Army Regulation 5–4

Management

Department of the Army Productivity Improvement Program

Headquarters
Department of the Army
Washington, DC
1 August 1982

UNCLASSIFIED

SUMMARY of CHANGE

AR 5–4
Department of the Army Productivity Improvement Program

This Change 1--

- Revises chapter 5, alters paragraph 6-5b, and adds appendixes E and H.

- Prescribes new guidance for idea interchange and for the Productivity Capital Investment Programs.

Headquarters
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Washington, DC
1 August 1982

*Army Regulation 5–4

Effective 1 September 1982

Management

Department of the Army Productivity Improvement Program

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
The Adjutant General

History. This publication has been reorganized to make it compatible with the Army electronic publishing database. No content has been changed.

Summary. This regulation consolidates the policy and guidance necessary for the establishment and utilization of a productivity improvement program.

Applicability. Not applicable.

Proponent and exception authority. The proponent agency of this regulation is the Office of the Comptroller of the Army.

Army management control process. Not applicable.

Supplementation. Local limited supplementation of this regulation is, permitted, but is not required. If supplements are issued, Army Staff agencies and major Army commands/separate agencies will furnish one copy of each to the Comptroller of the Army, HQDA, ATTN: DACA-MP, WASH DC 20310. Other commands will furnish one copy of each, supplement to the next higher headquarters.

Interim changes. Interim changes are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

Suggested Improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to HQDA (DACA-RPM) WASH DC 20310.

Distribution. Active Army, ARNG, USAR: To be distributed in accordance with DA Form 12-9A requirements for AR, Management-C.

Contents (Listed by paragraph and page number)

*This regulation supersedes AR 5–4, 4 September 1973, including the DAMRIP reporting requirements (RCS CSCAM–197) and rescinds DA Forms 4133, 4134, and 4136; ltr, DAMA–PPP–C, 22 Aug 74, subject: Capital Investment Opportunities Program; Msg HQDA (DACA–PI) 171612Z Dec 74, subject: Interin Change to AR 5–4, 4 Sep 73; Msg, HQDA (DACA–MP), 302129Z June 75 subject: Department of the Army Management Review and Improvement Program Report; Msg, HQDA (DACA–MP), 090123Z Jul 75, subject: Department of the Army Management Review and Improvement Program Report; Msg HQDA (DACA–MP), 291401Z Aug 75, subject: Presidential Management Improvement Award; HQDA Ltr 5–75–4, 16 Sep 75, subject: Restructure of the Departmnet of the Army Management Review and Improvement Program; HQDA Ltr 5–75–6, 12 Dec 75, subject: Quick Return on Investment Program.

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Chapter 1
GENERAL

1–1. Purpose. This regulation—

a. Establishes the Department of the Army Productivity Improvement Program (DAPP).

b. ★Implements Department of Defense Directive 5010.31, Productivity Enhancement, Measurement and Evaluation Policies and Responsibilities and Department of Defense Instruction 5010.34, Productivity Enhancement, Measurement, and Evaluation - Operating Guidelines and Reporting Instructions, and Department of Defense Instruction 5010.36, Productivity Engineering Capital Investments.

c. Implements Department of Defense Directive 5010.8, Department of Defense Value Engineering, and Department of Defense Instruction 7110.2, Budget Guidance for Value Engineering.

d. DODD 5010.28, Department of Defense Management Review and Improvement Program.

1–2. Background.

a. Responsive and economical management has always been a primary Army concern. Over the years many Army programs, both formal and informal, have stressed the urgency of doing a better job. In 1973 these various management improvement programs were integrated into the Department of the Army Management Review and Improvement Program (DAMRIP). Although this unification effort succeeded in eliminating duplication of effort and inter-program competition, operating experience revealed that DAMRIP was administratively expensive and that a number of its program elements were not paying sufficient dividends to warrant their continuation.

b. These insights on the need to streamline DAMRIP coincided with a Department of Defense effort to integrate several related productivity improvement programs. This resulted in establishment of a permanent DOD Productivity Program in 1975.

c. This regulation combines in one publication the policy and guidance necessary for the establishment and conduct of the DAPP. It includes only those former DAMRIP elements which have demonstrated the potential to yield a substantial return on investment.

1–3. Scope.

This regulation covers the policies, responsibilities, procedures and reporting instructions of the DAPP and applies to the Active Army, Army National Guard and US Army Reserve. The applicability of each DAPP element to specific organizations /functions is prescribed in chapters 2 through 6.

1–4. Explanation of terms.

For the purpose of this regulation, the terms in AR 310-25 and appendix B apply.

1–5. Objectives.

The objectives of DAPP are to—

a. Achieve optimum productivity improvement.

b. Reduce the overall cost of Army operations, supplies, and services.

c. Provide a capability for improving management and operating practices throughout the Army.

d. Stimulate the initiation of productivity improvement actions.

e. Attain the highest possible level of Army readiness with available resources.

1–6. Concept.

a. DAPP is designed to enhance productivity at all organizational levels through improved management and operating practices and by stimulating the initiation of positive productivity improvement actions. The program consists of the following elements:

(1) Productivity Measurement and Evaluation.

(2) Methods and Standards.

(3) Value Engineering.

(4) ★Productivity Capital Investments.

(5) Management Practices.

b. The program includes proven management techniques which can provide a high payoff in terms of increased productivity, reduced costs, better service, and improved quality.

c. Effective implementation of DAPP requires well-trained, highly motivated, and highly skilled personnel. To assist commanders in meeting this requirement, the DA Pamphlet 5-4 series has been developed (see para 6-2d).

d. Except for the Value Engineering (VE) Program, responsibility for the DAPP effort is normally assigned to comptroller office at all organizational levels. Responsibility for VE is normally assigned where it can function independent of specialized functional interests and provide maximum effectiveness.

1–7. Policy.

a. DAPP will be given priority emphasis at all DA organizational levels in order to attain the highest possible level of Army readiness with available resources.

b. Each Army MACOM/separate agency will establish a productivity program which, as a minimum, includes:

(1) A system for measuring, evaluating, and improving productivity.

(2) Use of all available means, disciplines, and techniques (such as industrial engineering, management engineering, value engineering, economic analysis, program review and analysis, and incentive awards programs) to improve productivity.

(3) A methods and standards improvement effort to include periodic in-depth methods reviews of all applicable major functions and operations and appropriate use of objectively derived labor performance standards.

(4) A capital investment planning and financing program which insures the timely identification and funding of quick return on investment opportunities.

(5) Development, evaluation, and use of productivity trend data in resource planning and control (i.e., budget formulation and manpower requirements determination).

(6) Periodic evaluation of progress to insure achievement of appropriate levels of productivity consistent with the attainment of effectiveness objectives.

(7) Emphasis on motivating each employee to be alert to the development and application of better ways to manage day-to-day operations. This includes improvement of operating procedures and techniques, and elimination of duplicative and unessential activities.

(8) A program to cross-train management analysts, industrial engineers, and related personnel in all DAPP disciplines/techniques. This cross training will allow commanders to maximize the use of management resources and help preclude the requirement for additional personnel to handle all of the DAPP elements.

(9) Timely formal and informal recognition of individuals, groups, or organizations who contribute, in an exceptional manner, to increased effectiveness and economy of operations through productivity improvement efforts (see AR 6-12-20).

(10) Validation of savings reported from productivity improvement actions by an independent unit other than the reporting unit. This is to insure that reported accomplishments are accurate and that the impact of actual costs and savings is considered in the budget formulation and execution process.

(11) Provision of training for first-line managers/supervisors in management practices techniques (DA Pam 5-3, DA Pam 5-3-1), as appropriate, which is included in basic supervisor training required by Civilian Personnel Regulation (CPR) 410, Federal Personnel Manual (FPM 410-A-2e(2)).

1–8. Responsibilities.

a. Headquarters, Department of the Army.

(1) Comptroller of the Army—

(a) Serves as the Army Program Director for the DAPP.

(b) Develops and disseminates productivity improvement and value engineering doctrine.

(c) Establishes overall policy and technical guidance on the implementation of the DAPP.

(d) Disseminates instructions on the annual productivity data call and productivity goal setting efforts.

(e) Prepares and submits the annual productivity measurement and value engineering reports to OSD.

(f) Reviews, consolidates, and submits to OSD annual productivity goals developed by HQDA functional area proponents.

(g) Provides for DA and Presidential recognition for exceptional productivity improvement efforts.

(h) Administers the Army-wide distribution of productivity and value engineering improvement ideas.

(i) Provides General Staff supervision of management practices techniques and training.

(j) Designates a productivity principal who will represent DA on productivity requirements initiated by OSD or other Federal agencies and coordinate overall DAPP efforts.

(k) Analyzes productivity trend data and identifies functional areas needing management improvement.

(2) The Deputy Chief of Staff for Personnel—

(a) Has Army Staff responsibility for approval of all staffing guides developed by major commands.

(b) Will formulate, disseminate, and maintain Army policy on staffing guide development.

(c) Will coordinate the interface of the DAPP methods and standards effort with the staffing guide development process.

(3) All HQDA Staff elements within their respective areas of responsibility will—

(a) Develop and submit to COA (DACA-MP) annual productivity goals and related accomplishments in their Army-wide functional areas of responsibility (chap. 2).

(b) Submit to COA (DACA-MP) annual Army-wide productivity data in their functional areas of responsibility which are susceptible to measurement (chap. 2).

(c) Emphasize use of methods and standards (chap. 3), value engineering (chap. 4), and quick return on investment efforts (chap. 5) within their areas of interest, where applicable.

(4) Chief, National Guard Bureau will issue implementing instructions modifying the DAPP to meet Army National Guard special management, requirements.

b. MACOMs/separate agencies will—

(1) Implement an effective Productivity Improvement Program which fulfills the policies prescribed in paragraph 1-7b and the requirements contained in chapters 2 through 6 of this regulation.

(2) Submit DAPP reports to HQDA as prescribed in paragraph 1-10 and chapters 2 through 6.

c. US Army Training and Doctrine Command-

(1) Is assigned prepotency for management practices publications to include maintenance of visual aids and publications; i.e., DA Pam 5-3 and DA Pam 5-3-1.

(2) Is responsible for preparing management practices (MAP-TOE/TDA) subject matter for presentation to military personnel attending Army Service Schools, NCOES, and the Sergeant Majors Academy.

d. US Army Materiel Development and Readiness Command will finance and provide DOD training in work methods and standards; the development and use of standard data; value engineering; and productivity measurement and evaluation.

1–9. Relationship to Civilian Supervisor Development Program.

Civilian Personnel Regulation (CPR) 400 (para 10-le, chap. 410) requires that civilian supervisors complete DA Civilian Personnel Pamphlet (CPP) 41-B Supervisor Development Program. The Federal Personnel Manual (FPM) issued by the US Civil Service Commission further requires that work planning and control be included in such programs (see FPM 410-A-2e (2) and FPM 410-A-3b (4)). Accordingly, training provided through civilian personnel offices to meet the CPR/FPM requirements should be integrated with that established by this regulation.

1–10. Reporting.

a. The DAPP reporting system requires submission of information/data for each program element. See schedule outlined in table 1-1.

b. All MACOMs, separate agencies and HQDA Staff elements assigned responsibilities under paragraph 1-8 will submit reports to HQDA (DACA-MP) WASH DC 20310 as outlined in table 1-1. Specific instructions for the preparation and submission of each report are contained in the pertinent chapters.

Table 1–1
DAPP Reporting system schedule

Program Element	*RCS*	*Frequency*
Productivity Measurement and Evaluation (chap. 2)	0002–GSA–AN	Annual
Productivity Goal Setting (chap. 2)	0002–GSA–AN	Annual
Methods and Standards (chap. 3)	CSCOA–19	Semiannual
Value Engineering (chap. 4)	DD–I&L(SA&A) 1138	Semiannual
★Productivity Capital Investment Programs (chap 5)	See figure 5–2.	
Presidential Management Improvement Awards (chap. 6)	Exempt	Annual

Chapter 2
PRODUCTIVITY MEASUREMENT AND EVALUATION PROGRAM

Section I
GENERAL

2–1. General.

a. Productivity may be broadly defined as the efficiency with which resources are utilized to accomplish a given mission. Productivity improvement efforts are actions designed to increase productivity-increase the amount of goods produced or services rendered (outputs) in relation to the amount of resources expended (inputs). Productivity measurement is a determination and comparison of output-input relationships for two or more periods of time. Productivity evaluation is an assessment of productivity changes in relation to established goals, objectives, and resources expended.

b. Organizations must be both effective-accomplish the right things, in the right quantities, at the right times-and efficient-accomplish the right things with the lowest possible expenditure of resources. The efficiency with which organizations utilize all types of fund resources (operating and investment) to accomplish their mission represents total resource productivity. The efficiency with which organizations utilize labor resources to accomplish their mission represents labor productivity.

2–2. Scope.

The Productivity Measurement and Evaluation Program applies to those functional areas listed in figure 2-1. Normally it does not apply to tactical (TOE) mission areas. Additional areas susceptible to coverage under this effort will be added as warranted.

2–3. Management requirements.

Productivity measures and related analyses provide a framework for and complement the use and evaluation of other management tools such as work measurement, methods analysis, value engineering, work simplification, quality control, and job enrichment. Within this framework, commanders and managers at all organizational levels will—

a. Review and examine trends in order to isolate and correct problems which are blocking productive results (e.g., under utilization of capacity, improper distribution of work, need for more capacity).

b. Validate the quantitative output measure (unit of work) to accurately represent the work being done in the activity, function, or organization.

c. Forecast the need and obtain the correct level of resources to accomplish mission tasks that may be expressed in terms of output desired.

d. Develop statistical standards, factors, and relationships for use in setting goals and for monitoring the use of resources during the execution of mission tasks.

Section II
REPORTING OF PRODUCTIVITY DATA

2–4. General.

Productivity reporting is an integral element of the DA Productivity Improvement Program. It is necessary in order to satisfy a Government–wide requirement levied on all executive departments and agencies and to provide data for internal DOD management purposes. Reports Control Symbol 0002-GSA-AN applies to all productivity reporting required in this chapter. Classified data will not be reported under this requirement.

2–5. Uses.

Productivity data reported under this chapter will be used for the following purposes:

a. To provide useful management information to all levels of Government on the relative trends of the efficiency of Army operations.

b. To disclose productivity trends by major program or functional area on a consistent basis and enable managers to take steps to influence or change undesirable trends.

c. To provide managers with an assessment of the benefits or lack of benefits resulting from past actions, such as investments in labor-saving equipment, automation projects, changes in organizations and systems, and changes in workforce numbers and skill levels.

d. To integrate productivity considerations and data into the Army's budgeting and manpower planning processes at all organization levels.

e. To develop productivity indexes for the Federal sector.

f. To determine the extent of organizational and functional productivity coverage within Army.

2–6. Structure.

a. As a minimum, the DA productivity program will provide for the measurement and evaluation of productivity in each functional area listed in figure 2-1. This will require the establishment and use of summary level indicators (performance factors) which represent true measures of the prime mission of each functional area and the accumulation of output and input data for each indicator. Normally, a separate measurement indicator should be established for each major product produced or service rendered within the functional area. New indicators should be established whenever a significant change occurs in the type of products produced or services rendered. The HQDA agency proponent listed in figure 2-1 will determine which indicators are most appropriate for the reported area. These indicators must be used consistently throughout all Army organizations having the same or similar function.

b. Where possible, HQDA agency proponents listed in figure 2-1 will obtain Army-wide productivity data for their functional areas of responsibility from existing manpower, financial, and functional management information systems, or through modification of such systems (e.g., CSFOR-78 Manpower Utilization and Requirements Report, Year-End 218 Report and Technical Data Reports). New reporting systems/requirements will not be imposed on MACOMs unless it is the only way to obtain the data. Manpower resources (both military and civilian) expended in each area will be quantified in terms of man-years and accumulated for each indicator or allocated to each indicator on a consistent basis from year to year.

c. COA will initiate the annual productivity reporting cycle (data call) during the first quarter of each fiscal year covering the prior fiscal year. Special instructions will be issued, as necessary, to supplement those prescribed in this chapter.

d. The HQDA functional area proponents listed in figure 2-1 will submit productivity data exhibits (fig. 2-2) to COA according to the due dates indicated below. If an area has been determined to be susceptible to measurement, but productivity data are not yet available, the proponent will report progress towards this objective and advise when (which FY) the data will be initially reported. If an area is determined to be "Nonmeasurable," the proponent will develop and submit adequate rationale to support this conclusion.

Table 2–6
Productivity data exhibit due dates

Exhibit	*Due Date*	*Responsible Agency*
A & B*	120 days after end of FY	COA
A*, C, C–1, & D	60 days after end of FY	HQDA Functional Area Proponent
E, E–1, & E–2	14 days after receipt of agency listings	HQDA Functional Area Proponent

* HQDA functional area proponents are responsible for preparing an Exhibit A for each functional area reported. The entire format will be completed except for the "Paid Civilian Man-years" column. COA is responsible for preparing a summary Exhibit A and Exhibit B using information provided by functional area proponents and paid civilian man-year data provided by the US Army Finance and Accounting Center.

2–7. Establishment of goals.

The HQDA agency proponents listed in figure 2-1 will establish demanding annual productivity improvement goals for each functional area and monitor progress to insure their achievement.

a. Goals will be consistent with planning and programming guidance issued by OSD.

b. In setting goals for a specific FY, considerations will include planned management actions, workload projections, and the requested budget program which will impact during the year.

c. Goals will be stated in terms of increasing efficiency rather than effectiveness (see para 2-1).

2–8. Submission of goals.

a. HQDA functional area proponents will submit their productivity improvement goals to HQDA (DACA-MP) 20-working days prior to the beginning of the FY, using the format shown in figure 2-3. RCS 0002-GSA-AN applies.

b. COA will review, consolidate, and prepare the goals for submission by the Secretary of the Army to the Secretary of Defense by 31 October annually.

Functional Areas Susceptible to Productivity Reporting*

Function	*Code*	*HQDA Agency Proponent*
Communications		
Communications—Base Level Communications Activities	1110	HQDA (ODCSOPS)
Communications—Defense-Wide Communication Systems	1120	HQDA (ODCSOPS)
Comptroller		
Auditing—Internal Auditing	2120	HQDA (OTIG)
Financial—Base Level Accounting & Finance Activities	2210	HQDA (OCA)
Financial—Centralized Accounting & Finance Activities	2220	HQDA (OCA)
Other—Automatic Data Processing	2310	HQDA (DMIS)
Logistics		
Facilities—Real Property Maintenance Activities	3110	HQDA (OCE)
Maintenance—Administrative Use Motor Vehicles Maintenance	3210	HQDA (ODCSLOG)
Maintenance—Depot Maintenance	3220	HQDA (ODCSLOG)
Maintenance—Intermediate Maintenance	3240	HQDA (ODCSLOG)
Procurement—Central Procurement	3310	HQDA (ODCSLOG)
Procurement—Local Procurement	3330	HQDA (ODCSLOG)
Supply—Depot Level Supply Activities	3410	HQDA (ODCSLOG)
Supply—Inventory Control Activities	3420	HQDA (ODCSLOG)
Supply—Local Supply Activities	3430	HQDA (ODCSLOG)
Transportation—Administrative Use Motor Vehicle Operation	3510	HQDA (ODCSLOG)
Transportation—Base Transportation & Traffic Mgmt	3520	HQDA (ODCSLOG)
Transportation—Single Manager Transportation & Traffic Management	3540	HQDA (ODCSLOG)
International—Support of Other Nations	3550	HQDA (ODCSLOG)
Manufacturing		
Manufacturing—Munitions Development & Production	4310	HQDA (ODCSRDA)
Manufacturing—Weapons Development & Production	4410	HQDA (ODCSRDA)
Manufacturing—Industrial Preparedness	4520	HQDA (ODCSRDA)
Medical		
Medical Services—Clinics	5110	HQDA (OTSG)
Medical Services—Hospitals	5120	HQDA (OTSG)
Personnel		
Management—Civilian Personnel Management	6210	HQDA (ODCSPER)
Management—Military Personnel Management	6220	HQDA (MILPERCEN)
Support—Information Activities	6310	HQDA (OCINFO)
Support—Library Activities	6320	HQDA (OTAG)
Support—Recreation Activities	6330	HQDA (OTAG)
Support—Other Personnel Support Activities	6340	HQDA (ODCSPER)
Training—Military Training	6410	HQDA (ODCSPER)
Procurement—Recruiting & Examining	6510	HQDA (ODCSPER)
Services		
Services—Commissary Activities	8510	HQDA (ODCSLOG)
Services—Food Service Activities	8520	HQDA (ODCSLOG)
Services—Laundry & Dry Cleaning Operations	8530	HQDA (ODCSLOG)
Services—Printing & Duplication Activities	8540	HQDA (OTAG)
Other		
Administration—Base Administration & Management	9110	HQDA (OCA)
Administration—Command Administration & Management	9120	HQDA (OCA)
Administration—Dept/Agency Administration & Management	9130	HQDA (ODCSOPS)
National Guard—Technician Work Force	9310	HQDA (NGB)
Industrial—Governed-Owned, Contractor-Operated Facilities	9910	HQDA (ODCSRDA)

* List is not necessarily all-inclusive. If additional functional areas are determined to be susceptible to productivity measurement, COA (DACA-MP) will incorporate them in the annual DA productivity-reporting cycle.

Figure 2-1. Functional Areas Susceptible to Productivity Reporting

Exhibit A—Summary of Man-years by Organizational Elements (fig. 2–2A). This exhibit will be used to recap the man-year data for each MACOM/ agency. For the "Year-end Strength" show the number of personnel authorized at end of FY. For the "Paid Civilian Man-years" show the man-year data reported on Exhibit A–1 of the report submitted under the provisions of OMB Circular No. A–93, Reports on Man-years and Personnel Costs for Federal Civilian Employment. For the "Measured Man-years" show the total man-years measured (Paid Civilian, Military, and Indirect Hire Foreign Nationals) for each organizational element.

Exhibit B—Summary of Measured Man-years by Function (fig. 2–2B). This exhibit will be used to recap the measured man-years by functional area. The man-year data for each function must agree with the data reported on Exhibit C for each function.

Exhibit C—Input/Output Data (fig. 2–2C). This exhibit will be used to report quantitative input/output data. A separate exhibit will be prepared for each functional area covered by productivity measurement.

Exhibit C–1—Description of Indicators (fig. 2–2D). This exhibit will be used to describe new indicators established during a reporting period and to revise the description (as necessary) of any indicators reported in a prior period.

Exhibit D—Revision of Input/Output Data Submitted in Prior Years (fig. 2–2E). This exhibit will be used to report changes in input/output which were submitted in a prior year and the reasons necessitating the change.

Exhibit E—Productivity Data Verification, Analysis, and Outlook (fig. 2–2F). This exhibit will be used to report: (1) whether the agency productivity listing (provided from the Bureau of Labor Statistics (BLS) data bank) is correct; (2) whether the productivity indices are representative; and (3) the productivity outlook for the future. A separate exhibit will be submitted for each function.

Exhibit E–1—Changes Required in BLS Data Bank (fig. 2–2G). This exhibit will be used to report changes which should be made in the BLS data bank.

Exhibit E–2—Productivity Analysis (fig. 2–2H). This exhibit will be used to explain productivity indices which are not considered representative and to describe factors which caused either an increase or decrease of more than 5 percent in productivity.

Figure 2-2. Productivity Reporting Formats

EXHIBIT A

SUMMARY OF MANYEARS BY ORGANIZATIONAL ELEMENTS

_____

(DoD Component)

Fiscal Year ____

Organizational Element	Year-end Strength			Paid Civilian Manyears			Measured Manyears			
	Total	Civilian	Military	Total	Basic	Premium	Total	Paid Civilian	Military	Foreign Nationals
1.										
2.										
3.										
4.										
Total										

Figure 2-2A. Exhibit A

EXHIBIT B
SUMMARY OF MANYEARS BY FUNCTION
Fiscal Year 197_

ARMY
(DOD Component)

FUNCTION		MANYEARS			
			Paid		Indirect
No.	Title	Total	Civilian	Military	Hires
1110	Base Communications Activities				
1120	Defense-Wide Communication Systems				
2120	Internal Auditing				
2210	Base Accounting and Finance				
2220	Centralized Accounting and Finance				
2310	Data Processing				
3110	Real Property Maintenance Activities				
3210	Adm. Motor Vehicle Maintenance				
3220	Depot Maintenance (Other than Ships)				
3240	Intermediate Maintenance				
3310	Central Procurement				
3330	Local Procurement				
3410	Depot Supply Activities				
3420	Inventory Control Activities				
3430	Local Supply Activities				
3510	Adm. Motor Vehicle Operation				
3520	Base Transportation and Traffic Mgmt.				
3540	Single Mgr. Trans. and Traffic Mgt.				
3550	Support of Other Nations				
4310	Munitions Development and Production				
4410	Weapons Development and Production				
4520	Industrial Preparedness				
5110	Medical Services (Clinics)				
5120	Medical Services (Hospitals)				
6130	Professional Education				
6210	Civilian Personnel Management				
6220	Military Personnel Management				
6310	Information Activities				
6320	Library Activities				
6330	Recreation Activities				
6340	Other Personnel Support Activities				
6410	Military Training				
6510	Recruiting and Examining				
8510	Commissary Activities				
8520	Food Service Activities				
8530	Laundry and Dry Cleaning Operations				
8540	Printing and Duplication				
8560	Studies (Storage, Retrieval and Analysis)				
9110	Base Adm. and Management				
9120	Command Adm. and Management				
9130	Dept. Adm. and Management				
9310	NG Technician Work Force				
9910	GOCO Facilities				
		_____	_____	_____	_____
	Total Manyears - Measured Functions	_____	_____	_____	_____

Figure 2-2B. Exhibit B

EXHIBIT C

FY 197_ INPUT/OUTPUT DATA

_____
(DoD Component)

_____
(Function - Number and Title)

		Output Quantity (000)	Manyear Inputs (000)	Compensation (000)
A.	Direct Manyears Indicator			
	1.			
	2.			
	3.			
	4.			
	5.			
	Total Direct Manyears			
B.	Indirect Manyears			
C.	Total Manyears			
D.	Breakdown of Manyears			
	1. Paid Civilian Manyears			
	2. Military Manyears			
	3. Indirect Hire Foreign National Manyears			
	Total Manyears			

E. Other Data

	Yes	No
1. Did any significant quality or process changes occur during the year?		
2. Were there any major capital expenditures during the year which impacted on current year performance?		
3. Did any significant product mix changes occur during the year?		
4. Did any significant change in the ratio of workload performed inhouse to contracted out occur during the year?		

NOTE: Provide a complete explanation for each "yes" answer.

Figure 2-2. Exhibit C

EXHIBIT C-1
DESCRIPTION OF INDICATORS

_____
(DoD Component)

_____
(Function - Number and Title)

Indicator	Description

Figure 2-2D. Exhibit C-1

EXHIBIT D
REVISION TO INPUT/OUTPUT DATA
SUBMITTED IN PRIOR YEARS

_____
(DoD Component)

_____
(Function - Number, Title, and Output Indicator)

	Fiscal Year					
	1972	1973	1974	1975	1976	1977
A. DATA						
1. Output Quantity						
a. Old						
b. Revised						
2. Manyear Input						
a. Old						
b. Revised						
3. Compensation						
a. Old						
b. Revised						
B. Reason for Change (Provide concise explanation)						

Figure 2-2E. Exhibit D

EXHIBIT E-2
PRODUCTIVITY ANALYSIS

_____
(DoD Component)

_____
(Function - Number and Title)

A. Productivity Index

Direct Manyear Productivity Index

Total Manyear Productivity Index

B. Productivity Analysis

1. Are the "current year" indexes representative of the productivity trends for the function? _____ (yes) _____ (no)

   If "no" provide concise explanation.

2. Briefly describe the factors or conditions which caused a productivity change of more than 5% during the current year.

Figure 2-2H. Exhibit E-2

1. *FUNCTIONAL AREA:* (Enter title and code number from fig. 2–1).

2. *FISCAL YEAR:* (Enter the FY which the productivity goals cover).

3. *OVERALL QUANTITATIVE PRODUCTIVITY IMPROVEMENT GOAL:* (Enter expected percentage of productivity increase for the function, Army-wide, for the FY; e.g., +3%. If productivity is expected to remain the same or decline, explain briefly).

4. *SPECIFIC PRODUCTIVITY IMPROVEMENT GOALS:*

a. List concisely all major management actions which are expected to increase productivity during the FY. For actions which overlap more than one FY (e.g., multiyear automation or modernization projects or phased personnel reductions resulting from organizational realignments), address those aspects which will occur during the FY).

b. Examples of types of actions which should be reported include: reorganizations, workload realignments, modernization programs, technical innovations, automation projects, major capital investments, and personnel reductions).

c. Actions will be concrete, specific, and, where applicable, quantified. As appropriate, in narrative format, include the project title, purpose, cost, projected savings (dollars and personnel spaces), affected organizations (Army-wide or specific MACOMs/installations), and expected impact on productivity.

5. *ACTION OFFICER:* (Enter name, phone extension, and room number of person who can be contacted for further information).

Figure 2-3. Format for Annual Functional Area Productivity Goals.

Chapter 3
METHODS AND STANDARDS PROGRAM

3–1. General.

a. Productivity improvement is largely dependent on an aggressive Methods and Standards (M&S) effort. This effort will result in productivity enhancing method improvements and will assist productivity evaluation at the work center level through the availability of detailed standards developed through the application of approved industrial/management engineering techniques.

b. Methods analysis and improvement, work measurement, and standards development are results-oriented and totally interrelated and interdependent. All have a direct bearing on personnel resources and their output in conjunction with money, material, and equipment. In summary, M&S is an integrated people-oriented activity that must show results in the form of increased productivity.

c. In recognition of the need for an M&S effort, Army established work measurement and related methods analysis activity during the 1960's. The most recent formal effort was labeled the Defense Integrated Management Engineering System (DIMES). The M&S effort directed by this regulation is compatible with former DIMES efforts. It complements this effort, provides some clarifying guidance based on "lessons learned" in the past, and provides for a more direct and positive interface with the Army's overall productivity improvement effort.

d. M&S activity is concerned with-

(1) The analysis and improvement of existing operational methods and procedures employed in applicable functional areas (see para. 3-2) at all organizational levels of the Army,

(2) The development of detailed performance standards applicable to tasks accomplished in accordance with established and documented methods and procedures, and

(3) The development of a management information system to utilize these data to meet performance evaluation, work planning and control, manpower determination, and budget preparation requirements.

e. The normal functions of an M&S staff are to analyze and improve existing methods and to measure work performed in accordance with the improved methods. Projects requiring extensive engineering effort which exceed the capability of this staff normally will be accomplished through other means. These engineering activities should, however, be fully coordinated with the M&S staff during planning and implementation.

f. MACOMs/agencies will establish an M&S effort as outlined above and in accordance with the provisions of paragraph 3-5. Responsibility and authority for this effort will be assigned to a single MACOM staff agency. Adequate personnel resources should be provided to carry out the total M&S effort. Centralization of M&S expertise in a single organizational entity affords both technical and managerial advantages. They are—

(1) Managerial—

(a) Provides better, more efficient control of the effort through established functional channels of communication.

(b) Reduces administrative costs.

(c) Facilitates faster, more positive responses to the commander's desires.

(d) Minimizes the potential for fragmented responses to difficult methodology or work measurement demands.

(e) Increases the likelihood of adequate clerical and statistical support.

(f) Provides basis for more effective coordination of M&S training.

(g) Establishes framework for recruiting, training, and utilizing the M&S staff.

(h) Enhances the probability of utilizing this staff on M&S related tasks.

(2) Technical-

(a) Reduces the difficulty in maintaining a uniform and standard concept of normal performance among M&S analysts (i.e., pace rating/leveling).

(b) Facilitates evaluation of the quality of input because of centralized control and review,

(c) Increases the probability of standard data development.

g. MACOM commanders are responsible to HQDA for M&S activity. Centralization of M&S authority, responsibility, and personnel, as described above, is normally in the comptroller organization.

3–2. Scope.

The Methods and Standards Program applies to only those functional areas which are characterized by repetitive operations and a stable work force (e.g., industrial, maintenance, and base operations-type functions). Normally it does not apply to tactical (TOE) units. Feasibility studies will be conducted to determine the applicability of the M&S Program to a particular functional area/activity as prescribed in paragraph 3-5b.

3–3. Objectives.

The objectives of the Army Methods and Standards Program are to—

a. Provide for the development of performance/staffing standards through the application of accepted industrial/

management engineering techniques, which will serve as a basis for performance measurement and resource evaluation systems.

b. Promote increased productivity and efficiency in the use of resources, to include manpower, equipment, facilities, materials, and funds, by improving methods, procedures, layouts, and working conditions.

c. Provide current and reliable reference data with which—

(1) Personnel staffing requirements for current and projected workload can be determined.

(2) Equipment and facility requirements can be validated for current or projected operations, and for modernization programs.

(3) Program execution can be more readily subjected to review and analysis at each successive level of management.

(4) Standard cost accounting systems can be developed.

(5) Work can be scheduled and controlled.

(6) Budgets can be developed.

d. Develop a labor and production-reporting system which will provide auditable output measures for analysis and evaluation of organizational performance and work planning and control.

e. Develop an integrated work measurement and manpower management program to justify and appropriately distribute manpower resources.

3–4. Definitions.

The definitions applicable to this chapter are as provided in AR 310-25, DOD 5010.15.1-M, and appendix B, this regulation.

3–5. Policies and procedures.

a. MACOMs will apply appropriate industrial/management engineering techniques to improve work methods and procedures, establish detailed standards, and measure the efficiency with which work is performed and resources are applied in all applicable functions and activities. Commanders will establish M&S projects based on feasibility study findings. Detailed standards data will be structured to facilitate summarization (roll-up) to a higher order compatible with successive levels of management for use on determining manpower, funding, and material requirements, and to plan, schedule, and control work.

b. Documented feasibility studies (app B) will be developed and maintained for all organizational levels having functional activities which fall within the scope of the M&S Program. Maintenance and necessary revision will be accomplished as needed due to changes in organization, staffing, methods, procedures, and standards. An overall review of the feasibility study will be accomplished at least every 3 years.

c. M&S activities will be fully coordinated with functional managers before, during, and after specific projects. Proposed methods improvements will be submitted to functional managers for review, concurrence, and implementation. Methods descriptions/standing operating procedures, and detailed standards will be submitted to functional managers for review, concurrence on methods and workload mix, and validation of the fact that, at the time the work was measured, tasks were being accomplished in accordance with prescribed methods and that the period studied was representative in terms of workload and mix. Nonconcurrence in either a proposed method change or on workload mix by functional managers will be subject to further review prior to submission to higher authority for final approval. After completion of specific projects, the results will be provided to organizations responsible for manpower requirements and utilization, mission and organization, position and pay management, and budget matters, as appropriate.

d. There are two primary purposes for methods analysis. They are—

(1) To improve methods in response to a need as proposed by functional management, as identified by a feasibility study, or as highlighted from other sources such as external reviews, audits, and inspections.

(2) To standardize and document methodology and to familiarize the M&S analyst with the task to be measured prior to work measurement and standards development in order to assure that reasonably efficient methods arc used.

e. Methods analysis will be conducted prior to the development of detailed standards. Upon implementation of methods improvements resulting from this analysis, an appropriate learning period should be allowed prior to the establishment of performance standards.

f. Trained M&S analysts (industrial engineers/technicians and management analysts) will conduct systematic, organized methods analyses and develop standards. As a minimum, analysts should have successfully completed the US Army Management Engineering Training Agency (USAMETA) Defense Work Methods and Standards Course before measuring work and setting standards, and the Defense Work measurement and Standard Time Data (DWMSTD) Course before utilizing DWMSTD data in setting standards.

g. Functional managers will coordinate organizational, staffing, equipment, layout, or procedural changes with the M&S staff. They will assist in development of work units and work activity definitions. This is necessary to confirm anticipated benefits and to maintain control of and assure the validity of man–hour standards.

h. Detailed standards will be categorized as either engineered or Nonengineered (see definitions in app B). Because the cost to develop a standard normally determines the precision of the standard and engineered standards are more

precise than nonengineered standards. The determination of the mix of engineered and nonengineered standards will be based on economic factors and local requirements. Once determined, the appropriateness of the mix will be reviewed periodically, as will the validity of the standards themselves. As a minimum, this will be accomplished at least every 3 years and will consist of a review of methods and a determination of work measurement feasibility. Once established, detailed standards will not be changed unless methods change, or a change in the mix of tasks which constitute the basic work unit occurs.

i. Once detailed standards are developed and are properly maintained, they will be used to develop summary standards for support of local manpower requirement determinations and eventual summarization to DA Staffing Guide yardsticks. Both DA Staffing Guide yardsticks and local summary standards developed in accordance with this regulation may exist for a given function. If, during a manpower survey, their application yields different determinations of manpower requirements, the detailed and related summary standards will be examined jointly by the manpower survey team, M&S, and functional personnel to assure validity. When validated, summary standards will be used in lieu of the DA Staffing Guide yardsticks to develop recommended manpower requirements. The application of summary standards to determine manpower requirements will be limited to those installations or activities for which they were developed and/or for which they have been validated through the manpower survey process described above, or through the evaluation of an Interim Schedule X (AR 570-4). Commands or activities having manpower survey approval authority will determine whether there are standards summarizations appropriate for use as DA Staffing Guide yardsticks and will submit, as applicable, a recommended change to an existing DA Staffing Guide or a proposed DA Staffing Guide for an organization and its functions not included in the current DA Staffing Guide program.

j. By the very nature of their work, M&S analysts should be directly involved in the Army's Quick Return on Investment Program (chap. 5). They should be a prime source of quick-return projects through their methods analysis effort. The development and use of man-hour performance standards will support the evaluation of quick return projects.

k. All M&S activity will be supported by, appropriate documentation. Methods analysis results will include, as a minimum, detailed methods description of both the present and proposed method, the benefits to be derived from implementation of proposed improvements, and, as appropriate, the status of implementation up to and including actual results, when available. Man-hour performance standards will support, as applicable, by—

(1) Time study rating sheets and computations, including allowances and adjustments.

(2) Flow charts and methods descriptions.

(3) Sketches of layouts, tools, and equipment where they influence methods and standards.

(4) Standard time data sheets.

(5) Pace-rated work sampling sheets.

(6) Source of data.

(7) Individuals participating in the development of technical estimates.

(8) Standards summary sheets giving the name and adequate description of the standard, the work unit, and related tasks; the point of count; the point of audit; the production rate per hour; the standard in decimal hours; date established: organization and/or cost work center; and authorization/concurrence/non-concurrence by competent authority with dates of actions.

l. Administrative costs can be reduced if host installations will provide M&S support for tenant activities. The host installation's M&S office will provide this support to Army tenants and National Guard and Army Reserve units upon request. Support will be in accordance with priorities based on feasibility studies and economic analyses and should be formalized between MACOMs by a written agreement. If the local commanders cannot agree on M&S support arrangements, the matter will be referred through channel; to their MACOM headquarters for resolution. If the MACOM commanders cannot reach agreement, the matter will be referred to HQDA (DACA&MP), for resolution.

m. Maximum utilization of man-hour performance standards will be accomplished concurrently with implementation of standard methods to the maximum degree practical. Functions which could reasonably be expected to be accomplished at more than one installation within a MACOM, or throughout more than one MACOM, will be considered candidates for MACOM-wide or Army-wide performance standards. Army/MACOM-wide standards will be developed to the maximum extent practicable and coordinated with MACOM/agency manpower and budget personnel and HQDA (DACA-MP).

n. Detailed standards will be structured by the M&S staff so that they will assist manpower, budget, functional, and managerial personnel at all levels. Work units must be coordinated with all potential users of the detailed and summary standards to be developed. Every effort should be made to develop this capability related summary standards will be examined jointly by the manpower survey team, M&S, and functional personnel to assure validity. When validated, summary standards will be used in lieu of the DA Staffing Guide yardsticks to develop recommended manpower requirements. The application of summary standards to determine manpower requirements will be limited to those installations or activities for which they were developed and or for which they have been validated through the manpower survey process described above, or through the evaluation of an Interim Schedule X (AR 570-4) Commands or activities having manpower survey approval authority will determine whether there are standards summarizations appropriate for use as DA Staffing Guide yardsticks and will submit, as applicable, a recommended change to an

existing DA Staffing Guide or a proposed DA Staffing Guide for an organization and its functions not included in the current DA Staffing Guide program.

j. By the very nature of their work, M&S analysts should be directly involved in the Army's Productivity Capital Investment Programs (chap. 5). They should be a prime source for fast payback projects analysis effort. The development and use of man-hour performance standards will support the evaluation of quick-return projects.

k. All M&S activity will be supported by appropriate documentation. Methods analysis results will include, as a minimum, detailed methods description of both the present and proposed method, the benefits to be derived from implementation of proposed improvements, and, as appropriate, the status of implementation up to and including actual results, when available. Man-hour performance standards will be supported, as applicable, by—

(1) Time study rating sheets and computations, including allowances and adjustments.

(2) Flow charts and methods descriptions.

(3) Sketches of layouts, tools, and equipment where they influence methods and standards.

(4) Standard time data sheets.

(5) Pace-rated work sampling sheets.

(6) Source of data.

(7) Individuals participating in the development of technical estimates.

(8) Standards summary sheets giving the name and adequate description of the standard, the work unit, and related tasks; the point of count; the point of audit; the production rate per hour; the standard in decimal hours; date established; organization and /or cost/work center; and authorization/concurrence/non-concurrence by competent authority with dates of actions.

l. Administrative costs can be reduced if host installations will provide M&S support for tenant activities. The host installation's M&S office will provide this support to Army tenants and National Guard and Army Reserve units upon request. Support will be in accordance with priorities based on feasibility studies and economic analyses and should be formalized between MACOMs by written agreement. If the local commanders cannot agree on M&S support arrangements, the matter will be referred through channels to their MACOM headquarters for resolution. If the MACOM commanders cannot reach agreement, the matter will be referred to HQDA (DACA-MP) for resolution.

m. Maximum utilization of man-hour performance standards will be accomplished concurrently with implementation of standard methods to the maximum degree practical. Functions which could reasonably be expected to be accomplished at more than one installation within a MACOM, or throughout more than one MACOM, will be considered candidates for MACOM-wide or Army-wide performance standards. Army/MACOM-wide standards will be developed to the maximum extent practicable and coordinated with MACOM/agency manpower and budget personnel and HQDA (DACA-MP).

n. Detailed standards will be structured by the M&S staff so that they will assist manpower, budget, functional, and managerial personnel at all levels. Work units must be coordinated with all potential users of the detailed and summary standards to be developed. Every effort should be made to develop this capability while providing for standards summarization at the Army Management Structure code level M&S effort using performance factors identified in AR 37-100-FY. The attainment of these goals will require close cooperation and total coordination between manpower, budget, functional, and M&S personnel.

o. Guidance for M&S staffing is available in very broad terms, based on work measurement effort. Normally, one M&S analyst is adequate for each 100 personnel susceptible to engineered standards coverage or for each 400 personnel susceptible to nonengineered standards coverage. Local adjustment factors have to be developed for standards maintenance, and administrative effort.

p. MACOMs will develop procedures whereby M&S data will be made available to functional managers on a regular basis. M&S personnel should coordinate with functional managers during development of procedures for displaying these data in the most useful format possible. As a minimum, a periodic work center report should portray work units accomplished, the standard for the work unit, the resulting earned hours, the actual hours required to produce the work units, and the resulting efficiency index. The performance goal will be 100 percent efficiency with an acceptable tolerance range not exceeding = 20 percent. This does not preclude the establishment of closer tolerances for engineered standards.

q. Provisions for optimum use of standard data will be made. Sources will include standard data developed through the Defense Work Measurement Standard Time Data Program (DWMSTDP) and published in DOD 5010.15.1-M.

r. Savings resulting from M&S actions will be validated to attest to their accuracy, authenticity, and acceptability. Each reported savings will include a budget officer's verification of the accuracy of the computation used to develop the savings and the planned utilization of the savings and its impact on the budget.

3–6. Responsibilities.

a. The Comptroller of the Army—

(1) Has Army Staff responsibility for the M&S effort.

(2) Will administer and provide technical direction for the program, Army-wide.

(3) Will formulate, establish, disseminate, and maintain Army policy on M&S activity.

(4) Will designate a full-time manager of the M&S effort to disseminate policy on his behalf and to serve as Army point of contact for M&S activity.

b. MACOM commanders will—

(1) Designate a single staff element as the technical authority on M&S activities.

(2) Provide positive command and staff support for the development, implementation, maintenance, and utilization of the products of the M&S effort, as prescribed by this regulation.

(3) Assign an adequate M&S staff and assure effective utilization in accordance with this regulation.

(4) Establish controls to insure that M&S policies and procedures as prescribed in paragraph 3-5 of this regulation are implemented.

c. The Commander, US Army Materiel Development & Readiness Command, will develop and distribute Army-wide a quarterly schedule of on-site M&S training courses at least 30 days in advance of scheduled training dates.

3–7. Army facilities engineering.

A comprehensive work management system is currently operative incorporating AR 420-17, Facilities Engineering-Work Management; DA Pam 420-6, The Work Management System; and DA Pam 420-4, Work Sampling. The Chief of Engineers is the proponent for Technical Bulletins 420-1 through 420-32, which are the Engineered Performance Standards for Real Property Management. The Comptroller of the Army is responsible for the overall monitorship of the DOD Productivity Program. The Chief of Engineers will continue to rely on comptroller channels, as required for monitorship, to assure that the work management system meets the requirements of both this regulation and the engineered performance standards established by the Chief of Engineers.

3–8. Reporting requirements.

a. MACOMs/ agencies will submit fiscal year data semi-annually using DA Form 4525-R (fig. 3-1) to HQDA (DACA-MP), WASH DC 20310. DA Form 4525-R will be reproduced locally on 8 inch by 10-1/2 inch paper. Definitions are IAW in paragraph 3-4. Reports are due not later than 30 days after the end of the reporting period (i.e., 30 April and 30 October, annually). RCS CSCOA-19 applies.

b. Guidance for completing DA Form 4525-R (fig. 3-1) follows. Note: All entries are cumulative from the beginning of the fiscal year to the end of reporting period.

(1) Item 1. Enter reporting period.

(2) Item 2. Check type of report.

(3) To: Self-explanatory.

(4) From: Name of reporting MACOM/agency.

(5) Item 3. Number of personnel whose job assignment is full-time to the reporting MACOM/agency's M&S effort (i.e., work measurement technicians and their supervisors, including personnel who may be assigned full-time to M&S, but who actually devoted less than full-time because of special details, TDY, etc.).

(6) Item 4. Enter the total man-hours devoted to planning, directing, executing, and maintaining methods and standards. Include assigned personnel from Item 3.

(7) Item 5. Enter the number of M&S analysts trained during the reporting period.

(8) Item 6. Enter the number of personnel other than M&S analysts who attended M&S courses during the reporting period.

(9) Item 7. Report validated savings to DOD for the current fiscal year and the next fiscal year.

(10) Item 8. Enter the number of method improvement proposals implemented with savings to DOD of less than $10,000 and more than $10,000 savings.

(11) Item 9. Enter total number of MACOM/agency authorized military and civilian spaces (*) susceptible to engineered/nonengineered standards.

(12) Item 10. Enter the number of MACOM/agency military and civilian (*) authorized spaces covered by engineered standards.

(13) Item 11. Enter number of MACOM/agency authorized military and civilian spaces covered by nonengineered standards.

(14) Item 12. Enter number of MACOM/agency military and civilian (*) spaces covered by other than engineered and nonengineered standards.

(15) Enter the name, grade, title, and signature of approving official and approval date.

(*) Includes US direct hire and foreign direct and indirect hire.

STATISTICAL SUMMARY OF METHODS AND STANDARDS (M&S) ACTIVITY
For use of this form, see AR 5-4; the proponent agency is OCA.

REQUIREMENT CONTROL SYMBOL CSCOA-19

1. REPORT PERIOD
FY _____ ☐ 1ST 6 MO ☐ FULL FY

2. TYPE OF REPORT
☐ BASIC ☐ CHANGE

TO:
HQDA (DACA-MP)
Room 3B723, Pentagon
Washington, D.C. 20310

FROM: *(Include ZIP Code)*

3. NUMBER OF FULL TIME M&S PERSONNEL

a. REQUIRED	b. AUTHORIZED	c. ASSIGNED

4. NUMBER OF MANHOURS DEVOTED TO M&S

a. METHOD ANALYSIS	b. STANDARDS DEVELOPMENT	c. STANDARDS MAINTENANCE	d. OTHER	e. TOTAL

5. NUMBER OF ANALYSTS TRAINED DURING FY

a. BASIC ANALYST COURSE	b. MTM	c. DWMSTDP	d. OTHER *(Indicate total classroom hrs & no. of pers)*

6. NUMBER OF OTHER PERSONNEL TRAINED DURING FY

a. BASIC ANALYST COURSE	b. M&S INDOCTRINATION	c. OTHER *(Indicate total classroom hrs & no. of pers)*

7. VALIDATED DOLLAR VALUE OF SAVINGS TO DOD

a. CURRENT FISCAL YEAR	

8. NUMBER OF METHODS IMPROVEMENT PROPOSALS IMPLEMENTED

a. LESS THAN $10,000 SAVINGS	b. MORE THAN $10,000 SAVINGS

9. TOTAL NUMBER OF AUTHORIZED SPACES SUSCEPTIBLE TO ENGINEERED/NONENGINEERED STANDARDS

a. MILITARY	b. CIVILIANS

10. NUMBER OF AUTHORIZED SPACES COVERED BY ENGINEERED STANDARDS

a. MILITARY	b. CIVILIANS

11. NUMBER OF SPACES COVERED BY NONENGINEERED STANDARDS

a. MILITARY	b. CIVILIANS

12. NUMBER OF SPACES COVERED BY OTHER (SPECIFY) STANDARDS

a. MILITARY	b. CIVILIANS

REMARKS

TYPED NAME, GRADE, AND TITLE	DATE

SIGNATURE

DA Form 4525–R, 1 Jul 76

Figure 3-1. DA Form 4525-R

Chapter 4
VALUE ENGINEERING PROGRAM

4–1. Purpose.
This chapter provides guidance, establishes policies, and assigns responsibilities for planning, staffing, funding, implementing, directing, accelerating, and maintaining an effective Department of the Army Value Engineering (VE) Program.

4–2. Scope.
The VE Program applies to the Chief of Engineers, US Army Ballistic Missile Defense Program Office, US Army Materiel Development and Readiness Command, US Army Security Agency, and US Army Communications Command. It also applies to other MACOMs/agencies when they determine that implementing a VE program will produce economic benefits.

4–3. Definitions.
VE terms are explained in appendix B.

4–4. General.
The purpose of VE is to direct an organized effort to analyze the functions of Army systems, operations, maintenance, equipment, facilities, procedures, methods, and supplies to insure that these functions are achieved at the lowest total cost of effective development, production, maintenance, and/or ownership consistent with requirements for performance, reliability, quality, maintainability, and safety.

4–5. Policy
a. Army organizations/activities will apply VE in-house to improve military worth or reduce costs, wherever it is advantageous. VE will be used to eliminate unnecessary costs in all phases of the life cycle of Army materiel. HQDA will assign VE goals to appropriate MACOMs/agencies. These goals will be suballocated to functional and project managers and technical decision points will be established as necessary for the objective and prompt technical evaluation and processing of VE Proposals (VEP) and VE Change Proposals (VECP). Results achieved will be documented at the originating level of the VE action and reported.

b. Funds will be identified and allocated to pay for VEPs, VECPs, testing, and other costs arising from VE.

c. VE provisions will be included in all contracts for supplies, services, facilities, and materiel as provided in Section I, Part 17, of the Armed Services Procurement Regulation (ASPR). To maximize the benefits from VEPs and VECPs, the objective evaluation and processing of-

(1) VEPs and VECPs affecting configuration identification documentation will be expedited in accordance with AR 70-37, Configuration Management.

(2) VEPs and VECPs not affecting configuration identification documentation will be expedited in accordance with MACOM/agency requirements. In either instance, the originator of a proposal will be notified within 45 days of the proposal receipt date whether it has been accepted or rejected, or will be furnished a decision target date when additional time is required to fully evaluate the proposal. When a VEP or VECP involves a Federal or military specification, and the action to change the specification cannot otherwise be accomplished, MACOMs and activities will notify the specifications preparing activity by use of DD Form 1426, as outlined in DOD Manual 4120.3-M.

d. A centralized identifiable VE management capability will be established in those MACOMs/agencies identified in paragraphs 4-2 and 4-7c. To maintain a VE capability, staffing guidance is provided for MACOMs and agencies responsible for implementing the principles and applications of VE in accordance with the objectives and policies contained in this regulation. Normally, this function requires one full-time VE action officer for each 500 personnel up to 2000 and one additional VE action officer for each 1000 thereafter.

e. VE will be given full recognition, primary emphasis, and support by commanders, technical directors, program and project/product managers, and chiefs of operating agencies having responsibility for research, development, test, and evaluation, procurement, production, product assurance, operations and services, maintenance, supply, transportation, construction, storage, and final disposition of Army materiel and facilities.

f. Successful development and processing of VE actions will require the coordinated action of functional and project/product management organizations.

g. Military and civilian personnel performing in VE will receive formal training in the principles and applications of VE.

h. Materiel and items of equipment in logistics support status will undergo VE review on a selective basis, based on a high rate of return potential. When redesign of an end item or component is initiated, VE techniques will be used in

preparing the redesign. VE considerations will be integrated with product improvement proposals submitted to HQDA for approval (AR 70-15).

i. A plan to conduct VE on a systematic basis for each RDTE project will be established and included in Section III, Plans for System Development of the Development Plan (AR 70-27). The plan will form an integral part of Section III, Technical Development Plans, and will include a time-phased schedule to conduct VE during the development phase.

j. VE principles and methodology will be used throughout the conceptual, validation, development, production, and deployment phases, including operations, maintenance, and rebuild of the materiel life cycle to promote the fielding of equipment with optimum life cycle cost effectiveness.

k. Approved VE changes will be included in the technical data package of the item/system and used with future contracts and other materiel to which such changes may apply. Approved VE changes to items/systems subsequent to type classification will be reflected in the technical procurement data to be used for future procurement of those or like items/systems. Such VE changes will be screened to determine whether type reclassification is required under the provisions of AR 71-6. When VE changes are not approved, the VE files will be documented to indicate that consideration was given to the proposed design change and the reasons why the design improvements could not be used.

l. Maximum use will be made of VE task teams, representing required functional disciplines, when in-house VE studies are performed. Other organizations will provide their specialized capabilities as necessary to the VE process. The centralized VE organization will assist functional and project/product management organizations in performing VE to reduce cost of materiel, functions, operations, maintenance, and services.

m. A study/project may only be reported as an in-house VE study if it was identified to or by a designated higher management level in writing as a VE project prior to presentation of specific proposals for decision, and the project was accomplished or assisted by personnel qualified by VE training, or if written evidence of application of VE discipline is available (i.e., functional analysis, evaluation of worth, cost comparisons, etc.). Internal VE proposals must be the result of VE studies.

n. Reported VE savings actions will be validated to attest to the accuracy, authenticity, and acceptability of each reported savings including a budget officer's verification of the accuracy of the computation used to develop the savings and the planned utilization of the savings and its impact on the budget.

4–6. Objectives.

The objectives of VE are to—

a. Reduce the overall cost of Army operations, supplies, and services by—

(1) Eliminating or modifying unessential characteristics and functions.

(2) Extending financial, manpower, and materiel resources.

(3) Fostering timely adoption of economically advantageous technical changes.

(4) Simplifying Army materiel with consequent general improvements in operational availability and logistic support.

(5) Instilling cost consciousness in Army personnel.

b. Obtain total value improvement in research, development, procurement, product assurance, construction, operations, maintenance, and production.

4–7. Responsibilities.

a. The Comptroller of the Army (COA) will—

(1) Be responsible for Army-wide management of the Department of the Army VE Program; formulate, establish, and maintain Army policy on VE.

(2) Furnish budget guidance to MACOMs/ agencies to assure that the VE Program is funded at a level which will realize its optimum potential. Develop and provide for funding of VE expenses when the time period or fiscal account in which savings accrue will not coincide with the time period or fiscal account in which the cost of the Army investment of share payments to a contractor occur.

(3) Designate a full-time VE Program Manager to develop and manage the Army's VE Program and serve as Army point of contact on VE matters with Office of the Secretary of Defense, other DOD components, other Government agencies, industrial associations, and professional and technical societies.

(4) Provide a DA representative to the DOD VE Committee.

(5) Establish and maintain an active and aggressive in-house and contractual VE Program, and assign such resources to the program as may be necessary to achieve its goals and objectives.

(6) Plan, program, direct, and coordinate the use of VE in research, development, procurement, product assurance, design/construction, operations, maintenance, and production.

(7) Establish Army VE goals, measure progress against these goals, and evaluate the effectiveness of the VE Program.

(8) Promote and maintain a high level of professional VE competence within the Army. Assure that key personnel

receive training consistent with their responsibilities and career programs. Assure that adequate VE training programs are established and are current.

(9) Assure that contractor VECPs are objectively and expeditiously evaluated and that contract modifications implementing approved VECPs are accomplished expeditiously.

(10) Review Army–wide VE personnel resources of MACOMs/agencies and take action to assure that adequate resources are available to support an effective VE Program.

b. The Deputy Chief of Staff for Research, Development, and Acquisition will—

(1) Designate an R&D VE coordinator to act as point of contact on VE R&D matters.

(2) Provide management emphasis to insure the application of VE to assist in meeting design–to–unit production cost (DTUPC) targets.

c. The Chief of Engineers, the US Army Ballistic Missile Defense Program Office, and Commanders of US Army Materiel Development and Readiness Command, US Army Security Agency, and US Army Communications Command will—

(1) Establish and maintain an active and aggressive VE Program, including an in–house and contractual VE effort, and assign such resources to the program as may be necessary to achieve assigned goals and objectives.

(2) Designate a qualified individual to be the VE Program Manager (VEPM). VEPM positions at MACOMs will be full-time assignments. The VEPM will be delegated authority to conduct an effective VE Program and will be supported by an identifiable VE organization with resources and staffing to effectively carry out responsibilities hereinafter enumerated.

(3) Assure that in-house VE studies are identified and conducted in a timely fashion on systems, equipment, facilities, procedures, and supplies throughout their life cycles if they have significant potential for reducing costs and increasing military worth.

(4) Establish a capability and conduct VE "mixed skill" task team studies within Army and contractor organizations to reduce high cost areas or which are over design-to-cost targets.

(5) Integrate the use of VE principles in RDTE projects.

(6) Insure that VE assists in establishing DTUPC targets and in tracking and achieving them from R&D through initial production of the mission systems/items.

(7) Integrate the use of VE principles during the design, construction, operation, and maintenance of Army facilities.

(8) Integrate the use of VE principles during the operation and maintenance of Army equipment, systems, and procedures to the maximum degree possible as a responsibility of the operational commands.

(9) Identify high cost areas and assure that resources are made available to perform VE analysis to lower the costs.

(10) Monitor contractor VE Program requirement clause performance to insure contract compliance and determine progress of resultant savings versus program cost.

(11) Continually encourage contractors to submit technically sound VECPs. Responsibility for major portions of this VE effort shall be assigned to line and project managers, program directors, and contracting officers.

(12) Insure establishment of necessary controls to assure objective and expeditious processing of VECPs

(13) Insure that cognizant design and engineering support elements participate in the development and evaluation of in-house VE proposals.

(14) Allocate VE goals down to operating levels (project and line management organizations).

(15) Establish a means for cross-feeding those VEPs and VECPs, which have potential for application within their command. Forward those VEPs and VECPs to HQDA (DACA-MP) which have potential for application throughout the Army.

(16) Conduct periodic management reviews of VE activities in order to place increased emphasis and priority on in-house VEPs and contractor-originated VECPs, which have cost savings potential. This will include, as a minimum—

(a) In-house VE results.

(b) Results from use of VE contract provisions.

(c) Processing time for evaluation of and action on VEPs and VECPs which require Government approval.

(d) The number and status of formal in-house VE projects at the operating level.

(e) Cross-feed of VEPs and VECPs to other Army activities.

(17) Insure that managers, architects, engineers, technicians, buyers, auditors; logisticians, contracting officers, and negotiators understand Army VE objectives, precepts, policies, goals, methods, contract incentives, and program clause provisions. VE courses listed in the Defense Management Education and Training Catalog, DOD 5010.16-C, or specialized VE courses will be utilized as appropriate for military and civilian personnel engaged in VE activities.

(18) Submit appropriate VE projects for referral through DA channels to the DOD Product Engineering Services Office (PESO) for study (app D).

(19) Sponsor projects to develop new and improved VE techniques and communicate such techniques to HQDA (DACA-MP) WASH DC 20310. Any such projects qualifying under the definition of research or technical development will be appropriately identified in the Army RDTE programs, as prescribed in AR 70-45.

(20) Publicize benefits achieved through VE and recognize accomplishments by Army personnel performing VE.

(21) Prepare semiannual statistical summary of VE actions in accordance with the provisions of paragraph 4-11.

4–8. Precepts.

a. Reductions in cost are frequently possible due to advances in technology, additional information from testing, user feedback, and changes in user requirements.

b. The VE discipline represents an intensified examination of that portion (generally 10-20 percent of a system, equipment, item, or procedure) which is highest in cost or lowest in military worth. It provides specific techniques (identification and analysis of functions, cost. targets, and cost visibility) to improve the economic efficiency of the engineering (or systems engineering) process. As such it can be used to assist in financial management of technical requirements.

c. The VE discipline can be applied profitably to systems, equipment, items, facilities, supplies, and procedures being designed, developed, procured, produced, operated, maintained, modified, and stored.

d. VE should be accomplished as early as possible (e.g., before design release) to maximize savings. However, later VE is precluded only in those rare instances where the cost of the VE effort and subsequent implementation would be greater than the savings potential. While later VE normally increases implementation costs and, may affect smaller quantities, such deterrents are frequently more than offset by advances in technology, additional available information, etc.

e. Special consideration and emphasis must be given during the operational cycle of equipments that were not specifically developed for a major purpose (i.e., commercial equipment procured with modification and/or changes to fulfill a DOD need). Very often the operation and maintenance of this type of equipment, over the life cycle, represents a far larger investment over the original equipment buy and/or installation costs. Under these conditions, the VE emphasis must be applied primarily to the operations and maintenance cycle to include procedures, processes, operational concepts, etc., as this (contrary to the emphasis in R&D and production of DOD development equipment as discussed above) represents a most fruitful area for savings in the described situation.

f. Since most of the design and manufacture of Defense materiel is accomplished by industry, use of VE contract provisions is necessary to supplement internal Army VE activity.

g. Proper application of the VE discipline and VE contract provisions can contribute to-

(1) Making essential requirements economically feasible.

(2) Avoiding cost growth.

(3) Economically updating items in the inventory.

(4) Simplifying Defense materiel, with attendant improvements in capability and readiness.

h. VE discipline and VE contract provisions provide individual architects, engineers, technicians, and managers with specific capabilities for fulfilling their responsibilities to meet performance and schedule requirements and minimum cost goals.

i. The VE discipline can be applied by the individual, team, or task force approach, depending on local operating circumstances.

j. VE benefits can be measured in both dollar and technical terms. Periodic management reporting of VE cost savings can provide an indicator of the relative cost consciousness of personnel and organizations. Technical benefits, such as improvements in reliability, maintainability, human factors, performance, and weights, may be identified separately, but are not generally quantified or reported in summary form.

4–9. Budget guidance.

In recognition of the overall cost benefits to be derived, it is the policy of the Army to include in all budget estimates and operating budgets such amounts as are necessary to pay for VEPs, VECPs, testing, and other costs arising from VE.

4–10. Budget procedures.

a. A formal budgeting schedule will be established whereby funding requirements for VE will be developed and submitted annually through the command VE program manager and comptroller, to justify fiscal year VE funding.

b. Where applicable, a deferred cost job order will be established in the 1900 series of a general ledger account as prescribed in AR 37-110. Deferred charges may be carried from one fiscal year to another on a specific study, but must be closed into an expense account at the determination of negative savings or the end of the second fiscal year, whichever comes first.

4–11. Reporting requirements.

a. MACOMs/agencies responsible for processing and evaluating contractor-originated VECPs and/or in-house VEPs will submit semi-annually to HQDA (DACA-MP) WASH DC 20310 a statistical summary of VE actions (RCS DD-I&L (SA&A) 1138) in the format shown in figure 4-1. Two copies of the semi-annual and annual report will be

forwarded to reach HQDA within 30 days after the end of the reporting period (i.e., 30 April and 30 October, annually).

b. Guidance for completing the VE Statistical Summary. See figure 4-1.

*Note.*All entries are cumulative from beginning of fiscal year to end of reporting period.

(1) *Item A.* Name of reporting MACOM/agency and the FY period covered in the report—

(2) *Item B.* Number of full-time VE personnel, excluding clerical or secretarial, on board at the end of the FY.

(3) *Item C.* Number of personnel trained during the reporting period.

(4) *Item D.* Prior to initiation of production includes any VE activity during concept, formulation, and design and development prior to initiation of pilot or full-scale production. After initiation of production, includes VE activity in operations, maintenance, or overhaul facilities.

(5) *Item D4.* Report the estimated gross dollar value of proposals accepted in D3. The estimated base should be one full year from the date of implementation of the proposal. Note that date of implementation may be later than the date of approval. Estimated savings from a proposal during development but implemented in production should be reported under "Prior to initiation of production." When reporting savings in this column, report estimated gross dollar value of proposals approved in D3 when savings can be estimated in a verifiable manner against some designated baseline. Otherwise report in D1, D2 and D3, but not D4.

(6) *Item D5.* Report only direct, nonrecurring investment costs to develop, test, and implement proposals approved in D3. Do not include administrative or overhead costs.

(7) *Item D6.* Compute return on investment by dividing D4 by D5.

(8) *Item E.* Report all VECPs received under both Incentive clauses and Program Requirement clauses.

(9) *Item E3.* The sharing period will vary according to the length of contract and the nature of the VECP. A VECP for reduced data reporting in a development contract will provide a one-time savings on the current contract, since no savings will occur in future production. Sharing on other VECPs, such as changes to hardware, will normally be 3 years, or the remainder of the contract, whichever is greater. Sharing on such VECPs begins with acceptance of the first item incorporating the VECP. Include estimates of collateral savings, if any, for one full year.

(10) *Item E4.* Report direct government and contractor costs to develop, test, and implement proposals approved in E3.

(11) *Item E5.* Compute return on investment (divide E3 by E4.

(12) *Item F.* Report the number of VE Program requirement clauses placed on contracts during this reporting period.

(13) *Item G.* Report funds in dollars set aside this FY for VE investment. (No personnel or overhead costs. Include direct costs such as development, implementation, and testing for specific projects.)

(14) *Item H.* Identify all Army programs with estimated RDTE cost in excess of $50 million or estimated production cost in excess of $200 million that are in full-scale development or production. Report data required for each program.

STATISTICAL SUMMARY OF VE ACTIONS

A. Reporting Activity: _____ FY: _____

B. No. of full-time VE personnel (no clerical or secretarial) on board end of FY: _____

C. Training: No. of personnel trained during FY:
1. 40-hour (or more) VE methods (Principles & Applications) Course: _____
2. 40-hour CAVE (VE Contract Clauses) Course: _____
3. VE Indoctrination: _____

D. In-house Studies	Prior to Initiation of Production	After Initiation of Production
1. No. of studies initiated	_____	
2. No. of proposals developed	_____	_____
3. No. of proposals approved	_____	_____
4. Estimated gross $ value to DOD for 1 full year after implementation	_____	_____
5. Cost to develop and implement proposals in D.4.	_____	_____
6. ROI: Divide D.4. by D.5.	_____	_____
E. VECPs		
1. No. received	_____	_____
2. No. approved	_____	_____
3. Estimated $ Value to DOD during the sharing period	_____	_____
4. Cost to develop & implement proposals in E.3.	_____	_____
5. ROI: Divide E.3. by E.4.	_____	_____
F. Program Requirement Clauses		
No. placed in contracts this year	_____	_____

G. Funds specifically set aside this FY for VE investment (no personnel or overhead—only report direct costs such as development, implementation, and testing for specific projects).

(1) RDT&E _____ (2) Procurement _____ (3) O&M _____

H. Programs with (1) estimated total RDT&E cost in excess of $50M; or (2) estimated total production cost in excess of $200M, will report as follows beginning with full-scale development:
1. Program name.
2. Current phase (full-scale development or production).
3. Number of VECP approvals.
4. Estimated dollar value of savings in H.3. to DOD during the sharing period.
5. Estimated dollar value of savings in H.3. to contractor.

Figure 4-1. Format for Statistical Summary of VE actions.

Chapter 5
PRODUCTIVITY CAPITAL INVESTMENT PROGRAMS

5–1. Purpose.

This chapter prescribes policies, procedures, responsibilities and reporting requirements for the following Productivity Capital Investment Programs:

a. Quick Return on Investment Program (QRIP).

b. OSD Productivity Investment Funding (OSD PIF).

c. Productivity Enhancing Capital Investment Program (PECIP).

5–2. Applicability and Scope.

a. Applies to all Army organizations (TDA and TOE units), except:

(1) Nonappropriated fund activities are not authorized to participate unless the productivity improvement results in the savings of appropriated funds.

(2) Industrially funded activities are ineligible to participate unless OSD PIF projects require Military Construction, Army (MCA) funding.

b. These provisions encompass the acquisition or lease of equipment and facilities to improve the productivity of Army activities. This includes major facilities, equipment, or process modernization efforts, as well as efforts to improve the performance of individual jobs, tasks, or operations.

5–3. Objectives.

a. Productivity Capital Investment Programs are designed to reduce operating costs through timely investments for capital tools, equipment and facilities. The concept is to dedicate a portion of the budget toward productivity initiatives that recover savings frequently lost due to delays in the budget process or because of competition from higher priority mission requirements.

b. The programs are not intended to provide substitute funding for capital investments, but to supplement the regular budget when funds are inadequate to support worthwhile productivity improvements. For example, Base Level Commercial Equipment (BCE) may also meet the funding criteria under the Productivity Capital Investment Programs. If BCE or other funds are not available in the near term, the items may be considered for funding under one of the programs. As indicated in figure 5-1, criteria differ for each program, but the objective is the same "to increase productivity, reduce costs, save manpower, and improve readiness." Actually, the program impact significantly in the Four Pillars of Defense (Readiness, Modernization, Sustainment and Force Structure).

c. The Capital Investment Programs also serve as a pillar in the Army's Economies, Efficiencies and Management Improvement Program (EEMI) in its quest for more effective use of capital and human resources. As such, the Capital Investment Programs must function as an integral part of the Planning, Programming and Budgeting System (PPBS).

5–4. Policies and Procedures.

The programs all surface funding requirements for productivity improvements that amortize in a specified period. Each program will be discussed separately; however, these policies and procedures apply to the three programs unless otherwise specified.

a. Identification of capital investment opportunities.

(1) A systematic approach should be used to identify ways for enhancing the overall operation. All personnel should be aware of the most efficient tools, equipment and processes within respective areas of responsibility. New ideas may be obtained through attendance at equipment demonstrations, through publications reflecting the latest state-of-the-art, and through the HQDA Idea Interchange Program outlined in paragraph 6-5. New ideas may also be found through the Incentive Awards/Suggestion Program.

(2) A thorough review of in-house operations can also be beneficial, e.g., a review of TDA equipment approved, but not on hand; areas affected by directed manpower reductions when validated requirements remain and the function could possibly be performed with equipment; areas using borrowed military manpower; a review of maintenance and repair costs; and a review of supply bulletins.

(3) Unfinanced requirements from prior budgets may be considered for funding under the Capital Investment Programs, provided specific program criteria are met; the requirements are still valid; and funding was denied because of shortfalls involving other higher priority requirements.

b. Determining correct appropriations. Appropriations applicable to each capital investment program are outlined in figure 5-1. Proponents of project submissions must first identify the correct type of funding for that particular expenditure and then select the investment program applicable. The same funding and acquisition guidance used for determinations under normal circumstances apply to capital investment programs. For example, only RDTE funds will be used in research and development activities.

c. Projects will be submitted on DA Form 5108-R (Documentation for Productivity Capital Investment Programs). This form meets economic analysis requirements in accordance with AR 11-28.

d. Cost savings and benefits. Differentiation should be made between reduction of costs (resource inputs) and increases in benefits (outputs). The purpose of any expenditure of resources is to attain an objective of some type e.g., products, services, cleaner environment or increased safety. These results or outputs of resource expenditures are defined as "benefits." In the case of an existing process or operation, quite often the resource mixture is adjusted (replacement of labor input with modern equipment) while the outputs or benefits remain relatively constant. If this adjustment results in a lower dollar value of required resources, a "cost savings" has been effected.

e. Cost/benefit derivation. All costs and savings/benefits for project proposals will be summarized in accordance with the instructions for DA Form 5108-R, appendix H, section I. The Productivity Capital Investment Programs addressed herein also utilize DA Form 5108-R to evaluate the cost effectiveness of alternatives under consideration. The derivation and sources of all estimates used in the documentation must be included in the project submission. The provisions and concepts of AR 11-28 will be used for matters not specifically addressed by this regulation relative to deriving costs and benefits.

f. Savings versus cost avoidance. The results from Capital Investment Programs will be categorized for the Army's EEMI reporting, based on the following:

(1) *Savings:*

(a) Hard savings: Those approved savings that result from new, improved, or intensified management practices and

actions taken by DOD components. Hard savings result in lower dollar or manpower levels than were previously approved in program budget documents. All hard savings will be measured from an OSD established baseline. To qualify for reporting, savings must be documented; measured in terms of dollar and authorized manpower values and where appropriate, in terms of quantity and unit prices; and be subject to verification. Hard savings are further categorized as either "realized" (current year) or "budgeted" (budget year).

(b) Programmed savings: Those approved savings which reduce requirements for resources for the programmed years and measured from an OSD-established baseline.

(c) Potential savings: Those dollar and manpower resources that are associated with the management initiative, but are not yet approved for implementation. Potential savings can apply within current, budget or program years.

(d) Categories applicable to both hard, programmed and potential savings:

1. One-time savings: Those savings which are attributable to (1) management actions which do not have carry-over benefits in fiscal years subsequent to the fiscal year in which the savings are made, and (2) management actions which have carry-over benefits, but for which savings must be recomputed based on the amount or volume in subsequent period's program.

2. Recurring savings: Those savings which have carry-over benefits in the same amounts in fiscal years subsequent to the year in which savings are made and do not require recomputation.

3. Offsetting costs: Those readily identifiable and directly associated costs incurred as a result of a management improvement which affect a particular savings. Include those offsetting costs incurred in areas other than those in which savings were actually generated. All offsetting costs applicable to an individual savings action will be amortized before net savings are reported.

(2) Cost avoidance:

(a) A management action that results in an ability to satisfy previously validated unresourced requirements within approved resource levels.

(b) Decisions/actions which will reduce future costs which may have been incurred in the absence of that decision or action. For example, lower unit cost resulting from economic order quantity decisions. Savings can also accrue from economic order quantity decisions when approved resources emceed requirements; lower unit cost resulting from avoiding future inflation through accelerated funding profiles; and economies in operating costs resulting from decisions to reduce costs such as travel, ADP support, marginal training, etc.

(c) Cost avoidances can also be categorized as hard, programmed or potential and include one-time or recurring costs.

(d) Amortization criteria. Reduced costs in labor, material, utilities, transportation, maintenance and repairs, contracts, etc., may be used to amortize each of the Productivity Capital Investment Programs. Labor savings, constituting reduced manpower and overtime costs may also be used. Examples are—

1. Manpower space authorizations and requirements. Requirements must be turned in and the spaces transferred against other validated requirements within the MACOM/agency/ARSTAF.

2. Manpower space equivalents. An accumulation of man-years saved from multiple positions may be used as project justification under certain circumstances. For example, a piece of equipment will save 20 percent of man-hours worked by 5 people which would equate to 1 man-year of effort. No space transfers are involved; however, increased productivity must result from the capital investment and be thoroughly documented. The proposal must include specific functions to be performed during the additional hours made available. The term "reduce backlog" will not suffice unless the backlog is described or quantified. Manpower space equivalent justification, if properly documented, may be used for all project submissions under each program, except selective QRIP and PECIP projects. Those selective projects ineligible for manpower space equivalent justification are Word Processing, Non-Standard Files and Automated Mail Equipment (automatic letter openers, sealers, digital scales and addressograph equipment). Justification for these types of projects will be based on the elimination of whole manpower spaces to by reapplied elsewhere, including freeing Borrowed Military Manpower to return to their regular duties. This is an Army policy; therefore, the restriction does not apply to the OSD Productivity Investment Funding. Manpower equivalents may be used to justify OSD PIF projects for Word Processing, Non-Standard Files and Automated Mail Equipment.

(3) *Other man-hours.* The investment will eliminate the programmed requirement for overtime, over-hires, or temporary employees necessary to accomplish the mission. A validated recognized manpower requirement not supported by an authorization may be used; however, the manpower requirement must be turned in when the project becomes operational. This avoids the possibility of an authorization being placed against the requirement at a later date.

g. Regulatory approvals. The programs all focus on improving the efficiency and effectiveness of Defense organizations and activities, but do not circumvent any systems or procedures. All requirements relative to restrictions on the types of appropriations for specific expenditures established by public laws, DOD policies, and other regulatory constraints must be met for all submissions. Some examples of regulatory approvals required prior to project submission or to purchase of the equipment are—

(1) Military Construction, Army (MCA)—Projects requiring MCA funds may be considered under the OSD Productivity Investment Funding provided certain conditions have been met when projects arrive in DACA-RPM by 1 June each year. All construction requirements must be displayed on a DD Form 1391 and submitted through the Engineer

channels along with the regular MACOM MCA submissions for the desired program year, e.g., DD Form 1391s were due in DAEN-ZCP by March 1982 for OSD PIF consideration in FY 85. See AR 415-15 and AR 415-28.

(2) Projects requiring OMA RPMA funds-AR 420-10, AR 420-17, and AR 415-15.

(3) Projects requiring FHMA funds-AR 415-15.

(4) Test, Measurement, Diagnostic Equipment (TMDE)-AR 750-43.

(5) Army Training and Audiovisual Support Equipment-AR 108-2.

(6) Telecommunications Equipment-AR 105-22.

(7) Management Information Systems-AR 18-1.

(8) Files Equipment-AR 340-4.

(9) Office Copiers-AR 340-20.

(10) Printing Equipment-AR 310-1.

(11) Word Processing Equipment-AR 340-8.

(12) Micrographics Equipment-AR 340-22.

(13) Table of Distribution and Allowance (TDA) Approval-AR 310-49 and AR 310-34. (Must be done prior to purchase of the equipment.)

h. Selection criteria for funding.

(1) The ranking process or prioritization for funding involves the composite of three separate rank lists: the Internal Rate of Return (IRR), Savings to Investment Ratio (S/I), and the Rate of Investment per Manpower Space (RIMS). The rank or position on each list will be added to form the fourth and final rank list used for funding consideration. Additional details of this process are in appendix H, section II.

(2) Special consideration will be given to projects improving readiness and those "freeing up" manpower spaces to be reapplied against other high priority requirements.

(3) Consideration will be given toward modernizing functions scheduled for Commercial Activities (CA) Program. The purchase of equipment which enhances productivity will help to meet statutory requirements by using the most efficient and cost effective in-house operation for cost estimates.

(4) The above factors play a major role in the selection process for funding; therefore, maximum savings and other benefits to be derived from the investment must be documented.

i. DA Form 5108-1-R (Post Investment Analysis).

(1) A post-investment analysis or after the fact evaluation must be made on all projects in order to compare projected savings/benefits with the actual results. The MACOM/agency/ARSTAF comptroller or resource manager is responsible for insuring that it is made not later than 6 months subsequent to the project operational date. The operational date constitutes the time the project begins to function as intended, e.g., when it starts to increase productivity and reduce costs. Follow-up must be made at the local level to insure that equipment becomes operational as soon as possible. Delays involving equipment received, but not operational within 60 days must be reported to DACA-RPM along with an explanation for the delay and proposed solution.

(2) A completed copy of DA Form 51081-R, at appendix H, section III, will be forwarded to HQDA (DACA-RPM) not later than 30 days after the 6 months operational date. It is imperative that post investment analyses be done in a timely manner. It assists HQDA in justifying program resources and is used to prepare annual reports to Congress. Although only one post investment analysis per project is required, an audit trail must be maintained for one complete fiscal year beyond the fiscal year that project amortized.

j. Integration into the Planning, Programming and Budgeting System (PPBS). The Capital Investment Programs must be integrated into the PPBS in order to streamline the process for program execution and to identify results in the budget as required by Office, Secretary of Defense and Congress. The Army Guidance, Program Budget Guidance (PBG), and Command Operating Budget (COB) Instructions provide definitive guidance; however, an overview in chronological order follows:

(1) *Program Analysis Resource Review (PARR).* The PARR received from MACOMs/agencies in January each year will contain a display reflecting capital investment resource requirements. The data displayed will be used by HQDA (DACA-RPM) to develop a consolidated Program Development Increment Package (PDIP) requesting total capital investment program resources for the Army. (The ARSTAF elements having capital investment requirements must provide necessary information to DACA-RPM by 1 January each year.) In addition to the display for inclusion in the ARSTAF PDIP, a special EEMI display reflecting potential savings/cost avoidances in the PARR years will be required in accordance with instructions in the Army Guidance.

(2) *Program Objective Memorandum (POM).* Based on PARR displays, the ARSTAF developed PDIP for Capital Investments will compete with other Army requirements. If successful, the resources requested will be included in the POM.

(3) *Program Budget Guidance (PBG).* The PBG published twice a year (Nov and Feb), a May appendix, and a September funding letter will be used to summarize dollar resources programmed for specific MACOMs/ agencies/ ARSTAF elements.

(4) *Command Operating Budget (COB).* The COB, normally received from the MACOMs/agencies in July, will

contain a financial plan which should be based on the Capital Investment resource guidance received in the January and May PBGs. This financial plan of investments, savings, and cost avoidance will be depicted in Schedule 20, EEMI Data Display. Investments savings or cost avoidance occurring in the years covered by the COB should be visible, e.g., Schedule 8, "Summary of Changes from PBG by Financing and Manpower," must reflect reapplication of savings between and among programs.

(5) *Feeder Report for Annual Report to Congress.* DA Form 5108-2-R (Feeder Report to Annual Productivity Report-PECI), in appendix H, section IV, will be completed at the end of the fiscal year and submitted to DACA-RPM not later than 15 November each year. The report will include all projects funded in the fiscal year just ended. A separate report is required for each of the three Capital Investment Programs.

k. Program reviews and presentations. A review of program implementation should be considered as an item of interest in Inspector General visits, US Army Audit Agency reviews, and other inspection and evaluation team visits, when practicable. Presentations on Productivity Capital Investment Programs should be included on the agenda at conferences, meetings, instructional courses, and schools in order for the Army to make maximum utilization of the opportunities available. Programs should be publicized to the maximum extent possible in bulletins, publications and other news media. Program data and accomplishments should be included in program review and analysis at all levels of command.

l. Idea Interchange Program. Capital investments that result in a more efficient accomplishment of tasks, jobs and functions should be reported in the format at appendix E in accordance with Army's formal Idea Interchange Program. The direct exchange of ideas among MACOMS/agencies, ARSTAF is also encourage to enhance overall capital investment opportunities. The All Points Bulletin (Army Financial Management Newsletter) is also an excellent means to share ideas.

m. Personnel incentives. All individuals or groups who identify opportunities resulting in savings or improvements in productivity, or those who aggressively promote productivity initiatives within their organization should be recognized through the Incentive Awards Program (AR 672-20), in their performance appraisal, or by other appropriate means.

n. Reporting requirements. Figure 5-2 summarizes reports applicable to the Capital Investment Programs.

5–5. Quick Return on Investment Program (QRIP).

The Army sets aside funds for projects that amortize in 2 years or less. Normally, QRIP funds have been available only in Other Procurement, Army (OPA). However, the identification of potential investment opportunities in other appropriations/sub-programs has resulted in the expansion of QRIP into three appropriations (Procurement; Research, Development, Test & Evaluation; and Operation and Maintenance, Army), effective FY 83. Also, the project approval and funding of QRIP projects will be decentralized at the MACOM level in FY 83.

a. Project cost data. Effective FY 83, funds have been programmed for the following:

(1) Procurement (AMMO & OPA) Appropriations (3-year appropriations)-Project costs are $3,000-$100,000. Transportation and installation costs may be included if they are in the total bill to the vendor. Items costing less than $3,000 may not be grouped to meet the minimum, but may be eligible for OMA QRIP described below.

(2) RDTE QRIP (2-year appropriation) projects may not exceed $100,000. All policies applicable to acquisition of RDTE equipment, facilities, or services under the regular budget also apply to RDTE QRIP.

(3) Operation and Maintenance, Army (OMA) (1-year appropriation) Items of equipment costing less than $3,000 per item may be considered for OMA QRIP provided projects don't exceed $100,000. The OMA funds may also be used to lease equipment in areas of fast and changing technology or to lease in order to prove productivity of equipment, provided the projects amortize in 2 years or less. Expeditious action must be taken to execute projects within the 1 year timeframe to preclude loss of funds.

b. Facilities modification costs. Costs for facilities modifications are normally not funded from the Procurement Appropriation, but may qualify under OMA QRIP. These costs should be included in the overall project computation determining the amortization. For example, an automatic car wash funded from Other Procurement Army (OPA) might require OMA funds for the site preparation.

c. Maintenance contract. Costs for first and or second year maintenance contract can be funded with Procurement Appropriation provided costs are included in the total bill for the equipment. However, a separate bill for the maintenance contract requires Operation and Maintenance, Army (OMA) funds.

d. Eligibility of equipment. The first clue in determining eligibility is whether the equipment could be purchased with funds from the regular budget without congressional approval, etc. If so, the equipment is probably eligible for QRIP provided statutory and regulatory requirements are met. Figure 5-3 is not all inclusive, but reflects examples of equipment previously funded under QRIP. There are certain types of equipment that are not eligible for QRIP because of congressional constraints and other limitations. For example, administrative use vehicles are ineligible for QRIP.

e. Energy projects. Equipment that saves energy is eligible for funding consideration under QRIP, provided concurrence has been obtained from MACOM/agency Energy Office, and no alternate source of funding is available in the near term.

f. Leased equipment. Projects that alter the existing method of financing for equipment, such as, buying rather than

leasing, may now qualify for purchase under QRIP. Productivity benefits (improvements in methods, processes, and procedures) resulting in addition to reduced costs are encouraged, but not mandatory as long as the project will amortize in 2 years or less.

g. Project approval and funding procedures. Effective FY 83, the following procedures will apply to the approval of QRIP projects and decentralization of funding at MACOM/agency level.

(1) The MACOMs supporting significant funding requirements for QRIP will be allocated a certain amount, predetermined by HQDA (DACA-RPM). At the beginning of the fiscal year, funds will be released in bulk to respective MACOMs who will be responsible for programming these funds to meet their requirements throughout the fiscal year. Funds not utilized or obligated in a timely manner will be withdrawn.

(2) The funds will be issued to an operating agency in each MACOM, and subsequently controlled and distributed in a similar manner as The Troop Support and Aviation Materiel Support Agency (TSARCOM) has done in the past. Definitive guidance will be published in a forthcoming Letter of Instructions. A contingency fund will be held at HQDA in support of MACOMs/agencies/ARSTAF whose requirements are not large enough to receive bulk funds for QRIP. In this case, MACOMs/agencies/ARSTAF elements would approve QRIP projects and request HQDA (DACA-RPM) to issue funds for individual projects.

h. Accountability responsibilities. Decentralization of QRIP project approvals and the funding process will necessitate strict compliance with all policies and procedures. The comptroller or resource manager of MACOMs/ agencies/ ARSTAF approving QRIP projects is responsible for insuring that-

(1) All regulatory approvals (e.g., AR 18-1 for computers, AR 108-2 for audiovisual equipment) and coordination with functional elements have been effected prior to project approvals.

(2) Projects are prioritized and approved for funding based on polices outlined in this regulation, specifically using appendix H, section II.

(3) Funds are obligated not later than 120 days from issue of fund citation and extensions granted only in extenuating circumstances.

(4) Funds are closely monitored and excess funds turned in for reallocation.

(5) Necessary accounting and policy procedures are adhered to in a timely manner.

(6) Post investment analysis of each project and other reporting requirements are made in accordance with instructions contained in this regulation.

i. Justification of funds for QRIP. As indicated in paragraph 5-4j(1) above, a Program Development Increment Package (PDIP) requesting QRIP funds is prepared at HQDA by DACA-RPM, based on resource requirements displayed in the PARR. Additional instructions are provided in the Army Guidance; however, the following must be provided as a minimum:

(1) Appropriation /program element/ budget activity and fiscal year.

(2) Total investment requirements or level of effort for the PARR years.

(3) Projected annual savings (dollars and manpower), programmed by FY AMSCO and Program Element for the PARR years.

(4) Other: (An all inclusive list of projects is not required; however, any significant project examples or information that would enhance the PDIP justification process should be cited).

5–6. OSD Productivity Investment Funding (OSD PIF).

Under OSD PIF, the Secretary of Defense sets aside approximately $100 million per year, for the Services, in a contingency fund to finance high payoff projects that amortize in 4 years or less.

a. Project criteria. Projects must cost $100,000 or more and are not limited to investments at a single activity. Investments may be grouped for similar or related items which have the same basis for justification and the same functional area. Projects may be for equipment, facilities, construction, etc., and may contain multiple appropriations provided all public laws, Federal regulations and OSD policies have been met. Projects are submitted 2 years prior to receipt of funds, e.g., projects submitted 1 June 81 were considered for funding in FY 83. Projects involving MILCON, OMA(RPMA) and FHMA appropriations require special processing through DAEN. (See para 5-4h above.) Projects involving military construction cannot be submitted to OSD for funding consideration unless the Army has provided design funds and assures that the design will be 35 percent completed by January following the project submission in June. Construction requirements for those projects must be displayed on DD Form 1391 and submitted through engineer channels to DAEN-ZCP with regular MCA requirements for desired program year as indicated in paragraph 5-4h(l) above. The DD Form 1391 should be annotated that it involves a candidate project for OSD PIF consideration.

b. Due date. Projects are due in DACA-RPM on 1 June each year. Those requiring MILCOM, OMA(RPMA), and FHMA funding should include a statement relative to status in the engineer channels. Although projects are submitted to OSD only once a year, they should be identified on a continuing basis and may be forwarded to DACA-RPM throughout the year which will preclude the last minute rush in processing. Prior to receipt of projects in HQDA, telephonic coordination with appropriate HQDA functional managers will facilitate the staffing process. The projects can be provided to OSD in advance by HQDA which should help to identify any required adjustments in the early stages before it's too late.

c. DA Form 5108-R, used for project documentation, will be provided in original and one copy to HQDA. Continuation sheets, not to exceed five pages, may be added to fully describe the projects. A separate economic analysis is not required, but may be attached to the project provided the submission is descriptive enough to stand alone without the economic analysis. Submissions must be signed by comptroller/ resource manager or deputy of the respective MACOM/agency/ARSTAF. Otherwise, projects will be returned for authentication.

d. Selection process. In evaluating projects, the OSD staff will use basic criteria outlined in paragraph 5-4i above. Particular attention should be given toward projecting benefits accurately throughout the economic life of the project in order for a valid determination of the internal rate of return to be made. Projects which improve productivity in functions or programs which are of immediate concern to OSD, e.g., those producing immediate improvements in Defense readiness will also receive special consideration. Joint projects with other services and agencies are also encouraged. The OSD PIF submissions must be for improvements in functions currently measured under the DOD Productivity Program or for which specific plans have been made to report productivity data. For proposals in unmeasured areas, project submissions should include plans for measurement. Projects directed toward the acquisition and ownership of equipment and facilities currently being leased and projects establishing an in-house capability for operations readily or more economically available through commercial contract are not eligible. Projects for investments at GOCO facilities are currently ineligible; however, these projects may be considered for the Army's PECIP. Projects in industrially funded activities are not eligible for OSD PIF unless the project involves MCA funds.

e. Approval and project funding.

(1) Projects will be approved by the Secretary of Defense/Deputy Secretary of Defense and funding reflected in the Program Budget Decision (PBD) from OSD. Each Appropriation Director at HQDA affected by approvals will increase the respective budget requests in amounts directed by the PBD. The proponents of projects will be notified of the project approvals and disapprovals as soon as possible. A list of projects by Appropriation/Sub-Program/Budget Activity will normally be reflected in the January PBG. Proponents will receive funding through the regular budget process and immediate action must be taken to implement the project.

(2) When funds are issued for individual projects, a suspense date of 6 months will be established. Close coordination should be effected with budget officials to insure that funds are used as intended. Funds will not be reprogrammed to other requirements without prior approval on a project-by-project basis by OASD(MRA&L) and OASD(C). Projects that can not be implemented will be brought to the immediate attention of DACA-RMP who will request approval from OSD to submit substitute projects.

f. Post investment analysis. Procedures apply as indicated in paragraph 5-4j above.

g. Funding requirements. Since this is an OSD "set aside," no funding requirements are needed at HQDA.

h. Figure 5-4 reflects examples of OSD PIF projects.

5–7. Productivity Enhancing Capital Investment Program (PECIP).

This is a new initiative designed to fund projects costing $3,000 or more and amortizing in 4 years or less. It provides a means of funding for worthwhile projects not meeting the criteria for QRIP or which are not funded under OSD PIF because of limited funds.

a. Project identification and funding requirements. Projects must be pre-identified 2 fiscal years in advance. For example, funding requirements for FY 84-88 should be included in the PARR received in HQDA January 1982. The resources are justified in the Capital Investment PDIP prepared by DACA-RPM. Actual project submissions are not to be forwarded to HQDA; however, sufficient information must be available at MACOM/agency/ARSTAF level in order to provide the following information in the PARR display:

(1) Individual project title.

(2) Short description of project and its savings /benefits.

(3) Investment cost by appropriation, program element, budget activity, and fiscal year.

(4) Annual savings (dollars and manpower) programmed by FY, AMSCO and program element.

b. Project approvals. The MACOMs/agency/ ARSTAF proponents of PECIP requirements will be notified, normally in the May PBG, of the specific amounts in the POM. Subsequently, project submissions should be finalized; necessary regulatory approvals obtained, and projects formally approved by MACOM/agency/ARSTAF. The funds will be provided through the regular budget channels to the MACOMs. If command priorities have changed, MACOMs/ agencies may dedicate funds toward other productivity enhancing projects meeting PECIP criteria and remaining within funding levels. Controls must be established to insure funding accounting and policies are adhered to, and that funds are obligated in a timely manner.

c. Post investment analysis and other reporting requirements as indicated in paragraph 5-4 above apply.

5–8. Responsibilities.

a. The Comptroller of the Army will—

(1) Establish program policies, procedures, responsibilities, and reporting requirements for the Productivity Capital Investment Programs.

(2) Provide input on Productivity Capital Investment Programs for integration in PPBS through Program Budget Guidance, Command Operating Budget Instructions, the Army Guidance and Program Objective Memorandum.

(3) Prepare Productivity PDIP requesting resources for Productivity Capital Investments, except for the OSD PIF.

(4) Establish QRIP and PECIP ceilings and authorize distribution of specific amounts to MACOMs/ agencies/ ARSTAF as appropriate.

(5) Monitor obligation rate of Capital Investment funds.

(6) Implement Productivity Capital Investment Programs Army-wide and provide coordination with appropriate ARSTAF elements.

b. Deputy Chief of Staff, Research, Development and Acquisition (DCSRDA) will—

(1) Coordinate with DACA-RPM all matters involving funding for Productivity Capital Investment Programs relative to appropriations under the jurisdiction of DCSRDA.

(2) Effective FY 83, release QRIP and PECIP funds (Procurement and RDTE) to recipients as requested by DACA-RPM.

c. MACOMs/agencies/ARSTAF will—

(1) Designate a program manager preferably in Resource Management/Comptroller area, to implement Productivity Capital Investment Programs.

(2) Insure that applicable procedures and policies in this regulation and other appropriate criteria are adhered to in processing projects involving individual Productivity Capital Investment Programs.

(3) Insure that no other funding in the near term exists for project submissions and that prior funding requests have not been denied by Congress or Office of Management Budget.

(4) Establish controls to insure that funds are obligated in a timely manner, and that a Post Investment Analysis of each project is forwarded to DACA-RPM.

(5) Develop respective program and budget requirements reflecting 5-year resource projections for QRIP and PECIP.

(6) Publicize programs through the All Points Bulletin and other media; also actively participate in the HQDA Idea Interchange Program.

(7) Insure that appropriate reporting requirements and transmittals reflected in this regulation are adhered to.

Program Title	*Project Cost*	*Amortization*	*Appropriation*
QUICK RETURN ON INVESTMENT PROGRAM (QRIP)	$3,000–$100,000	2 years or less	Procurement (OPA, AMMO)
RDTE QRIP	Projects NTE 100,000	2 years or less	RDTE
*OMA QRIP	Items less than $3,000 (Project NTE $100,000)	2 years or less	*OMA
OSD PRODUCTIVITY INVESTMENT FUNDING (OSD PIF)	$100,000 or more	4 years or less	**Multi-appropriations (Procurement, OMA, RDTE, FHMA and MCA)
PRODUCTIVITY ENHANCING CAPITAL INVESTMENT PROGRAM (PECIP)	$3,000 or more	4 years or less	**Multi-appropriations (Procurement, OMA FHMA, MCA and RDTE)

* OMA funds are also available for installation costs of equipment and lease costs for equipment to prove its productivity or for equipment in areas of fast and changing technology.

** Projects may include one or more appropriations, if in conformance with governing rules and regulations. For example, MCA projects are eligible for consideration provided a DD Form 1391 has been successfully processed through the Engineer Channels during programing cycle for desired year of funding and other regulatory criteria have been met.

Figure 5-1. Productivity Capital Investment Programs—project categories, effective FY 83.

Title	*Format*	*Frequency*	*Due Date*	*Proponent*	*Submitted to*
Post Investment Analysis	RCS CSCOA-88, DA Form 5108-1-R, (app II, sec III)	One-time per project (6 months after project becomes operational)	30 days after 6 months anniversary date	MACOM/agency/ ARSTAF	HQDA (DACA-RPM)
Idea Interchange Report	RCS CSCOA-71 (app E)	Quarterly	End of quarter	MACOM/agency	HQDA (DACA-RPM) ARSTAF
Five Year Program Budget Requirements and EEMI Savings Reapplication Plans	PARR Display	Annually	January	MACOM/agency	HQDA (DACA-RPM)
EEMI Data Display Schedule 20 of Command Operating Budget (COB)	Schedule 20	Annually	July	MACOM/agency	HQDA (DACA-ZXA)
Documentation for Capital Investment Productivity Programs (For OSD PIF Projects)	RCS DD-M(R)1561, DA Form 5108-R (app II, sec I)	Annually	1 June	MACOM/agency/ ARSTAF	HQDA (DACA-RPM)
Documentation for Productivity Capital Investment Programs (For remaining programs)	RCS DD-M(R)1561, DA Form 5108-R (app II, sec I)	As required	ASAP	Project initiator	MACOM/agency/ ARSTAF Program Manager
Productivity Capital Investment Program Accomplishments for Annual Report to Congress	Letter	Annually	1 January	HQDA (DACA-RPM)	ASD (MRA&L) DoD Productivity Program Office
Feeder Report to Annual Productivity Report—PECI (Interagency Report Control #0169-OPA-AN)	DA Form 5108-2-R, (app II, sec IV)	Annually	15 November	MACOM/agency	HQDA (DACA-RPM)

Note. DA Forms 5108-R, 5108-1-R, and 5108-2-R may be reproduced locally on 8½- by 11-inch paper.

Figure 5-2. Summary of Reporting Requirements for All Productivity Capital Investment Programs.

Asphalt Reclaimer
Audiovisual
Automatic Car Wash Systems
Automatic Transmitter Switch
Body & Frame Straightener
Boiler Blowdown & Heat Recovery System
Braille Computer Terminal
Brake Lathe
Brake Test Stands
Card Punch Machines
Carpet Cleaners
Collators Combustion Analyzer
Computer Power Distr Center
Conveyor Equipment
Diamond Cone Drilling System
Ditching Machines
Dust Eliminating Equipment
Electronic Mail Box
Energy Management Systems
Engine Test Stands
Flue Gas Analyzer
Fork Lift Trucks
Gas Meters
Grinding Machines
Gun Cleaning Device
High Pressure Sewer Cleaner
Hydraulic Hose Extension Boom
Ice Making Machines
Infrared Thermometer Gun
Land Clearing Machine
Lektriever Filing System
Maximum Peak Demand Control Sys
Micrographics
Mobile Lube Equipment
Paper Cutter
Pavement Patching Equipment
Pharmaceutical Pkg Machine
Photomake Lightbox
Phototype Setter
Pipe Bending Machines
Pneumatic Tube System
Polishing Machine
Postal Metering
Pothole Patcher
Press & Matrix Sys
Programable Calculators
Radioactive Waste Disposal
Range Maintenance Equipment
Remote Gate Control
River Water Conservation Sys
Servicing Platform
Signmaking Machines
Smoke/Fume Eliminator
Spray Paint Booths Steam Cleaners
Stump Cutters
Tire Matrices
Track Rebuilders
Trash Compactors
Travel Voucher Processing Sys
Truck Scales
Turbulators
Underground Hydraulic Pipe & Cable Installer
Unimog with Tree Shredder
Vehicle Lifts
Waste Oil Fired Boiler System
Water Temperature Control Recirculation
Welding Set
Word Processing

Figure 5-3. Examples of QRIP equipment (not all inclusive).

Auto Graphic Production System
Automated Calibration T&E
Automated Small Parts Paint System
Automated Tools
Automatic Film Duplication
Blimp Base Level Information Management System
C31 Systems Test Equipment
Casting Cleaning System
Combustion Chamber Rework System,
Command/Executive Information System
Computer Numerical Control Equipment
Consolidated Fire House
Data Processing Equipment
Direct Numerical Control System
Dynamometer Test Control
Electronic Document Network System
Federal Catalog Data Pad System
Freight Movement Control System
Group Technology Parts System
Improved Refuse Collection
Integrated Circuit Facility
Job Estimating System
Laser Welding Cutting System
Logistics Center Admin Modernization Program
Mechanized Stock Handling System
Microfilm Storage Retrieval System
No Bake Sand System
Production Control System
Radiographic System
Relocation of Data Processing Department
Remote Control of Power Plants
Replacement of 81 Heating Plants w/2 Facilities
Robots for Ammo Renovation
Roland Simulator
Rotary Lathe
Standardized Electronic Repair Station
Steam Generator Plant Automatic Control
Transportation-Operations Property Std System
Vehicle Fleet Wash
Weapons System Instrumentation
Word Processing Equipment

Figure 5-4. Examples of QSD PIF projects (not all inclusive).

Chapter 6
MANAGEMENT PRACTICES

6–1. Cost reduction.

It is more essential than ever that resources be managed economically. Opportunities for improving management and reducing costs exist in every component of the Department of the Army. For this reason, maximum emphasis will be placed on the reduction of costs in all areas. Since all functional managers are concerned with cost savings, commanders may use their own discretion in establishing cost reduction procedures in the manner that they feel will best assist in meeting mission requirements. While command-initiated cost reduction goals are not formally required, their motivational value is recognized in achieving cost savings. HQDA will not assign cost reduction goals to MACOMs/separate agencies.

6–2. Management practices/productivity improvement training.

a. Commanders are expected to maintain a capability to provide advice and/or training in sound management practices.

b. Management practices training.

(1) First-line civilian supervisors should be encouraged to obtain management practices (MAP-TOE/TDA-type) training through various means such as US Civil Service Commission-sponsored courses, nonresident courses of instruction, off-duty education, and, where sufficient requirements exist, through on-site training when individual commanders feel the need warrants it. Training courses for military personnel at service schools, NCOES, and the Sergeant Majors Academy should include instruction introducing management practices subject matter. Such training should be coordinated with civilian personnel offices in all cases.

(2) Since publication of various management practices publications, it has been determined that the DA Pam 5-3 series is the most comprehensive and best satisfies training requirements in this area. Therefore, DA Pamphlet 5-2-1, MAP/TOE Manager's Handbook will be discontinued when existing stocks are exhausted.

c. Productivity improvement training. Professional development and cross-training of management and industrial engineering staff personnel is necessary for the successful implementation of the command's productivity improvement program. Selection of individual courses is dependent on the particular field of specialization or management level of the individual concerned. Titles of appropriate management courses are listed in figure 6-1. Course descriptions and prerequisites are found in the DOD Defense Management Education and Training Catalog, DOD 5010.16-C. In addition, Civilian Personnel Regulations (CPR) 950-11, 950-18, and 950-26 contain basic policies and requirements for the career training and development of Management Analysts, Industrial Engineers, and Manpower Management Specialists, respectively.

d. Effective implementation of DAPP requires well-trained and highly skilled personnel. To assist the commander in meeting this requirement, the DA Pam 5-4 series has been developed. Each pamphlet is/will be designed as a self-teaching text for new personnel or as a reference document for personnel already familiar with the techniques. The list is "open ended" in that new pamphlets will be developed as the state-of-the-art of the Army's productivity improvement effort changes and progresses.

(1) DA Pam 5-4-2, Work Simplification Handbook for Analysts, provides a self-teaching document for new management analysts and a reference source for analysts familiar with work simplification techniques.

(2) DA Pam 5-4-4, DIMES Program Review Handbook (will be retitled Methods and Standards Handbook), presents the general methodology and techniques for conducting a review of an activity's methods and standards effort. It is designed to acquaint the reviewer and the installation to be reviewed with the features that are to be considered in conducting the review.

(3) DA Pam 5-4-5, Value Engineering Handbook, explains the VE Program and covers the techniques used to obtain total value improvement in research, development, test and evaluation, production, procurement, quality assurance, administration, construction, supply, transportation, operations, maintenance, storage, and disposition of Army materiel.

(4) DA Pam 5-4-6, Work Scheduling Handbook, provides scheduling techniques such as Gantt, line-of-balance, and lead-time charts, which can be used by management personnel at all organizational levels.

6–3. Management improvement awards.

a. Commanders are encouraged to use existing forms of recognition such as incentive awards, special act, or service awards, and other forms of local recognition to reward individuals, organizations, and groups who find better ways to manage the Army's resources. To be effective motivators, awards should be timely. Awards must be consistent with the criteria contained in AR 672-20.

b. In addition to granting local recognition, commanders are encouraged to nominate individuals, organizations, or groups for the Presidential Management Improvement Award or the Department of the Army Management Improvement Award for Exceptional Performance.

(1) The Presidential Management Improvement Award represents the pinnacle of management improvement recognition afforded by the Federal Government. Heads of Army Staff agencies and major commanders are encouraged to submit nominations for this award. The nominations will be limited to individuals, small working groups/teams, and organizational units which have done an exceptional job of reducing costs, improving operating effectiveness, or enhancing productivity.

(2) The Comptroller of the Army (COA) will convene a special committee composed of representatives from the HQDA staff to screen and select the nominations that are most deserving of presidential recognition. HQDA will submit the nominations of recommended selectees to OSD for the annual Presidential Management Improvement Awards. All remaining nominations will be considered by the committee for a DA Management Improvement Award for Exceptional Performance or a COA letter of appreciation.

(3) The COA will annually request all Army organizations to submit nominations for Presidential Management Improvement Awards. The nomination cycle will occur during the first quarter after the end of the fiscal year.

6–4. Motivation.

a. The central issue in the productivity improvement effort is motivating individuals to make a psychological commitment toward greater effectiveness and efficiency. Motivation is not simply a matter of getting people to produce more; it also deals with getting them to cooperate with their manager/supervisor and each other, to display initiative, and to integrate personal goals with organizational goals.

b. Commanders should emphasize positive reinforcement for desired behavior, rather than negative sanctions for undesirable behavior. This approach is essential to produce a sense of individual satisfaction and achievement which in turn is a prerequisite for achieving high performance levels and improved productivity.

6–5. Idea interchange.

a. An effective system for interchanging ideas is essential to insure that maximum benefit is received from each productivity improvement action. Commanders should give widest dissemination to demonstrated successful ideas for improving productivity.

b. ★Major commands, installations, and activities will—

(1) Establish an internal system for surfacing proven ideas that have been implemented within their organization. Whenever possible, existing data will be used for the Idea Interchange Program (e.g., DA Form 4525 (Statistical Summary of Methods and Standards (M&S) Activity), DA Form 1045 (Suggestion), etc.). Ideas include improvements allowing increased workloading with existing resources, avoiding otherwise needed future expenditure, or resulting in reductions of resources at present time. Resources entail all manageable assets including time. Man-hours, energy, training costs, expendable supplies, maintenance costs, contracted requirements, and predictable required capital investments are some of the major categories of resource requirements.

(2) Establish a reviewing body to explore new applications for ideas already in use.

(3) Circulate those proven ideas which have potential for application within their organization to insure that good management ideas make the rounds as quickly as possible.

(4) Continuously review those ideas that have been implemented, which have broader application, and forward through channels for review to the next higher echelon which has authority to implement the action on a wider basis.

c. ★Those ideas which have potential for application throughout the Department of the Army, Department of Defense, or the Federal Government will be forwarded to HQDA (DACA-RPM), ATTN: Idea Interchange, The Pentagon, WASH DC 20310. MACOMs/agencies/ARSTAF elements are encouraged to report ideas as they are surfaced; however, these submissions will be reported to HQDA not later than 1 August and 1 February each year. Negative replies are required. Each idea submitted will contain information as specified in appendix E (RCS GSCOA-71).

d. Comptroller of the Army will—

(1) Administer the Army-wide Idea Interchange Program.

(2) Coordinate ideas received from the field with appropriate HQDA staff elements prior to dissemination.

(3) Furnish useable ideas to the Chief, Public Affairs for appropriate dissemination.

(4) Act as point of contact with components of DOD and other Federal agencies on policy and concepts related to the Army Idea Interchange Program.

(5) Utilize Idea Interchange reporting as a source of data on command productivity initiatives.

e. Chief of Public Affairs will develop procedures and provide for disseminating ideas within the Department of the Army, and with DOD organizations and Government agencies.

Management Training Courses

1. ADP Orientation Seminar (JT) 73–7F
2. Defense Work Methods and Standards Course (JT) 7A–F19
3. Defense Work Methods and Standards Orientation (JT)
4. Methods Time Measurement (MTM) (JT) 7A–F24
5. Methods Time Measurement (MTM) 2A
6. Methods Time Measurement (MTM) 2B
7. Methods Time Measurement (MTM) 3
8. Organization Planning (JT) 7A–F8
9. Workshop for Managers of Defense Management Engineering Activities (JT) 7A–F6
10. Defense Work Measurement Standard Time Data (JT) 7A–F17
11. Administrative Systems Analysis and Design (JT) 7A–F17
12. Management of Managers (JT) 7A–F38
13. Work Planning and Control Systems (JT) 7A–F21
14. Dynamics of Employee Behavior (JT) 7A–F40
15. Introduction to Supervision and Management (JT) 7A–F37
16. Contractual Aspects of Value Engineering 560 (JT)
17. Principles and Application of Value Engineering (JT) 8D–F27
18. Military Controllership Course (7D–2800) (See DA Pam 350–10)
19. Professional Military Comptroller Course (AF)
20. Productivity Orientation Seminar (JT) 7A–F20
21. Emerging Trends in Management Technology (JT) 7A–F39
22. Advanced Management Course (JT) 7A–F43
23. Financial Planning and Control Techniques (JT) 7D–F7
24. Human Behavior in Organizations (JT)
25. Management Analysis Workshop (JT)
26. Managerial Communication Appreciation (JT) 7A–F27
27. Planning and Conducting Management Audits and Studies (JT)
28. Productivity Measurements and Enhancement Methods (JT)
29. Project Planning and Control Techniques (JT) 5LF1

Figure 6-1. Courses Appropriate for Attendance by Personnel Involved in the Implementation of DAPP.

Appendix A
REFERENCES

Section I
Required Publications

This section contains no entries.

Section II
Related Publications

DOD 5010.16–C
Defense Management Education and Training

DOD 4120.3–M
Standardization, Policies, Procedures and Instructions

DOD 5010.15.1–M
Standardization of Work Measurement

AR 11–7
Internal Review

AR 11–28
Economic Analysis and Program Evaluation for Resource Management

AR 25–1
Policies, Objectives, Procedures, and Responsibilities

AR 37–100
The Army Accounting Classification Structure (Fiscal Code)

AR–37–100–FY
Army Management Structure

AR 37–110
Accounting, Reporting, and Responsibilities for Industrial Funded Installations and Activities

AR 70–15
Product Improvement of Materiel

AR 70–27
Outline Development Plan/Development Plan/Army Program Memorandum/Defense Program Memorandum/Decision Coordinating Paper

AR 70–37
Configuration Management

AR 70–45
Scientific and Technical Information Program

AR 71–6
Type Classification/Reclassification of Army Materiel

AR 235–5
Management of Resources—Commercial and Industrial–Type Functions

AR 310–1
Publication, Blank Forms, and Printing Management

AR 310–25
Dictionary of United States Army Terms

AR 310–34
Equipment Authorization Policies and Criteria, and Common Tables of Allowances

AR 310–49
The Army Authorization Documents Sysstem (TAADS)

AR 340–4
Office Equipment

AR 340–8
Army Word Processing Program

AR 340–18–1
The Army Functional Files System—General Provisions

AR 340–2
The Army Microforms Program

AR 570–4
Manpower Management

AR 672–20
Incentive Awards

AR 700–90
Army Industrial Preparedness Program

AR 725–50
Requisitioning, Receipt, and Issue System

DA Pam 5–2
Improvement Tools for Soldier Managers

DA Pam 5–3
Management Improvement Techniques for First Line Supervisors

DA Pam 5–3–1
MAP-TDA Instructor's Guide

DA Pam 5–4–2
Work Simplification Handbook for Analysts

DA Pam 5–4–4
DIMES, Defense Integrated Management Engineering System—Program Review Handbook

PA Pam 5–4–5
Value Engineering Handbook

DA Pam 5–4–6
Work Scheduling Handbook

MF 61–5718
Better Ways for Doing Work

MF 61–5719
Who Does What to What

MF 61–5720
Roadmap to Less Effort

MF 61–5721
Counting What Counts

MF 61–5722
Make Fewer Motions

MF 61–5723
Take Fewer Steps

MF 61–5724
Where Do We Go From Here

T(SL) 61–4
A through 137-Management Practices in TOE Units (MAP-TOE)

CPR 410
Training

FPM 410
Training

Section III
Prescribed Forms
This section contains no entries.

Section IV
Referenced Forms
This section contains no entries.

Appendix B
GLOSSARY (See Glossary section)

Appendix C
ABBREVIATIONS AND ACRONYMS (See Glossary section)

Appendix D
VE PROJECTS FOR THE DOD PRODUCT ENGINEERING SERVICES OFFICE

D–1. Purpose.

This section prescribes policies, responsibilities, and procedures for the submission of VE projects for referral to the DOD Product Engineering Services Office (PESO).

D–2. General.

a. The PESO was established in September 1963 and started full operations in February 1964. Its professional VE staff has a broad technical background, and their services (mixed skills) are available to augment the in-house VE capabilities of any DOD agency requesting them.

b. The PESO performs studies under the direction of the DOD VE Committee on projects submitted by DOD agencies.

D–3. Policies.

a. MACOMs/agencies may identify projects to be submitted to the PESO.

b. The projects will meet the following criteria:

(1) They will be limited to hardware items which are—

(a) In supply status,

(b) Undergoing initial procurement, or

(c) In development or early production.

(2) They will have a minimum annual funding requirement of $1.5 million, and/or a minimum life projection of $4.0 million.

(3) They will be coordinated with the local functional organizations concerned prior to submission.

c. Inasmuch as the PESO works for the requesting element, it will receive full cooperation from that element.

d. If a project requires effort by the PESO personnel, at a contractor's plant, it will be specific as to item and scope. In such cases, the PESO personnel will be working for and assisting the Army activity which submitted the project.

e. The projects may be submitted at any time.

D–4. Responsibilities.

a. HQDA (DACA-MP) will review all proposed projects and will submit the appropriate ones to the PESO.

b. MACOMs/agencies will—

(1) Issue directives and procedures to comply with requirements of this appendix.

(2) Make periodic reviews of materiel for suitable projects for referral to the PESO.

(3) Avail themselves of the services of the PESO to the maximum practical extent.

D–5. Procedures.

a. The responsible MACOM/ agency will submit appropriate projects to HQDA (DACA-MP), WASH DC 20310. DACA-MP will review and forward recommended projects through channels to PESO.

b. The Army activity requesting the study will be given credit for all savings which result from approved proposals.

c. Each Army activity concerned will maintain the following information on PESO studies performed at its request:

(1) Estimated monetary savings, by year, if all proposals resulting from the study were to be approved (based on forecast at time of report).

(2) Proposals implemented; status of other proposals; reason(s) for disapproval of any proposal.

(3) Potential savings on proposals implemented, using procurement or production schedules existing at time of the PESO report.

(4) Savings actually reported or eligible for future reporting.

(5) Explanation of significant differences between items in (3) and (4) above.

d. The information outlined in c above should be maintained current in order that the latest available data can be furnished HQDA (DACA-MP) on an "as required" basis.

e. Each project proposed will include the information specified in figure D-1, and will be furnished in triplicate.

Information on VE Projects for the DOD Product Engineering Services Office (PESO)

Date: _____

1. Submitting Army Element:
2. Project title: (i.e., item nomenclature)
3. Status of item: (Check appropriate blank)
   In supply _____ In initial procurement _____
   In development _____
4. Item requirements and operational concepts:
   a. General characteristics: (State the general characteristics of item in sufficient detail to indicate nature of item; provide a photograph or artist's conception of item, if available).
   b. Broad concept of employment of item or system: (State how used, when, where, and by whom).
   c. What item will accomplish: (State clearly the characteristics that are considered essential and those that are desirable).
5. Cost data: (present configuration)
   a. Unit cost of prototype item: $_____
   b. Unit cost of item in initial production: $ _____
   c. Unit cost of item in quantity production: $_____ in quantity of _____ items.
6. Estimated cost of maintenance/100 items:
   a. Initial: $_____
   b. Annual repair: $_____
7. Estimated quantity requirements for the item:
   a. Current fiscal year: _____
   b. Fiscal year plus 1: _____
   c. Fiscal year plus 2: _____
   d. Fiscal year plus 3: _____

Figure D-1. Format for Proposing Projects to the DOD PESO.

Appendix E
IDEA INTERCHANGE FORMAT (RCS: CSCOA-71)

A. *TITLE:*

B. *DESCRIPTION:* (Clearly written, non-technical description of the idea not to exceed 100 words. Acronyms will be spelled out the first time used. Describe the situation before and after the idea was implemented.)

C. *SUGGESTED APPLICATION:* (Select appropriate number) _____

(1) Installation-wide, (2) Command-wide, (3) Army-wide,
(4) DoD-wide, (5) Government-wide.

D. *POINT OF CONTACT:* (Contributor/originator of idea)

(1) ORGANIZATION: _____

(a) UNIT IDENTIFICATION CODE (UIC): _____

(2) NAME: _____

(3) ORGANIZATION ADDRESS: _____

_____

(4) PHONE NUMBER: (_____)_____
(a) Area Code (b) AUTOVON (c) Phone No.

E. *SOURCE OF IDEA:* (Select appropriate code) _____

BA	Quick Return on Investment Program (QRIP)	BG	Energy Conservation Program
BB	Productivity Enhancing Investment Program (PECIP)	BH	Medical Care and Service Improvement Programs
BC	OSD Productivity Investment Funding (OSD PIF)	BI	Purchase of ADP Equipment When Cost Effective/Lease With Option to Purchase (PACE/LWOP)
BD	Methods and Standards Program (M&S)	BJ	Army Industrial Fund (AIF)
BE	Value Engineering Programs (VE)	BK	Suggestion Program*
BF	Joint Financial Management Improvement Program (JEMIP)	BL	Idea Interchange
		BM	Other (specify)

* When disseminating an idea resulting from an adopted suggestion, feedback should be requested by originating organization concerning further implementation in order to protect the proprietary rights of the suggestor.

F. *ANNUAL SAVINGS:* $_____

(1) Personnel. _____

(2) Travel/Transportation. _____

Figure E-1. Idea Interchange Format

(3) Rentals. _____

(4) Other Contractual Services. _____

(5) Communications. _____

(6) Utilities/Energy. _____

(7) Equipment Purchase. _____

(8) Supplies and Materials. _____

(9) Other (Specify). _____ _____

G. *IMPLEMENTATION DATE:* _____

H. *SOURCE OF IMPLEMENTING FUNDS:* (Appropriation and element of expense). _____

I. *APPLICABLE FUNCTIONAL AREA(S):* (Select corresponding number(s) from appropriate functional areas listed in table E–1.)

_____

Figure E-1. Idea Interchange Format—Continued

Table E–1
Index (Numerical)

Number	*Function*
001	Accounting
002	Administrative Law
003	Alcohol and Drug Abuse Prevention and Control
004	*Army Mobilization Doctrine*
005	Apprehension
006	Arms Control, Negotiation, and Disarmament
007	*Automation Security*
008	Audio-Visual Activities
009	Audit Compliance
010	Budget Execution
011	Budget Formulation
012	Budget Review
013	Casualties and Survivor Assistance
014	Censorship
015	Chemical Matters
016	Civil Administration
017	Civil Affairs
018	Civil Defense
019	Civil Disturbance
020	Civil Emergency
021	Civilian Personnel Law
022	Civilian Personnel Management
023	Classified Registry
024	Army Energy Management
025	Combat Intelligence
026	Command and Control
027	*Command and Control Communications*
028	*Automation/Communications Standards*
030	*Meteorology*
031	Contract Financing
032	Correction
033	Cost Analysis
034	Counterintelligence
035	Courier Service
036	Crime Prevention
037	Criminal Investigation
038	Cryptology
039	Customs Activities
040	Demobilization
042	Development Test and Evaluation
043	Discipline
044	DOD, Joint, and Combined Organizations and Functions
045	Economic Analysis
046	*Electromagnetic Compatibility*
047	*Electromagnetic Spectrum Management*
048	*Communications Security*
049	Enemy Prisoner of War/Civilian Internees
050	Entitlement
051	Environmental Management
052	Environmental Services
053	External Administrative Services
054	Army Facilities Components System
055	*Electronic Security*
056	Finance Service
057	Financial Inventory Accounting
058	Fiscal
059	Force and Resource Requirements

Table E–1
Index (Numerical)—Continued

Number	*Function*
060	Force Mobilization
061	Force Structure Development
062	Army Stock Fund
063	Foreign Law
064	Health Services
065	Health Standards
066	Historical Properties
067	Industrial Activities
068	Information
069	Inspector General Activities
070	Intelligence
071	Internal Management
072	Internal Review
073	Internal Services
074	International Cooperative Research and Development
075	International Law
077	*International Military Standardization*
078	Interservice and Interdepartmental Support
079	Joint and Army Doctrine
080	Law Enforcement
081	Legal Assistance
082	Legislative Relief
083	Library Service
084	Litigation
085	Management Improvement Programs
086	*Studies and Analyses*
087	Manpower Allocation
088	Manpower Requirements
089	Manpower Utilization
090	Materiel Acquisition
091	Materiel Disposal
092	Materiel Distribution
093	Materiel Life Cycle Management
094	Materiel Maintenance
095	Atomic Energy Matters
096	Materiel Production
097	Military Aspects of Space and Sea
098	Military Awards
099	Military Compensation
100	Military Construction
101	Military History
102	Military Justice
103	Military Operations
104	Military Personnel Management
105	Military Promotions
106	Military Separations
107	Moral Welfare
108	Motor Vehicle and Traffic Standards
109	National Security Affairs
110	Net Assessment
111	Nonappropriated Funds
112	*Nontactical Communications*
113	Nuclear Weapons Surety
114	Operational Capabilities
115	Operational Priorities
116	Operational Readiness
117	Operational Testing
118	Operations Security
119	Organization
120	Paperwork and Records Management
121	Patent, Trademark, and Copyright Law
122	Personnel Distribution
123	Personnel Mobilization
124	Personnel Procurement
125	Personnel Support Services
126	*Individual Training*
127	Physical Security
128	Politico-Military Affairs
129	Principal Item Requirements
130	Contract Law
131	Program Activities
132	Statistical Clearance and Policy
133	Psychological Operations
134	Publications
135	Real Estate
136	Real Estate Law
137	Real Property Maintenance Activities
138	*Labor Relations Law*
139	Religious Welfare
140	Remains and Effects Disposition
141	Research
142	Reserve Personnel Administration
143	Retired Affairs
144	Roles and Missions
145	*Army Safety Program*
146	*Satellite Communications*
147	Scientific and Technical Information
148	Search and Rescue
149	Secondary Item Requirements
150	Security
151	Security Assistance
153	Special Plans
154	Standardization
155	Status of Forces
156	Strategic Intelligence
157	Strategy Application: Mid- and Long-Range
158	Strategy Application: Regional
159	Strategy Formulation
161	*Tactical Communications*
162	*Telecommunications*
163	Topography
164	Transportation
165	Unconventional Warfare
166	Unit Training
167	Welfare and Morale
168	Electronic Warfare
169	Equal Opportunity Programs
170	Signals Intelligence
171	TOE Development and Approval

Table E–1
Index (Numerical)—Continued

Number	*Function*
172	*Management Information Control*
173	Product Improvement
174	Systems Review and Analysis
175	Threat Analysis
176	Collection Activities
177	Commercial and Industrial Type Activities
178	Domestic Action
179	Foreign Intelligence Assistance Program
180	Foreign Liaison Activities
181	Heraldic Activities
182	Human Intelligence (HUMIT)
183	Installation Planning and Utilization
184	Installation Restoration
185	Integrated Logistics Support (ILS)
186	Nuclear, Biological, and Chemical (NBC) Defense
187	Nuclear Power
188	*Imagery Interpretation (IMIT)*
189	Postal Service
190	Relocation Assistance
191	Standard Level User Charges
192	Stationing
193	Homeowners Assistance Program
194	Electro-Optical Intelligence
195	*Automation/Communications Management*
196	*Automated Systems/ADPE*
197a	Housing Management (Housing Utilization)
197b	Housing Management (Housing Requirements and Operations)
197c	Housing Management (Recreational Housing)
198	Inspection Compliance
199	Collective Security
200	Organizational Effectiveness
201	Affiliation Program
202	Army Management Doctrine
203	Management Analysis
204	Review and Analysis Program
205	Foreign Personnel Training
206	*Intelligence-Related Activities*
207	*Countering Terrorism on Military Installation*
208a	*Resource Management Policy*
208b	*Resource Management Review*
301	Supervision
302	Clerical Support to Supervision
303	Clerical Support to Action/Project Officers
304	Other Work

Appendix F
METHODS AND STANDARDS (to be published)

Appendix G
VALUE ENGINEERING (to be published)

Appendix H
PRODUCTIVITY CAPITAL INVESTMENT PROGRAMS

Section I
INSTRUCTIONS FOR SUBMISSION OF DA FORM 5108-R (DOCUMENTATION FOR PRODUCTIVITY CAPITAL INVESTMENT PROGRAM) RCS DD-M(R) 1561)

1. *PROJECT NUMBER:* Will be assigned at MACOM/agency level, identifying the proponent, type of project, fiscal year and numerical sequence, e.g., a QRIP project being submitted from FORSCOM for FY 83 funding would be numbered FORSCOM OPA QRIP 83-1 or FORSCOM OMA QRIP 83-1, etc. An OSD Productivity Investment Funding project submitted from TRADOC in FY 81 for funding consideration in FY 83 would be numbered TRADOC-PIF-83-1. An Ammo project from DARCOM for FY 83 would be DARCOM AMMO QRIP 83-1. A USAREUR PECIP project considered for funding in FY 83 would be numbered USAREUR-PECIP-83-1.

2 through 4. Self-explanatory.

5 and 6. *DoD COMPONENT NAME AND CODE:* Self-explanatory.

7. *COMMAND CODE:* Enter command UIC from table H-1. Leave blank if an appropriate code is not listed or unknown.

8. *DATE:* Enter date typed.

9. *PROJECT TITLE:* In 25 alphanumeric characters or less, indicate descriptive title of project.

10. *TYPE OF PROJECT:* Self-explanatory.

11. *AMORTIZATION:* Use average annual savings during the amortization period when the savings vary.

12. *FUNCTIONAL AREA WHERE SAVINGS WILL OCCUR:* List appropriate code and title from table E-1 reflecting where the savings will occur for all projects. Additionally, use DOD Functional Area Code from table H-2 on all OSD PIF projects.

13. *ECONOMIC LIFE:* Enter period or duration in which benefits are expected to accrue. (See AR 11-28.)

14. *EXPECTED OPERATIONAL DATE:* Enter date project is expected to become fully operational, subsequent to receipt of funds. This is the date project starts to produce savings and/or increase productivity. (The date is very important for OSD PIF projects.)

15. *SUBMITTING UNIT(s):* List the activity, installation or unit responsible for obtaining, installing and operating the equipment. If project contains investments for more than one activity, each activity should be identified.

16. *UNIT IDENTIFICATING CODE:* Reflect appropriate 6-character Unit Identification Code for submitting unit or units.

17. *PROJECT DESCRIPTION:* Describe the project in clear, concise terms. Indicate what equipment or facilities will be acquired and how productivity will be improved as a result of the investment (This section must be detailed and continuation sheets (not to exceed five pages) may be added. An economic analysis may be attached to OSD PIF submissions; however, the actual project submission must be descriptive enough to stand alone without the economic analysis.)

18. *DETAILED JUSTIFICATION:* Indicate significant changes from Present to Proposed Method of operation and expected results. Detailed breakdown of costs and savings (Present versus Proposed Method) should be reflected in item 19 of project documentation.

19. *SAVINGS DISPOSITION:* Indicate short narrative of planned disposition of project savings/benefits which must coincide with proposed reapplication of savings in item 20.

20. *OTHER REMARKS:* Reflect intangible (non-dollar) benefits or other pertinent data affecting the project, e.g., backlogs, manpower constraints, mission or program priorities, materiel readiness, etc. Indicate if this investment is in support of Commercial Activities (CA) Program Management Study. If so, reflect the date equipment is needed.

21. *SUMMARY OF SAVINGS:*

a. Reflect Present and Proposed Method through a 4-year period regardless of the specified amortization.

b. The prioritization list is derived from completion of the following:

(1) Internal Rate of Return

(2) Savings/Investment Ratio

(3) Rate of Investment Per Manpower Space

22. *PROJECT COST:* All costs associated with making the project operational should be reflected and clearly identified relative to their source, e.g., requested under QRIP, OSD PIF, PECIP, etc. (Accuracy is most important in reflecting the appropriation by Budget Activity/Program Element.) Cost estimates should be inflated, using the OSD/OMB Inflation Indices.

23. *SUMMARY OF SAVINGS (MANPOWER & DOLLARS):* Complete as indicated. If savings are predicated on equivalent manpower spaces, specific functions to be performed during the additional manhours available must be explicitly reflected at the bottom of the page. The term "to reduce backlog" will not suffice unless the backlog is fully described and quantified.

24. a. Cite formal regulatory or statutory approvals and include attachments reflecting these approvals, e.g., TAGO or AR 18-1 approvals.

b. Other coordination: Functional Coordination at the local level, e.g., Facility Engineer, DIO, Personnel. (Must be completed on all project submissions.)

25 through 27. All projects must have appropriate signature in these items. The OSD PIF projects forwarded to HQDA must be signed by the MACOM/agency/ARSTAF comptroller/resource manager or deputy.

Table H–1
Unit Identification (UIC) Codes

Command	*UIC*	*Command Name*
ACSI	WOZ1AA	Assistant Chief of Staff, Intelligence
BMDSC	W2ZAAA	Ballistic Missile Defense Programs Office
CNGB	WOOQAA	Chief, National Guard Bureau
COE	W74RDV	USA Office Of The Corps of Engineers
CSA	WOZUAA	Office, Chief of Staff, US Army
DARCOM	W73QKK	USA Materiel Development & Readiness Command
EUCOM	WO92AA	US European Command
FORSCOM	W33GU6	US Army Forces Command
HQDA	WOOLAA	Headquarters, Department of the Army
HSC	W45RBK	US Army Health Services Command
INSCOM	W73GBL	US Army Intelligence and Security Command
MDW	W74N84	USA Military District of Washington
MEPCOM	W37NAA	USA Military Enlistment Processing Command
MTMC	WOQFAA	Military Traffic Management Command
NDU	W37WAA	National Defense University
OSA	WOOEAA	Office, Secretary of the Army
TAG	WOO8AA	The Adjutant General
TRADOC	W26CJU	US Army Training & Doctrine Command
TSA	W3F338	Troop Support Agency
TSG	WOOLAA	The Surgeon General
USACC	W61DEG	US Army Communications Command
USACIDC	W74N13	USA Criminal Investigation Command
USACSC	W248AA	USA Computer Systems Command
USAEIGHT	WT4KCV	Eighth USA
USAFAC	WONRAA	USA Finance & Accounting Center
USAREC	WO6QAA	USA Recruiting Command
USAREUR	WK4FZV	USA Europe
USARJ	WT55MU	USA Japan
USMA	WIFBAA	US Military Academy
WESTCOM	W32FAA	USA Western Command

DOD PRODUCTIVITY PROGRAM
(Applicable Only to OSD PIF Projects)

Function	*Code*
COMMUNICATIONS	
COMMUNICATIONS—BASE LEVEL COMMUNICATIONS ACTIVITIES	1110
COMMUNICATIONS—DEFENSE WIDE COMMUNICATION SYSTEMS	1120
COMPTROLLER	
AUDITING—CONTRACT AUDITING	2110
AUDITING—INTERNAL AUDITING	2120
FINANCIAL—BASE LEVEL ACCOUNTING AND FINANCE ACTIVITIES	2210
FINANCIAL—CENTRALIZED ACCOUNTING AND FINANCE ACTIVITIES	2220
OTHER—DATA PROCESSIG	2310
LOGISTICS	
FACILITIES—REAL PROPERTY MAINTENANCE ACTIVITIES	3110
MAINTENANCE—ADMINISTRATIVE USE MOTOR VEHICLES MAINTENANCE	3210
MAINTENANCE—DEPOT MAINTENANCE (OTHER THAN SHIPS)	3220
MAINTENANCE—DEPOT MAINTENANCE AND CONSTRUCTION (SHIPS)	3230
MAINTENANCE—INTERMEDIATE MAINTENANCE	3240
PROCUREMENT—CENTRAL PROCUREMENT	3310
PROCUREMENT—CONTRACT ADMINISTRATION	3320
PROCUREMENT—LOCAL PROCUREMENT	3330
SUPPLY—DEPOT LEVEL SUPPLY ACTIVITIES	3410
SUPPLY—INVENTORY CONTROL ACTIVITIES	3420
SUPPLY—LOCAL SUPPLY ACTIVITIES	3430
TRANSPORTATION—ADMINISTRATIVE USE MOTOR VEHICLE OPERATION	3510
TRANSPORTATION—BASE TRANSPORTATION AND TRAFFIC MANAGEMENT	3520
TRANSPORTATION—DEPOT TRANSPORTATION AND TRAFFIC MANAGEMENT	3530
TRANSPORTATION—SINGLE MGR TRANSPORTATION AND TRAFFIC MGMT	3540
MANUFACTURING	
MANUFACTURING—CHART AND MAP DEVELOPMENT AND PRODUCTION	4110
MANUFACTURING—CLOTHING PRODUCTION	4210
MANUFACTURING—MUNITIONS DEVELOPMENT AND PRODUCTION	4310
MANUFACTURING—WEAPONS DEVELOPMENT AND PRODUCTION	4410
MANUFACTURING—OTHER SPECIALIZED MANUFACTURING ACTIVITIES	4510
MEDICAL	
MEDICAL SERVICES—CLINICS	5110
MEDICAL SERVICES—HOSPITALS	5120
PERSONNEL	
EDUCATION—DEPENDENTS EDUCATION (CONUS)	6110
EDUCATION—DEPENDENTS EDUCATION (OVERSEAS)	6120

Table H–2
Functional Areas and Codes—Continued

Function	*Code*
EDUCATION—PROFESSIONAL EDUCATION	6130
MANAGEMENT—CIVILIAN PERSONNEL MANAGEMENT	6210
MANAGEMENT—MILITARY PERSONNEL MANAGEMENT	6220
SUPPORT—INFORMATION ACTIVITIES	6310
SUPPORT—LIBRARY ACTIVITIES	6320
SUPPORT—RECREATION ACTIVITIES	6330
SUPPORT—OTHER PERSONNEL SUPPORT ACTIVITIES	6340
SECURITY	
SECURITY—PERSONNEL INVESTIGATION	7110
SECURITY—PERSONNEL, PROPERTY, AND ORDER	7120
SERVICES	
SERVICES—COMMISSARY ACTIVITIES	8510
SERVICES—FOOD SERVICE ACTIVITIES	8520
SERVICES—LAUNDRY AND DRY CLEANING OPERATIONS	8530
SERVICES—PRINTING AND DUPLICATION ACTIVITIES	8540
SERVICES—PROPERTY DISPOSAL ACTIVITIES	8550
SERVICES—STUDIES (STORAGE, RETRIEVAL AND ANALYSIS)	8560
OTHER	
ADMINISTRATION—BASE ADMINISTRATION AND MANAGEMENT	9110
ADMINISTRATION—COMMAND ADMINISTRATION AND MANAGEMENT	9120
ADMINISTRATION—DEPT/AGENCY ADMINISTRATION AND MANAGEMENT	9130

Section II
RANKING PROCESS OR PRIORITIZATION FOR PRODUCTIVITY CAPITAL INVESTMENT PROGRAMS

1. The same method used by Office, Secretary of Defense (OSD) to rank OSD Productivity Investment Funding (OSD PIF) projects will also be used to prioritize projects approved under QRIP and PECIP.

2. The ranking process or prioritization for funding involves the composite of three separate rank lists, the Internal Rate of Return (IRR), Savings to Investment Ratio (S/I) and Rate of Investment per Manpower Space (RIMS). The rank or position, on each list will be added to form the fourth and final rank list used for funding consideration. Each list will be developed by taking the following action:

a. Internal Rate of Return (IRR).

(1) *Definition:* The interest rate that equates the present value of expected future savings (through economic life) to the present value cost of the investment.

(2) *Computation:* Assuming that the total investment is made in the first period and the savings realized are constant for each year of the economic life, the dollar amount of the investment is divided by the dollar amount of annual savings to arrive at a factor. Using Present Worth Table of Cumulative Discount (Mid-Year) Factors (table H-3), the derived factor is matched with the nearest discount factor, according to economic life. The Internal Rate of Return is determined by looking at the corresponding annual rate.

(3) *Example:* Consider a $20,000 project with an economic life of 10 years that saves $12,000 per year. Dividing the $20,000 investment by the $12,000 savings, a factor of 1.667 is derived. Using the present worth table, look at 10 year rows and find the factor that is nearest to 1.667. This would be 1.697. The annual rate would reflect an IRR of 80 percent. If savings vary each year, the IRR must be found by trial and error. The savings for each year are listed, and various discount rates are applied to these amounts until a rate is found that makes their total present value equal to the amount of the investment. This process can be very tedious; therefore, computer (or programmable calculator) programs are recommended for this calculation.

b. Savings to Investment Ratio (S/I).

(1) *Definition:* A measure of the desirability of a proposed alternative compared to the status quo. A savings to Investment Ratio of more than one indicates that the proposed alternative is cost effective.

(2) *Computation:* The present value of the economic life savings of the proposal is divided by the present value of the investment cost of the proposal. Using the program/project discount factors table (table H-4) with 10 percent discount factors, the following steps are taken to discount the amount of savings or investment to the present value.

(a) If savings do not vary over economic life, the table H-4 cumulative uniform series table will be used to select the discount factor, based on the economic life of the project. The amount of the annual savings is multiplied by the discount factor to arrive at the present value of the savings.

(b) If savings vary over the economic Life, the table H-4 single amount table will be used. The amount of savings for each year is discounted individually with the factor from the table corresponding to the project year. The discounted amounts for each year are added together to arrive at the present value of savings.

(c) Investments are usually made at one time. In this case, no discounting is necessary and the total investment will be the Present Value of Investment. If investments are phased over a period of time, discounting of the phased amounts needs to be done. The same method in preceding paragraph for savings varying over the economic life will be used.

(3) *Example:*

(a) Consider the same project example reflected in paragraph 2a(3) above ($20,000 investment, $12,000 annual savings and ten-year economic life). The investment will be made at one time; therefore the $20,000 investment (undiscounted) will be considered the present value of investment. Consider that $12,000 annual savings will remain constant (the same amount each year).

(b) Based on 10-year economic life, select the discount factor from the table H-4 cumulative uniform series which would be 6.447. Multiply $12,000 annual savings by 6.447 to derive present value of savings ($77,364). Divide present value of savings ($77,364) by present value of investment ($20,000) to derive a savings to investment ratio of 3.87.

c. Rate of Investment per Manpower Space (RIMS).

(1) *Definition:* Relates the investment cost to number of whole manpower space authorizations and/or on board personnel saved. The dollar savings from manpower equivalents may be used in the IRR and S/I computations above; however, no credit is given in this computation for anything less than a full manpower authorization and/or actual on board personnel made available for transfer elsewhere. Over-hires or Borrowed Military Manpower may be included in this computation, but not partial man-years or equivalent spaces.

(2) *Computation:* Divide the investment cost by the number of authorizations or personnel saved (to be transferred elsewhere).

(3) *Example:* A $20,000 investment divided by 2 manpower authorizations or Borrowed Military Manpower "freed up" would provide $10,000 as Rate of Investment per Manpower Space.

3. Summary of above ranking method, using the following example:

Project Cost	$20,0000
Annual Savings	$12,000/2 manpower spaces
Economic Life	10 years

(1) IRR: 80 % Projects with the higher IRRs will rank higher on the list.

(2) S/I: 3.87 Projects with the higher S/Is will rank higher on the list.

(3) RIMS: $10,000 Projects with lower RIMs will rank higher on the list.

(4) Composite of ranking on each of the three lists (IRR, S/I, RIMS).

4. The above method along with other pertinent factors, e.g., improving readiness, supporting CA management, etc., will also be used to prioritize projects.

Table H-3
Present Worth Table of Cumulative Discount Factors

TABLE OF MID-YEAR FACTORS

Years	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%
1	.955	.935	.917	.900	.885	.870	.857	.845	.833	.823
2	1.822	1.748	1.681	1.620	1.565	1.515	1.469	1.427	1.389	1.353
3	2.611	2.454	2.317	2.196	2.089	1.993	1.907	1.829	1.759	1.696
4	3.328	3.069	2.848	2.657	2.491	2.346	2.219	2.106	2.006	1.917
5	3.980	3.604	3.290	3.025	2.801	2.608	2.442	2.298	2.171	2.059
6	4.573	4.068	3.658	3.320	3.039	2.803	2.602	2.429	2.281	2.151
7	5.112	4.472	3.965	3.556	3.222	2.946	2.715	2.520	2.354	2.210
8	5.602	4.824	4.221	3.745	3.363	3.053	2.797	2.583	2.402	2.249
9	6.047	5.129	4.434	3.896	3.472	3.132	2.855	2.626	2.435	2.273
10	6.452	5.395	4.612	4.017	3.555	3.190	2.896	2.656	2.457	2.289
11	6.820	5.626	4.760	4.113	3.619	3.233	2.926	2.677	2.471	2.299
12	7.154	5.827	4.883	4.191	3.669	3.266	2.947	2.691	2.481	2.306
13	7.459	6.002	4.986	4.253	3.707	3.289	2.962	2.700	2.487	2.310
14	7.735	6.154	5.072	4.302	3.736	3.307	2.973	2.707	2.491	2.313
15	7.986	6.286	5.143	4.342	3.758	3.320	2.981	2.712	2.494	2.315
16	8.215	6.401	5.203	4.373	3.776	3.330	2.986	2.715	2.496	2.316
17	8.423	6.501	5.252	4.399	3.789	3.337	2.990	2.717	2.497	2.317
18	8.611	6.588	5.293	4.419	3.799	3.342	2.993	2.719	2.498	2.317
19	8.783	6.663	5.328	4.435	3.807	3.346	2.995	2.720	2.499	2.318
20	8.939	6.729	5.357	4.448	3.813	3.349	2.996	2.721	2.499	2.318
21	9.081	6.786	5.380	4.458	3.818	3.351	2.997	2.721	2.499	2.318
22	9.210	6.836	5.400	4.467	3.821	3.353	2.998	2.721	2.500	2.318
23	9.327	6.879	5.417	4.473	3.824	3.354	2.999	2.722	2.500	2.318
24	9.434	6.916	5.431	4.479	3.826	3.355	2.999	2.722	2.500	2.318
25	9.531	6.949	5.442	4.483	3.828	3.355	2.999	2.722	2.500	2.318

TABLE OF MID-YEAR FACTORS

Years	60%	65%	70%	75%	80%	85%	90%	95%	100%	105%
1	.813	.803	.794	.786	.778	.770	.763	.756	.750	.744
2	1.320	1.290	1.261	1.235	1.210	1.187	1.165	1.144	1.125	1.107
3	1.638	1.585	1.536	1.491	1.450	1.412	1.376	1.343	1.313	1.284
4	1.836	1.763	1.698	1.638	1.583	1.533	1.487	1.445	1.406	1.370
5	1.960	1.872	1.793	1.722	1.657	1.599	1.546	1.498	1.453	1.412
6	2.038	1.937	1.849	1.770	1.699	1.635	1.577	1.524	1.477	1.433
7	2.086	1.977	1.882	1.797	1.721	1.654	1.593	1.538	1.488	1.443
8	2.116	2.001	1.901	1.812	1.734	1.664	1.602	1.545	1.494	1.448
9	2.135	2.016	1.912	1.821	1.741	1.670	1.606	1.549	1.497	1.450
10	2.147	2.025	1.919	1.827	1.745	1.673	1.608	1.551	1.499	1.451
11	2.154	2.030	1.923	1.829	1.747	1.675	1.610	1.552	1.499	1.452
12	2.159	2.033	1.925	1.831	1.748	1.675	1.610	1.552	1.500	1.452
13	2.162	2.035	1.927	1.832	1.749	1.676	1.611	1.552	1.500	1.452
14	2.164	2.037	1.927	1.833	1.750	1.676	1.611	1.552	1.500	1.452
15	2.165	2.037	1.928	1.833	1.750	1.676	1.611	1.553	1.500	1.452
16	2.165	2.038	1.928	1.833	1.750	1.676	1.611	1.553	1.500	1.452
17	2.166	2.038	1.928	1.833	1.750	1.676	1.611	1.553	1.500	1.452
18	2.166	2.038	1.928	1.833	1.750	1.676	1.611	1.553	1.500	1.452
19	2.166	2.038	1.928	1.833	1.750	1.676	1.611	1.553	1.500	1.452
20	2.166	2.038	1.929	1.833	1.750	1.676	1.611	1.553	1.500	1.452
21	2.167	2.038	1.929	1.833	1.750	1.676	1.611	1.553	1.500	1.452
22	2.167	2.038	1.929	1.833	1.750	1.676	1.611	1.553	1.500	1.452
23	2.167	2.038	1.929	1.833	1.750	1.676	1.611	1.553	1.500	1.452
24	2.167	2.038	1.929	1.833	1.750	1.676	1.611	1.553	1.500	1.452
25	2.167	2.038	1.929	1.833	1.750	1.676	1.611	1.553	1.500	1.452

Table H-3
Present Worth Table of Cumulative Discount Factors—Continued

TABLE OF MID-YEAR FACTORS

Years	110%	115%	120%	125%	130%	135%	140%	145%	150%	155%
1	.738	.733	.727	.722	.717	.713	.708	.704	.700	.696
2	1.090	1.073	1.058	1.043	1.029	1.016	1.003	.991	.980	.969
3	1.257	1.232	1.208	1.186	1.165	1.145	1.126	1.109	1.092	1.076
4	1.337	1.305	1.276	1.249	1.224	1.200	1.178	1.157	1.137	1.118
5	1.375	1.340	1.307	1.277	1.250	1.223	1.199	1.176	1.155	1.135
6	1.393	1.356	1.322	1.290	1.261	1.238	1.208	1.184	1.162	1.141
7	1.401	1.363	1.328	1.296	1.266	1.239	1.212	1.187	1.165	1.144
8	1.405	1.367	1.331	1.298	1.268	1.240	1.213	1.189	1.166	1.145
9	1.407	1.368	1.332	1.299	1.269	1.240	1.214	1.189	1.166	1.145
10	1.408	1.369	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
11	1.409	1.369	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
12	1.409	1.369	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
13	1.409	1.369	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
14	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
15	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
16	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
17	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
18	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
19	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
20	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
21	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
22	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
23	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
24	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145
25	1.409	1.370	1.333	1.300	1.269	1.241	1.214	1.190	1.167	1.145

TABLE OF MID-YEAR FACTORS

Years	160%	165%	170%	175%	180%	185%	190%	195%	200%	205%
1	.692	.689	.685	.682	.679	.675	.672	.669	.667	.664
2	.959	.949	.939	.930	.921	.912	.904	.896	.889	.882
3	1.061	1.047	1.033	1.020	1.007	.996	.984	.973	.963	.953
4	1.100	1.084	1.068	1.053	1.038	1.025	1.012	.999	.988	.976
5	1.116	1.098	1.081	1.065	1.049	1.035	1.021	1.008	.996	.984
6	1.121	1.103	1.085	1.069	1.053	1.039	1.025	1.011	.999	.987
7	1.124	1.105	1.087	1.071	1.055	1.040	1.026	1.012	1.000	.987
8	1.124	1.106	1.088	1.071	1.055	1.040	1.026	1.013	1.000	.988
9	1.125	1.106	1.088	1.071	1.055	1.040	1.026	1.013	1.000	.988
10	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
11	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
12	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
13	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
14	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
15	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
16	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
17	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
18	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
19	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
20	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
21	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
22	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
23	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
24	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988
25	1.125	1.106	1.088	1.071	1.056	1.041	1.026	1.013	1.000	.988

Table H-3
Present Worth Table of Cumulative Discount Factors—Continued

TABLE OF MID-YEAR FACTORS

Years	210%	215%	220%	225%	230%	235%	240%	245%	250%	255%
1	.661	.659	.656	.654	.652	.649	.647	.645	.643	.641
2	.875	.868	.861	.855	.849	.843	.837	.832	.827	.821
3	.943	.934	.925	.917	.909	.901	.893	.886	.879	.872
4	.966	.955	.945	.936	.927	.918	.910	.902	.894	.887
5	.973	.962	.952	.942	.932	.923	.915	.906	.898	.891
6	.975	.964	.954	.944	.934	.925	.916	.908	.900	.892
7	.976	.965	.954	.944	.935	.925	.916	.908	.900	.892
8	.976	.965	.954	.944	.935	.925	.917	.908	.900	.892
9	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
10	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
11	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
12	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
13	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
14	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
15	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
16	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
17	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
18	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
19	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
20	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
21	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
22	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
23	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
24	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892
25	.976	.965	.955	.944	.935	.926	.917	.908	.900	.892

TABLE OF MID-YEAR FACTORS

Years	260%	265%	270%	275%	280%	285%	290%	295%	300%
1	.639	.637	.635	.633	.632	.630	.628	.627	.625
2	.816	.812	.807	.802	.798	.793	.789	.785	.781
3	.866	.859	.853	.847	.842	.836	.831	.825	.820
4	.879	.872	.866	.859	.853	.847	.841	.836	.830
5	.883	.876	.869	.862	.856	.850	.844	.838	.833
6	.884	.877	.870	.863	.857	.851	.845	.839	.833
7	.885	.877	.870	.864	.857	.851	.845	.839	.833
8	.885	.877	.870	.864	.857	.851	.845	.839	.833
9	.885	.877	.870	.864	.857	.851	.845	.839	.833
10	.885	.877	.870	.864	.857	.851	.845	.839	.833
11	.885	.877	.870	.864	.857	.851	.845	.839	.833
12	.885	.877	.870	.864	.857	.851	.845	.839	.833
13	.885	.877	.870	.864	.857	.851	.845	.839	.833
14	.885	.877	.870	.864	.857	.851	.845	.839	.833
15	.885	.877	.870	.864	.857	.851	.845	.839	.833
16	.885	.877	.870	.864	.857	.851	.845	.839	.833
17	.885	.877	.870	.864	.857	.851	.845	.839	.833
18	.885	.877	.870	.864	.857	.851	.845	.839	.833
19	.885	.877	.870	.864	.857	.851	.845	.839	.833
20	.885	.877	.870	.864	.857	.851	.845	.839	.833
21	.885	.877	.870	.864	.857	.851	.845	.839	.833
22	.885	.877	.870	.864	.857	.851	.845	.839	.833
23	.885	.877	.870	.864	.857	.851	.845	.839	.833
24	.885	.877	.870	.864	.857	.851	.845	.839	.833
25	.885	.877	.870	.864	.857	.851	.845	.839	.833

Table H–4
Program Project Year Discount Factors (Mid-Year Factors)

Table A1*		Table B2*
Present Value of $1 (Single amounts—to be used when cash-flows accrue in different amounts each year)		*Present Value of $1 (Cumulative Uniform Series—To be used when cash-flows accrue in the same amount each year)*
Project Year	*10%*	*10%*
1	0.954	0.954
2	0.867	1.821
3	0.788	2.609
4	0.717	3.326
5	0.652	3.978
6	0.592	4.570
7	0.538	5.108
8	0.489	5.597
9	0.445	6.042
10	0.405	6.447
11	0.368	6.815
12	0.334	7.149
13	0.304	7.453
14	0.276	7.729
15	0.251	7.980
16	0.228	8.209
17	0.208	8.416
18	0.189	8.605
19	0.172	8.777
20	0.156	8.993
21	0.142	9.0740
22	0.129	9.203
23	0.117	9.320
24	0.107	9.427
25	0.097	9.524

* *Note.* Extract from AR 11–28 (under revision).

Section III
POST INVESTMENT ANALYSIS (CSCOA-88)

(*See* Post Investment Analysis (DA Form 5108-1-R) (fig. H-2))

Section IV
FEEDER REPORT TO ANNUAL PRODUCTIVITY REPORT-PECI (RCS 0169-OPM-AN)

(*See* Feeder Report to Annual Productivity Report—PECI (DA Form 5108-2-R) (fig. H-3))

DOCUMENTATION FOR PRODUCTIVITY CAPITAL INVESTMENT PROGRAMS
For use of this form, see AR 5-4; the proponent agency is OCA.

1. PROJECT NO.			*REQUIREMENT CONTROL SYMBOL DD-M(R) 1561*	
2. TO:	3. THRU:	4. FROM:	5. DOD COMP NAME	6. DOD COMP CODE
			7. COMMAND CODE	8. DATE

9. PROJECT TITLE	10. TYPE OF PROJECT *(Check one)* ☐ ORIP ☐ OSD PIF ☐ PECIP	11. AMORTIZATION YEARS/MONTHS $ _____ (Project Cost) ÷ _____ (Average Annual Savings) X 12 (No. Mos) = _____ (years) or _____ (months) (amortization)
12. FUNCTIONAL AREA WHERE SAVINGS WILL OCCUR	13. ECONOMIC LIFE / 14. EXPECTED OPERATIONAL DATE	
15. SUBMITTING UNIT(S) / 16. UNIT ID CODE	17. PROJECT DESCRIPTION	

18. DETAILED JUSTIFICATION

19. SAVINGS DISPOSITION

20. OTHER REMARKS *(Continue on page 5, if more space is needed)*

DA FORM 5108-R, MAY 82

Figure H-1. Documentation for Productivity Capital Investment Program (DA FORM 5108-R)

21a. SUMMARY OF DOLLAR SAVINGS
(ROUND OFF TO THE NEAREST DOLLAR)

Attach computation sheet identifying the method and source of data for savings

SAVINGS BREAKOUT	PRESENT METHOD	PROPOSED METHOD				DIFFERENCE/SAVINGS			
		1ST YR	2D YR	3D YR	4TH YR	1ST YR	2D YR	3D YR	4TH YR
SALARY/LABOR/ OVERTIME									
MATERIAL/ SUPPLIES									
UTILITIES									
MAINTENANCE/ REPAIR									
TRANSPORTATION									
LEASE COSTS									
SALVAGE/ TURN-IN									
ENERGY *(Identify)* _____									
CONTRACT COSTS									
OTHER *(Identify)* _____									
TOTALS									

b. PRIORITIZATION

(1) INTERNAL RATE OF RETURN *(IRR)*

Divide estimated project cost _____ by average annual savings _____ = _____ factor.

Based on factor and number of years economic life of the project, select the IRR from Table H-3, App H, Ch. 5, AR 5-4 = _____ % IRR.

(2) SAVINGS TO INVESTMENT RATIO *(S/I)*

Multiply annual savings _____ X discount factor _____ = _____ and divide by present value of investment *(undiscounted)* _____ = _____ S/I.

(Based on economic life _____ years, select discount factor from Table H-4, App H, Ch. 5, AR 5-4.

(3) RATE OF INVESTMENT PER MANPOWER SPACE *(RIMS)*

Divide estimated project cost _____ by number of manpower space savings _____ = _____ RIMS.

(Manpower requivalents cannot be used in this computation.)

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Figure H-1. Documentation for Productivity Capital Investment Program (Page 2 of DA FORM 5108-R)—Continued

22. COST FOR PROJECT TO BECOME OPERATIONAL						
EQUIPMENT TYPE	PROPOSED SOURCE OF PROCUREMENT b	UNIT PRICE c	QUANTITY d	TOTAL COST e	APPROPRIATION, BUDGET ACTIVITY OR PROGRAM ELEMENT f	FY FUNDS REQUIRED g
(1)						
(2)						
(3)						
(4)						
(5)						
(6) TRANSPORTATION *(Equipment delivery)*						
(7) EQUIPMENT MODIFICATION[1]						
(8) EQUIPMENT INSTALLATION						
(9) MAINTENANCE CONTRACT[2]						
(10) FACILITIES MODIFICATION[3]						
(11) TRAINING						
(12) OTHER *(Specify)*:						
(13) TOTAL REQUIRED FOR PROJECT TO BECOME OPERATIONAL[4]						
(14) TOTAL AMOUNT OF FUNDING REQUESTED IN THIS PROPOSAL						
(15) TOTAL AMOUNT OF FUNDING REQUIRED FROM OTHER SOURCE[5]						
(16) TOTAL *(Sum of (14) + (15) above)*						

[1] *Not to exceed 10% of equipment cost for QRIP projects.*

[2] *Applicable to OPA QRIP provided cost is included in packaged deal involving one bill for the equipment and initial maintenance.*

[3] *Normally not OPA funded.*

[4] *Used to compute amortization in Item 11.*

[5] *Specify source to include certification that funds are available, if financed from the regular budget.*

Page 3 of DA Form 5108 R

Figure H-1. Documentation for Productivity Capital Investment Program (Page 3 of DA FORM 5108-R)—Continued

23. SUMMARY OF SAVINGS *(MANPOWER AND DOLLARS)*

ITEMS	SAVINGS			REAPPLICATION OF SAVINGS					
	NO. MPR OR MHR	TYPE PERS[6]	DOLLARS	PROGRAM ELEMENT		TDA PARA AND LINE		FUNCTION CODE	
a	*b*	*c*	*d*	*e.* FROM	*f.* TO	*g.* FROM	*h.* TO	*i.* FROM	*j.* TO
(1) REQUIREMENTS AND AUTHORIZATIONS ELIMINATED									
(2) REQUIREMENTS ONLY ELIMINATED									
(3) BORROWED MILITARY MANPOWER RELEASED									
(4) OVERHIRES OR TEMPORARIES TERMINATED									
(5) HOURS OVERTIME ELIMINATED									
(6) MANHOURS SAVED FROM MULTIPLE POSITIONS[7]									
(7) OTHER DOLLAR SAVINGS *(Excluding Manpower)*, e.g., CONTRACT COSTS & UTILITIES									
(8)									
(9)									
(10)									
(11) TOTAL DOLLAR SAVINGS									

[6] *(1) US Graded*
(2) US Wage Board
(3) DHFN
(4) HHFN
(5) Officer
(6) WO
(7) Enlisted

[7] *Reflect specific duties being performed with additional manhours available (equivalent manyears)*

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Figure H-1. Documentation for Productivity Capital Investment Program (Page 4 of DA FORM 5108-R)—Continued

24.	REGULATORY APPROVAL/COORDINATION	
a.	**INVESTMENT STATEMENT** This proposal has been reviewed and it cannot be implemented with existing equipment or facilities. This investment is in accordance with established investment planning. The project complies with public laws, OSD policies and regulations, and all other regulatory constraints. *(Cite regulatory approvals, e.g., TAGO Control No.) (Ex. New Start, TAGO Approval, etc.)*	
b. OTHER COORDINATION *(Functional Coordination at local level, e.g., Fac Eng, Log, Pers, etc.)*		
25. SUBMITTED BY *(Typed name, grade and title of Subordinate Command/Agency or Project Initiator)*	SIGNATURE	DATE *(YYMMDD)* AUTOVON
26. APPROVAL RECOMMENDED BY *(MACOM/Agency)*	SIGNATURE	DATE *(YYMMDD)* AUTOVON
FOR USE BY HQDA ON OSD PIF PROJECTS ONLY		
27. APPROVED BY	SIGNATURE	DATE *(YYMMDD)* AUTOVON
20. OTHER REMARKS *(Cont'd)*		

Page 5 of DA Form 5108 R

Figure H-1. Documentation for Productivity Capital Investment Program (Page 5 of DA FORM 5108-R)—Continued

POST INVESTMENT ANALYSIS
For use of this form, see AR 5-4; the proponent agency is OCA.

REQUIREMENT CONTROL SYMBOL CSCOA-88

1. PROJECT NUMBER	2. TITLE

3. SHORT DESCRIPTION OF THE PROJECT *(Old versus new method)*

4. UNIT AND LOCATION	5. DATE FUNDS RECEIVED *(YYMMDD)*	6. DATE EQUIPMENT OPERATIONAL *(YYMMDD)*

7a. PROJECT COST

ITEMS	PROPOSED COST *(Initial Submission)*	ACTUAL PROJECT COST	DIFFERENCE
Equipment			
Transportation			
Equipment Modification			
Equipment Installation			
Maintenance Contract			
Facilities Modification			
Training			
Other *(Identify)*			
TOTALS			

7b. EXPLANATION OF DIFFERENCES

8a. OPERATING COSTS

ITEMS	OLD METHOD	NEW METHOD	DIFFERENCE
Salary/Labor/Overtime			
Materials/Supplies			
Utilities			
Maintenance/Repair			
Transportation			
Lease Costs			
Salvage Value *(Turn-in)*			
Energy *(Identify)*			
Contract Costs			
Other *(Identify)*			
TOTALS			

8b. EXPLANATION OF DIFFERENCES

DA FORM 5108-1-R, MAY 82

Figure H-2. Post Invetment Analysis (DA Form 5108-1-R)

9. SUMMARY OF SAVINGS *(MANPOWER AND DOLLARS)*

ITEMS	SAVINGS			REAPPLICATION OF SAVINGS					
	NO. MPR OR MHR	TYPE PERS[1]	DOLLARS	PROGRAM ELEMENT		TDA PARA AND LINE		FUNCTION CODE	
a	b	c	d	e FROM	f TO	g FROM	h TO	i FROM	j TO
(1) Requirement and Authorizations Eliminated									
(2) Requirements Only Eliminated									
(3) Borrowed Military Manpower Released									
(4) Overhires or Temporaries Terminated									
(5) Hours Overtime Eliminated									
(6) Manhours Saved from Multiple Positions[2]									
(7) Other Dollar Savings *(Excluding Manpower)* E. G. Contract Costs & Utilities									
(8)									
(9)									
(10)									
(11) TOTAL DOLLAR SAVINGS									

[1] *(1) US Graded*
(2) US Wage Board
(3) DHFN
(4) IHFN
(5) Officer
(6) WO
(7) Enlisted

[2] *Reflect specific duties being performed with additional manhours available (equivalent manyears)*

(Page 2 of DA Form 5108-1-R)

Figure H-2. Post Invetment Analysis (Page 2 of DA Form 5108-1-R)—Continued

10. POST INVESTMENT ANALYSIS CHECKLIST			
Note: If the answer is "NO" to the following question, an explanation is required in item f, below.	YES	NO	NA
a. Are specific duties being performed with manpower equivalent savings as stipulated in the original proposal?			
b. Were appropriate TDA equipment documentation instructions adhered to?			
c. Were manpower requirements turned in and manpower space authorizations reapplied against other recognized requirements? *(Attach documentation)*			
d. Do files contain a copy of the final documentation adjusting funds to zero for the individual project?			
e. Was proponent advised to keep documentation on file at least one year beyond the amortization of the project and that files are subject to formal audit?			
f. Use this space for explanation, if applicable.			
11. TYPED NAME, GRADE AND TITLE OF PERSON CONDUCTING POST INVESTMENT ANALYSIS			
SIGNATURE	DATE		
12. TYPED NAME, GRADE AND TITLE OF REVIEWER *(Chain of Command, if applicable)*			
SIGNATURE	DATE		
AUTHENTICATION			
13. TYPED NAME, GRADE AND TITLE OF DCSRM/DCSCOMPT REPRESENTATIVE OF RESPECTIVE MACOM, AGENCY OR ARSTAF ELEMENT			
SIGNATURE	DATE		
14. REMARKS			

(Page 3 of DA Form 5108-1-R)

Figure H-2. Post Invetment Analysis (Page 3 of DA Form 5108-1-R)—Continued

FEEDER REPORT TO ANNUAL PRODUCTIVITY REPORT - PECI
For use of this form, see AR 5-4; the proponent agency is OCA.

1. REPORT PERIOD FY:

REQUIREMENT CONTROL SYMBOL *0169-OPM-AN*

2. TO: HQDA *(DACA-RPM)* Rm #3B721, Pentagon Washington, D.C. 20310

3. FROM:

4. TYPE OF PROGRAM *(Check one)* ☐ QRIP ☐ OSD PIF ☐ PECIP

5. FUNDS RECEIVED FROM HQDA $

6. AMOUNT UNISSUED BY MACOM/AGENCY $

7. CUMULATIVE AMOUNT ISSUED BY MACOM/AGENCY $

8. AMOUNT OBLIGATED END OF REPORT PERIOD $

9. NUMBER OF POST INVESTMENT ANALYSES MADE THIS FY AND CORRESPONDING FY OF FUNDING:

a. PREVIOUS FY	b. THIS FY	c. FY FUNDED

10. PROJECTS FUNDED DURING THE REPORT FY

PROJECT NO. a	TITLE b	COST c	ANNUAL SAVINGS d	RQMTS ELIM RORD e	RQMTS ELIM AUTH f	TYPE * g	RQMTS ELIM h	TYPE * i	BMM j	OHS/ NTES ELIM ** k	HOURS OT ELIM l	MANHRS SAVED FROM MULTIPLE POS m	TYPE * n

11. NAME, GRADE AND TITLE OF AUTHENTICATING OFFICER

12. SIGNATURE

13. DATE

*Use personnel type codes reflected in project documentation (See Note 6, page 4 of DA Form 5108-R).

**OHS - Overhires; NTES - Temporaries

DA FORM 5108-2-R, MAY 82

PAGE 1 OF PAGES

Figure H-3. Feeder Report to Annual Productivity Report—PECI (DA FORM 5108-2-R)

10. PROJECT FUNDED DURING THE REPORT FY *(Cont'd)*

PROJECT NO. *a*	TITLE *b*	COST *c*	ANNUAL SAVINGS *d*	RQMTS ELIM RQRD *e*	RQMTS ELIM AUTH *f*	TYPE * *g*	RQMTS ELIM *h*	TYPE * *i*	SMM *j*	OHS/ NTES ELIM ** *k*	HOURS OT ELIM *l*	MANHRS SAVED FROM MULTIPLE POS *m*	TYPE * *n*

*Use personnel type codes reflected in project documentation (See Note 6, page 4 of DA Form 5108-R). **OHS = Overhires; NTES = Temporaries

(Reverse of DA Form 5108-2-R)

PAGE OF PAGES

Figure H-3. Feeder Report to Annual Productivity Report—PECI (Reverse of DA FORM 5108-2-R)—Continued

Glossary

The following definitions apply to the Department of the Army Productivity Improvement Program (DAPP).

Section I
Abbreviations

AMETA
US Army Management Engineering Training Agency

AR
Army Regulation

ASPR
Armed Services Procurement Regulation

COA
Comptroller of the Army

DA
Department of the Army

DARCOM
US Army Materiel Development and Readiness Command

DAPP
Department of the Army Productivity Improvement Program

DCSRDA
Deputy Chief of Staff for Research, Development and Acquisition

DOD
Department of Defense

DTUPC
Design-to-Unit Production Cost

DWMSTDP
Defense Work Measurement Standard Time Data Program

EPS
Engineered Performance Standards

GOCO
Government-Owned, Contractor-Operated

IE
Industrial Equipment

HQDA
Headquarters, Department of the Army

MACOM
Major Command

MIPR
Military Interdepartmental Purchase Request

M&S
Methods and Standards

MTM
Methods-Time Measurement

OMA
Operations and Maintenance, Army

OPA
Other Procurement, Army

OSD
Office of the Secretary of Defense

★OSD PIF
OSD Productivity Investment Funding

OSE
Other Support Equipment

★PECIP
Productivity Enhancing Capital Investment Program

PESO
Product Engineering Services Office

QRIP
Quick Return on Investment Program

RDTE
Research, Development, Test and Evaluation

TROSCOM
US Army Troop Support Command

VE
Value Engineering

VECP
Value Engineering Change Proposal

VEP
Value Engineering Proposal

VEPM
Value Engineering Program Manager

Section II
Terms

Command Productivity Principal
The individual in a major command or separate agency who is responsible for overall coordination of productivity efforts within his organization.

Compensation
The total wage costs incurred to produce a product or render a service. Such costs include direct payroll costs plus other direct wage costs, such as the Government's contribution for retirement, social security, health insurance, and life insurance. Compensation does not include separation costs such as severance pay and terminal leave payments.

Departmental Productivity Principal
The individual in the Office of the Comptroller of the Army who is responsible for (1) overall coordination of

productivity efforts within the Department of the Army and (2) the timely preparation of productivity reports and response to other productivity data requirements levied by the Office of the Secretary of Defense.

Detailed Standard
The basic building block for summary standards. They are the man-hour requirements for tasks accomplished at the lowest organizational entity or work center.

Dollar Productivity Index
The percentage ratio of goods produced or services rendered (outputs) to dollar resources expended (inputs) during a current period in relation to a base period.

Earned Hours
A common denominator that can be used in determining the efficiency of a work force for specific jobs, functions, or activities. Earned hours represent the amount of time, based upon engineered or Nonengineered standards, that it should have taken an individual, crew, or organization to perform the work actually accomplished on specific jobs or during specific periods of time. Earned hours can be related to jobs at any level of management.

Economic Analysis
An economic analysis is a systematic approach to the problem of choosing how to employ scarce resources and an investigation of the full implication of achieving a given objective in the most efficient and effective manner.

Effectiveness Measurement
Comparison of current performance against pre-established mission objectives (goals). If the right mission objectives are established, effectiveness measurement discloses whether an activity does the right thing at the right time. It compares what an activity or group of individuals actually accomplish in relation to an assigned mission.

Efficiency Index (Performance Efficiency)
The ratio of earned hours vs. actual hours of an organizational entity (work center, division, directorate, or command) expressed as a percentage.

Efficiency Measurement
Comparison of current performance against either a pre-established standard or actual performance of a prior period. Efficiency measurement discloses how an activity or group of individuals performs during a current period in relation to either: (1) a standard established for a job or task which they have responsibility for accomplishing, or (2) the level of performance achieved for the job or task in a previous period. Efficiency measurement may be based upon manpower, money, or a combination of both. Includes three types:
Dollar Productivity Measurement. Comparison of performance in terms of dollars between two periods of time, usually a current period and a previous period, known as a base period. It compares actual monies expended and the resulting products produced or services rendered during the two periods of time, and discloses the performance of an activity or group of individuals during the current period in relation to a previous period based upon monies expended in each of the periods.
Labor Productivity Measurement. Comparison of labor performance during two periods of time, usually a current period and a previous period, known as a base period. It compares actual manpower expended and the resulting products produced, or services rendered, during the two periods of time, and discloses the labor performance of an activity or group of individuals during the current period in relation to their performance during a previous period of time.
Labor Standards Measurement. Comparison of labor performance against pre-established standards. It compares actual manpower expended on a job or task during a given period of time with the standard established for the job or task for that period of time.

Engineered Standard
The time (man-hours) it should take a trained worker, or group of trained workers, working at a normal pace, to produce a described unit of work of an acceptable quality according to a specified method under specific working conditions. Work measurement techniques employed must be the application of standard time data, predetermined time systems, time study, rated work sampling, or a combination of these techniques. At least 80 percent of the total time included in the standard will be based on data elements or lower level standards which have, as a minimum, an accuracy of = 25 percent at the 90 percent confidence level.

Feasibility Study.
An in-depth, comprehensive analysis of an entire organization taken as the first step towards achieving the optimum application or men, money, material, and equipment. The study must consider as a minimum: Objectives, policies,

organization, staffing, skills, methods, facilities, equipment, layout, and existing man-hour standards. Feasibility study findings should result in determinations as to:

a. Where, when, and how to economically conduct methods and standards activities.

b. A logical mix of engineered and nonengineered standards.

Full Time Methods and Standards Personnel.

Office of the Comptroller. Includes only those people assigned to the Comptroller organization whose job description is based primarily on methods analysis, the measurement of work, the development of man-hour standards, and their application, use, and follow-up.

Other. Same as above except individual is administratively responsible to an organization other than the Comptroller.

Implemented Methods Improvement

A change in operational procedures which results in a real, auditable dollar savings and was implemented as a result of an organized, systematic methods analysis conducted and documented by methods and standards personnel.

Inputs

The amount of resources (all types) utilized or consumed to produce an output.

Installation Equipment (IE)

All non-expendable tools and equipment, except items under test, fixed plant communications equipment, and nonappropriated fund property, acquired by an installation or activity to accomplish or support assigned missions. IE includes all tools and equipment which must be authorized under installation or activity tables of distribution and allowances (TDA) or other equipment procurement or acquisition authority.

Instant Contract

The contract under which a value engineering change proposal is accepted by the Federal Government.

Labor Input

The amount of labor resources utilized or consumed to produce an output.

Labor Productivity Index

The percentage ratio of goods produced or services rendered (outputs) to labor resources expended (inputs) during a current period in relation to a base period.

Logical Mix (DIMES Standards)

The best judgment applied to choosing the most effective and economical combination of engineered, Nonengineered, and man-hour allowance standards.

Man-hour Allowance

The time it should take an individual or group possessing required skills to produce a work unit at a normal pace as forecast by technically qualified individuals and based upon a detailed analysis of its components.

Man-year of Labor Input

A man-year of labor input for this program constitutes 2,080 paid hours. (This includes regularly scheduled time, overtime, and leave time for all types of employees.)

Measurable Areas.

The functions /operations of a major command or separate agency or its subelements for which at least one final output and corresponding man-year inputs can be quantified.

Measured Man-years

The total man-years (civilian and military) expended in a measurable area by major command or separate agency or its subelements. Measured man-years can be two types:

a. Direct Man-years The man-years in a measurable area which are charged directly to the final outputs of the area.

b. Indirect Man-years All other man-years in a measurable area such as those expended on clerical, typing, secretarial, supervision, executive direction, and general services.

Military Worth

The intrinsic value of military equipment resulting from the possession of such characteristics as performance,

reliability, maintainability, quality, producibility, and availability required to perform specific functions toward the attainment of a military mission.

Operational Value Engineering
Implies the timely application of VE and/or the VE contract incentive provisions.

Nonengineered Standard
A standard which does not meet the accuracy criteria of an engineered standard. In addition to the work measurement techniques employed to develop engineered standards, statistical analysis of historical data, non-rated work sampling, and technical estimates result in Nonengineered standards.

Nonmeasurable Areas
The functions, operations of an organizational element, organizational subelement, or field element for which no final outputs and/or corresponding man-year inputs can be quantified.

Operational Methods and Procedures.
These are actions normally associated with the operation and maintenance of an installation in accordance with its assigned mission. Although the application of methods and standards activity normally will be directed to TDA units, TOE units are not excluded if a feasibility study indicates application of methods and standards effort will be practical.

Output Measurement
A means of identifying the end-product of an organization or function against which its consumption of resources can be analyzed to facilitate operational and managerial decisions.

Performance Efficiency
The primary indicator of labor performance. It is determined by a comparison of "earned hours " and "actual hours." This ratio is obtained by dividing the number of standard man-hours by the actual number of man-hours consumed, and multiplying by 100 to obtain a percentage.

★Productivity Capital Investment Projects
Capital tools, equipment, or facilities designed to increase productivity, reduce costs, and improve readiness. Projects must amortize in 2-4 years or less, depending upon specific Capital Investment Program used to finance the projects.

Productivity Index
The percentage ratio of goods produced or services rendered (outputs) to resources expended (inputs) during a current period in relation to a base period.

Productivity Measurement
A measurement of the relationship between output (workload) and input (manpower used) during a specified period and expressed in an index number. Productivity measurement uses a base-year as a focal point against which all other years are compared.

Responsibility.
The obligation to carry forward an assigned task to a successful conclusion. With responsibility goes authority to direct and take the necessary action to insure success.

Savings
Savings (i.e., reduced expenses) are determined by comparing the before and after costs of a function/operation as a result of implementing a productivity improvement project. The savings must be actual, budgeted funds which can be reflected in the benefiting appropriation and be sustained by auditable records.

Standard Cost
Cost estimated or planned in advance which would be incurred in making a product or rendering a service, under specified conditions.

Standards Maintenance
The review of methods and procedures in order to determine if changes have occurred since development of the man-hour standard; and the accomplishment of the necessary work to adjust the standard if methodology or procedural changes have occurred.

Summary Standard
Standards developed by the methods and standards staff for performance evaluation at the division, directorate, or higher level by functional and staff managers. They are derived by summarizing detailed standards for a selected time frame, usually by dividing the summation of earned hours for a work center or organizational entity by the summation of a gross workload indicator indicative of work center or organizational entity output.

Unmeasured Man-years
The total man-years (civilian and military) expended by a major command or separate agency or its subelement in nonmeasurable areas (areas in which no final outputs and corresponding man-years of input can be quantified).

Value Engineering (VE) Discipline
A sequential process for systematically analyzing the high cost areas of functional requirements of DOD systems, equipment, facilities, procedures, operations, maintenance, and materiel to achieve the essential functions at the lowest total cost of effective ownership, consistent with requirements for performance, reliability, quality, maintainability, and safety.

Value Engineering Change Proposals (VECP)
A specific cost reduction proposal, developed and submitted by a contractor under VE contract provisions, which requires a change to the contract specifications, purchase description, or statement of work.

Value Engineering Contract Incentives
Special provisions in Section I, Part 17, ASPR, as follows:

a. Value Engineering Incentive Clause This clause is used in procurement and construction contracts to motivate contractors to submit proposals for changes in drawings, designs, specifications, or other contractual requirements for the purpose of stimulating cost reduction and to provide for compensation to contractors on acceptance of such proposals.

b. Value Engineering Program Requirements Clause This clause is used primarily in design and development contracts, and to some extent in production contracts, to require the contractor to perform value engineering work at a stated level of effort during the course of performance of the contract, and to provide compensation for performance of such work and to share in savings resulting therefrom.

Value Engineering Project
A project, one of whose primary objectives is to reduce costs, in which appropriate VE techniques are utilized. Projects may be accomplished by individuals, teams, or task forces. Formal VE projects are those identified as such to or by management.

Value Engineering Proposal (VEP)
A specific proposal developed internally by Army personnel for total value improvement through the use of VE techniques.

Value Engineering Task Force
Two or more VE task teams organized under single management.

Value Engineering Task Team
Teams of mixed specialties (normally engineering, production, procurement, and estimating) organized to develop VE proposals on high cost areas for submission to the appropriate decision making authorities. Normally they are led by a Value Engineer or a person skilled in engineering and also trained in VE.

Value Improvement
The result of effective VE application to existing management systems, resources, and materiel during all phases of a program's life cycle to increase the capability and efficiency of operations, deplete backlogs and/or decrease fund, time, manpower, and facility requirements.

Work Center
An organizational element of a unit comprised of a first-line manager and his subordinates who usually perform similar day-to-day work in the same general area. Some examples are: An orderly room, a supply room, paint shop, mess hall, or message center.

Work Unit
An item of work or unit of measurement selected to express quantitatively the work accomplished in a work area (e.g., 1 pound of laundry washed, 1 door hung, 1 voucher audited).

Section III
Special Abbreviations and Terms

No entries in this section.

RESERVED

QUICK RETURN ON INVESTMENT PROGRAM
PROJECT REPORT
For use of this form, see AR 5-4; the proponent agency is OCA.

REQUIREMENT CONTROL SYMBOL CSCOA-10

1. TYPE OF REPORT ☐ BASIC ☐ CHANGE

2. TO:
HQDA (DACA-MP)
Room 3B-723, Pentagon
Washington, D.C. 20310

3. FROM: *(Include ZIP Code)*

4. PROJECT TITLE

5. NEW START APPROVAL OBTAINED ☐ YES ☐ NO ☐ NA

6. ISSUER/FUND DESIGNATOR

7. DATE FUNDS ISSUED

8. PROCUREMENT APPROVAL AUTHORITY

9. PROJECT LOCATION

10. PROJECT COST

a. PURCHASE PRICE	b. TRANSPORTATION	c. INSTALLATION	d. OTHER	e. TOTAL

11. LIN/NSN NUMBER *(If Assigned)*	12. PROJECTED OPERATIONAL DATE	13. AMORTIZATION PERIOD *(Months)*

14. PROJECT DESCRIPTION *(Attach additional sheets if necessary)*

15. ESTIMATED REDUCED EXPENSES *(Dollar Savings)*

a. APPROPRIATION/FUND	CURRENT FY	NEXT 3 FY'S		
	FY____ b	FY____ c	FY____ d	FY____ e
f. ONE TIME: FY ____ AMOUNT ____				

16. ESTIMATED REDUCED PERSONNEL EXPENSES *(Manpower Savings)*

	CURRENT FY	NEXT 3 FY'S		
	FY____ a	FY____ b	FY____ c	FY____ d
MANYEARS				
END STRENGTH				

17. AREAS IN WHICH SAVINGS WILL OCCUR

a. PROGRAM ELEMENT	b. FUNCTIONAL AREA

18. UNFINANCED REQUIREMENT(S) TOWARD WHICH SAVINGS WILL BE APPLIED *(If Known)*

19. TYPED NAME, GRADE, TITLE, TELEPHONE NO. AND SIGNATURE OF:

a. PROJECT OFFICER	b. APPROVING OFFICER	20. DATE APPROVED

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