **(1) The Contracting Officer shall notify the Contractor of the status of the VMECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer shall notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government**

shall ~~will~~ process VM~~E~~CP's expeditiously; however, it shall not be liable for any delay in acting upon a VM~~E~~CP.

(2) ~~(3)~~ Any VM~~E~~CP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VM~~E~~CP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VM~~E~~CP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VM~~E~~CP shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

(3) ~~(2)~~ If the VM~~E~~CP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VM~~E~~CP, in whole or in part, at any time before it is accepted by the Government. Any such withdrawn portion may be subsequently implemented by the Government by change order with no obligation to pay value management shares to the Contractor. ~~The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.~~ [note: moved to paragraph c]

~~(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).~~

(f) *Sharing.* (1) *Rates.* The Contractor's ~~Government's~~ share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by (i) 55 ~~45~~ percent for fixed-price contracts or (ii) 25 ~~75~~ percent for cost-reimbursement contracts.

(2) *Payment.* Payment of any share due the Contractor for use of a VM~~E~~CP on this contract shall be authorized by a modification to this contract to --

(i) Accept the VM~~E~~CP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the share amount calculated in subparagraph (f)(1) to the contract price or fee.

(g) *Collateral savings.* If a VM~~E~~CP is accepted, the instant contract amount shall be increased by an amount negotiated to be between 20 percent and 100 percent of any projected collateral savings determined to be realized in a average (arithmetic mean) ~~typical~~ year of use after subtracting from that average year any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed ~~(1)~~ the contract's ~~firm-fixed-~~price or estimated cost, at the time the VM~~E~~CP is accepted (before any VM~~E~~CP adjustments are made). ~~or (2) $100,000, whichever is greater~~. The Contracting Officer shall be the sole determiner of the amount of collateral savings, and that amount shall not be subject to the Disputes clause or otherwise subject to litigation under 41 U.S.C. 601-613.

(h) *Subcontracts.* The Contractor shall include an appropriate value management ~~engineering~~ clause in any subcontract of $50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price or estimated cost and fee under paragraph (f) above, the Contractor's allowable development and implementation costs shall include, in addition to its own allowable development and implementation costs, any subcontractor's allowable development and implementation costs clearly resulting from a VM~~E~~CP accepted by the Government under this contract, but shall exclude any value management ~~engineering~~ share ~~incentive~~ payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value management ~~engineering~~ incentive payments; *provided,* that these payments shall not reduce the Government's share of the savings resulting from the VM~~E~~CP.

(i) *Data.* The Contractor may restrict the Government's right to use any part of a VM~~E~~CP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Management ~~Engineering~~ -- Construction clause of contract ....., shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value management ~~engineering~~ change proposal 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."

If a VM~~E~~CP is accepted, the Contractor hereby grants the Government unlimited rights in the VM~~E~~CP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VM~~E~~CP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

Alternate I **(APR 1984). When the head of the contracting activity determines** (prior to contract award) **that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a construction contract, delete paragraph (g) from the basic clause and redesignate the remaining paragraphs accordingly.** The effect of this Alternate I is that the Contractor will not share in any collateral savings.

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13. ABSTRACT (Maximum 200 words)

The DoD Value Engineering Change Proposal (VECP) Process Action Team (PAT) was chartered by the Principal Deputy Under Secretary of Defense for Acquisition and Technology on September 16, 1996, in response to reductions in the VECP savings reported in the DoD VE Annual Report. The objectives of the PAT were to identify and remove the impediments to the VECP and thereby improve the incentives for contractors to identify life cycle cost savings opportunities for the Government.

The PAT analyzed the VECP process, the service implementing programs and the changes in the acquisition environment that may have contributed to the lower achieved savings. Initial results and proposed solutions were discussed with a spectrum of Program Managers and Defense contractors involved in systems acquisition and supply support of fielded systems. Preferred recommendations were identified and an Action Plan was developed (Chapter 5 of the Final Report). The Under Secretary of Defense for Acquisition and Technology endorsed this Final Report and assigned implementing actions on August 7, 1997.

14. SUBJECT TERMS
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