VALUE ENGINEERING CONFERENCE REPORT

"VE - A TOOL THAT BENEFITS LINE MANAGEMENT"

PART VII

WORKSHOP E : VE IN CONSTRUCTION AND ARCHITECT ENGINEER CONTRACTS

1-2 NOVEMBER 1984

XEROX INTERNATIONAL CENTER FOR TRAINING AND MANAGEMENT DEVELOPMENT

LEESBURG, VIRGINIA
This Conference Report summarizes and consolidates the proceedings from the 1984 DoD Value Engineering Conference held 1-2 November in Leesburg, VA. The findings and recommendations with supporting material from the five workshops are provided in addition to the complete plenary session presentations. An Executive Summary is presented in PART I.
1984 DoD Value Engineering Conference Report

PART VII

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DOD VE CONFERENCE

WORKSHOP "E" REPORT

"VALUE ENGINEERING IN CONSTRUCTION AND ARCHITECT ENGINEER CONTRACTS"

1 - 2 NOVEMBER 1984

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NAVAL FACILITIES ENGINEERING COMMAND

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OFFICE CHIEF OF ENGINEERS
U.S. ARMY CORPS OF ENGINEERS
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<td>Dir., Eng Op Group</td>
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<tr>
<td>Luis M. Venegas</td>
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<tr>
<td>James C. Delony</td>
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<tr>
<td>Michael Dell'Isola</td>
<td>Cost Engineering Mngr.</td>
</tr>
<tr>
<td>Stephen Popadich</td>
<td>Value Engineer</td>
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<tr>
<td>Charles E. Pye</td>
<td>Head, MWR/NAF Unit</td>
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<tr>
<td>Thomas R. Gannon</td>
<td>Dir., Eng. Prog. Div.</td>
</tr>
<tr>
<td>Richard Wolf</td>
<td>Dir., Design Div.</td>
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<tr>
<td>Terry Finan</td>
<td>Construction Mngr.</td>
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<tr>
<td>Nelson Bruce</td>
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<tr>
<td>John A. Knight</td>
<td>Contracts Analyst</td>
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<tr>
<td>Frank Stanghellini</td>
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<tr>
<td>Mike Mukherjee</td>
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</tr>
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<td>Ruben Macabitas</td>
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</tr>
<tr>
<td>Guy I. Blanton</td>
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<tr>
<td>Sammy Young</td>
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</tr>
<tr>
<td>Todd W. Leneau</td>
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</tr>
<tr>
<td>Joe Watson</td>
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</tr>
<tr>
<td>Melvin Mark</td>
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</tr>
<tr>
<td>Rudy Arnold</td>
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<tr>
<td>Betty Bone</td>
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<tr>
<td>Richard C. Effler</td>
<td>Asst. for VE Program</td>
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<th>Organization</th>
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<tbody>
<tr>
<td>Paul V. Dobrow</td>
<td>Chief of VE</td>
<td>Office Chief of Engrs.</td>
<td>(202)272-0447</td>
</tr>
<tr>
<td>Lindsey Gardner</td>
<td>NAVFAC VE Coord.</td>
<td>NAVFACENGCOM</td>
<td>AV 564-9797</td>
</tr>
<tr>
<td>Bob Furlong</td>
<td>V. E. Officer</td>
<td>HQ AF/LEEES</td>
<td>(202)767-6248</td>
</tr>
<tr>
<td>Neal Wright</td>
<td>Project Manager</td>
<td>HQ S.A.C./AFRCE-SAC</td>
<td>AV 271-4655</td>
</tr>
<tr>
<td>Ted Shepard</td>
<td>Acquisition Coord. Off.</td>
<td>PACNAVFAC, Hawaii</td>
<td>(808)471-350</td>
</tr>
<tr>
<td>Alton S. Bradford</td>
<td>Asst CDR Eng. &amp; Design</td>
<td>NAVFAC/ENGCOM HQ</td>
<td>(202)325-003</td>
</tr>
<tr>
<td>Tom Bee</td>
<td>Asst. Dir./Construction</td>
<td>ODASD(I)</td>
<td>(202)695-700</td>
</tr>
<tr>
<td>Mike Zabych</td>
<td>Prog. Dir., Value Engr.</td>
<td>GSA</td>
<td>(202)566-069</td>
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WORKSHOP ON VALUE ENGINEERING
IN CONSTRUCTION AND ARCHITECT ENGINEER CONTRACTS
1 NOVEMBER 1984

I'M A LITTLE NERVOUS SPEAKING BEFORE A GROUP ON A SUBJECT THEY
KNOW MORE ABOUT THAN I DO. SO I'VE DECIDED NOT TO TALK ABOUT VALUE
ENGINEERING BUT TO TALK ABOUT MY BLUE CAP. DO ANY OF YOU RECOGNIZE
THIS CAP?

A VALUE ENGINEER COULD PROBABLY GIVE ME A WHOLE LIST OF
FUNCTIONS THIS CAP PERFORMS, BUT HE WOULD PROBABLY MISS ITS PRIMARY
FUNCTION--AS A PRIMARY FUNCTION IT IDENTIFIES THE WEARER AS A MEMBER
OF BOB STONE'S TEAM. MR. STONE IS THE DEPUTY SECRETARY OF DEFENSE
FOR INSTALLATIONS. IF YOU HAPPEN BY THE 7TH CORRIDOR ON THE THIRD
FLOOR OF THE PENTAGON YOU WILL PROBABLY SEE SOME PEOPLE WEARING CAPS
JUST LIKE THIS.

IT'S NOT THE CAP SO MUCH AS THE EMBLEM HERE IN FRONT THAT IS
IMPORTANT. IN THE CENTER IS THE DEPARTMENT OF DEFENSE SEAL. AROUND
THE SEAL IS OUR OFFICE MOTTO "EXCELLENT INSTALLATIONS THE FOUNDATION
OF DEFENSE". YOU WILL FIND THIS MOTTO ON THE BOTTOM OF OUR
STATIONARY AND ALSO ON A COPY OF OUR ANNUAL REPORT. "EXCELLENT
INSTALLATIONS" MEANS EXCELLENT PLACES FOR OUR PEOPLE TO WORK AND
LIVE WHERE EXCELLENT SERVICE IS PROVIDED EFFICIENTLY. YOU'LL FIND
THIS WRITTEN ON THE FIRST PAGE OF OUR ANNUAL REPORT.

APPENDIX C
WITH THIS OBJECTIVE, WE HAVE ALREADY MADE SOME IMPROVEMENTS IN WORKING AND LIVING CONDITIONS, BOTH SIMPLY BY GETTING MORE MONEY AND MORE VALUE FOR THE MONEY.

THE DEPARTMENT OF DEFENSE HAS OVER 5-1/2 THOUSAND INDIVIDUAL INSTALLATIONS COVERING 41,000 SQUARE MILES--ROUGHLY THE SIZE OF TENNESSEE. IT'S PLANT VALUE--EXCLUSIVE OF REAL ESTATE IS OVER $350 BILLION. IN PAST YEARS (PARTICULARLY IN THE 1970s), NO ONE LOOKED AT WHAT WE NEEDED TO KEEP THE PHYSICAL PLANT RENEWED. THEY JUST ASKED IF PROJECTS COULDN'T BE DEFERRED ONE MORE YEAR. THEY WERE AND OUR PLANT SIMPLY ERODED AWAY.

EVEN THOUGH WE INCREASED MILCON FUNDING LEVELS OVER 40 PERCENT AFTER 1980, OUR FUNDING LEVELS STILL ALLOWED RENEWAL ABOUT ONCE EVERY HUNDRED YEARS. IN 1985 OUR BUDGET REQUEST TOTALED OVER 10.5 BILLION COMPARED TO 7.2 IN 1984. IT WAS CUT BACK TO 8.5 BILLION BY THE WHITE HOUSE/CONGRESSIONAL COMPROMISE. WE ARE GOING BACK AGAIN THIS YEAR WITH A SIMILAR REQUEST. THE DEFENSE RESOURCES BOARD HAS COMMITTED ITSELF TO A 2 PERCENT REPLACEMENT. MR. STONE'S BOSS, DR. KORB, HAS REMINDED THE DEPUTY SECRETARY OF DEFENSE OF THIS COMMITMENT IN OUR COMMENTS ON PROPOSED MILCON BUDGET REDUCTIONS IN FY 86.
IN THIS MEMORANDUM ON THE BUDGET REVIEW, WHICH I HAVE A COPY OF, YOU WILL SEE ONE OF MR. STONES OTHER INITIATIVES-DEVOLUTION. WE ARE CONVINCED THAT THOSE CLOSEST TO A PROBLEM SHOULD BE MAKING DECISIONS ON THE SOLUTION TO THAT PROBLEM. A NUMBER OF APPROVAL AUTHORITIES HAVE BEEN DELEGATED TO THE SERVICES AND WE FEEL THAT ONCE MILCON FUNDING LEVELS ARE SET--THE SERVICES SHOULD DECIDE JUST WHERE TO PLACE THEIR RESOURCES.

WE ARE FALLING ON OUR SWORDS JUST TO GET THIS 2 PERCENT (40 - 50 YEAR) RENEWAL OF OUR PLANT ACCOUNT. YET HOW MANY OF OUR FACILITIES BUILT TODAY WILL LAST THAT LONG? IT CERTAINLY SEEMS OBVIOUS THAT WE HAVE TO GET "MORE FOR OUR MONEY" AS WELL AS MORE MONEY.

WE ARE DOING A NUMBER OF THINGS IN THIS AREA AS WELL. THE MODEL INSTALLATIONS PROGRAM MENTIONED IN OUR ANNUAL REPORT IS REALLY WORKING WELL. THOSE CLOSEST TO THE PROBLEM ARE FINDING NEW SOLUTIONS IN EVERY ASPECT OF INSTALLATION MANAGEMENT. WE INTEND TO EXPAND THAT PROGRAM TO HAVE MODEL FIELD DIVISIONS.

SOME OTHER THINGS WE ARE DOING------

WE WOULD LIKE TO JOIN A NEW ORGANIZATION--THE CONSTRUCTION INDUSTRY INSTITUTE HEADQUARTERED AT THE UNIVERSITY OF TEXAS. THIS
F. RESPONSIBILITIES

1. The Under Secretary of Defense for Research and Engineering (USDR&E) shall:

   a. Provide overall policy guidance for the DoD VE Program.

   b. Maintain and revise, when necessary, DoD 5010.8-H (to be renumbered DoD 4245.8-H) consistent with DoD 5025.1-M (reference (c)).

   c. Issue supplementary guidance as may be required.

   d. Review DoD Component results and future plans.

   e. Provide for recognition of exemplary VE accomplishment by DoD in-house and contractor personnel and activities.

2. The Heads of DoD Components shall:

   a. Use VE in acquisition, service, support, construction, and operations and maintenance (O&M) activities.

   b. Establish a VE point of contact for the Component and at each Component level engaged in acquisition, support, construction, and O&M activities.

   c. Ensure that funds necessary for operating the DoD VE Program and expenses, such as testing and evaluating proposals, are included in annual budget requests. They shall establish procedures to provide the necessary funds for training, projects, development and testing of internal or contractor VE proposals, and payment of the contractor share of savings that occur in future budget years or in different budget accounts.

   d. Establish and maintain an annual Component DoD VE Program plan, including, but not limited to, training, staffing, contractual projects, task team efforts, and in-house projects. Progress against the plan shall be reviewed at least semiannually by senior DoD Component officials.

   e. Establish VE goals for subordinate in-house and contractual activities. Activities responsible for managing major systems, such as project offices and system program offices, shall set VE goals.

   f. Apply VE to identify spare parts whose prices are excessive and use VE to support actions to reduce unnecessary cost. Contracts for spare parts and repair kits of $25,000 or more, for other than standard commercial parts, shall contain a VE clause (DoD FAR Supplement, reference (g)).

   g. Establish and maintain criteria by which VE investment opportunities will be evaluated and funded.

   h. Evaluate and process, objectively and promptly, contractor and in-house VE proposals.

   i. Ensure managers (program and project, procurement, contract administration, engineering, and support) motivate contractors and DoD personnel to develop and submit VE proposals.
2. **VE Change Proposal (VECP).** A change proposal submitted under the VE clause in a contract that results in a net life-cycle cost reduction to the Department of Defense and requires a contract modification.

3. **VE Contract Clauses.** Part 48, Subchapter G, Chapter 1, of the FAR (reference (d)) requires VE clauses to be included in most DoD contracts. The two types of VE contract clauses are a VE incentive (VEI) clause and a VE program requirement (VEPR) clause. The VEPR clause shall be used in conjunction with MIL-STD 1771 (reference (e)).

4. **VE Proposal.** A specific change submitted by DoD personnel as a result of their use of VE techniques. The term also is used for a change submitted by contractor personnel that does not require a contract change to be implemented.

5. **VE Task Teams.** Teams of professionals who specialize in engineering, production, procurement, and estimating and who are organized to develop and submit VE proposals on high-cost areas to the appropriate decisionmaking authorities. Normally they are led by a value engineer or a person trained in VE.

D. **POLICY**

It is DoD policy to promote VE actions that will reduce cost and improve the productivity of DoD in-house and contractor resources.

E. **PROCEDURES**

1. The DoD VE Program includes:

   a. Training engineering and other personnel in the principles of VE so that they may use these techniques in carrying out their normal duties.

   b. Use of the VE clauses under reference (d) to reduce overall cost, improve quality and other product characteristics, increase productivity, and encourage the submittal and implementation of VECPs.

   c. Selective use of VE task teams internally and by contractors to investigate high-cost areas and recommend cost-reducing alternatives whenever costs are excessive or significantly exceed "design to cost" goals, or whenever designs far exceed operational requirements, or whenever spare parts prices exceed intrinsic value.

2. The VE process shall be used to support "design to cost" objectives for acquisition and ownership costs in accordance with DoD Directive 4245.3 (reference (f)).

3. Although the appropriation benefiting from the VE savings normally shall be used to bear the costs of VE activities, VE activity during design and development shall be funded by the current research, development, test, and evaluation (RDT&E) appropriation or other appropriate monies, or both. Contractor shares of VE savings shall be funded by the appropriation cited in the contract or transferred from the benefiting appropriation.

VII-23
SUBJECT: DoD Value Engineering Program

References: (a) DoD Directive 5010.8, subject as above, May 12, 1976 (hereby canceled)
(d) Federal Acquisition Regulation (FAR), Chapter 1, Subchapter G, Part 48, April 1, 1984
(g) DoD FAR Supplement, April 1, 1984

A. PURPOSE

This Directive:

1. Replaces references (a) and (b) to update policy, procedures, and responsibilities for the DoD Value Engineering (VE) Program.

2. Authorizes DoD 5010.8-H, "Value Engineering," September 12, 1968, to remain in effect until a revision is issued consistent with reference (c). The revised DoD 5010.8-H shall be renumbered DoD 4245.8-H.

3. Continues the DoD VE Committee.

B. APPLICABILITY

This Directive applies to the Office of the Secretary of Defense, the Military Departments, the Organization of the Joint Chiefs of Staff, and the Defense Agencies. The term "DoD Components," as used herein, refers to the Military Departments and the Defense Agencies.

C. DEFINITIONS

1. Value Engineering. An organized effort directed at analyzing the function of systems, equipment, facilities, services, and supplies for the purpose of achieving essential functions at the lowest life-cycle cost consistent with required performance, reliability, maintainability, interchangeability, product quality, and safety. (Terms such as value analysis, value control, value improvement, and value management are synonymous.)
A/E RESTRICTIONS
THINGS BEYOND HIS CONTROL

DEFINITIVE DRAWINGS
DESIGN MANUAL (DM'S) REQUIREMENTS
NAVFACEENGCOM GUIDE SPECIFICATIONS
MILITARY AND FEDERAL SPECIFICATIONS
SELF INSURANCE PROTECTION VERSUS ECONOMICS
SITE LOCATION
SQUARE FOOTAGE LIMITATION
LIMITED ENERGY SOURCES
DESIGN/EXECUTION SCHEDULE
DESIGN FEE LIMITATIONS
AUTHORIZED APPROPRIATION
STATIONS COLOR SCHEME
STATIONS STANDARD CONSTRUCTION MATERIAL
USERS BUILDING LAYOUT/REQUIREMENTS
CLASSIFIED INFORMATION ON USAGE
LACK OF DESIGN EXPERIENCE OF DESIGNERS
BUY AMERICAN REQUIREMENTS
SECURITY REQUIREMENTS
ENVIRONMENTAL LAWS
(g) Each VE recommendation will be described "Before and After VE" and will be accompanied with a detailed cost estimate of savings, life cycle cost analysis, and sketches as necessary.
(h) Complete 5 step job plan (worksheets) of all work will be submitted as a glossary for reference.

7. VE REPORT FORMAT. All reports must be systematically assembled and must be short and concise, yet informative enough for decision making. VE Reports shall be prepared and submitted on 8-1/2" x 11" bond paper and bound under hardback cover appropriately identified. The report shall be prepared and bound under hardback cover and appropriately identified as a summary report. Sketches may be 8-1/2" x 11" or fold-out. Pages must be sequentially numbered in the lower right hand corner to facilitate assembly. Tabs should be used for quick reference of important sections of report.

8. CHECK LIST FOR VE WORKSHOP.
   a. Room size 250 SF - isolated away from normal work station environment.
   b. Adequate lighting for prolonged reading, writing and studying (70FC).
   c. Five large tables with a minimum of 10 chairs.
   d. Proximity and access to telephones and duplicating machine (Xerox).
   e. Blackboard and/or flip chart.
   f. Current estimating books (least three different sources).
   g. Access to Sweet's Catalog and Navy Design Manuals.

9. GUIDANCE AND CONSULTATION. Additional guidance for the VE job plan is contained in enclosure (1). Consultation for the preparation of VE Reports is available by contacting the VE Officer, Code 04B, telephone area code 804, 444-9797 of the Atlantic Division, Naval Facilities Engineering Command.

VII-20
4. **STUDY GROUP REQUIREMENTS AND ENVIRONMENT**

Prior to commencing a VE study LANTNAVFACENGCOM will forward the following information to the VETS Team:

(a) Two sets of 35% drawings (full size)
(b) Two sets half size
(c) Specifications (2 copies)
(d) Detailed Cost Estimate (6 copies)
(e) Basis of design (6 copies)
(f) Design Calculation (Mech, Elec, etc.)
(g) Boring logs and soil reports
(h) PED (4 copies)
(i) Photographs of job site
(j) Design & Criteria Manuals (Navy) shall be available for reference

The VETS Team shall be assembled and isolated away from their normal work station in order to avoid the normal daily interruption such as: phone calls, quick questions and brief meetings which come up and tend to be very disruptive to studies of this type.

5. **CERTIFIED VALUE SPECIALISTS (CVS) RESPONSIBILITIES** 80 Hours effort

a. Pre Study
   (1) Review complete design package and identify high cost areas.
   (2) Prepare cost model (actual vs. historical).
   (3) Prepare bar graphs of all sub systems.
   (4) Prepare preliminary cost worth ratios.

b. 40 Hour Study
   (1) Team leader and coordinator.
   (2) Team recorder.

c. Post Study
   (1) Write and assemble report.
   (2) Proof all VE recommendations, especially the cost estimate and life cycle analysis.
   (3) Calculate redesign effort for each recommendation in man hours.
   (4) Sign and submit final report: 10 copies to LANTDIV and 5 copies to A&E by express mail.

6. **VE REPORTS AND DOCUMENTATION REQUIREMENTS.** The results of each VE study performed on the project shall be documented as follows:

(a) Contents page.
(b) Brief description of total project and project requirements with a copy of DD 1391.
(c) Brief summary of VE recommendations.
(d) One site plan, floor plan and elevation on 8-1/2" x 11" or fold out.
(e) Summary sheet (only) of 35% cost estimate.
(f) VE cost model of project.

VII-19
25 February 1984

SCOPE OF WORK FOR OPEN-END CONTRACT
FOR VALUE ENGINEERING SERVICES

1. SCOPE OF WORK. The Value Engineering Management Services (hereinafter referred to as VETS) will be conducted immediately following completion of the 35% design and shall consist of one 40 hour team study by a multi-discipline team of six professionals meeting on five consecutive work days. The study group will follow the five step job plan as recognized by the Society of American Value Engineers (SAVE). The VE report (15 copies) shall encompass the recommendations of the VE study group with detailed cost estimates, life cycle analysis and sketches, as necessary.

VE services shall be performed in a timely manner concurrently with the normal design procedure and without delay in the design schedule set forth in the A&E scope.

2. ESTABLISHMENT AND APPROVAL OF VE TEAM. VE services shall be performed by a second team of designers, separate and completely independent from the original designers which prepare the 35% plans and specification. The VE services shall be performed by a qualified firm or persons having Certified Value Specialist (CVS) credentials that qualify them to perform such services.

All members of the team shall be completely knowledgeable of VE methodology and the VE Team Leader will be a CVS, certified by the Society of American Value Engineers and have had a minimum of eight years combined college education and practical on-the-job VE experience. Practical experience is considered to have been gained by being actively engaged as a consultant in VE activities.

A list of team members and their respective resumes representing the various disciplines to be covered minimum of six together with the certified (CVS) team leader's qualifications and discipline shall be submitted for approval at the time of negotiations. Changes to or substitutions to the approved VE team configuration shall be submitted in writing to the Contracting Officer for approval.

3. TYPICAL VALUE ENGINEERING TEAM CONFIGURATION

a. VE Team Leader 80 Hrs.
b. Architect 40 Hrs. *
c. Structural Engineer 40 Hrs.
d. Mechanical Engineer 40 Hrs.
e. Electrical Engineer 40 Hrs.
f. Civil Engineer 40 Hrs.
g. Typing 60 Hrs. *

340 MH

* The principle people responsible for assembling, editioning and reproducing the recommendations generated by the Value Engineering Team Study. C.V.S. must edit and sign the final report.
VALUE ENGINEERING (VE) GUIDELINES

Purpose: The purpose of VE for construction projects is to determine alternative methods of achieving the same or improved functionality through improved quality of design at a lower life-cycle cost.

Objective: VE is to be used to eliminate or modify unessential design/construction characteristics and functions. The initial DoD goal is to achieve annual savings of a minimum of 5 percent of the programmed amount for military construction through the use of VE.

Implementation: The Military Departments' design and construction agents will assure that:

- Value engineering is an integral part of the facility acquisition process.
- Value engineering methodology is applied to achieve the maximum number of viable and cost effective alternative design solutions, especially in instances when:
  - The design pushes the "state-of-the-art".
  - The project is expensive and complex.
  - The project design phase is too short.
  - Critical materials are used and/or construction is difficult.
  - The current working estimates (CWE) exceeds the programmed amount (PA).
- Outdated criteria are utilized.
- Value engineering principles should be considered in all facilities designs. VE shall be applied, when cost effective, to all construction projects with a CWE exceeding $2 million.
- Value engineering activity by contractors is stressed as an important method for reducing construction costs.

Annual Statistical Servicing: The DASD(I) shall be provided within 60 days after the end of the Fiscal Year an indication whether the 5 percent annual goal has been achieved and if not, why not. The target savings for subsequent years will be assessed at that time.
MEMORANDUM FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS AND HOUSING)
DEPUTY ASSISTANT SECRETARY OF THE NAVY (INSTALLATIONS AND FACILITIES)
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE (INSTALLATIONS, ENVIRONMENT AND SAFETY)

SUBJECT: Value Engineering Program

Several studies, including a DoD Inspector General Audit and the Grace Commission Report on Construction Management, have indicated that DoD is not realizing the full potential savings of the value engineering process (VE). The DoD IG estimated that $500 million of additional savings may have been possible in the 1978 to 1982 time frame had more projects been subjected to VE.

In view of this background, and because of the potential for savings related to a solid VE program, I am establishing value engineering guidelines and goals, attached as enclosure, in order to bring the full benefits from this program to bear on project cost reduction. Although the full impact may not be realized until the FY 1986 military construction program, the policy is effective immediately.

I am aware that you have already implemented or are in the process of implementing actions to utilize value engineering in reducing construction costs, and I am confident that these actions will enable you to better the 5 percent goal established in the attached guidelines.

Robert A. Stone
Deputy Assistant Secretary of Defense (Installations)
RECOMMENDATIONS

*Mary Ann Gillse, Deputy Under Secretary of Defense (Acquisition Management)
Must Set the Tone By Signing Out a Strong Policy Memo Supporting Need and
Requirement for Value Engineering

*V.E. Must Be a DOD Functional Requirement

*Management Must Increase Commitment By Providing Leadership, People and
Resources

*Congressional Provisions Should Be Made to Return All Funds Saved Through
Value Engineer To User/Sponsor for Re-allocation to Unfunded (Outyear)
Projects (Incentive)

*MPS Requirement for All Military O - 3 and Above and GM-13's and Above to
Attend a 4-Hour Value Engineering Executive Brief

*MPS Objective (Critical Element) for DOD 5% V.E. Goal in All Division
Directors/ Department Heads Objectives As Well As V.E. Coordinators Objectives

*Expand V.E. Awards Program to Include Monetary Awards to Working Level
Personnel

*Improve V.E. Implementation Percentages By Instituting a Second Level Review
Board

*Set V.E. Coordinators GM Grade Level Commensurate with Level of
Responsibility. Branch Manager Level at a Minimum

*Establish Annual Tri-Service V.E. Budget Based on 1/2 of 1% of the Programmed
Amount for Military Construction Program (MILCON)

*Improve Response Time to All V.E. Recommendations and Construction Contractor
VECP Suggestions.

*Develop Tri-Service Educational Program for Training and Educating All
Managers, End Users and Construction Contractors

*Improved Public Relations on Benefits to DOD and Taxpayers

Appendix F

VII-15
FINDING

General Consensus
   a. Value Engineering is Not Only Good But Needed
   b. High Potential in Value Engineering

COE and NAVFAC Have Ongoing Successful V.E. Programs

SAF and Marine Corps are Currently Establishing V.E. Program

High Probability of Achieving the DOD 5% V.E. Goal

V.E. Practitioners Civil Service Grade are Below Level of Responsibility

Currently Inadequate Resources Restrict Total Success

Best Opportunity For Success is Early on in the Design Process; Least Opportunity After Construction Starts

5% of V.E. Savings Identified During the Design Process With Less Than 5% During Construction Contractor Phase (VECP)

New FAR Clause as Currently Written Does Not Properly Address Architect/Engineer Design Contracts

Accounting Roadblocks Restrict Total Number of Studies Conducted, Inhibits Travel and Hinders V.E. Training

Construction Contractors Still Reluctant to Participate in VECP Program

Response/Resolution Time to V.E. Team Studies and Contractor VECPs is Unacceptable

50% of V.E. Studies are Being Performed by V.E. Contractors (A/Es) and 50% by In-house Staff, With Largest (Average) Savings Generated by Contractor Studies

Criteria Challenges Identified by V.E. Studies are Seldom Approved Due to the Bureaucratic Approval Process

V.E. Consultants Fees are Higher Than Normal A/E Fees Due to On-Call Availability and Higher Than Normal Gaps in Workload

Implementation Rates are Extremely Good When Project is Over Funds Available

Customer/User has Greatest Impact on Poor Implementation

V.E. Coordinations have the Responsibility to Meet DOD Goal but have Little Authority on Implementation

Appendix E
IMPEDIMENTS

○ Management Attitudes
  Perceived as a Delay
  Should Have Done It Right First Time
  How Will It Benefit Me?
  Subjects to Exposure and Criticism
  Cheapening Process
  Brooks Bill Conflict
  Bureaucratic and Empire Building
  Increases Design Fee
  Design Breakage
  Appearance of Poor Planning

○ Professional Resistance
  Perceived as Peer Technical Review
  Do not Like Second Opinions (second guess)
  Creates Changes
  Perceived as a Delay
  Fear of Reduction in Design Fee

○ A/E Has No Incentive to Reduce Project Cost and Inturn Reduce Fee

○ Auditors
  Disincentive to Project Managers
  Additional Paperwork
  Detail Documentation Requirement

○ Training
  Very Few Executives Trained
  Lack of Training Funds
  Existing Courses Outdated

○ User/Activity Attitudes
  No Incentives to Save Allocated Funds
  What’s in It for Me?
  Apprehension of Losing Pleasing Features
  Conflicts with Activities Architectural Plan
  No Incentives to Reduce Cost When Project is Within Cost
  Fund Overruns Can Be Rectified By Requesting Additional Funds
  (Congress or Sponsor)

Appendix D

VII-13
1. HOW DO YOU FUND YOUR PROGRAMS?

2. HOW DO YOU DEAL WITH THE PROBLEM OF HAVING ONE PROFESSIONAL REVIEW THE WORK OF ANOTHER WHEN A/E FIRMS ARE RETAINED FOR VALUE ENGINEERING STUDIES?

3. HOW DO YOU MOTIVATE VALUE ENGINEERING TEAMS (PARTICULARLY A/E's) TO FIND BETTER SOLUTIONS?

4. HOW DO YOU MOTIVATE A/E FIRMS TO ENSURE THAT VALUE ENGINEERING STUDIES ON THEIR DESIGNS AREN'T PRODUCTIVE.

5. HOW CAN WE GET BETTER ACCEPTANCE OF THE V.E. PROGRAM.

6. HOW CAN WE GET A BETTER ACCEPTANCE RATE ON V.E. PROPOSALS.
IS THE GROUP FORMED IN RESPONSE TO THE CONSTRUCTION INDUSTRY COST EFFECTIVENESS STUDY BY THE BUSINESS ROUNDTABLE.

WE HAVE ASKED THE SERVICES TO TAKE A FRESH LOOK AT OUR SPECIFICATIONS TO SEE IF THEY AREN'T TOO CUMBERSOME.

WE HAVE A TRI-SERVICE STUDY GROUP LOOKING AT WAYS WE CAN SHORTEN THE TIME IT TAKES TO PLAN, PROGRAM, DESIGN, AND BUILD OUR FACILITIES.

WE HAVE A RESEARCH PROJECT UNDERWAY TO SEE IF WE CAN DEVELOP INCENTIVES FOR MORE ACCURATE DESIGNS.

I MENTION THESE PROGRAMS BECAUSE THERE ARE CRITICS OF DEFENSE SPENDING THAT WON'T MISS AN OPPORTUNITY TO OPPOSE THE INCREASED LEVEL OF FUNDING WE SEEK. WE HAVE GOT TO DEMONSTRATE THAT WE WILL SPEND OUR MONEY WISELY. A GOOD V.E. PROGRAM WILL DO THIS AND HELP GET THE EXCELLENT INSTALLATIONS WE STRIVE FOR

SEEING THAT THE PROGRAM PRODUCED RESULTS WHERE IT HAD BEEN TRIED, MR. STONE SET UP THE GOALS LAST FEBRUARY TO ACHIEVE A 5 PERCENT SAVINGS IN THE PROGRAM THRU V.E.

I CAME TO THIS CONFERENCE TO TELL YOU WE ARE MAKING PROGRESS TOWARDS EXCELLENT INSTALLATIONS--THAT V.E. IS A PART OF THE PROGRAM AND I CAME WITH SOME QUESTIONS--
j. Provide training in "Principles and Applications of Value Engineering (PAVE)" and "Contractual Aspects of Value Engineering (CAVE)" to contract negotiators, contracting officers, other procurement and contract administration personnel, engineers, and program management office staffs.

k. Develop criteria and procedures for providing recognition awards to individuals and organizations for exceptional VE accomplishments.

l. Provide annual nominations for the DoD Honorary VE Awards Program.

G. DoD VE COMMITTEE

1. Organization and Management. The DoD VE Committee shall:


b. Be composed of senior representatives from DoD Components.

c. Meet periodically at the call of the chair.

2. Functions. The DoD VE Committee shall:

a. Review progress and problems.

b. Recommend policy changes.

c. Exchange concepts and techniques.

d. Review honorary award nominations and forward its recommendation to the DUSD(AM),OUSDR&E.

H. INFORMATION REQUIREMENTS

1. DoD Components shall submit to the USDR&E one summary report covering the first 6 months and another for the entire year within 45 days after the end of the reporting period in accordance with enclosure 1.

2. The report specified in subsection H.1., above, has been assigned Report Control Symbol DD-DR&E(SA)1138.

I. EFFECTIVE DATE AND IMPLEMENTATION

This Directive is effective immediately. Forward two copies of implementing documents to the Under Secretary of Defense for Research and Engineering within 120 days.

WILLIAM H. TAFT, IV
Deputy Secretary of Defense

Enclosure - 1
Statistical Summary of VE Actions

VII-25
## STATISTICAL SUMMARY OF VE ACTIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. DoD Component:</td>
<td>FY:</td>
</tr>
<tr>
<td>B. Number of actual full-time VE personnel (excluding clerical and secretarial) at the end of the reporting period</td>
<td></td>
</tr>
<tr>
<td>C. In-house Studies (VEPs)</td>
<td></td>
</tr>
<tr>
<td>1. Number of proposals developed</td>
<td></td>
</tr>
<tr>
<td>2. Number of proposals approved</td>
<td></td>
</tr>
<tr>
<td>3. Estimated net dollar savings to the Department of Defense</td>
<td></td>
</tr>
<tr>
<td>a. Current fiscal year</td>
<td>$</td>
</tr>
<tr>
<td>b. Budget next year</td>
<td>$</td>
</tr>
<tr>
<td>c. One additional year</td>
<td>$</td>
</tr>
<tr>
<td>4. Cost to develop proposals in C.1. and to implement proposals in C.2., above</td>
<td>$</td>
</tr>
<tr>
<td>D. VECPs</td>
<td></td>
</tr>
<tr>
<td>1. Number received</td>
<td></td>
</tr>
<tr>
<td>2. Number approved</td>
<td></td>
</tr>
<tr>
<td>3. Estimated net dollar savings to the Department of Defense</td>
<td></td>
</tr>
<tr>
<td>a. Current fiscal year</td>
<td>$</td>
</tr>
<tr>
<td>b. Budget next year</td>
<td>$</td>
</tr>
<tr>
<td>c. One additional year</td>
<td>$</td>
</tr>
<tr>
<td>d. During the remaining contract sharing period</td>
<td>$</td>
</tr>
<tr>
<td>4. Cost to develop proposals in D.1. and to implement proposals in D.2., above</td>
<td>$</td>
</tr>
<tr>
<td>E. Number of program requirement clauses placed in contracts this year</td>
<td></td>
</tr>
<tr>
<td>F. Funds specifically set aside this FY for VE investment (excludes personnel and overhead: report only such direct costs as development, implementation, and testing identifiable to specific VE projects)</td>
<td></td>
</tr>
<tr>
<td>Appropriation:</td>
<td></td>
</tr>
<tr>
<td>1. RDT&amp;E</td>
<td>$</td>
</tr>
<tr>
<td>2. Procurement</td>
<td>$</td>
</tr>
<tr>
<td>3. O&amp;M</td>
<td>$</td>
</tr>
<tr>
<td>4. Total</td>
<td>$</td>
</tr>
</tbody>
</table>
G. **Training:** Number of personnel trained during this FY in VE

1. Principles and applications (40 hours or more)  
2. Contractual aspects (40 hours or more)  
3. Orientations (4 to 40 hours)  
4. Seminars (2 to 4 hours)

H. For major programs (with estimated total RDT&E costs greater than $200 million or with total procurement (production) costs greater than $1 billion), submit the following data:

1. Program name  
2. Number of VECPs submitted  
3. Number of VECPs approved  
4. Estimated net dollar savings to the Department of Defense during the sharing period  
5. Estimated dollar value of the contractor's share of savings reported in H.3., above

I. Provide narrative of qualitative (nondollar) accomplishments resulting from DoD VE Program.
INSTRUCTIONS

A. **Item C**

1. A study or project may be reported as an in-house VE study only if (a) it was identified as a VE project before presentation of specific proposals for decisions or (b) evidence of the application of elements of the VE discipline is available (such as functional analysis, evaluation of worth, or cost comparisons).

2. Internal VE actions with estimated savings equal to or greater than $100,000 shall be verified by a higher management level official designated by the head of the DoD Component or designee.

B. **Item D.** Report all VECPS received under both VEI clauses and VEPR clauses.

C. **Item D.3.** The sharing period will vary according to the length of the contract and the nature of the VECP. Include estimates of collateral savings, if any, in lines D.3.a., b., c., and d., as appropriate.

D. **Item D.4.** Include only direct contractor and DoD nonrecurring investment costs to develop and test proposals in item D.1. and to implement proposals approved in item D.2.
PART 52—SOLICITATION PROVISIONS AND CONTRACT CLAUSES

52.240-1 Value Engineering.

As prescribed in 48.201, insert the following clause in supply or service contracts to provide a value engineering 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 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 by substituting “under contracts awarded 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 subdivision (i)(3)(i) and the first sentence under subparagraph (3) of the definition of acquisition savings by substituting “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 ENGINEERING (APR 1984)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECPs) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECPs, in accordance with the incentive sharing rates in paragraph (f) below.

(b) Definitions. “Acquisition savings,” as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor (and by other contracting offices if included in an extended sharing base specified in the Schedule) 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 VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are measurable net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP 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. If this contract is a multiyear contract, future contract savings include savings on all quantities funded after VECP acceptance.

"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 VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"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 clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP 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 VECP, 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 VECP or any increase in this contract's cost or price resulting from negative instant contract savings.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. 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 VECP on this, the instant contract. If this is a service contract, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on this contract, multiplied by the appropriate contract labor rate.

"Negative instant contract savings" means the increase in the cost or price of this contract when the acceptance of a VECP 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.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.

"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VECP or, if the sharing base has been extended under paragraph 48.102(c) of the Federal Acquisition Regulation (48 CFR Chapter 1), the number of affected end items on contracts of contracting offices included in the extended base specified in the Schedule.

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

"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies.

"Value engineering change proposal (VECP)" 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 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) VECP preparation. As a minimum, the Contractor shall include in each VECP 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 VECP preparation. The VECP 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 VECP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VECP applies.

(4) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the 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 VECP, such as test and evaluation and operating and support costs.

(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 VECP 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 VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP'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 VECP 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 VECP 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 will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(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 VECP 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, or cost-reimbursement), (2) the sharing arrangement specified in paragraph (a) above (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)

<table>
<thead>
<tr>
<th>Contract Type</th>
<th>Sharing Arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incentive (voluntary)</td>
</tr>
<tr>
<td></td>
<td>Instant contract rate</td>
</tr>
<tr>
<td></td>
<td>Concurrent and future contract rate</td>
</tr>
<tr>
<td>Fixed-price (other than incentive)</td>
<td>50</td>
</tr>
<tr>
<td>Incentive (fixed-price or cost)</td>
<td>*</td>
</tr>
<tr>
<td>Cost-reimbursement (other than incentive)**</td>
<td>25</td>
</tr>
</tbody>
</table>

*Same sharing arrangement as the contract's profit or fee adjustment formula. 
**Includes cost-plus-award-fee contracts.

(g) Calculating net acquisition savings. (1) Acquisition savings are realized when (i) the 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 any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive contracts, government 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). Additional contractor shares of net acquisition savings shall be paid to the contractor at the time realized.

(3) If this is an incentive contract, recovery of government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The contractor shall share through the contract incentive structure in savings on the instant contract items affected. Any negative instant contract savings shall be added to the target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future contract savings.

(4) 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.

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification 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 contract;

(2) When the amount of instant contract savings is negative, increase the contract price, target price and ceiling price, target cost, or estimated cost by that amount;

(3) Specify the contractor's dollar share per unit on future contracts, or provide the lump-sum payment;

(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; 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.

(1) 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)(3) 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 government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the contractor's sharing rate.

(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 government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the contractor's sharing rate.

(4) When the government wishes and the contractor agrees, the contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP 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.

(j) Collateral savings. If a VECP is accepted, the instant contract amount shall be increased, as specified in subparagraph (h)(5) above, by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any government costs not previously offset. However, the contractor's share of collateral savings shall not exceed (1) the contractor's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted, or (2) $100,000, whichever is greater. The contracting officer shall be the sole determinant 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.
of an accepted VECP not rewarable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar incentives shall be rewarded under this clause. However, the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement selected.

(I) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in any subcontract of lesser value. In calculating any adjustment in this contract’s price for instant contract savings (or negative instant contract savings), the Contractor’s allowable development and implementation costs shall include any subcontractor’s allowable development and implementation costs, and any value engineering incentive payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that the payments shall not reduce the Government’s share of concurrent or future contract savings or collateral savings.

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

“These data, furnished under the Value Engineering 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 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 VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP, supporting data, and encouraging and tracking collateral savings will exceed the benefits to be derived in a contract calling for a value engineering incentive, delete paragraph (j) from the basic clause and redesignate the remaining paragraphs accordingly.

Alternate III (APR 1984). When the head of the contracting activity determines that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a contract calling for a value engineering incentive, delete paragraph (j) from the basic clause and redesignate the remaining paragraphs accordingly.

52.248-2 Value Engineering Program—Architect-Engineer.

As prescribed in 48.201(f), insert the following clause in solicitations and contracts for architect-engineer
services if a mandatory value engineering program requirement is desired:

VALUE ENGINEERING PROGRAM—ARCHITECT-ENGINEER (APR 1984)

(a) General. The Contractor shall (1) engage in a value engineering program, and submit value engineering progress reports, as specified in the Schedule and (2) submit to the Contracting Officer any resulting value engineering change proposals (VECP's). The Contractor shall be paid as the Schedule specifies for this mandatory program.

(b) Definitions. “Collateral costs,” as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

“Contractor's development and implementation costs,” as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

“Government costs,” as used in this clause, means those agency costs that result directly from developing and implementing the VECP, 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 VECP.

“Value engineering change proposal (VECP)” 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 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) VECP preparation. As a minimum, the Contractor shall include in each VECP 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 VECP preparation. The VECP 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 VECP 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 VECP. The cost reduction associated with the VECP shall take into account the Contractor’s allowable development and implementation costs.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(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 VECP 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 VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP'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 VECP 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 VECP 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 will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(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 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) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:
“These data, furnished under the Value Engineering Program—Architect-Engineer clause of contract.............., shall not be disclosed in whole or in part, for any purpose other than to evaluate a value 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 VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP 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 VECP 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)

(NM)

52.248-3 Value Engineering—Construction.
As prescribed in 48.202, insert the following clause in construction solicitations and contracts of $100,000 or more, except incentive contracts. 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.

VALUE ENGINEERING—CONSTRUCTION
(APR 1984)

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

(b) Definitions. “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 VECP 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 costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

“Government costs,” as used in this clause, means those agency costs that result directly from developing and implementing the VECP, 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 VECP.

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

“Value engineering change proposal (VECP)” means a proposal that—

1. Requires a change to this, the instant contract, to implement; and
2. Results in reducing the 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) VECP preparation. As a minimum, the Contractor shall include in each VECP 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 VECP preparation. The VECP 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 characteristic is 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 VECP 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 VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontractors under paragraph (h) below.

4. A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

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 VECP 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 VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action. (1) The Contracting Officer shall notify the Contractor of the status of the VECP...
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 will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(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 share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by (i) 55 percent for fixed-price contracts or (ii) 25 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to—

(i) Accept the VECP;

(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 amount calculated under subparagraph (1) above to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the instant contract amount shall be increased by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting 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 VECP is accepted, 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 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 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 under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

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

"These data, furnished under the Value 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 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 VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP 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 VECP 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)

(7-602.50 1977 AUG)

Alternate I (APR 1984). When the head of the contracting activity determines 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.

52.249-1 Termination for Convenience of the Government (Fixed-Price) (Short Form).

As prescribed in 49.502(a)(1), insert the following clause in solicitations and contracts when a fixed-price contract is contemplated and the contract amount is expected to be $100,000 or less, except (a) if use of the clause at 52.244-4, Termination for Convenience of the Government (Services) (Short Form) is appropriate (b), in contracts for research and development work with an educational or nonprofit institution on a no-profit basis, (c) in contracts for architect-engineer services, or (d) if one of the clauses prescribed or cited at 49.505(a), (b), or (e), is appropriate:

TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SHORT
(a) General. The contractor shall (1) engage in a value engineering program, and submit value engineering progress reports, as specified in the schedule; and (2) submit to the contracting officer any resulting value engineering study proposals (VESPs). The contractor shall be paid as the schedule specifies for this mandatory program, but shall not share in any savings which may accrue to the Government as a result of this requirement. Conversely, the contractor's fee will not be reduced when:

(i) Approved VESPs and related costs savings lower cost limitation and/or targets.
(ii) Approved VESPs reduce the contractor's work during design or reduce contract completion time.

(b) Definitions. For the purpose of this clause, the following definitions apply:

(1) Life Cycle Cost (LCC) is defined as the summation of all costs over the useful life of a building, system, or product. It includes the cost of design, acquisition, operation, maintenance, and salvage (resale) value, if realizable.

(2) Value engineering (VE) is defined as an organized effort directed at analyzing the function of systems, equipment, facilities, and supplies to achieve user required functions at the lowest life cycle cost consistent with performance and schedule requirements.

(3) Value engineering program is defined as the contractually required value engineering effort directed toward design and delivery of facilities, systems, supplies and material at the lowest life cycle cost.

(4) Value engineering study proposal (VESP) is defined as a formal recommendation for change to design criteria, drawings, or specifications resulting from the performance of the mandatory VE program.

(c) VESP Preparation. As a minimum, the contract shall include the following information in each VESP developed as a result of this program:

(1) A description of the difference between the existing and the proposed design, the comparative advantages and disadvantages of each, a justification when an item's function is altered, the effect of the change on system or facility performance, and any pertinent objective test data.
(2) A list and analysis of design criteria or specifications that must be changed if the VESP is accepted.

(3) A separate, detailed cost estimate for the existing design and the VESP.

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

(5) A prediction of any effect the proposed change may have on agency LCC.

(6) A statement of any effect the VESP will have on design or construction completion time.

(d) Submissions. Upon award of this contract, the contractor shall provide the Government with a fee breakdown for the VE services (such as criteria review, task team review, and bid package review) included in the contract schedule. The contractor shall submit required reports as specified in the contract schedule.

(End of Clause)
As prescribed in 48.202, insert the following clause in construction solicitations and contracts of $100,000 or more, except incentive contracts. 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.

(a) General. The contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECPs) voluntarily. The contractor shall share in any instant contract savings realized from accepted VECPs, in accordance with paragraph (f) below.

(b) Definitions. "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 VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation cost," as used in this clause, means those costs the contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, 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 VECP.

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

"Value engineering change proposal (VECP)" means a proposal that:

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

(2) Results in reducing the 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) **VECP Preparation.** As a minimum, the contractor shall include in each VECP 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 VECP preparation. The VECP 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 VECP 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 VECP. The cost reduction associated with the VECP 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 VECP, such as test and evaluation and operating and support costs.

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 VECP 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 VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) **Submission.** The contractor shall submit VECPs to the resident engineer at the worksite, with a copy to the contracting officer.

(e) **Government Action.**

1. The contracting officer shall notify the contractor of the status of the VECP 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 will process VECPs expeditiously; however, it shall not be liable for any delay in acting upon a VECP.
If the VECP is not accepted, the contracting officer shall notify the contractor in writing, explaining the reasons for rejection. The contractor may withdraw any VECP in whole or in part, at any time before it is accepted by the Government. The contracting officer may require that the contractor provide written notification before undertaking significant expenditures for VECP effort.

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 Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by:

(i) 45 percent for fixed price contracts; or

(ii) 75 percent for cost reimbursement contracts.

(2) Payment. Payment of any share due the contractor for use of a VECP on this contract shall be authorized by a modification to this contract to:

(i) Accept the VECP;

(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 amount calculated to the contract price or fee.

(g) Collateral Savings. If a VECP is accepted, the instant contract amount shall be increased by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting 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 VECP is accepted, 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 U.S.C. 601-613.
(h) **Subcontracts.** The contractor shall include an appropriate value 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 under paragraph (f) above, the contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The contractor may choose any arrangement for subcontractor value engineering incentive payments; provided that these payments shall not reduce the Government's share of the savings resulting from the VECP.

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

"These data, furnished under the Value 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 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 VECP is accepted, the contractor hereby grants the Government unlimited rights in the VECP 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 VECP, 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)**

Deletion of Collateral Savings (APR 1984). When the head of the contracting activity determines 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.
About the cover --

The cover shows Moody Air Force Base, near Valdosta, Georgia, the first of our model installations. The Model installation program is described on pages 5-6 of this report. The following is a list of model installations and their commanders as of May 10, 1984:

U.S. ARMY

FORT SILL, Oklahoma (Training and Doctrine Command)
Major General John S. Crosby

ANNISTON ARMY DEPOT, Alabama (Materiel Development and Readiness Command)
Colonel Leo J. Pigaty

ABERDEEN PROVING GROUND, Maryland (Materiel Development and Readiness Command)
Colonel Martin W. Walsh, Jr.

FORT POLK, Louisiana (Forces Command)
Major General Dale Vesser

SUPPORT COMMAND, Hawaii (Western Command)
Colonel David H. Helela

U.S. NAVY

GREAT LAKES NAVAL TRAINING CENTER, Illinois (Naval Education and Training Command)
Commodore Thomas Emery

MERIDIAN NAVAL AIR STATION, Mississippi (Naval Education and Training Command)
Captain Kenneth A. MacGillivray

ALAMEDA NAVAL AIR STATION, California (Naval Air Force, Pacific Fleet)
Captain Donald G. Richmond

U.S. MARINE CORPS

MARINE CORPS LOGISTICS BASE, Albany, Georgia
Major General Raymond A. Shaffer

MARINE CORPS AIR STATION, El Toro, California
Major General Richard M. Cooke

U.S. AIR FORCE

MOODY AIR FORCE BASE, Georgia (Tactical Air Command)
Colonel Harald G. Hermes

KIRTLAND AIR FORCE BASE, New Mexico (Military Airlift Command)
Colonel David W. Scott

WHITEMAN AIR FORCE BASE, Missouri (Strategic Air Command)
Colonel Michael T. Graydon

EISEE AIR FORCE BASE, Texas (Air Training Command)
Colonel John R. Hullender

HICKAM AIR FORCE BASE, Hawaii (Pacific Air Forces)
Colonel Charles F. Luigs

Excellent Installations – The Foundation Of Defense

VII-44
I have one objective: to ensure that we have the excellent installations we need to carry out Defense missions effectively. That means excellent places for our people to work and live, where excellent service is provided efficiently.

Better Working and Living Conditions for Our People

We have made big improvements in working and living conditions, especially overseas. The key was money:

Facility Investment Soars  
(Constant FY 85 $ Billions)

<table>
<thead>
<tr>
<th></th>
<th>FY 77-80</th>
<th>FY 81-84</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repair &amp; Maintenance</td>
<td>12.3</td>
<td>16.3</td>
<td>33%</td>
</tr>
<tr>
<td>New Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>12.2</td>
<td>14.3</td>
<td>17%</td>
</tr>
<tr>
<td>Overseas</td>
<td>2.4</td>
<td>6.3</td>
<td>163%</td>
</tr>
<tr>
<td>Worldwide</td>
<td>14.6</td>
<td>20.6</td>
<td>41%</td>
</tr>
</tbody>
</table>

The investment is paying off. Commanders everywhere are reporting marked improvements in working and living conditions. Army Secretary Marsh reported after his recent visit to Germany, "The Administration's facility improvement program has had a great impact on morale, efficiency and readiness".

As Secretary Weinberger responded, "Continuing high priority on facility investment for the next few years will result in decades of strengthened national defense."

We are building more and better barracks for enlisted personnel. The new barracks design which we developed this year provides equal treatment for people in all services, and more privacy and more space for everybody -- particularly people in the middle enlisted grades.

Even though we've accomplished a lot, a lot remains to be done. For instance, we need over 330,000 barracks spaces that will cost more than $7 billion -- and our backlog in maintenance and supply facilities is over $13 billion.

If we are to sustain this high level of investment we must do a better job managing the facility design program. In the past two OSD budget reviews, we lost 76 projects worth $320 million because design had not progressed enough. We have to solve that problem this year -- our needs are too great to be able to afford another such loss in budget authority.
We are doing much better at keeping up with the second phase of the process, the actual construction. In FY 83, over 90% of the authorized projects actually got under way. That is the best we have ever done, by far.

Regardless of the size of future construction budgets, we must get the most for our money. I will try two ways to get more for our money. First, I will encourage architect-engineer firms to develop more cost-effective designs; there is not enough incentive for them to do that now.

Second, I will try to change the pressures in our management system that cause us to budget too much money for each project. (I'm hoping, of course, to keep the money to buy more projects.) We overpriced construction by more than $550 million (about 20%) in each of the past two years. Granted, we have been in a strong buyer's market. But if we can budget more realistically, we can afford more projects.

**New Chances for New Houses**

Our military families don't have nearly the housing they need in many places. Two new initiatives that were approved by Congress in 1983 could make more housing available if we act quickly and intelligently.

First, the Congress authorized us to encourage private developers to build housing on or near our bases. We can remove some of the risk from the developer by guaranteeing occupancy of the houses or by leasing them. We have this authority for a limited time and for a limited number of locations. So my challenge this year is to get the Services to agree quickly on some sensible ground rules, pick locations, and get the test started. Otherwise Congress is unlikely to extend or expand the authority, and we will lose this opportunity to get the private sector to build more houses for our people here in the United States.

The second, and I believe more important, Congressional initiative forces us to use American-built houses for nearly all new construction overseas. The overseas housing program has been stagnant for years, blocked by uncertainty over how long we'd be there, the relative merits of leasing versus building, and Congress' lack of interest in funneling money into foreign economies for housing construction in foreign lands. Now, with most of the money going to US manufacturers, Congress should be more interested in funding overseas housing. This could be the breakthrough that our troops with families overseas have been waiting for.

**Pushing the Allies - But Not Too Hard**

Another key to improving working and living conditions overseas is to get host nations to provide more facilities and more support without straining country-to-country relations.

The Japanese government provides us facilities for personnel support (e.g., dormitories, hospitals, family housing) in Japan. Our construction needs are being met much earlier due to a steady growth in Japan's annual contribution ($285 million for 1984).
In Europe, we pushed hard on our allies, especially Germany, to add $1 billion to the NATO Infrastructure Program so that more of our priority construction requirements could be programmed. When it became clear that we couldn't get that much, we realistically settled for half and accepted it gladly. So we got an increase and yet maintained a climate within the Alliance that may result in agreement on a substantial increase in funding for the next six years (1985-1990) fund cycle.

Congress has been increasingly more critical of spending U.S. money to build facilities that are eligible for NATO funding, then asking NATO to reimburse us. Congress has also been unhappy about the slow rate at which we are reimbursed by NATO. Part of the problem was an inaccurate data base which overstated the amount NATO owed to us, and understated the total the other NATO nations were owed. We have now corrected the bookkeeping to put in better perspective this year's proposal to build NATO-eligible facilities with U.S. money.

To continue improvement in Europe we have been trying to get Germany to pay part of the cost of moving three Army brigades eastward — the Master Restationing Plan. This year is probably our last chance. The Army cannot tolerate another year without a firm plan to build the facilities needed to introduce modern weapons and organizations to U.S. Army Europe.

We have made very little progress in convincing the Germans to help somehow to pay for MRP facilities. We will keep trying a little longer, but unless we have German agreement or are very near to it by this spring, we will have to decide, by the POM review, how to proceed without German funding.

In other areas of the world, we succeeded after several frustrating years in striking a compromise between the conflicting demands of Congress and Egypt that will permit joint construction of a contingency base at Ras Banas. This year, we will concentrate on nailing down our requirements in Central America, and on improving coordination of construction programs between the US and host nations in the Pacific.

**Competition Makes Base Operations Efficient**

This was a red-letter year for base operations. We learned something that directed our attention to competition as a promising way to get more for our money in base operations, while still providing the services our commanders want. We learned that, on average, base operations activities subjected to competition reduce costs by 27%. That actually happened in over 900 A-76 competitions involving more than 30,000 jobs during the past five years.

As the President said in his State-of-the-Union address, "Without .... competition, there can be no champions, no records broken, no excellence."

My goal this year is to stimulate competition in many forms:

- Through A-76 competition wherever it makes sense, pitting our workers and managers against the private sector.
With peer competition, by letting people know how their performance stacks up against others doing the same job. Last year I used our computerized data to tell all of our 600 housing managers how they ranked among their peers. This year I am going to continue that, and I have hired a contractor to set up tests of peer competition in other functions.

Defense-wide competition for a Commander-in-Chief's award for Installation Excellence. We need regular, high-level recognition for this underrated business of installation management. After all, it costs $30 billion a year, and excellent installations are the foundation of defense.

Operation Winner

Too seldom do we win competitions. Too seldom do we model ourselves on winners.

Last year, over 400 DoD activities competed with private companies under the A-76 procedures. The rules give the in-house bidders a 10% cost advantage, on top of the advantage of knowing their business better than any outsider can. Yet the in-house bidders lost more than half the contests.

We can and should win more. Here is one way: Navy's Public Works Centers prepared a year ahead for A-76 contests for their transportation operations. They figured out ahead of time how much they would have to cut costs to be competitive, figured out how to do it, tried the new methods, then held the contests and won them all. I'd like to see a lot more in-house winners like that.

I also started a study of how winners won. What did they change in their operations that gave them the competitive edge? I hope to find out this year, and when I do I'll share their good ideas with other base managers so they too can operate like the winners. But base managers needn't wait for my findings. They should find out for themselves how winners — contractors as well as in-house — won, and apply the lessons.

Is DRIS (Defense Regional Interservice Support) Dead?

No, absolutely not.

DRIS means innovative managers from neighboring bases getting together to improve service and cut costs by supporting each other or by pooling their resources. Two years ago we revitalized the process. In 1983 the base managers studied ways to improve base operations in functional areas selected by OSD. This year, we have minimized OSD involvement by letting people select the areas they will study. We will deal with their recommendations from last year's studies, some of which call for consolidations. I hope that the Services can accommodate the base managers' recommendations without OSD involvement. I do want the local base managers to see something come of their hard work.

Another goal this year is to use the DRIS program to initiate competition. For example, if neighboring base managers decide they cannot consolidate their separate motor pools, they should set up regional competition between motor pools to encourage better service and lower costs.
Environmental Leadership

DoD's environmental challenges have never been greater. We must anticipate and overcome those challenges if we are to be able to operate and train our forces effectively.

Last year we jumped into the lead. We cemented cooperative relations with the Environmental Protection Agency, established the Defense Environmental Leadership Project with a powerhouse team of experts to overhaul our environmental management system, and secured the Environmental Restoration Account with $150 million appropriated for 1984 and another $300 million budgeted for 1985. This unprecedented surge in management initiative and resources has finally brought environmental programs into the mainstream of installation management where they belong, and demonstrates our renewed commitment to be leaders in achieving national environmental goals.

This year we are concentrating on polychlorinated biphenyls (PCBs) and hazardous waste storage. PCBs are illegally stored at over 100 bases; the Environmental Protection Agency has given us until December to get rid of them. We must also expedite our lagging efforts to comply with rules on managing and storing hazardous wastes. If we fail to get ahead of this, we could have some important national defense missions shut down.

Real Value of Real Estate

We have introduced two simple principles into DoD real estate management:

- you pay money when you get real estate
- you get money when you get rid of real estate.

The old system encouraged our managers to behave as though real estate was free. For example, the Navy could not sell land, they had to give it away to someone: another Service or GSA. There was little incentive for anyone to look for land to get rid of, or to turn down land that was offered.

Now we can keep proceeds from some real estate sales and from some leases, and inter-service real estate deals are cash transactions. These market incentives will encourage managers to treat real estate according to its real value. We need to nurture these new incentives by publicizing them, and we need more incentives like them.

Models of Excellence

I am convinced that, with the right incentives, base level managers and workers can and will find more ways to become more efficient. This, together with the Services' compelling arguments that installation commanders should have fullest control of their bases, led to the Model Installation Program, this year's most important initiative.
Model Installations is simple: let a commander run his base. His job is to strive for excellence, and to try new methods even though some may fail. The model bases will be able to use any savings from their new ideas to improve facilities and services for their people. The job of headquarters is to let the model commander try his new ideas, and to spread word of results to other commanders. The first model installation, Moody Air Force Base, is pictured on the cover of this report.

My goal for this year is to keep this program fun and productive for the people at the model installations. If they have a hard time getting headquarters' permission to try new things, or if headquarters makes them fill out a new report on every new idea, the commanders will lose interest and the program will die.

Striving for Excellence

Our challenge in 1984 is to use the new incentives we have and to look for more. We need to be more innovative and willing to take risks. We need to clean up the hazardous waste, manage our real estate better, and be more competitive by finding out which of our peers are outperforming us, and then modeling ourselves after the winners.

We have taken some important first steps in 1983, but there are lots of opportunities left: there is lots of money to be made in improved operations, and lots of needs to be met to provide our people with the excellent services and facilities they deserve.

Robert A. Stone
Deputy Assistant Secretary of Defense
(Installations)

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Excellent Installations – The Foundation Of Defense

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