

**Audit**



**Report**

OFFICE OF THE INSPECTOR GENERAL

**SOFTWARE DEVELOPMENT AT CENTRAL DESIGN  
ACTIVITIES**

Report Number 92-077

April 17, 1992

**Department of Defense**

The following acronyms are used in this report.

ADPE.....Automated Data Processing Equipment  
AFLC.....Air Force Logistics Command  
AFSC.....Air Force Systems Command  
AIS.....Automated Information Systems  
ASD(C3I).....Assistant Secretary of Defense (Command,  
.....Control, Communications and Intelligence)  
CDA.....Central Design Activity  
CIM.....Corporate Information Management  
CY.....Calendar Year  
DLA.....Defense Logistics Agency  
DMRD.....Defense Management Review Directive  
ECP.....Engineering Change Proposal  
FMSO.....Fleet Material Support Office  
GAO.....General Accounting Office  
LSRC.....Logistics Systems Review Committee  
MIS.....Management Information System  
OMB.....Office of Management and Budget



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-2884



April 17, 1992

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL,  
COMMUNICATIONS AND INTELLIGENCE)  
COMPTROLLER OF THE DEPARTMENT OF DEFENSE  
ASSISTANT SECRETARY OF THE ARMY (FINANCIAL  
MANAGEMENT)  
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL  
MANAGEMENT)  
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL  
MANAGEMENT AND COMPTROLLER)  
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Audit Report on Review of Software Development at  
Central Design Activities (Report No. 92-077) )

We are providing this final audit report for your information and use. It addresses development and maintenance of software at central design activities in DoD. The audit was initiated by the Office of the Inspector General, DoD. Comments provided in response to a draft of this report were considered in preparing the final report.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. A "Status of Recommendations" section is provided at the end of the finding that identifies the unresolved recommendations and the specific requirements to be addressed in your comments on the final report. You may propose alternative methods for accomplishing desired improvements. Recommendations are subject to resolution in accordance with DoD Directive 7650.3 in the event of nonconcurrence or failure to comment. All addressees, except the Army and the Defense Logistics Agency, are requested to provide comments on the unresolved recommendations by June 17, 1992.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. Terry L. McKinney at 614-1692 (DSN 224-1692) or Mr. Carl F. Zielke at 693-0453 (DSN 223-0453). We will give you a formal briefing within 15 days of the date of this memorandum, should you desire it. This report will be distributed to the activities listed in Appendix F.

*Robert S. Lieberman*

Robert S. Lieberman  
Assistant Inspector General  
for Auditing

cc:  
Secretary of the Army  
Secretary of the Navy  
Secretary of the Air Force  
Commandant of the Marine Corps



Office of the Inspector General

Audit Report No. 92-077  
(Project No. 1FE-0018)

April 17, 1992

SOFTWARE DEVELOPMENT AT CENTRAL DESIGN ACTIVITIES

EXECUTIVE SUMMARY

**Introduction.** A goal of the Defense Corporate Information Management (CIM) initiative is to place automated data processing equipment operations on a fee-for-service basis. The Military Departments, Marine Corps, and Defense Logistics Agency have central design activities to develop and change their standard software systems. DoD Directive 7920.1, "Life-Cycle Management of Automated Information Systems (AIS)," June 20, 1988, requires the implementation of DoD Manual 7220.9-M (the Manual), "Department of Defense Accounting Manual," February 1988. The Manual requires detailed cost accounting for all assets including software development. In FY 1990, the Military Departments, Marine Corps, and Defense Logistics Agency had 38 central design activities with budgets totaling about \$1.0 billion.

**Objectives.** The overall objective of the audit was to determine if the Military Departments, Marine Corps, and Defense Logistics Agency managed software changes in a timely, effective, and efficient manner and if software changes were planned and met users' needs. Specifically, we reviewed the central design activities' software development to determine whether:

- o valid user requirements existed for changes,
- o economic analyses were prepared and used in the approval process,
- o software project costs and elapsed time were measured and tracked, and
- o planned objectives and benefits were achieved for completed projects.

In addition, we evaluated internal controls related to management of software changes.

**Audit Results.** Although the audit showed that software changes were planned, met users' needs, and achieved the planned objectives, economic analyses were not prepared, costs were not measured and tracked, and identified benefits were not achieved. In addition, the Military Departments and Defense Logistics Agency did not comply with DoD guidance.

**Compliance with DoD Cost Accounting Standards.** The Military Departments, Marine Corps, and Defense Logistics Agency did not know or charge the cost of software changes in compliance with the Manual (Finding A).

**Management of Software Changes.** Although software changes were planned and met users' needs, changes were not done within established deadlines. Valid user requirements existed for all software changes, and planned objectives were achieved; however, required cost analyses were not prepared and used in the approval process for 146 of 356 changes reviewed, costs were not measured and tracked, elapsed time was not measured and tracked for 90 changes, and identified benefits valued at \$18.5 million were not achieved. Accordingly, the DoD Components could not measure how effectively software changes were managed (Finding B).

A matrix of the audit results on both findings is in Appendix C.

**Internal Controls.** Procedures either did not exist or were ineffective to reevaluate software changes that exceeded initial cost estimates and to ensure that identified benefits were achieved for completed software changes. These internal control weaknesses were not considered material. A description of the controls assessed is on page 2 in Part I of the report.

**Potential Benefits of Audit.** Because data were unreliable, this audit does not identify any quantifiable monetary benefits. Implementation of standard cost accounting will allow comparisons of software development costs at the 38 central design activities. In addition, the implementation of our recommendation for a standard cost system will provide a reliable charge-back mechanism for accomplishing the CIM fee-for-service initiative (Appendix D).

**Summary of Recommendations.** We recommended that a standard cost accounting system be developed and implemented by the central design activities. Also, we made recommendations relating to procedures for preparing and using economic analyses, recording labor hours, measuring cost, and achieving identified benefits.

**Management Comments.** The Comptroller of the Department of Defense did not provide comments on our recommendation to develop and implement a single cost accounting system that complies with the DoD Accounting Manual. The Director for Defense Information disagreed with requiring all central design activities to use a standard project management system for recording labor hours. The Army and Defense Logistics Agency agreed with all recommendations. The Navy and Air Force agreed with most of the recommendations. All addressees, except the Army and the Defense Logistics Agency, should provide comments on the final report by June 17, 1992. Management comments are discussed in Part II, and the complete texts of management comments are in Part IV.

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This report was prepared by the Financial Management Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from the Information Officer, Audit Planning and Technical Support Directorate (703) 614-6303.





## PART I - INTRODUCTION

### Background

In November 1989, the Secretary of Defense directed that a team of representatives from the Military Departments, Defense Logistics Agency (DLA), and OSD be formed to study the feasibility of consolidating the computer operations centers and consolidating the software design centers within DoD. The team recommended that the individual data processing installations and the functional software design centers be consolidated into DoD central design activities. In addition, the team recommended that all data processing centers and central design activities operate on an industrial funded (cost recovery) basis.

In January 1991, the Deputy Secretary of Defense approved a plan to implement Corporate Information Management (CIM) principles throughout the Department of Defense. The Assistant Secretary of Defense (Command, Control, Communications and Intelligence) established a Director for Defense Information with responsibility for implementing the CIM program throughout DoD. This responsibility included the development and implementation of information management policies, programs, and standards; oversight of all information management, technology, and systems; and the integration of the principles of information management into all of the Department's functional activities.

DoD Directive 7920.1, "Life-Cycle Management of Automated Information Systems (AIS)," June 20, 1988, provides guidance on capturing all costs relating to the design, development, deployment, and operation of automated information systems that support the DoD mission. The Directive also requires that the life-cycle cost be the actual cost and that the actual cost be accounted for in accordance with DoD Manual 7220.9-M, "Department of Defense Accounting Manual," February 1988.

At the time of our audit, the Military Departments, the Marine Corps, and the DLA (the entities) had 38 central design activities and an annual budget of about \$1.0 billion for developing and maintaining software systems.

### Objectives

The overall objective of the audit was to determine if the entities managed software changes in a timely, effective, and efficient manner, and if software changes were planned and met user needs. Specifically, we reviewed the central design activities' software development to determine if:

- o valid user requirements existed for software changes,
- o economic analyses were prepared and used in the software project approval process,
- o software project costs and elapsed time were measured and tracked, and
- o planned objectives and benefits were achieved for completed projects.

We also evaluated internal controls relating to the management of software changes.

### Scope

We visited 8 of the entities' 38 central design activities (CDAs) (Appendix A). The eight CDAs had \$506.6 million of the total \$953.7 million budget for FY 1990. The audit was limited to software changes completed in calendar year (CY) 1990. We reviewed the policy guidance issued by the DoD, Military Departments, Marine Corps, and DLA; the software planning and approval documents for software changes completed in CY 1990; the software change process including measuring and tracking costs and elapsed time; and procedures and practices for ensuring that planned objectives and benefits were achieved for completed projects.

We randomly selected 356 of the 4,087 software changes completed by the 8 CDAs. We visited the CDAs and activities (Appendix E) responsible for planning, approving, developing, monitoring, implementing, and following up on software changes.

This economy and efficiency audit was performed from December 1990 through July 1991. The audit was made in accordance with the auditing standards issued by the Comptroller of the United States as implemented by the Inspector General, DoD, and accordingly included such tests of the internal controls as were considered necessary.

### Internal Controls

Controls assessed. At the CDAs and higher level commands, we reviewed policies and procedures for approving, planning, and monitoring software changes. We also evaluated internal controls for ensuring that changes were based on valid user requirements, required economic analyses were prepared and used in the approval process, costs and elapsed time were accurately measured and tracked, and that planned objectives and identified benefits were achieved.

Internal control weaknesses. The audit identified no material internal control weaknesses as defined by Public Law 97-255, Office of Management and Budget Circular (OMB) A-123, and DoD Directive 5010.38. Overall, internal controls were effective.

#### Prior Audits and Other Reviews

We identified eight prior audits completed from June 1986 through March 1990 that were related to software development at CDAs in DoD. The audits were performed by the audit activities listed in Appendix B. The prior audits showed problems similar to those found in our audit, even though the Military Departments, Marine Corps, and DLA reported that corrective actions had been implemented. We found the following specific, recurring problems:

- o economic analyses were not performed,
- o costs were not tracked for software changes,
- o follow-up was not done on benefits for completed projects, and
- o compliance with regulations was not enforced by management.



## PART II - FINDINGS AND RECOMMENDATIONS

### A. COMPLIANCE WITH DOD COST ACCOUNTING STANDARDS

The CDAs did not measure and track the cost of software development. This condition occurred because the Military Departments, the Marine Corps, and the DLA (the entities) did not require the CDAs to comply with DoD Directive 7920.1, "Life-Cycle Management of Automated Information Systems (AIS)," June 20, 1988, which states that actual automated information systems costs shall be accounted for in accordance with DoD Manual 7220.9-M, "Department of Defense Accounting Manual" (Manual), February 1988. As a result, the entities did not know the cost of software changes, and the planned fee-for-service initiative cannot be fully implemented by the Director for Defense Information.

#### DISCUSSION OF DETAILS

##### Background

OMB Circular A-130, "Management of Federal Information Resources," December 12, 1985, requires Government agencies to account for all costs for operating information technology facilities and CDAs and to recover the costs from the functional users. Functional users include supply, contract administration, and payroll.

DoD Directive 7920.1 governs all DoD programs, projects, and activities involved with the design, development, deployment, and operation of automated information systems that support DoD mission areas (including mission-critical applications). DoD policy is to control expenditures on software systems by ensuring that the benefits derived satisfy mission needs to the greatest extent possible and in the most cost-effective manner. The Directive tasks the Comptroller of the Department of Defense to ensure implementation by the Military Departments and the Defense agencies.

DoD Directive 7920.1 also requires that the head of each DoD Component develop policies and operating procedures that are consistent with provisions of the Directive and ensure their implementation and the effective application of automated information system life-cycle management principles.

Cost accounting policy. Chapter 71, "Cost Identification," of the Manual states that the objective of cost accounting is to accumulate and record all costs incurred to accomplish a cost objective, such as to carry on an activity or operation or to

complete a unit of work of a specific job. Chapter 75, "Cost Distribution for Information Technology Facilities," provides accounting requirements and guidance applicable to cost distribution for information technology facilities. Costs that are to be allocated to users include direct and indirect charges, overhead, computer software, space occupancy, supplies, and contracted services.

### Accounting for Software Costs

Life-cycle costs. Contrary to the requirements in DoD Directive 7920.1, none of the entities had developed and implemented an appropriate cost accounting system to capture the total life-cycle costs incurred for software development changes. Operation and support costs were not identified and allocated for overhead, amortization, and general and administrative expenses for software changes. The Directive requires that expenditures on modernization of existing software systems and maintenance be minimized.

Implementation of the Manual. None of the CDAs visited had a cost accounting system in compliance with the Manual for capturing and allocating all of the costs incurred for software development changes. For example, three of the CDAs (the Marine Corps Logistics Base, Albany, Georgia; the Army Software Development Center, Fort Lee, Virginia; and the Army Systems Information Management Activity, St. Louis, Missouri) either did not track labor hours or discontinued tracking labor hours after the projects were 2 years old. The Air Force Logistics Command (AFLC) used an accelerated hourly labor rate and applied it to the actual hours expended for each software change performed in-house. The Navy Management Systems Support Office (the Support Office) prorated operating budget costs (excluding computer operations costs) to the major automated information system associated with the software change. A fee-for-service system for information services in DoD cannot be implemented until a standard cost accounting system is implemented in compliance with the Manual.

### Action Initiated within OSD

OSD had initiated action toward improving cost accounting operations.

Corporate Information Management (CIM). On October 4, 1989, in response to the Secretary of Defense "Report to the President on Defense Management," the Deputy Secretary of Defense issued a memorandum to the DoD Components, creating the DoD CIM. The memorandum stated that the Office of Information Resource Management, Comptroller of the Department of Defense, would be

responsible for developing a plan to integrate information systems. The goal was to reduce the cost of DoD's management information systems. More specifically, Defense Management Review Directive (DMRD) 924, "Consolidate ADP Operations and Design Centers in DoD," called for the transition of the Department's automated data processing equipment (ADPE) operations to a fee-for-service operation. On January 14, 1991, DoD issued its approved "Implementation Plan for Corporate Information Management."

Fee-for-service. In the approved CIM implementation plan, the Deputy Secretary of Defense assigned the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) (ASD[C3I]) as the DoD Senior Information Resources Management Official. Responsibilities include:

- o developing and managing a program DoD-wide for the implementation, execution, and oversight of CIM principles;
- o promoting the CIM initiative;
- o reviewing and overseeing the development, acquisition, and operation of ADPE programs and information services;
- o providing assessment of information system life-cycle and functional planning and performance;
- o establishing policies and programs DoD-wide for the execution of a fee-for-service process; and
- o developing fee-for-service policy and guidance for information services in DoD and monitoring the DoD transition to fee-for-service.

In conjunction with the Comptroller, the ASD(C3I) was to develop a plan for transitioning to a fee-for-service operation. A fee-for-service operation charges its customers the full cost of providing the services. The Deputy Secretary of Defense set a deadline of August 1991 for developing a comprehensive fee-for-service proposal. In a memorandum to the DoD Components on March 18, 1991, the Principal Deputy Comptroller assigned the responsibility for developing the fee-for-service system to the Directorate for Automated Data Processing Systems of the Office of the Comptroller. The Principal Deputy Comptroller anticipated that the DoD would go to a fee-for-service system during FY 1992 and required the involvement of the DoD Components. We noted during visits to audit sites that the DoD Components had developed plans to start implementing fee-for-service operations at selected CDAs. For example, the Air Force Standard Systems

Center implemented notional (identifying the cost of the service provided to the customer) billing in October 1991. As of June 1991, the Air Force Standard Systems Center planned to implement a full-cost accounting system with rate charges by October 1, 1992, and an industrial fund operation with full-cost recovery by October 1, 1993.

RECOMMENDATION FOR CORRECTIVE ACTION

We recommend that the Comptroller of the Department of Defense direct the Military Departments, the Marine Corps, and the Defense agencies to develop and implement a single cost accounting system for software development and maintenance that complies with DoD Manual 7220.9-M, "Department of Defense Accounting Manual," February 1988.

MANAGEMENT COMMENTS

The Comptroller of the Department of Defense did not provide comments on the draft audit report.

AUDIT RESPONSE

Comments on this final audit report are required by May 30, 1992. As required by DoD Directive 7650.3, the comments should indicate concurrence or nonconcurrence in the finding and the recommendation. The specific requirements for your comments are shown in the chart below.

STATUS OF RECOMMENDATION

<u>Number</u>	<u>Addressee</u>	<u>Response Should Cover:</u>		
		<u>Concur or Nonconcur</u>	<u>Proposed Action</u>	<u>Completion Date</u>
A	Comptroller, DoD	X	X	X



## B. MANAGEMENT OF SOFTWARE CHANGES

Our review of 356 software changes showed that all were valid requirements, all changes were planned and met users' needs, and planned objectives were achieved. However, 150 changes exceeded their estimated completion dates, required cost analyses were not prepared for 146 changes, costs were not measured and tracked, elapsed time was not effectively measured and tracked for 90 changes, and identified benefits valued at \$18.5 million were not achieved. The problems occurred because software change procedures either were not established or were not followed. As a result, management could not measure how effectively and efficiently software changes were managed.

### DISCUSSION OF DETAILS

#### Background

The CDAs in DoD were established to meet software and system design needs of specific groups and organizations within each of the Military Departments, the Marine Corps, and the Defense agencies. Software changes, which are requested or directed, are made because of changes in processing requirements, deficiencies in software, or improvements to programs for greater efficiency. The five entities had similar procedures for processing software changes. Change proposal forms were used to request software changes. The forms show the priority of the change, the nature of the problem or enhancement, a brief description of the benefits to be achieved, and the action taken. Software changes followed a set approval process:

- o The requester filled out and forwarded a change request to the major command.
- o The major command either approved the request and forwarded it to the functional manager or disapproved the request and returned it to the requester.
- o The functional manager either approved or disapproved the request.
- o If approved, the request went to the software change control board where it was either approved or disapproved.
- o If approved, the request was prioritized, funded, and sent to the CDA to be worked and implemented.
- o After programming was completed, the change was tested and certified by the programmer.

- o The software change then went to the quality assurance group for testing and certification.

- o If accepted, the change was either tested and certified by the user before it was implemented or implemented without user testing.

### Software Changes

Validation of user needs. All the entities had developed adequate procedures to ensure that valid requirements existed for requested software changes. Our review of 356 software change requests showed that, although cost analyses were not performed, the requests were supported by valid needs. The need for each change was validated in the approval process. Procedures required that all levels of management (major command, functional manager, CDA personnel, and software change control board) be involved in the process.

Planning software changes. Software changes were adequately planned. The Navy's Fleet Material Support Office (FMSO) and the DLA Systems Automation Center (Automation Center) had formal detailed plans showing software projects that would be worked during the planned cycle. Both activities had tracking systems that provided oversight of the status of each change. DLA required that the Automation Center send a monthly status report on each project to its headquarters, and the FMSO generated reports when requested by Navy management. The reports showed the activities' progress on each project and any anticipated changes to the planned estimates. Procedures were established to modify plans when priorities or requirements changed. During the audit, the Marine Corps was in the process of developing a formal plan. At the other four entities, the planning process was done informally by the functional managers who determined the priority in which software changes would be worked.

Planned objectives and benefits. Planned objectives were achieved, but seven of the eight activities did not monitor identified benefits associated with software changes to ensure the benefits were achieved. There were 43 software changes with about \$18.5 million in identified benefits. Only the Army's Systems Integrated Management Activity (the Army's Management Activity), with \$17.1 million of the \$18.5 million in identified benefits, followed up on the identified benefits. However, based on our discussion with management at the Army's Management Activity, the identified benefits provided no real cost savings (e.g., cuts in personnel strength, etc.). As a result, none of the \$18.5 million in identified benefits provided any real savings.

Except for the Air Force, the entities had not established procedures for reevaluating changes that would exceed initial estimates. Air Force Regulation 700-4, "Communications-Computer Systems Program Management and Acquisition Communications Computer Systems Program Management," March 15, 1985, establishes that the requiring command information system officer be notified if the cost exceeds the original estimate by 15 percent. On one project, DLA identified benefits of \$35,019; however, costs incurred on the project increased by \$52,254--\$17,235 more than the estimated benefits of the change. In another case, a change proposal showed an initial estimate of 200 staff hours to complete a change with estimated savings of more than \$200,000. When an in-depth estimate of the change was made by the CDA, it was determined that the change would require 8,727 hours to complete the project, eliminating the estimated savings. However, the change was approved based on the initial estimate.

Timeliness of software changes. We found that 150 software changes had not been completed within the established time frames. Sixteen of those changes exceeded initial estimated completion dates by more than 1 year. The DLA Automation Center spent \$586,000 in overtime during CY 1990 and \$999,000 in overtime between January 1, 1991, and August 31, 1991, to meet assigned milestones. Overtime costs in CY 1990 for the other seven CDAs ranged from \$15,000 to \$235,000. For the 50 software changes reviewed at the DLA Automation Center, 24 had overtime totaling 4,060 hours. Fourteen of those 24 changes (which exceeded the estimated completion dates by as much as 273 days) used 3,411 hours of overtime. Conversely, overtime was also used on changes completed as many as 248 days ahead of the estimated completion dates. Overtime should be used to meet milestones that are cost-effective or hotline or mission priorities.

Preparation and use of cost analyses. Required cost analyses were not prepared and used in the approval process for 146 of the 356 software changes reviewed. DoD Instruction 7041.3, "Economic Analysis Program Evaluation for Resource Management," October 18, 1972, requires the preparation and use of cost analyses in the approval process for software change requests. Furthermore, the Military Departments' regulations require an economic analysis if the estimated cost of a software change exceeds \$100,000 and a cost benefits analysis if the estimated cost is \$100,000 or less. The requirement for a cost analysis was not enforced because managers either did not know the requirement existed or they chose not to enforce it. Therefore, the software changes were approved without knowledge of the costs and benefits associated with making the changes.

Measurement and tracking of elapsed time. Elapsed time was not tracked for 90 software changes. At the Marine Corps

Logistics Base, Albany, Georgia, only 13 of the 26 completed projects we reviewed had labor hours charged to them. At the Software Development Center at Fort Lee, Virginia, none of the 50 completed changes had elapsed time charged to them. Except for the Software Development Center at Fort Lee, Virginia, the CDAs had automated systems for tracking time and labor hours. The tracking system at the Air Force Standard Systems Center showed the project control number, project title, estimated start date, scheduled start date, actual completion date, estimated hours, and expended hours. The other CDAs had similar tracking systems. Reliable data were not available for managing programmer and analyst resources.

Management of approved software changes. All of the entities had project management systems. However, no standard project management system had been established among the entities. Because DoD plans to have a fee-for-service operation, standardization is needed to ensure that each CDA is consistent in charging labor hours to each project. Our review showed a lack of compliance with instructions and regulations relating to the accuracy of data in the project management systems. The accuracy of time charged to projects was not validated by management. Projects were shown as active when they had been completed for more than a year. One CDA used two automated systems, one for project management and the other for tracking paperwork on each software request. A comparison between the systems showed projects listed on one system but not on the other. At another CDA, personnel charged time to the wrong projects, which showed completed projects with no time charged to them. These deficiencies occurred because management did not provide effective oversight of the projects.

#### RECOMMENDATIONS FOR CORRECTIVE ACTION

1. We recommend that the Director for Defense Information, Assistant Secretary of Defense (Command, Control, Communications and Intelligence), require the Military Departments, Marine Corps, and the Defense agencies to use a standard project management system.
2. We recommend that the Comptrollers of the Military Departments; the Fiscal Director of the Marine Corps; and the Director, Defense Logistics Agency, establish procedures to follow up on identified economic benefits associated with software changes to ensure that those benefits are achieved.
3. We recommend that the Commandant of the Marine Corps; the Army Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief

of Staff, Command, Control, Communications and Computers; and the Director, Defense Logistics Agency:

a. require that management prepare and use cost analyses in the approval process for software change requests as required by DoD Instruction 7041.3, "Economic Analysis Program Evaluation for Resource Management," October 18, 1972.

b. verify recorded labor hours, and use them in making future project estimates.

c. require that overtime be used to meet milestones that are cost-effective and to meet hotline and mission priority needs.

4. We recommend that the Commandant of the Marine Corps; the Army Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; and the Director, Defense Logistics Agency, develop procedures to reevaluate approved software changes, similar to the Air Force, when software development costs will exceed the latest estimate by 15 percent.

#### MANAGEMENT COMMENTS

The Director for Defense Information disagreed with Recommendation B.1., stating that a single project management system is not needed. As part of ongoing fee-for-service efforts, the DoD working group is developing a standard set of definitions that classify activities performed within CDAs as direct, indirect, or general administrative. These definitions will ensure the consistent application of costs to all CDA projects.

The Army and Defense Logistics Agency agreed with all recommendations. The Navy and the Air Force agreed with all recommendations addressed to them except Recommendation B.3.c., stating that limiting overtime only to those milestones that are cost-effective is too restrictive.

#### AUDIT RESPONSE

We disagree that a standard project management system is not needed. The use of a single cost system is required as recommended in Finding A; however, a standard project management system is also needed to track productive and nonproductive hours and to show the labor applied on each project. Labor hours should be applied to specific tasks, such as analysis, flowcharting, training, programming, and documentation. Data on those tasks are needed for planning future work loads, staff

assignments (all employees do not perform equally at each task), project estimating, performance evaluation, etc. Because fee-for-service is being implemented DoD-wide at data processing centers and automation design activities, consistency is required for comparability. Therefore, we believe Recommendation B.1. is still valid and request that the Director for Defense Information reconsider his position in response to the final report. Regarding Recommendation B.3.c., we changed the recommendation to include the authorization of overtime for hotline and mission priorities. Therefore, we request that the Navy and the Air Force reconsider their positions in response to the final report.

STATUS OF RECOMMENDATIONS

<u>Number</u>	<u>Addressee</u>	<u>Response Should Cover:</u>		
		<u>Concur or Nonconcur</u>	<u>Proposed Action</u>	<u>Completion Date</u>
B.1.	ASD(C3I)	X	X	X
B.3.c	Navy <u>1/</u>	X	X	X
	Air Force <u>2/</u>	X	X	X

1/ Navy Commanding Officer, Naval Information Systems Management Center

2/ Air Force Deputy Chief of Staff, Command, Control, Communications and Computers.

PART III - ADDITIONAL INFORMATION

APPENDIX A - Central Design Activities in the Military  
Departments, Marine Corps, and the DLA

APPENDIX B - Prior Audits

APPENDIX C - Matrix on the Results of Audit

APPENDIX D - Summary of Potential Benefits Resulting from Audit

APPENDIX E - Activities Visited or Contacted

APPENDIX F - Report Distribution





**APPENDIX A: CENTRAL DESIGN ACTIVITIES IN THE MILITARY DEPARTMENTS, MARINE CORPS, AND THE DLA**

<u>Entity</u>	<u>Activity</u>	<u>Location</u>	<u>FY 1990</u>		
			<u>Staffing</u>	<u>Budget (\$M)</u>	
Army	Systems Integration Management Activity	St. Louis, MO	1,092	\$ 59.5	
	Army WWMCCS 1/ Information System	Fort Belvoir, VA	11	40.0	
	Software Development Center-Lee	Fort Lee, VA	329	31.3	
	Software Development Center-Washington	Fairfax, VA	171	13.8	
	Software Development Center-Huachuca	Fort Huachuca, AZ	112	8.6	
	Software Development Center-Europe	Zweibrucken, Germany	111	5.0	
	Health Services Command-Systems Support Activity	Fort Sam Houston, TX	140	7.4	
	U.S. Army Engineering Automated Support Activity	Washington, DC	108	5.5	
	Subtotals		2,074	\$171.1	
	Navy	Fleet Material Support Office	Mechanicsburg, PA	1,392	\$ 81.7
Navy Management Systems Support Office		Chesapeake, VA	607	38.3	
Naval Computer and Telecommunications Command		Washington, DC	104	22.1	
Navy Comptroller Standard Systems Activity		Pensacola, FL	213	14.8	
Navy Regional Data Automation Center		Washington, DC	136	13.4	
Naval Military Personnel Command		Washington, DC	160	10.9	
Naval Aviation Depot Operations Center Education and Training Program Management Support Activity		Patuxent River, MD	45	6.7	
Facilities Systems Office		Pensacola, FL	99	5.6	
Naval Weapons Support Center		Port Hueneme, CA	108	5.4	
Navy Regional Data Automation Center		Crane, IN	18	5.3	
Naval Computer and Telecommunications Station		Norfolk, VA	137	4.5	
Naval Computer and Telecommunications Station		Jacksonville, FL	88	4.4	
Naval Computer and Telecommunications Station		Pensacola, FL	112	3.8	
Navy Regional Data Automation Center		San Francisco, CA	19	3.6	
Subtotals			3,238	\$220.5	
Marines		Marine Corps Central Design and Programming Activity	Kansas City, MS	308	\$15.8
		Marine Corps Central Design and Programming Activity	Albany, GA	296	13.0
	Marine Corps Central Design and Programming Activity	Quantico, VA	215	9.3	
	Subtotals		819	\$38.1	

See footnotes at the end of table.

**APPENDIX A: CENTRAL DESIGN ACTIVITIES IN THE MILITARY DEPARTMENTS, MARINE CORPS, AND THE DLA (cont'd)**

<u>Entity</u>	<u>Activity</u>	<u>Location</u>	<u>FY 1990</u>	
			<u>Staffing</u>	<u>Budget (\$M)</u>
Air Force	Air Force Logistics Command	Wright-Patterson, AFB, <u>2/</u> OH	1,049	\$117.8
	Standard Systems Center	Gunter AFB, AL	1,483	107.1
	Strategic Air Command	Offutt AFB, NE	431	82.0
	Military Airlift Command	Scott AFB, IL	214	26.9
	Electronics Security Command	Kelly AFB, TX	106	26.1
	Defense Finance and Accounting Service	Lowry AFB, CO	297	26.0
	Tactical Air Command	Langley AFB, VA	381	24.8
	Command and Control Systems Office	Tinker AFB, OK	106	18.7
	Air Force Military Personnel Center	Randolph AFB, TX	182	9.7
	Air Force Systems Command	Andrews AFB, MD	15	5.7
	Subtotals		4,264	\$444.8
DLA	Defense Logistics Agency Systems Automation Center	Columbus, OH	1,157	\$ 57.9
	Defense Logistics Service Center	Battle Creek, MI	290	13.4
	Defense Automated Address Systems Office	Dayton, OH	161	7.9
	Subtotals		1,608	\$ 79.2
Totals	<u>38 CDA's</u>		<u>12,003</u>	<u>\$953.7</u>

<u>Entity</u>	<u>Activity Visited</u>	<u>Location</u>	<u>FY 1990</u>	
			<u>Staffing</u>	<u>Budget (\$M)</u>
Army	Systems Integration Management Activity	St. Louis, MO	1,092	\$ 59.5
	Software Development Center-Lee	Fort Lee, VA	329	31.3
Navy	Fleet Material Support Office	Mechanicsburg, PA	1,392	81.7
	Navy Management Systems Support Office	Chesapeake, VA	607	38.3
Marines	Marine Corps Central Design and Programming Activity	Albany, GA	296	13.0
Air Force	Air Force Logistics Command	Wright-Patterson AFB, OH	1,049	117.8
	Standard Systems Center	Gunter AFB, AL	1,483	107.1
DLA	Defense Logistics Agency Systems Automation Center	Columbus, OH	1,157	57.9
Totals	<u>8 CDA's</u>		<u>7,405</u>	<u>\$506.6</u>

1/ World-Wide Military Command and Control System  
2/ Air Force Base

## APPENDIX B: PRIOR AUDITS

We identified eight prior audits related to the management of software development. The audits were done by the General Accounting Office (GAO); Inspector General, DoD; and the Military Departments' audit agencies.

### General Accounting Office

Audit report. "Software Projects, Army Materiel Command Spent Millions Without Knowing Total Costs and Benefits," GAO Report No. IMTEC-86-18, (OSD Case No. 6932, June 20, 1986).

Audit results. The Logistics Systems Review Committee (LSRC) allowed software for the combat service support system to be modified in violation of Army regulations. The LSRC approved system changes without requiring complete and accurate economic analyses and did not track project costs.

Recommendations. The report recommended that the Army Materiel Command comply with regulations regarding the approval of software changes and the tracking and reporting of costs associated with software changes and review completed projects to determine if benefits and cost reductions had been achieved.

Status. Management reported that corrective actions were completed on April 1, 1987.

### Office of the Inspector General, DoD

Audit report. "Charge-Back Accounting Systems for the Cost of Information Technology Resources," Report No. 90-011, November 28, 1989.

Audit results. The charge-back systems for collecting costs did not routinely identify and allocate to users the complete costs of services provided. This occurred because OMB Circular A-130 had not been implemented by DoD data processing installations.

Recommendations. The report recommended that the Comptroller of the Department of Defense modify existing procedures to fully incorporate the cost accounting, allocation, and recovery requirements of OMB Circular A-130, and that DoD Components' charge-back systems identify, allocate, and recover complete costs. In addition, the report recommended that the DoD issue guidance and standard procedures for data processing activities to follow in developing estimated costs when actual or historical cost information is not readily available.

## APPENDIX B: PRIOR AUDITS (cont'd)

Status. Management reported that Defense Management Review Directive (DMRD) 924, dated November 18, 1990, directs that information services will be accomplished on a fee-for-service basis as soon as practicable.

Audit report. "Management of the Defense Logistics Agency's Central Design Activity," Report No. 90-045, March 7, 1990.

Audit results. Project development plans were outdated; programmer resources were not allocated according to priorities; performance data were not recorded accurately; oversight reports were inaccurate, incomplete, and untimely; supervisors did not ensure that employees were accurately reporting their time and performance; and overtime was used to meet milestones without regard for cost-effectiveness.

Recommendations. The report recommended compliance with Agency regulations for planning, allocating, and reporting resources; requiring accurate reporting of time; and authorizing overtime only to work on hotline requests and deadlines that were cost-effective.

Status. Management reported that corrective actions were completed on May 31, 1991.

### U.S. ARMY

Audit report. "Audit of the U.S. Army Health Care Systems Support Activity, Fort Sam Houston, Texas," Army Report No. SW 88-8, April 28, 1988.

Audit results. Engineering change proposals (ECPs) were not properly prepared, approved, and processed in a timely manner.

Recommendations. The report recommended that ECPs be properly prepared, approved, and evaluated.

Status. Management reported that corrective actions were completed on December 31, 1989.

Audit report. "Audit of System Change Requests U.S. Army Materiel Command Systems Integration and Management Activity (Provisional)," Army Report No. MW 90-1, October 26, 1989.

Audit results. Project management data were not recorded properly, cost-benefits analyses were inadequate, and an effective system to validate actual benefits had not been established.

## APPENDIX B: PRIOR AUDITS (cont'd)

Recommendations. The report recommended that command establish a direct labor rate to accurately allocate operating costs to changes and establish an effective procedure for estimating expected benefits and reporting actual benefits.

Status. Management reported that corrective actions were completed on February 8, 1991.

### U.S. NAVY

Audit report. "Development of the Marine Corps Standard Supply System at Marine Corps Logistics Base, Albany, Georgia, Phase I," Audit No. D40065, October 7, 1986.

Audit results. Economic analyses were not made as required, expended hours were not charged to the correct jobs, and planning and scheduling were not done.

Recommendations. The report recommended preparing economic analyses when significant changes occurred in development costs, using the planning and scheduling functions of the Management Information System (MIS), organizing a MIS training program, and developing a MIS users manual and standards.

Status. Management reported that corrective actions were completed in September 1986.

Audit report. "Development of the Marine Corps Standard Supply System at Marine Corps Logistics Base, Albany, Georgia, Phase II," Audit No. D40037, January 17, 1990.

Audit results. System development standards had been circumvented causing costs to increase significantly and implementation targets to be delayed, data in the project control system were incomplete and inaccurate, and required configuration audits had not been done.

Recommendations. The report recommended that the project management and control system be used to provide complete and accurate milestones, to develop realistic project status and completion dates, and to provide accurate project status information to the steering committee.

Status. Management reported that corrective actions were completed in March 1989.

### U.S. AIR FORCE

Audit report. "Air Force Software Development Activities Identification Activities and Cost Tracking and Reporting," Air Force Report No. 8195414, March 10, 1989.

**APPENDIX B: PRIOR AUDITS** (cont'd)

**Audit results.** CDAs did not properly report software development activities in budget submissions, and program managers did not accurately estimate or track software development costs.

**Recommendations.** The report recommended that written guidance be provided to the major commands for budget submissions and that the Deputy Chief of Staff, Command, Control, Communications, and Computers, supplement current policy with more detail to assist software development project managers.

**Status.** Management reported that corrective actions were completed on two of the three recommendations. As of December 11, 1991, current policy had not been supplemented with more detail to assist software development project managers.

**APPENDIX C: MATRIX ON THE RESULTS OF AUDIT**

<u>Element Evaluated</u>	<u>Branch of Government</u>					<u>Overall</u>
	<u>Army</u>	<u>Navy</u>	<u>Air Force</u>	<u>Marine Corps</u>	<u>DLA</u>	
Economic Analysis						
Prepared	I	A	A	I	I	I
Software Change Planned	A	A	A	A	A	A
Timeliness	I	I	I	I	I	I
Met Users' Needs	A	A	A	A	A	A
Valid User Requirements	A	A	A	A	A	A
Costs Measured	I	I	I	I	I	I
Costs Tracked	I	I	I	I	I	I
Elapsed Time Measured	I	A	A	I	A	I
Elapsed Time Tracked	I	I	A	I	A	I
Objectives Achieved	A	A	A	A	A	A
Benefits Achieved	I	I	A	I	I	I
Internal Controls						
Implemented	I	I	A	I	I	I
Compliance with						
Regulations	I	I	I	I	I	I

LEGEND:

A = Adequate  
 I = Inadequate





**APPENDIX D: SUMMARY OF POTENTIAL BENEFITS RESULTING FROM AUDIT**

<u>Recommendation Reference</u>	<u>Description of Benefit</u>	<u>Amount and Type of Benefit</u>
A.	<u>Compliance with Regulations.</u> Compliance with DoD cost accounting requirement. Allows the implementation of fee-for-service at software design activities in DoD. Improved oversight and economy.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.
B.1.	<u>Economy and Efficiency.</u> Improves cost-effectiveness of software development. Allows comparison of costs at CDAs.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.
B.2.	<u>Internal Control.</u> Ensures that identified benefits are achieved.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.
B.3.a.	<u>Compliance with Regulations.</u> Improves cost-effectiveness and management oversight of software development. More accurate forecasting data. Better use of assets.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.
B.3.b.	<u>Internal Control.</u> Improves management of software development and monitoring of benefits shown in the cost analyses.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.
B.3.c	<u>Internal Control.</u> Improves management of overtime and ensures that overtime is used on cost-effective and mission priority cases.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.
B.4.	<u>Internal Control.</u> Ensures that identified benefits are not exceeded by increased costs. Also, determines if work on the software should be continued.	<u>Undeterminable.</u> We found no reasonable basis to quantify future monetary benefits.



APPENDIX E: ACTIVITIES VISITED OR CONTACTED

Office of the Secretary of Defense

Comptroller of the Department of Defense, Washington, DC  
Director, Defense Information, Assistant Secretary of Defense  
(Command, Control, Communications and Intelligence),  
Washington, DC  
Deputy Assistant Secretary of Defense (Information Systems),  
Assistant Secretary of Defense (Command, Control, Communications  
and Intelligence), Policies and Standards, Washington, DC

Department of the Army

Director of Information Systems for Command, Control,  
Communications, and Computers, Washington, DC  
U.S. Total Army Personnel Command, Washington, DC  
Army Budget Office, Information Management Division, Washington,  
DC  
Combined Arms Support Command, Fort Lee, VA  
Software Development Center-Washington, Falls Church, VA  
Software Development Center-Lee, Fort Lee, VA  
Headquarters, U.S. Army Materiel Command, Alexandria, VA  
Army Materiel Command Systems Integration and Management  
Activity, St Louis, MO  
Headquarters, Information Systems Engineering Command, Fort  
Belvoir, VA  
Software Development Center-Huachuca, Fort Huachuca, AZ

Department of the Navy

Deputy Assistant Secretary of the Navy, Information Resources  
Management, Arlington, VA  
Naval Air Systems Command, Arlington, VA  
Space and Naval War Systems Command, Arlington, VA  
Navy Management Systems Support Office, Chesapeake, VA  
Naval Sea Systems Command, Arlington, VA  
Naval Supply Systems Command, Arlington, VA  
Fleet Material Support Office, Mechanicsburg, PA  
Naval Military Personnel Command, Arlington, VA  
Naval Computer and Telecommunications Command, Washington, DC  
Navy Regional Data Automation Center, Washington, DC  
Naval Communications Unit Washington, Cheltenham, MD

APPENDIX E: ACTIVITIES VISITED OR CONTACTED (cont'd)

Department of the Air Force

Deputy Chief of Staff, Command, Control, Communications and Computers, Washington, DC  
Deputy Chief of Staff, Logistics and Engineering, Information Systems Division, Washington, DC  
Headquarters, Air Force Logistics Command, Office of the Deputy Chief of Staff, Communications-Computer Systems and Logistics Management Systems Center, Wright-Patterson Air Force Base, Dayton, OH  
Computer Systems Division and Standard Systems Center, Gunter Air Force Base, Montgomery, AL  
San Antonio Air Logistics Center, Directorate of Communications-Computers Systems, Kelly Air Force Base, TX  
Air Force Military Personnel Center, Directorate of Personnel Data Systems, Randolph Air Force Base, TX  
Headquarters, Air Force Strategic Command, Deputy Chief of Staff, Communications-Computer Systems, Software Development Division

Marine Corps

Director for Command, Control, Communications, and Computers, Arlington, VA  
Marine Corps Central Design and Programming Activity, Quantico, VA  
Marine Corps Logistics Base, Albany, GA

Defense Logistics Agency

Headquarters, Defense Logistics Agency, Office of Information Systems and Technology, Cameron Station, VA  
Headquarters, Defense Logistics Agency, Comptroller, Cameron Station, VA  
Defense Logistics Agency Systems Automation Center, Columbus, OH  
Defense Logistics Agency Systems Automation Center, Ogden, UT

## APPENDIX F: REPORT DISTRIBUTION

### Office of the Secretary of Defense

Assistant Secretary of Defense (Command, Control, Communications  
and Intelligence)  
Comptroller of the Department of Defense

### Department of the Army

Secretary of the Army  
Assistant Secretary of the Army (Financial Management)

### Department of the Navy

Secretary of the Navy  
Commandant of the Marine Corps  
Assistant Secretary of the Navy (Financial Management)

### Department of the Air Force

Secretary of the Air Force  
Assistant Secretary of the Air Force (Financial Management and  
Comptroller)

### Defense Agencies

Director, Defense Logistics Agency

### Non-DoD

Office of Management and Budget  
U.S. General Accounting Office  
NSIAD Technical Information Center

### Congressional Committees

Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Committee on Governmental Affairs  
Ranking Minority Member, Senate Committee on Armed Services  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
Ranking Minority Member, House Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Operations  
House Subcommittee on Legislation and National Security,  
Committee on Government Operations



PART IV - MANAGEMENT COMMENTS

Assistant Secretary of Defense (Command, Control, Communications  
and Intelligence)

Department of the Army

Department of the Navy

Department of the Air Force

Defense Logistics Agency





**MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)**



COMMAND CONTROL  
COMMUNICATIONS  
AND INTELLIGENCE

**OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE**

WASHINGTON, DC 20301-3040

FEB 13 1992

MEMORANDUM FOR DIRECTOR, FINANCIAL MANAGEMENT DIRECTORATE,  
OFFICE OF THE INSPECTOR GENERAL

SUBJECT: Draft Audit Report on Review of Software Development at  
Central Design Activities (Project No. 1FE-0018)

This is in reply to your memorandum of December 12, 1991,  
which forwarded subject report for review and comment.

The report indicates that the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) (ASD(C3I)) and the Director of Defense Information (DDI) have lead responsibility for implementing fee-for-service for information services. This is not the case. Fee-for-service is primarily a financial management initiative. It is an essential part of the Defense Business Operations Fund (DBOF).

As such, the Directorate for Automated Data Processing Systems within the DoD Comptroller's office has the lead in developing a fee-for-service structure to manage information services. They have established a DoD-wide working group to support this effort which includes a full-time representative from ASD(C3I). In recognition of this fact, the proposals to DDI (referenced on page 13 of the report) by the Navy and the Defense Logistics Agency to assume the lead in implementing fee-for-service for Central Design Activities (CDAs) and Data Processing Installations (DPIs) were removed from the Information Technology Policy Board's decision agenda.

I do not concur with recommendation B.1., that the DDI require use of a standard project management system. This recommendation is based on the premise that, "standardization is needed to ensure that each CDA is consistent in charging labor hours to each project." This improvement can be achieved without use of a standard project management system. As part of ongoing fee-for-service efforts, the DoD working group is developing a standard set of definitions which classify activities performed within CDAs as direct, indirect, or general and administrative. These definitions will ensure the consistent application of costs to projects across CDAs. Also, my office is preparing a request for technical support from the Center for Information Management to develop an automated rate development package. This will be based on DoD Comptroller's fee-for-service guidelines, and promote standard charging procedures. It will include:

1. A standard list of activities performed within information service organizations and normal classification as direct, indirect, or general and administrative.

MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (cont'd)

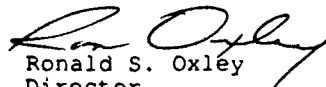
2. A rate development automated model and users guide outlining the processes and procedures required to formulate billing rates for any given information service product. The user's guide will address the following areas:

- a. Full Costing. Identify all costs incurred by an information services organization.
- b. Workload. Identify and define customer, internal, and overhead workload.
- c. Cost Distribution. Identify and describe all the steps required to allocate indirect costs to billable products and services.
- d. Percent of Impact Matrix. Identify and describe all steps to allocate direct operating costs for computer services to standard output measures.
- e. Rate Calculation Process. Identify and describe the final steps required in developing the billing rates for each product and services.

Attachment 1 provides a copy of a DDI memorandum on functional economic analysis. The functional economic analysis follows and amplifies upon existing DoD economic analysis policy contained in DoD Instruction 7041.3, "Economic Analysis Program Evaluation for Resource Management," October 18, 1972. This technique should be addressed in the background section of Part II.B., "Management of Software Changes," and referenced in recommendations B.2., and B.3.a.

The findings and recommendations in Part II.A., "Compliance with DoD Cost Accounting Standards," should be adjusted to reflect the recent decision by the Financial Management Steering Committee to mandate use of the Automated Payroll Cost and Personnel System (APCAPS) by all DBOF activities which do not have a formal cost accounting process. Attachment 2 provides a listing of activities to be converted to APCAPS in FY 1992. This decision will assist the Department in migrating towards a DoD-wide standard financial system, and greatly improve cost accounting operations.

In addition to the above concerns, Attachment 3 recommends some specific changes to the wording in the report. My point of contact is Mr. Bill Beyer, (703) 746-7916.

  
Ronald S. Oxley  
Director  
Information Services

Attachments

cc: Cindy Kendall

BUSINESS CASE SUPPORT

Business Case Analysis Model

In support of the Director of Defense Information, the Institute for Defense Analysis (IDA), has developed a business case analysis model. It is implemented in software that runs on generally available personal computers.

Copies of the software which implement the business case analysis model and the associated user manual can be obtained by calling Ms. Cathy Thompson, phone (703) 696-1280. For assistance in using the model, call Dr. Tom Frazier at the Institute for Defense Analysis, phone (703) 845-2132.

Personnel preparing or presenting business cases are encouraged to use the model wherever possible. The model supports business case preparation in three ways:

- a. Establishes common definitions and formats for describing cost elements used in baseline and alternative analyses.
- b. Ensures consistent computations of risk adjusted discounted cash flow procedure.
- c. Establishes a comprehensive presentation format for the economic analysis conclusions to aid in preparation and review.

Business Case Training

A business case instruction course is planned through the DoD Information Resources Management College. Arrangements can be made through Mr. Frank Henrion at (202) 433-3938.

Business Case Workshop

A workshop will be held July 30 through August 1, 1991, to review component progress on business cases to support FY 1992 ADP Development and Modernization requirements. Mr. Dave Norem, at (703) 696-1280, is coordinating meeting arrangements for this session directly with components. Other workshops may be planned to address specific actions.

Attachment

MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (cont'd)

The functional economic analysis follows and amplifies upon existing DoD economic analysis policy contained in DoD Instruction 7041.3, and is developed based on the following principles:

- Focus on business processes and mission activities.
- Ensure identification and evaluation of business alternatives prior to technical considerations.
- Establish traceability and auditability into budgets for mission and information system costs/benefits, validated by functional and financial managers.
- Provide consistency in the selection, calculation, and presentation of cost and benefit data.
- Adjust cost/benefit calculations to reflect the financial impacts of risk.
- Express benefits in cash terms so that realization of benefits can be monitored and audited.

Tools, training, and workshop support is being made available to assist in business case preparation. The attachment to this memorandum provides additional information.



Paul A. Strassmann  
Director of Defense Information

Attachment

MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (cont'd)



COMMAND, CONTROL,  
COMMUNICATIONS  
AND INTELLIGENCE

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-3040

July 23, 1991.

MEMORANDUM FOR DEPUTY ASSISTANT SECRETARY OF DEFENSE  
(CIVILIAN PERSONNEL POLICY/EQUAL OPPORTUNITY)  
DEPUTY ASSISTANT SECRETARY OF DEFENSE  
(HEALTH SERVICES OPERATIONS)  
DEPUTY ASSISTANT SECRETARY OF DEFENSE  
(LOGISTICS)  
DIRECTOR, DEFENSE PROCUREMENT  
DEPUTY COMPTROLLER (MANAGEMENT SYSTEMS)  
DIRECTOR, WASHINGTON HEADQUARTERS SERVICES  
DIRECTOR OF INFORMATION SYSTEMS FOR C4,  
U.S. ARMY  
CHIEF OF CORPORATE INFORMATION MANAGEMENT  
DIVISION (J6 JOINT STAFF)  
DIRECTORS OF THE DEFENSE AGENCIES  
DIRECTOR, DEFENSE MEDICAL SYSTEMS SUPPORT CENTER  
DEPUTY ASSISTANT SECRETARY OF THE NAVY  
(C4I/EW/SPACE PROGS)  
DEPUTY ASSISTANT SECRETARY (COMMUNICATIONS,  
COMPUTERS & LOGISTICS), U.S. AIR FORCE

SUBJECT: Corporate Information Management (CIM) Business Case  
(Functional Economic Analysis)

By supporting functional managers in streamlining business methods, DoD's corporate information management initiative will aid the Department in achieving the aggressive savings targets established by the Defense Management Report. To achieve the highest savings, CIM investments must be based on a functional economic analysis of business activities or operations.

The business case is a functional economic analysis to support CIM investment decisions. As CIM investment programs proceed, the business case is refined and updated. This ensures management accountability for costs and benefits and the continued viability of the investment. Technical program costs and benefits are elements of the total functional economic analysis.

Attachment 1

MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (cont'd)



COMPTROLLER OF THE DEPARTMENT OF DEFENSE  
WASHINGTON, DC 20301-1100

OCT 22 1991

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (FINANCIAL  
MANAGEMENT)  
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL  
MANAGEMENT)  
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL  
MANAGEMENT AND COMPTROLLER)  
DIRECTOR, DEFENSE FINANCE AND ACCOUNTING SERVICE

SUBJECT: Standardization of Selected Activities of the Defense  
Business Operations Fund on the Automated Payroll Cost  
and Personnel System

At the September meeting of the Financial Management Steering Committee, the use of the Automated Payroll Cost and Personnel System (APCAPS) was approved for all Defense Business Operations Fund (DBOF) activities which do not have a formal cost accounting process. This decision encompasses all DBOF activities that did not operate as a DoD industrial fund activity prior to FY 1992.

Consistent with the decision at the September meeting of the Financial Management Steering Committee, those activities listed in the attachment are to be converted to APCAPS in FY 1992. Accordingly, the Defense Finance and Accounting Service, in conjunction with the Military Departments, shall take appropriate actions to ensure that those activities listed in the attachment are converted to APCAPS as soon as feasible. The Defense Finance and Accounting Service is requested to submit, by November 22, 1991, its proposal for converting the listed DBOF activities to APCAPS in FY 1992.

  
Sean O'Keefe

Attachment

Attachment 2

MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (cont'd)

DEFENSE BUSINESS OPERATION FUND ACTIVITIES  
TO BE CONVERTED TO USING THE  
AUTOMATED PAYROLL COST AND PERSONNEL SYSTEM  
IN FY 1992

INVENTORY CONTROL POINT FUNCTIONS AT

- Aviation Supply Center, Philadelphia, Pa.
- Ogden Air Logistics Center, Hill AFB
- Oklahoma City Air Logistics Center, Tinker AFB
- Sacramento Air Logistics Center, McClellan AFB
- San Antonio Air Logistics Center, Kelly AFB
- Ships Parts Control Center, Mechanicsburg, Pa.
- Warner Robins Air Logistics Center, Robins AFB

SUPPLY DEPOT FUNCTIONS AT

- Anniston Army Depot
- Corpus Christi Army Depot
- Letterkenny Army Depot
- Marine Corps Air Station, Cherry Point
- Marine Corps Logistics Base, Albany
- Marine Corps Logistics Base, Barstow
- Naval Supply Center, Charleston
- Naval Supply Center, Jacksonville
- Naval Supply Center, Norfolk
- Naval Supply Center, Pensacola
- Naval Supply Center, Puget Sound
- Naval Supply Center, San Diego
- Oklahoma City Air Logistics Center, Tinker AFB
- Red River Army Depot
- San Antonio Air Logistics Center, Kelly AFB
- Tobyhanna Army Depot
- Tooele Army Depot
- Warner Robin Air Logistics Center, Robins AFB

**MANAGEMENT COMMENTS: ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (cont'd)**

Final Report  
Reference

**Part I - Introduction**

1 Page 1, first paragraph. "The team recommended that the individual data processing installations and the functional software design centers be consolidated into DoD central design activities." should read "The team recommended consolidations of individual data processing installations and consolidations of functional software design centers."

Reason: DPI consolidations were separate from CDA consolidations.

Page 2, second paragraph. Define a central design activity for purposes of this report. What was the source used to identify the 38 CDAs (e.g., budget exhibit 43E), and describe the reporting threshold (e.g., \$5 million per year).

Reason: Clarify the scope of the review.

2 Page 4, first paragraph. Define "software changes."

Reason: Clarify the scope of the review.

**Part II - Findings and Recommendations**

5 Page 7, first paragraph. Clarify the statement that "...the entities did not require the CDAs to comply with DoD Directive 7920.1, ...."

Reason: It is not clear if the Components failed to require compliance in their implementing instructions, or failed to oversee implementation.

5 Page 7, first paragraph. Delete the last sentence that "...the entities did not know the cost of software changes, and the planned fee-for-service initiative cannot be fully implemented by the Director of Defense Information."

Reason: The fee-for-service initiative (which is lead by DoD Comptroller, not DDI) will establish methodologies to distribute costs to services, and force the CDAs to fully account for the cost of software change.

9 Page 9, first paragraph. Reference DoD Comptroller's unit cost guidance of October 15, 1990.

Reason: This describes the general approach that the DoD fee-for-service working group is using to distribute costs at CDAs.

9, 18 Page 9, second paragraph. Clarify the statement that "...none of the entities had developed and implemented an appropriate cost accounting system to capture the total life-cycle costs...."







Office Director of Information  
Systems for Command, Control,  
Communications, & Computers

DEPARTMENT OF THE ARMY  
OFFICE OF THE SECRETARY OF THE ARMY  
WASHINGTON, DC 20310-0107



18 FEB 1992

SAIS-ADW

MEMORANDUM FOR THE DEPARTMENT OF DEFENSE, INSPECTOR GENERAL,  
400 ARMY NAVY DRIVE, ARLINGTON, VA  
22202-2884

SUBJECT: Draft Audit Report on Review of Software Development  
at Central Design Activities (Project No. 1FE-0018)

The following is provided in response to the HQDA, SAIG-PA  
memorandum, dated 17 Dec 91, subject as above.

DODIG Recommendations to the Army Director of Information  
Systems for Command, Control, Communications and Computers  
(DISC4):

- Require the use of cost analyses in the approval process  
for software change requests.
- Verify recorded labor hours and use them to make future  
project estimates.
- Require that overtime be used to meet only those  
milestones that are cost effective.
- Develop procedures to reevaluate approved software  
changes for development costs exceeding the original estimate by  
15 percent.

DISC4 comments: The following initiatives collectively address  
the above DODIG recommendations.

An OSD led task force was established to facilitate  
implementation of automation as a separate business area under  
the Defense Business Operations Fund (DBOF). During the latter  
part of FY 91, the task force identified billing structures, and  
cost and labor accounting systems that could be exported to the  
Military Services. These efforts are a move toward identifying  
and controlling the total costs associated with implementing  
software changes.

The task force concluded that the Defense Logistics Agency's  
(DLA) cost model for its central design activities (CDAs) could  
be used for CDAs across the DoD. The Army will submit plans,  
including cost goals for software design, during FY 92 to

MANAGEMENT COMMENTS: DEPARTMENT OF THE ARMY (cont'd)

SAIS-ADW

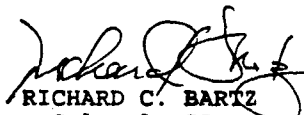
SUBJECT: Draft Audit Report on Review of Software Development  
at Central Design Activities (Project No. 1FE-0018)

implement unit cost resourcing (including labor costs) and fee-for-service at their CDAs. Policy and procedures for automation are being developed within the framework of the Army DBOF Board of Directors. Four Army CDAs are scheduled for transition to DBOF by Oct 92 with the remainder by FY 94.

The Army also has an effort, "Information Mission Area (IMA) Future," underway which focuses on identifying and developing control functions that maintain appropriate oversight over IMA activities. Upon receiving subject IG report, it has been recommended that the issues on preparation/use of cost analyses and labor hours in managing software change requests (identified as "configuration control" in DA Pam 25-6) be included among IMA Future initiatives. Implementation is planned for 1st QTR FY 93.

The Army Information Systems Command has been developing and testing fee-for-service for automation at three CONUS beta test sites. This includes manuals which explain the procedures for operating under fee-for-service. The Army Information Systems Engineering Command is developing procedures for the Army software development centers to manage software changes. Projected completion date for this guidance is Dec 92.

If additional information is required, please direct inquiries to Adele McCullough-Graham, 703-614-2422.



RICHARD C. BARTZ  
Colonel, GS

Director for Architecture

CF: SAIG-PA  
SAIS-IDT



THE ASSISTANT SECRETARY OF THE NAVY  
(Research, Development and Acquisition)  
WASHINGTON, D C 20350-1000

**DRAFT**

7502  
Ser: 054/92-0005

MEMORANDUM FOR THE DEPARTMENT OF DEFENSE ASSISTANT INSPECTOR  
GENERAL FOR AUDITING

Subj: DRAFT AUDIT REPORT ON REVIEW OF SOFTWARE DEVELOPMENT AT  
CENTRAL DESIGN ACTIVITIES (PROJECT NO. 1FE-0018) -  
ACTION MEMORANDUM

Ref: (a) DODIG Memo of 18 Dec 91

Encl: (1) DON Response to Draft Audit Report

I am responding to your reference (a) request for our  
comment concerning management of software development and  
maintenance at central design activities within DOD.

We concur with Recommendations B.2, B.3.a, B.3.b, and B.4;  
concur in part with Recommendation B.3.c. We have no comment  
regarding substance of Recommendation A. and do not concur with  
Recommendation B.1. As outlined in the enclosed comments, the  
Department of Navy has taken or is planning specific actions to  
ensure adequate management of software development and  
maintenance. More detailed information is set forth at enclosure  
(1).

As an administrative matter, the Marine Corps is under the  
authority of the Secretary of the Navy, although this audit  
treats the Marine Corps as apparently separate from the  
Department of the Navy (DON). Within the DON, the Assistant  
Secretary of the Navy (Research, Development and Acquisition) is  
the cognizant authority for all Information Resources Management  
matters. Concerns and issues with regard to Marine Corps  
activities in this arena should, therefore, be directed to the  
ASN(RDA).

Gerald A. Cann

Copy to:  
NAVINGEN  
NAVCOMPT(NCB-53)  
CMC(FDR)

# DRAFT

Department of the Navy Response  
to  
DODIG Draft Report of December 18, 1991  
on  
Review of Software Development  
at Central Design Activities  
Project No. 1FE-0018

RECOMMENDATION A: Standard Cost Accounting System

We recommend that the Comptroller of the Department of Defense direct the Military Departments, Marine Corps, and Defense agencies to develop a single cost accounting system to comply with DOD 7220.9-M, "Department of Defense Accounting Manual," February 1988.

DON Position:

No comment regarding substance of recommendation. In July 1990, the Deputy Secretary of Defense approved the establishment of the Defense Finance and Accounting Service (DFAS) to provide for centralized management of finance and accounting functions. They appear to be the appropriate cognizant agent, not the DON.

RECOMMENDATION B.1: Standard Project Management System

We recommend that the Director for Defense Information, Assistant Secretary of Defense (Command, Control, Communications and Intelligence), require the Military Departments, Marine Corps, and Defense agencies to use a standard project management system.

DON Position:

Do not concur. The Department of Defense should impose only a standard methodology and leave the decision of which tool to the individual activities. They should adopt standard metrics and conventions for reporting program management. ITPB Proposal 91-43, "DISA as the Executive Agent for DOD Program Manager Support Systems," endeavors to assess program management support tools and assessment guides.

ENCLOSURE ( 1 )

# DRAFT

DON COMMENTS ON DODIG DRAFT AUDIT REPORT NO. 1FE-0018 "REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL DESIGN ACTIVITIES", 18 DEC 91

**RECOMMENDATION B.2: Follow-up of Identified Economic Benefits**

We recommend that the Comptroller's of the Military Departments; the Fiscal Director of the Marine Corps; and the Director, Defense Logistics Agency, establish procedures to follow up on identified economic benefits associated with software changes to ensure that those benefits are achieved.

**DON Position:**

Concur. As a component of Life Cycle Management, we will review and validate the cost savings/cost avoidance actually achieved in comparison to the original savings estimates made during functional analysis in the concept definition/system development phase.

**RECOMMENDATION B.3.a: Use Cost Analysis in Approval Process**

We recommend that the Commandant of the Marine Corps; the Army, Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief of Staff Command, Control, Communications and Computers; and the Director, Defense Logistics Agency require that management prepare and use cost analyses in the approval process for software change requests as require by DODI 7041.3, "Economic Analysis Program Evaluation for Resource Management," Oct 18, 1972.

**DON Position:**

Concur. Projects should be undertaken only if shown to be cost-beneficial, which has long been a standard Department of the Navy requirement. However the cited reference to DODINST 7041.3, a 1972 instruction, should be expanded to permit the alternative use of criteria specified in any other prevailing applicable guidance, such as Life Cycle Management directive, and the emergent use Business Case Methodology under the DOD Corporate Information Management Initiative.

ENCLOSURE (7)

## DRAFT

DON COMMENTS ON DODIG DRAFT AUDIT REPORT NO. 1PE-0018 "REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL DESIGN ACTIVITIES", 18 DEC 91

**RECOMMENDATION B.1.b: Use Labor Hours in Project Estimates**

We recommend that the Commandant of the Marine Corps; the Army, Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief of Staff Command, Control, Communications and Computers; and the Director, Defense Logistics Agency verify recorded labor hours, and use them in making future project estimates.

**DON Position:**

Concur. The DON recognizes the importance of accurately recording labor hours from both an accountability and legal viewpoint. The DON will ensure that CDA activities take appropriate action to provide an accurate audit trail between their cost accounting and project management systems, as well as, ensure the timely reconciliation of the data between these two sources. In addition, the DON will ensure that CDAs utilize historical labor hours and costs, applicable, in developing future project estimates.

**RECOMMENDATION B.1.c: Limit Overtime**

We recommend that the Commandant of the Marine Corps; the Army, Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief of Staff Command, Control, Communications and Computers; and the Director, Defense Logistics Agency require that overtime be used to meet only those milestones that are cost-effective.

**DON Position:**

Concur in part. The limitation of overtime on CDA projects to only those milestones that are cost effective can not be the sole governing factor. Due dates mandated by legislation or higher authority often dictate the need/use of overtime to accomplish a milestone. However, the DON will ensure that CDAs use prudent management in applying overtime to meet project milestones.

ENCLOSURE ( )

## DRAFT

DON COMMENTS ON DODIG DRAFT AUDIT REPORT NO. 1FE-0018 "REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL DESIGN ACTIVITIES", 18 DEC 91

RECOMMENDATION B.4: Reevaluate Approved Software Efforts When Cost Growth Exceeds 15%

We recommend that the Commandant of the Marine Corps; the Army, Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; and the Director, Defense Logistics Agency develop procedures to reevaluate approved software changes, similar to the Air Force, when software development costs will exceed the latest estimate by 15 percent.

DON Position:

Concur. Certainly software development efforts which exceed initial estimates need to be communicated. The Department of Defense standard project management methodology would address software development costs. ITPB Proposal 91-43, "DISA as the Executive Agent for DOD Program Manager Support Systems," endeavors to assess program management support tools and assessment guides.

ENCLOSURE (7)





Final Report  
Reference



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON DC

18 FEB 1992

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING  
OFFICE OF THE INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE

SUBJECT: DoD(IG) Draft Report, "Review of Software Development  
at Central Design Activities (Project No. 1FE-0018) -  
INFORMATION MEMORANDUM

This is in reply to your memorandum for Assistant Secretary  
of the Air Force (Financial Management) requesting comments on  
findings and recommendations made in the subject report.

We concur with the recommendation for corrective action on  
page 13 of the draft report. We also concur with recommendations  
1, 2, 3a, 3b, and 4 on pages 22 and 23 of the draft report.

We nonconcur with recommendation 3c on page 23 of the draft  
report. This recommendation suggests that appropriate offices in  
the Services and Agencies "...require that overtime be used to  
meet only those milestones that are cost-effective." Cost is not  
the only basis for determining need dates for software written  
within the Department of Defense. Operational mission  
requirement dates may at times validly require a more costly  
approach to problem solution. We propose the recommendation be  
reworded to "...require that overtime be used to meet only those  
milestones that are cost-effective or which are driven by  
operational mission needs."

We also recommend a clarification in the background section  
of the draft report. The first paragraph on page 1 describes the  
background of Defense Management Report Directive (DMRD) 924 as  
of November 1989, but does not relay the fact that the final  
DMRD, signed by DEPSECDEF on 18 November 1990, was different.  
Recommend adding the following to the end of the first paragraph,  
page 1, of the draft report: "The Services and Defense Agencies  
were also asked to submit alternate proposals. The final Defense  
Management Report Directive 924 of 18 November 1990 directed that  
the individual Service and Defense Logistics Agency ADP  
consolidation plans serve as the basis for consolidating computer  
operations and design centers within OSD. Fee-for-service  
operations were still directed."

BRUCE J. SOHN, Brig Gen, USAF  
Director, Plans and Policy  
DCS/Command, Control,  
Communications, and Computers

13



MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY



DEFENSE LOGISTICS AGENCY  
HEADQUARTERS  
CAMERON STATION  
ALEXANDRIA, VIRGINIA 22304-6100



PAT  
11870 DLA-CI

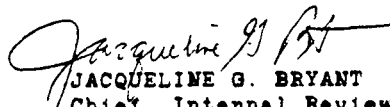
06 MAR 1992

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING,  
DEPARTMENT OF DEFENSE

SUBJECT: Draft Audit Report on the Review of Software  
Development at Central Design Activities (Project No.  
1FE-0018)

This is in response to your 18 December 1991 memorandum  
requesting our comments pertaining to the subject audit. The  
attached positions have been approved by Ms. Helen T. McCoy,  
Deputy Comptroller, Defense Logistics Agency.

0 Encl

  
JACQUELINE G. BRYANT  
Chief, Internal Review Division  
Office of Comptroller

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 1 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES. (Project No. 1FE-0018)

FINDING A: Compliance with DoD Cost Accounting Standards. The  
CDAs did not measure and track the cost of software development.

DLA COMMENTS: Concur. DLA has not followed DoD 7220.9-M in its  
entirety. The new DLA ADP/T Configuration Management process  
includes cost accounting for software development and  
maintenance. The methodology utilized for cost accounting shall  
be in accordance with DoD 7220.9-M as applicable.

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- ( ) Nonconcur (Rationale must be documented and maintained  
with your copy of the response.)
- (X) Concur: however, weakness is not considered material.  
(Rationale must be documented and maintained with your copy  
of the response.)
- ( ) Concur: weakness is material and will be reported in the  
DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 27 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Assistant  
Director, Office of Information Systems  
and Technology, x46257, 31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 2 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES, (Project No. IFE-0018)

RECOMMENDATION 1: We recommend that the Comptroller of the Department of Defense direct the Military Departments, the Marine Corps, and the Defense agencies to develop and implement a single cost accounting system for software development and maintenance that complies with DoD 7220.9-M, "Department of Defense Accounting Manual," February 1988.

DLA COMMENTS: Concur. DLA is currently addressing this issue. The Configuration Management Automated System contains costing data for software change requests which supports cost accounting. The cost data will support the concepts depicted in DoD 7220.9-M.

DISPOSITION:

- (X) Action is ongoing. Estimated Completion Date: 30 September 1992
- ( ) Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- ( ) Nonconcur. (Rationale must be documented and maintained with your copy of the response.)
- (X) Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- ( ) Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 27 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 3 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES, (Project No. 1FE-0018)

FINDING B: Management of Software Changes. Our review of 356 software changes showed that all were valid requirements, all changes were planned and met user's needs, and planned objectives were achieved. However, 150 changes exceeded their estimated completion dates, required cost analyses were not prepared for 146 changes, costs were not measured and tracked, elapsed time was not effectively measured and tracked for 90 changes, and identified benefits valued at 18.5 million were not achieved.

DLA COMMENTS: Concur. DLA is currently developing and implementing Software management tools. DLA has been utilizing Program Management tools and moving towards standardizing a tool set. Program management tools take care of software for the long term planning tracking, scheduling cost factors and configuration management.

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- ( ) Nonconcur (Rationale must be documented and maintained with your copy of the response.)
- (X) Concur: however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- ( ) Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 27 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 4 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES. (Project No. IFE-0018)

RECOMMENDATION 2: We recommend that the Director for Defense Information, Assistant Secretary of Defense (Command, Control, Communications and Intelligence), require the Military Departments, Marine Corps, and the Defense agencies to use a standard project management system.

DLA COMMENTS: Concur.

DISPOSITION:

- ( ) Action is ongoing. Estimated Completion Date:
- (X) Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- ( ) Nonconcur. (Rationale must be documented and maintained with your copy of the response )
- (X) Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- ( ) Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 27 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller



MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 5 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES, (Project No. 1FE-0018)

RECOMMENDATION 3: We recommend that the Comptrollers of the Military Departments, the Fiscal Director of the Marine Corps, and the Director, Defense Logistics Agency, establish procedures to follow up on identified economic benefits associated with software changes to ensure that those benefits are achieved.

DLA COMMENTS: Concur. DLA has procedures to trace software change requirements through product delivery to aid in justifying the fulfillment of defined benefits. DLA does adjust operating budgets of its field activities to reflect savings from investment in Automated Information Systems.

DISPOSITION:

- Action is ongoing. Estimated Completion Date:
- Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- Nonconcur. (Rationale must be documented and maintained with your copy of the response.)
- Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 27 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 6 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES, (Project No. IFE-0018)

RECOMMENDATION 4a: We recommend that the Commandant of the Marine Corps; the Army, Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief of Staff Command, Control, Communications and Computers; and the Director, Defense Logistics Agency require that management prepare and use cost analyses in the approval process for software change requests as required by DoD Instruction 7041.3, 'Economic Analysis Program Evaluation for Resource Management,' October 18, 1972.

DLA COMMENTS: Concur. DLAR 4730.3 establishes a more stringent process for cost analysis in the review and approval process for a requirement.

DISPOSITION:

- ( ) Action is ongoing. Estimated Completion Date:
- (X) Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- ( ) Nonconcur. (Rationale must be documented and maintained with your copy of the response.)
- (X) Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- ( ) Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 27 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

Encl w/attachment



DEFENSE LOGISTICS AGENCY  
HEADQUARTERS  
CAMERON STATION  
ALEXANDRIA VIRGINIA 22304-6100

DLAR 4730.3

DLA-Z

DLA REGULATION  
NO. 4730.3

20 Feb 91

**DEFENSE LOGISTICS AGENCY  
AUTOMATED DATA PROCESSING/TELECOMMUNICATION (ADP/T)  
CONFIGURATION MANAGEMENT PROGRAM**  
(Supplementation is prohibited.)

**I. REFERENCES**

- A. DoD Directive 7920.1, Life-Cycle Management of Automated Information Systems (AISs).
- B. DoD Instruction 7920.4, Baselineing of Automated Information Systems (AIS).
- C. DoD Instruction 7920.2, Automated Information System (AIS) Life-Cycle Management Review and Milestone Approval Procedures.
- D. MIL-STD-480B, Configuration Control-Engineering Changes, Deviations and Waivers.
- E. MIL-STD-483A, Configuration Management Practices for Systems, Equipment, Munitions, and Computer Programs.
- F. DoD-STD-7935A, DoD Automated Information Systems (AIS) Documentation Standards.
- G. DLAR 4700.1, Administration of the DLA Automated Data Processing/Telecommunications (ADP/T) Program.
- H. DLAR 4730.1, Life Cycle Management (LCM) of DLA Automated Information System (AIS).
- I. DLAR 4730.6, Management of Central Design Activity (CDA) Project Development Plans (PDP).
- J. MIL-STD-482, Configuration Status Accounting Data Elements and Related Features.
- K. MIL-STD-1521B, Technical Reviews and Audits for Systems, Equipments, and Computer Software.
- L. DLA Configuration Management Plan.
- M. FIRMR 20119, U.S. General Services Administration IRM Review Handbook.
- N. DLAM 5200.1, ADP Security Manual.

**II. PURPOSE AND SCOPE.** This DLAR implements the DoD Directive 5000.1, Major and Non-Major Defense Acquisition Programs, and DoD Directive 5010.19, DoD Configuration Management Program, by prescribing policy and assigning responsibilities for Defense Logistics Agency's ADP/T Configuration Management (CM) Program. This regulation applies to HQ DLA, all the field activities, and supporting contractors responsible for the implementation of CM. To ensure that CM is applied to all systems, this regulation shall be used throughout the system's life cycle by all activities responsible for developing and managing current and modernization systems. Appropriate provisions for CM shall be included in contracts or Government written agreements such as Request for Proposals (RFPs) and Program Management Plans. Program Managers and AIS Administrators shall use CM during acquisition to assist in achieving the required system performance and in documenting the design that satisfies the system's management, technical, and functional requirements. CM will be used during deployment and operation to control and account for the functional and physical characteristics of systems to ensure that the systems are responsive to operational needs; to effectively satisfy functional requirements; and to ensure that CM can be efficiently supported. CM will be utilized to identify, control, account for, and audit the functional and physical characteristics of systems, software, equipment, support equipment/software, and other designated items developed, deployed, operated, and supported by DLA.

**III. POLICY**

A. CM involves the systematic application of basic system engineering management principles which are divided into the four basic functions: configura-

This DLAR supersedes DLAR 4730.3, 26 Apr 85 and DLAR 4720.3, 13 Jun 86.

DLAR 4730.1

tion identification, configuration control, configuration audits, and configuration status accounting. CM practices and procedures will be applied in accordance with the detailed requirements of this regulation to all systems, system segments, software and hardware (including firmware) configuration items (CIs), telecommunications, and other designated items developed partially or wholly with Government funding. Industry and Government agencies shall adhere to the following management and documentation policies as applicable.

1. Configuration Management of all AISs, including unique systems, being maintained or modernized shall be administered in accordance with the requirements of this regulation.

2. DoD Directives and appropriate Military Standards for weapon systems shall be followed to the extent feasible for a disciplined ADP/T environment.

3. System life cycle documentation shall be prepared in accordance with DoD-STD-7935A. The documentation guidelines in DoD-STD-2167A, Defense System Software Development, cannot be utilized as a substitution.

4. All AIS new requirements, system change requests, technology work requests, engineering change proposals, specification change notices, deviations and waivers must be processed and approved in accordance with the procedures and CM organization established in this regulation.

5. All Program Managers of modernization programs, defined as major systems in DLAR 4730.1 which require Office of Secretary of Defense approval, shall prepare a Program CM Plan in accordance with the DLA CM Plan and this regulation.

6. AIS Administrators and Project Managers of existing AISs and AIS modernization projects shall utilize the DLA CM Plan.

7. All AISs undergoing development or modernization shall have sequentially established functional, allocated, and product baselines as described in paragraph VIII B. The CDA shall maintain the approved AIS product baseline and its changes utilizing CM.

8. Approved reporting procedures, as stated in this regulation, shall be used by DLA to submit requirements or identify problems which may result in changes to Standard AISs (SAISs), modernization programs, projects, and unique systems. An

automated CM system or manual forms will be used as standard methods of reporting. A consolidated ADP/T Work Request (AWR) form shall be used to manually report system changes, technology changes, and problem trouble reports. All internal DLA requests for changes to existing SAISs, modernization programs, projects, or unique systems shall be documented on an AWR form as a System Change Request (SCR). Technology changes shall be documented on an AWR form as a Technology Work Request (TWR). A PreAnalysis Requirement (PAR) form shall be utilized by Lead principal staff elements (PSEs) to obtain a CDA technical opinion, cost, and time estimate. Problem Trouble Reports (PTRs) for software, hardware or telecommunication problems relating to AISs, shall be submitted to the CDA by telephone and documented on an AWR form or electronically recorded in the automated CM System by the CDA. The above forms shall be prepared in accordance with the DLA CM Plan. Request for Deviation and Waiver (D&W) forms shall be prepared by the developing CDA or contractor in accordance with MIL-STD-480B and the DLA CM Plan. Engineering Change Proposals (ECPs) and Specification Change Notices (SCNs) shall be prepared by contractors in accordance with MIL-STD-480B and the DLA CM Plan.

9. The DLA standard automated CM system shall be utilized in support of CM for DLA. Other CM system justifications must be submitted to the Office of Information Systems and Technology (DLA-Z) for approval.

10. DLA shall utilize CM to validate the achievement of functional requirements and benefits resulting from system modification or modernization efforts. The achievement of functional requirements will be traceable and validated through reviews and audits, and benefits identified in the economic analysis will be claimed, according to the schedule, upon acceptance of the system.

B. CM implementation policies shall be consistent with the objectives of the program/project and its life cycle phase. As system life cycle phases occur, the following additional CM principles shall be applied.

1. During the Concept Development Phase, the identification of the draft system functional and interface characteristics shall be entered in the CM system.

2. During the Design Phase, the system functional and interface characteristics shall be controlled and accounted for, and the draft CI functional and interface characteristics shall be identified.

3. During the Development Phase, the system and CI functional and interface characteristics shall be controlled, audited and accounted for, and the draft CI detail design characteristics shall be identified in the CM system. For contract deliverable CIs, the Government's CM shall control, audit, and account for the delivered detail design characteristics which will be received at the end of this phase.

4. During the Deployment Phase, the CI detail design characteristics shall be controlled, audited, and accounted for; the system and CI functional and interface characteristics shall be controlled; and the actual configuration of CIs delivered in the DLA environment shall also be controlled and accounted for in the CM system.

5. During the Operations Phase, the system and CI functional, interface, detail design characteristics, and the configuration of CIs in the DLA environment shall be controlled and accounted for in the CM system.

C. CM policies governing other agencies interfacing with DLA and contractors supporting DLA shall be established in accordance with this regulation and supported in an agreement or contract.

1. When CIs are procured and operated by more than one agency, agreement must be made to designate the agency responsible for CM and to define responsibilities for coordinated CM activities among DLA and other participating agencies. If DLA is designated as the agency responsible for CM, the agreement must adhere to this regulation.

2. Each contractor's CM Program/System shall be evaluated to assess the contractor's ability to meet the Government CM requirements, such as compatibility with the DLA CM automated system, and conformance to CM documentation and reporting.

3. Each contractor should be able to evaluate and comment on those CM requirements which may adversely impact the contractor's organizational and functional structure. The impacts shall be identified by the contractors in the CM planning documentation and should be reviewed and resolved during source selection.

4. Tailoring, of the implementation by contractors, of the CM automated system is acceptable as long as the requirements of this regulation are fulfilled. For example, contractors should want to capture more detailed information, such as source code changes, during the Development Phase than is currently captured in the automated CM system.

IV. DEFINITIONS. See enclosure 1 for definitions.

V. BACKGROUND. The DLA ADP/T CM Program was established to institutionalize CM in DLA. An implementing CM regulation was requested from all DoD components by the Office of the Secretary of Defense (OSD). DLA's strategy for supporting OSD's request was authorized in Feb 89 when the Information Resources Management Official approved the establishment of a corporate CM system with distributed CM systems for PSEs, primary level field activities (PLFAs), and Program Managers. This strategy will allow the agency to identify, control, account for, and audit the changes in current systems and in the development of new systems.

VI. SIGNIFICANT CHANGES. The policies in this regulation include the system change requests (SCRs) and problem trouble reports(s) (PTRs), Technology Work Requests (TWRs), engineering change proposals, specification change notices, deviations, and waivers. DLA Form 558, Automated Data Processing/Telecommunications Work Request, has been modified, via the ADP/T Work Request, to support not just the SCR, but the TWR and PTR. In addition, a new DLA Form 1799, Pre-Analysis Requirement, is utilized by the Lead PSE to obtain technical information from a CDA on a proposed requirement. The review and approval process for SCRs include the PSEs, DLA-Z divisions, working groups, and configuration control boards. Technical and functional managers are making decisions together, adding to the quality of decisions and supporting total quality management in the Agency. This regulation has been completely revised and should be reviewed in its entirety.

#### VII. RESPONSIBILITIES

##### A. HQ DLA

1. The Assistant Director, Office of Information Systems and Technology, DLA (DLA-Z), as the

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DLA Senior Information Resources Management (IRM) Policy Official will:

a. Execute the CM responsibilities in accordance with applicable DoD guidance and this regulation.

b. Program and Budget for DLA ADP/T CM as required.

2. The Chief, Systems Control Branch, DLA Systems Management Office (DSMO), Office of Information Systems and Technology, (DSMO-C) will:

a. Establish policies, define procedures, implement and support the automated CM system for the agency.

b. Be responsible for the overall management of the automated CM system software and the data bases used for tracking changes to the functional, allocated, and product configuration baselines.

c. Manage the ADP resources hosting the CM system software.

d. Provide CM support and approval to implement and integrate other interface tracking systems into the overall CM system design.

e. Establish DLA CM network management.

f. Be responsible for the DLA CM Program, the DLA CM Plan, the DLA ADP/T CM Regulation, and support to the Corporate Configuration Control Board (CCB).

g. Exercise overall direction of the implementation of the CM Program and ensures that the practices and procedures are prudently tailored and applied.

3. The Chief, AIS Administration Branch, DLA Systems Management Office (DSMO), Office of Information Systems and Technology, (DSMO-O) will:

a. Review all requests (SCR, ECP, SCN, and D&W) for AIS/PM Class I and AIS Class II system changes to determine the system impact, policy adherence and completeness of the case as documented.

b. Coordinate with the requestor and all support staff responsible for analyzing the case and provide status input on the request in the automated CM system.

c. Provide final review prior to submitting AIS Class II requests to the CDA for implementation through reserve resources, as available.

d. Be responsible for ensuring the completeness of the consolidated Request Impact Analysis Report which the functional sponsor will utilize to

determine if the requirement is acceptable for further processing.

e. Prepare administratively and jointly, when the requirement is received from the Lead Functional PSE, Class I cases for the working groups and chairs the AIS Working Group.

f. Input requirement and contract information, and status into the automated CM system.

4. The Program Managers, Modernization Program Offices, DLA Systems Management Office, Office of Information Systems and Technology, (DLA-Z(DSMO)) will:

a. Review all requests for program SCRs, ECPs, SCNs, Deviations, and Waivers and enter them into the automated CM system.

b. Review and forward program Class II system changes to either the CDA or contractor as required.

c. Forward program Class I requests to the Sponsoring PSE Configuration Manager for further processing.

5. The Chief, Systems Operations Division, Office of Information Systems and Technology, (DLA-ZO) will:

a. Participate in the analysis of Class I cases to determine the impact of facility and operational site requirements.

b. Forwarded results to DSMO-O for the consolidated case impact analysis.

c. Be responsible for maintaining the status of site information in automated systems and providing information on current environments for AISs, programs, or projects.

d. Input requirement and contract information into the automated CM system and update the status.

6. The Chief, Systems Integration Division, Office of Information Systems and Technology, (DLA-ZI) will:

a. Review the analyses on all requirements to determine the impact on integration and technical architectures. Telecommunications, information engineering, data management, technical and data standards, and decision support methodologies will be considered in reviewing the requirements.

b. Review all requests for Class I AWRs, and requirement and contract information to determine the system impact, policy adherence, and completeness of the case as documented.

c. Be responsible for overseeing the analysis, review and approval processes, development and deployment of TWR requirements. The CDAs will implement and maintain the TWR status information in the automated CM system.

7. The Chief, DLA ADP/T Contracting Office, Office of Information Systems and Technology, (DACO) will:

a. Ensure that appropriate provisions for CM are included in contracts for all CIs throughout their life cycles.

b. Ensure that the CM responsibilities of the Government and contractor are clearly defined and identified in Contract Data Requirement Lists.

c. Ensure the following statement is present in all new system or program specifications containing CM or data management requirements: "Configuration Management practices and procedures will be consistent with the requirements of the DLA ADP/T Configuration Management Regulation and DLA CM Plan."

8. The Chief, Information Resources Management Division, Office of Information Systems and Technology, (DLA-ZR) will:

a. Ensure that policies and procedures for the CM Program are being established consistent with the DLA Information Resource Management Program and Total Quality Management guidelines.

b. Oversee the allocation and funding assessment on AWRs relating to AISs funded with the DLA-Z ADP account.

9. The Heads of HQ DLA Principal Staff Elements (A, C, I, K, L, O, P, Q, S, W, and Z) will:

a. Establish and control the functionality of the changes to AISs.

b. Approve initially the processing of system changes prior to being given consideration for implementation.

c. Designate a Configuration Manager who will participate in the AIS Working Group, the AIS CCB, and the Corporate CCB as applicable to support the process established for controlling and approving system changes.

d. Prepare general functional requirements as needed to fulfill assigned missions and approve/disapprove the functional requirements aspects of all AWRs relating to assigned functional responsibility. Functional requirements as defined on an AWR must be thoroughly and clearly stated with volume and transaction data needed to support the

development of an estimated cost impact. The benefits from the functional requirements must be stated in terms of cost, resource savings, and functional benefits.

e. Coordinate sponsored AWRs with all PSEs having related policy responsibilities and comments shall be obtained from those PLFAs that will be affected because of development resource requirements or changed operational requirements.

f. Ensure that the functional policy documentation supports approved AWRs and is timely updated to support changes.

g. Prepare a semiannual Functional Priority List (FPL) by the Lead Functional PSE based on the relative priority of AWRs within an assigned functional area and will be controlled using the automated CM system. The FPL will be consistent with the DLA established priorities and the PSE functional initiatives defined in response to the AIS strategic planning process. Differences may exist between the FPL and functional initiatives in order to implement unplanned emergency or mandated requirements which cannot be delayed until the next FPL or strategic plan is prepared.

h. Assign priorities on the FPL list by the Lead Functional PSE.

i. Provide the FPL to DLA-Z for implementation and resourcing through periodic reviews of workloads, priorities, and scheduling in accordance with the PDP procedures outlined in DLAR 4730.6.

j. Provide the approved general functional requirements and functional benefit estimates to DLA-Z for the CDA to perform AWR analysis and development.

k. Approve/disapprove functional changes and detailed functional requirements developed by the CDAs to support approved AWRs.

l. Submit Lead Functional PSE approved requests to DLA-Z in order to obtain use of CDA resources already reserved during the PDP process to implement Class II system changes.

m. Identify, in coordination with the CDA and the AIS administrator, those AWRs that will require formal functional testing and/or initial operational testing.

n. Provide functional expertise to the CDA as needed during functional test plan development and functional testing.

o. Certify the adequacy of functional tests for all major modifications.

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p. Support, with functional expertise, initial operational tests associated with an AWR which will be monitored, and approved or disapproved based on the results of the test.

q. Provide guidance to PLFAs and CDAs on functional training needs for implementation of system changes.

**B. Field Activities**

**1. The Heads, Primary Level Field Activities (PLFAs), (except CDAs) will:**

a. Be responsible for implementing CM for the ADP/T configuration items under their respective cognizance.

b. Exercise centralized direction and control over their respective programs/projects to ensure uniform compliance with this regulation and be responsible for maintenance, control, and accuracy of their respective configuration data, systems, and equipment.

c. Designate a Configuration Manager to control and manage the CM reporting procedures for submission of AWRs to the CDA Configuration Manager and PTRs to the responsible CDA.

d. Implement only changes approved by functional PSEs and released by the responsible CDA for implementation.

e. Perform situation analysis of emergency system deficiencies. If system deficiencies are due to functional and/or CDA software, the PLFA should develop a recommended solution(s) to return the system to operational status and submit appropriate Problem Trouble Report (hot line or warm line) to the CDA.

**2. The Central Design Activities will:**

a. Implement this regulation by exercising the specific responsibilities listed below and assigned in paragraph VIII.

b. Be responsible for ensuring that all implementing documents from CDA satellites are consistent with their respective command level documents, and this regulation.

c. Ensure that no unauthorized configuration changes are made to CIs under their cognizance.

d. Establish software configuration control within the CDA responsible for providing impact analysis on software SCRs being reviewed by the AIS or Corporate CCB, and reviewing contractor ECPs which contain changes to the approved configuration identification of a computer software

configuration item (CSCI) under development, delivered or to be delivered.

e. Perform a preanalysis, at the request of the Lead Functional PSE, on the proposed requirement which includes estimated cost, time, and feasibility of implementation. The CDA will update the manual or automated Preanalysis Requirement form with the above information within 10 days after receipt. The Lead Functional PSE will only utilize the preanalysis information to aid in assessing the requirement prior to submitting it to DLA-Z. The CDA will not be held accountable for preanalysis estimates.

f. Conduct a technical analysis simultaneously with DLA-Z divisions, at the request of DLA-Z, of the general functional requirements as stated on the AWR, and provide within 30 days a preliminary estimate of development and implementation resource requirements and a cost impact assessment.

g. Review the AWR for integration impact based on the business area analysis, architectural standards established by DLA-ZI, the functional architecture, and project(s) identified.

h. Review the change requests on all proposed software changes which interface or impact other AIS software systems.

i. Identify consolidation opportunities among scheduled and new AWRs for consideration during PDP updates. Consolidation must be limited so as not to interfere with required implementation dates.

j. Prepare detailed functional requirements for the appropriate AWRs after an AWR has been approved and placed on the CDA Project Development Plan.

k. Prepare the hardware/software and telecommunications design, code the programs for approved system changes, and coordinate with PLFAs during development.

l. Ensure that ADP and functional documentation conforms to DoD and DLA standards, especially DoD-STD-7935A, and is prepared and maintained electronically and in hard copy.

m. Ensure that security safeguards required in accordance with DLAM 5200.1 will be incorporated into all system changes before they are released. The AWR, ECP, or D&W impact statement will include certification that the proposed system design, if applicable, has been reviewed by the cognizant AIS ADP System Security Repre-



representative(s) and satisfies the security requirements of DLAM 5200.

a. Maintain status information on all AWRs (to include SCR, TWR, and PTR), associated resource expenditures, and planning and scheduling information for access through the automated CM system or for direct distribution to PSEs and PLFAs.

o. Provide functional and ADP training and assistance to users and administrators to assure successful implementation of system changes.

p. Provide 24-hour, 7-day week communications and SAIS maintenance capabilities to assist in SAIS problem resolution, to process hot lines, and to provide similar capabilities during normal duty hours for processing warm lines.

q. Enter all PTRs into the automated CM system with status update for record. Inappropriate software requests submitted as PTRs will be returned to the requestor for submission of an SCR on the AWR form.

r. Notify the AIS Administrator, and all cognizant PSEs and PLFAs of PTRs which address deficiencies which may affect their areas of responsibility. Information provided will include a description of the problem and proposed action, and status updates as corrective action is taken.

s. Provide assistance to PLFAs in the research and determination of causes for SAIS problems.

t. Develop and implement the program changes required to resolve PTRs. All PTRs which result in another software version will be traceable in the automated CM system, records, and documentation maintained for that AIS.

u. Develop ADP technical proposals to improve AIS operating efficiency. These proposals will be submitted to DLA-Z in AWR format, utilizing the TWR section, with estimated resource requirements. DLA-Z will review, approve, incorporate the request in the PPL, and submit the request for CDA resourcing in accordance with the PDP procedures.

v. Control all proposed changes to the design/code baseline (allocated baseline) within a designated CDA. PSE approved changes will be implemented based on guidance from a responsible CDA before changes to a SAIS application and/or system software program or SAIS master data file can be accomplished by DLA PLFAs.

w. Provide maintenance capability at all times for processing hot line Problem Trouble Reports af-

fecting supported SAISs. Immediate measures will be taken to identify and resolve an emergency system deficiency and return the SAIS to an operational status.

x. Implement and maintain the TWR status information in the automated CM system and process TWRs through the review and approval process.

C. DLA Configuration Management Organization will:

1. Fulfill the responsibilities necessary for CM.

2. Accommodate the most complicated functional area; however, simplification of the CM process will be achieved by defining functional initiatives during the yearly AIS strategic planning process. These initiatives will be contained in the DLA Information Resource Management Plan and decisions by the boards will adhere to the priorities for resource allocation. This will shorten the case analysis and approval time. The functional PSEs are responsible for the completeness, clarity, validity, and the prioritization of the requirements; while DLA-Z, to include the Central Design Activities, is responsible for the technical issues and the implementation of the functional priority lists. An AIS CCB will support the Lead Technical/Functional PSEs in making decisions on system changes within an assigned functional area of responsibility. Decisions must be elevated to the Corporate CCB in accordance with delegated authority defined below, and to the Deputy Director when agency priorities must be reexamined for the Corporate CCB to determine proper resource implementation strategies. The Corporate CCB will approve and prioritize resources for major change requests to the DLA configuration baselines. The DLA Deputy Director will approve the prioritization by the Corporate CCB. The Corporate and AIS boards have decision authority according to the criteria, at enclosure 2, for the review of a change request.

3. The Corporate CCB will:

a. Be a formally established board with representatives from the designated PSEs.

b. Be supported by the DSMO CM staff which will review, screen, monitor, report status into the automated CM system, and prepare cases for the Corporate Board.

c. Have as the chairperson of the DLA Corporate CCB the Information Resources Management Official, DLA-Z or a designated

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representative. The chairperson will schedule and chair the quarterly meetings. As appropriate, the chairperson of the Corporate CCB has the authority and responsibility to act immediately and may call emergency meetings of the Corporate CCB.

d. Make decisions within the boundaries of the established agency priorities on major changes to the DLA configuration baselines.

e. Prepare the Corporate CCB Directive which is used by the chairperson to notify Configuration Managers, and DACO if acquisition is required, of Corporate CCB decisions. Corporate CCB Directives will be published with the minutes of the Corporate CCB meetings and sent by electronic or routine mail to members.

f. Evaluate all proposed change requests which impact AISs of more than one Lead Functional PSE responsibility; establish a new AIS; cost is \$15 million in 1 year or \$75 million during the program/project; contain a configuration item purchase which is global in nature; or are defined as a special interest case. The quorum for each assembly of the Corporate CCB meetings will consist of all voting members whose area is impacted by the change or has a special interest in the change. Every member of the Corporate CCB affected by the change is designated by the chairperson as being required to attend and evaluate the change requests.

g. Receive a status accounting of Government proposed or contractor proposed changes dealing with local unique site applications which will be placed under configuration management.

h. Consist of voting members which are Heads of the following DLA Offices and Directorates or a designated representative: Directorate of Contract Management (DLA-A); Office of Comptroller (DLA-C); Office of Command Security (DLA-I); Office of Civilian Personnel (DLA-K); Office of Policy and Plans (DLA-L); Directorate of Supply Operations (DLA-O); Directorate of Contracting (DLA-P); Directorate of Quality Assurance (DLA-Q); Directorate of Technical and Logistics Services (DLA-S); the Office of Installation Services and Environmental Protection (DLA-W); and the Office of Information Systems and Technology (DLA-Z), as the chairperson.

i. Have the members vote on "major" changes as appropriate and within assigned functional,

technical, and support responsibilities. The majority vote is the ruling decision unless there is an unresolvable issue, then the chairperson of the CCB may recommend alternative strategies based on agency priorities and implementation resources, or refer the decision to the Deputy Director. If a majority vote of the Corporate CCB members participating in a case review do not accept alternative recommendations of the chairperson, the issue will be elevated to the Deputy Director for final approval.

j. Have DLA contractors, the Military Services, or designated PSEs and PLFAs attend meetings as required and participate as nonvoters.

k. Allow for new members to be appointed to the Corporate CCB as requested by organizations or members of the board and approved based on majority vote of the Corporate CCB. Consistency in board membership and in the chairperson assignment must be maintained in order to avoid losing continuity in CCB operations.

4. The AIS/Program CCB (referred to as AIS CCB) will:

a. Act as a subboard to the Corporate CCB responsible for CM of existing AISs, of supporting AIS projects, and of AIS related modernization programs.

b. Have cochairpersons of the AIS CCB who are the Lead Functional PSE and DLA-Z representatives. They will schedule and chair the meetings, record final decisions, and make the final decision on unresolvable issues that are major changes to the AIS configuration baselines. The functional PSE is responsible for ensuring that requirements are accurately defined, justified, and functionally prioritized. The DLA-Z cochairperson will address technical issues surrounding the implementation of the requirement and allocation of cost and resource requirements.

c. Make decisions on cases within the assigned responsibility of a Lead Technical/Functional PSE and Sponsoring PSEs.

d. Delegate authority to the AIS or Program Working Groups to approve or disapprove Class I changes which meet a specific threshold, such as changes requiring less than 6 man-months of CDA effort. Program Working Groups of modernization programs may be delegated authority and specific guidelines to approve or disapprove changes against the approved system specification for

the program. All delegated authority remains the responsibility of the AIS CCB.

e. Review status reports on all decisions made by Working Groups and ensure information is recorded in the automated CM system. Status reports must be submitted at least quarterly to the AIS CCB for review.

f. Be required to provide status reports as requested by the Corporate CCB chairperson.

g. Evaluate all proposed change requests, if not delegated to the Working Group, which meet the Class I criteria as defined in enclosure 2. The quorum for each assembly of the AIS CCB meetings will consist of all voting members whose area is impacted by the change or has a special interest in the change. Every member of the AIS CCB affected by the change is designated by the cochairpersons as being required to attend and evaluate the change requests.

h. Convene the AIS CCB meetings on a quarterly basis or as required to support the needs of the AIS. As appropriate, the cochairpersons of the AIS CCB have the authority and responsibility to act immediately and may call emergency meetings.

i. Prepare the AIS CCB Directive which is used by the chairpersons to notify Configuration Managers, and DACO if acquisition is required, of AIS CCB decisions. AIS CCB Directives will be published with the minutes of the AIS CCB meetings and sent by electronic or routine mail to members.

j. Consist of voting members of the AIS CCB which are representatives from DLA-Z, the Lead Functional PSE, Sponsoring PSE, and other support PSEs. These members vote, as determined by the cochairpersons, on "major" changes to AISs. The majority vote is the ruling decision unless there is an unresolvable issue which the cochairpersons must decide or submit to the Corporate CCB for resolution based on majority vote of the AIS CCB.

k. Consist of nonvoting members which are AIS support contractors, a Military Service, PSE, or PLFA. The cochairpersons will decide when nonvoting members should attend CCB meetings.

l. Consist of the following AIS CCB cochairpersons and members which are representatives from the following PSEs and PLFAs:

AIS CCB	Cochairpersons		Voting Members	Members
	Lead Technical PSE	Lead Functional PSE		
Resource and Contract Management	DLA-Z, C		DLA-A, I, K, O, W	DLA-L, DACO, DSAC, PLFAs
Integrated Materiel Management	DLA-Z, O		DLA-P, Q, S, C, W, I, A	DIPEC, DSAC, DLA-L, DACO, Depots, DLSC, Supply Centers
Technical and Logistics	DLA-Z, S		DLA-I, Q, W, C, O, P	DLA-L, DRMS, DLSC, DTIC, DSAC, DACO
Base Support	DLA-Z, W		DLA-O, C, S, P	DLA-I, DSAC, DLA-L, DACO
Information Systems and Technology	DLA-Z		DLA-I, W, Q	DLA-L, DLA-C, DAAS, Service Centers, DACO

5. The AIS/Program (PM) Working Groups will:

a. Serve as support groups to the AIS CCB with representative members from the Program Management Office, the appropriate PSEs, PLFAs, project managers, and contractors. Some AIS Working Groups may only require coordination between PSE Configuration Managers and the AIS Administrator in lieu of a formal meeting to support the AIS CCB.

b. Be chaired by the AIS Administrator of DSMO-O and will support the Lead Functional PSE in providing recommendations for approval or disapproval of proposed changes presented to the AIS CCB.

c. Consist of the PM Working Group which is established in support of a chartered Program Manager who is responsible for an AIS modernization program. Meetings will be scheduled by the Program Manager or the designated PM Configuration Manager.

d. Be supported by the PSE and PM Configuration Managers and the AIS Administrator. They will be responsible for reviewing, screening, monitoring, reporting, and preparing cases.

e. Serve as the official communications link between the AIS or program participants to document interface agreements and change procedures, resolve interface problems between allocated CIs, and coordinate change requests, deviations, and waivers.

f. Review all proposed configuration changes which might affect the established baselines. When interface control complexity exists because of the many components involved, the working group will

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be expanded to consist of other memberships such as from the system integration responsible agent, contractors involved, and Government agencies participating in the system development.

g. Reach an agreement on the disposition of proposed changes and make recommendations to the AIS CCB or approve/disapprove as delegated.

**6. The Configuration Managers will:**

a. Be located at the PLFAs, PSEs, in AIS Modernization Program and Project Offices, at contractor sites, or in a Military Service.

b. Control the input of changes into the automated CM system, distribute changes based on classification and responsibilities, and perform other functions associated with change requests for a designated AIS or site.

c. Review and validate the functional benefit estimates on incoming change requests.

d. Conduct initial review of AWRs, ECPs, and D&Ws to determine compliance with this regulation.

e. Include a Configuration Manager of DLA-Z which will be the Executive Secretary of the Corporate CCB and Information Systems and Technology CCB. The Configuration Manager of the Functional PSE who cochairs an AIS CCB will be designated as the Executive Secretary of the AIS CCB. The Executive Secretary will prepare the agenda for the meetings, record and report minutes, maintain appropriate configuration status records, prepare the CCB directives, execute CCB action items, maintain status of outstanding action items, and provide recommendations to the chairpersons on CCB decisions and issues.

f. Ensure that requests for changes which are directly related within an application or scheduled for simultaneous implementation with a change in another SAIS are consolidated as one AWR and assigned to the appropriate functional CDA AIS area for management.

g. Manage and interface with the automated systems used for configuration management, be primarily responsible for data contained in the distributed CM system for an AIS or program, ensure that change request data is input into the system, and be responsible for the data transferred or entered into the DLA Corporate CM system.

h. Request, via a Program Configuration Manager, that the Program Manager assigns a Project Configuration Manager(s) if the volume,

size, or location of the program dictates a distributed CM structure to manage and control effectively.

**7. The CM Users will:**

a. Be located at PLFA sites, at approved contractor locations, and at appropriate Military Services and will have read and/or write access to a distributed CM system.

b. Consist of Functional PSEs who will utilize the Corporate CM system at HQ DLA and distributed CM systems located at CDAs.

c. Consist of PLFAs who will utilize the CM system to input change requests status information and to maintain and control site configuration data. Reports to reflect changes in baseline data located in the Corporate CM system will be produced as requested by the CCBs.

d. Consist of contractors who will utilize compatible CM software which will allow direct transmission of reports or status information as requested by program or AIS offices. Compatibility with DLA's CM system will not eliminate the need for separate CM support systems for internal management.

e. Consist of Military Services who will be given consideration for direct access to the DLA CM system when necessary to input change requests for DoD systems or interoperable AIS systems.

**VIII. PROCEDURES.** The following procedures will be performed within DLA for configuration management.

**A. Configuration Management Planning**

1. The following planning which precedes the actual CM process will establish an environment for managing system changes. After the AIS Master Program Plan is submitted to the PSEs and PLFAs to provide guidance, the PLFAs will submit proposals for future initiatives to the appropriate functional PSE for review and approval. The PSEs will consolidate responses from the PLFAs and establish prioritized initiatives within their functional area. PSE initiatives must reflect agency priorities as described in the DLA Strategic Plan prepared by DLA-L and as defined in the Information Resources Management Plan prepared by DLA-Z. The initiatives list will be submitted to DLA-Z for a funding assessment and for preparation of recommendations for the budget process. The approved

requirements will be incorporated into the annual AIS Master Program Plan.

2. The Lead Functional PSEs will consolidate the AWR requests which have been approved by the AIS/PM Working Group and AIS/PM CCB and develop their FPL. The requests on the FPL should relate to prioritized initiatives in the AIS Master Program Plan. Other new requirements not traceable to the initial prioritized initiatives and mandated requirements must be evaluated and incorporated into the next FPL, or processed as an emergency case and incorporated into the existing FPL. A methodology for prioritizing AWRs for the FPL is provided in the DLA CM Plan. Priorities must be identified for functional initiatives and for the one or more AWRs which may be processed against an approved initiative.

**B. Configuration Identification.** Baselines shall be employed throughout the life cycle of a system to ensure an orderly transition from one major commitment point to the next in the system engineering, production, and logistic support processes. These baselines are documented by approved configuration identification, normally prepared in accordance with DoD-STD-7935A, which is the basis for control of changes in system/CI requirements. The requirements should be traceable to the top-level specification. If conflicts arise between the baselines, or their approved configuration identification, the order of precedence shall be: functional, allocated, and product unless waived by the appropriate decision authority. Configuration item identification numbering and marking shall be in accordance with the DLA CM Plan. Software should be identified by an unchanging base number and changing version, release, and update numbers. Baseline data will be entered by PSE, CDA, PLFA, or PM Configuration Managers, as appropriate, to support the existing Corporate and distributed AIS/PM automated CM systems.

1. DLA-ZO will establish current operational baselines of AISs or modernization programs as required by the CM Program. The operational baseline will be maintained in automated systems or entered into the automated CM system.

2. The PSE/PM Configuration Managers must ensure that the configuration items to be controlled such as hardware, software, facilities, telecom-

munications, and documents are identified for AISs or programs.

3. The PSE/PM Configuration Managers or a designee must enter the functional baseline, which includes documentation of functional requirements contained in the conceptual functional requirements document and functional description and the Government Furnished Equipment (GFE) which includes hardware, software, facilities, and telecommunications as stated in the contract or agreement. The functional baseline is established when the System Specification is approved by the program office, functional PSE, or the PLFA site.

4. The PSE/PM Configuration Managers or a designee must enter the allocated baseline data such as hardware, software, documents, and facility information. The allocated baseline will comprise the contractor's or developer's proposal of how the functional requirements will be met. The allocated baseline could contain some or all of the GFE, as contained in the functional baseline, and any additional ADP/T. The allocated baseline is established with the Preliminary Design Review in which DLA-Z and the functional PSEs attend.

5. The PLFA Configuration Managers or a designee must enter data from the detailed design documents, initial product specifications, and DD Forms 250, Material Inspection and Receiving Report, to establish the product baseline. The product baseline usually comprises hardware, software, telecommunications, and documentation that has been received by the developer or contractor.

**C. Configuration Control.** Configuration control regulates changes to the system and CIs after formal establishment of each and any of their baselines. Engineering changes, waivers, or deviations affecting the Government's interest in the configuration of a CI shall be limited to those which are necessary or offer significant benefit to the Government. The types of changes are ones that: correct deficiencies; effect substantial life cycle cost savings; make a significant effectiveness change in operational or logistics support requirements; or prevent or allow desired slippage in an approved schedule. Changes in configuration shall be classified as Class I or Class II engineering changes in accordance with MIL-STD-483, MIL-STD-480B, and the criteria defined in this regulation for classifying a case. The time line or schedule for the review/approval con-

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figuration control procedures is in the CM plan. If a contract has already been awarded with established timeframes for the review/approval configuration control procedures and cannot be easily modified to reflect the standard DLA timeframes, the supporting CM personnel must be notified of the contractual timeframes. The following CM procedures as reflected in figure 1 will be used to control change request documents and problem trouble reports.

1. System Change Request, Deviation/Waiver, Engineering Change Proposal, Specification Change Notice. A requestor from the PSE, PLFA, or Military Services may generate an AIS or modernization program requirement which shall result in the preparation of an SCR, on an AWR form, by the requestor. Deviations and waivers shall be treated as basic inadequacies to specification requirements and should be granted only when there is an overriding benefit to the Government, and an insignificant support and mission impact on the area affected. They shall be prepared by contractors and CDAs and approved in accordance with the CM Plan and MIL-STD-480B. Deviations and waivers shall be classified as Class I or Class II and prioritized as major, minor, or critical. ECPs will only be prepared by contractors in accordance with MIL-STD-480B. The Government may require that the contractor submit a letter prior to preparing a Class I ECP, in order to preclude cost to the Government for an unsolicited ECP. The SCN will be used by a contractor to propose, transmit, and record a change to a specification affected by an ECP, or to update a specification change unrelated to an ECP or design change.

a. A PM Class I/II SCR is forwarded directly to the PM Configuration Manager. The AIS Class I/II SCR is forwarded to the Sponsoring PSE Configuration Manager. A contractor shall also submit ECPs or Deviation and Waivers directly to the Program or Project Configuration Manager.

b. When a Configuration Manager in a Program Office or project receives a PM SCR, ECP, or D&W, the request and status information is entered in the automated CM system and the change request is classified according to enclosure 2. If approved by the Program or Project Configuration Manager, a Class II SCR or D&W is forwarded to the CDA for possible implementation through reserve resources.

A contractor's Class II ECP or D&W is approved or disapproved and return to the contractor.

c. A Class I PM SCR, Deviation/Waiver, or ECP is forwarded to the Sponsoring PSE Configuration Manager for review. The Lead PSE can submit a PAR form to the CDA in order to aid in evaluating whether to accept a change request from a user and forward the change to DLA-Z for processing. If disapproved, the change is returned to the requestor.

d. Approved changes are forwarded to DSMO-O for coordination and technical analysis of the case by DLA-Z divisions and the appropriate CDA. The analysis performed by the CDAs must be documented on the AWR form. The AWR form must include a technical discussion on how the functional requirements will be implemented. The analysis must also address system interfaces, environmental changes such as facility impact, estimated hardware and software requirements, implementation alternatives with pros and cons, and impact statements. The AWR form must contain cost data for acquisition or modification of a technical platform. This data will include a gross estimate of ADP/telecommunications costs, and ADP manpower resources to advise PSEs of development and implementation resources and impact on production systems.

e. The completed Request Impact Analysis Report on the case is provided to the Sponsoring PSE Configuration Manager to add benefits and determine if the case is still approved for processing or should be rejected and returned to the requestor. AIS Class II SCRs will be approved by DSMO after proper coordination and forwarded to the CDA for implementation from resources reserved for Class II SCRs. AIS Class II ECP(SCN) or D&W will be forwarded to the contractor for implementation.

f. If the functional sponsors have approved the SCR or ECP and adequately identified the benefits, the case is prepared by the Lead PSE, PM Configuration Managers and the AIS/PM Administrator for review by the AIS or PM Working Group. The AIS Working Group will provide recommendations for approval of cases to the AIS CCB, unless the working group is delegated approval authority.

g. The AIS CCB will approve or disapprove recommendations from the AIS or PM Working Group (unless decision authority is delegated to a working group) on Class I SCRs, ECPs, SCNs,

# DOCUMENT FLOW FOR CM REVIEW PROCESS

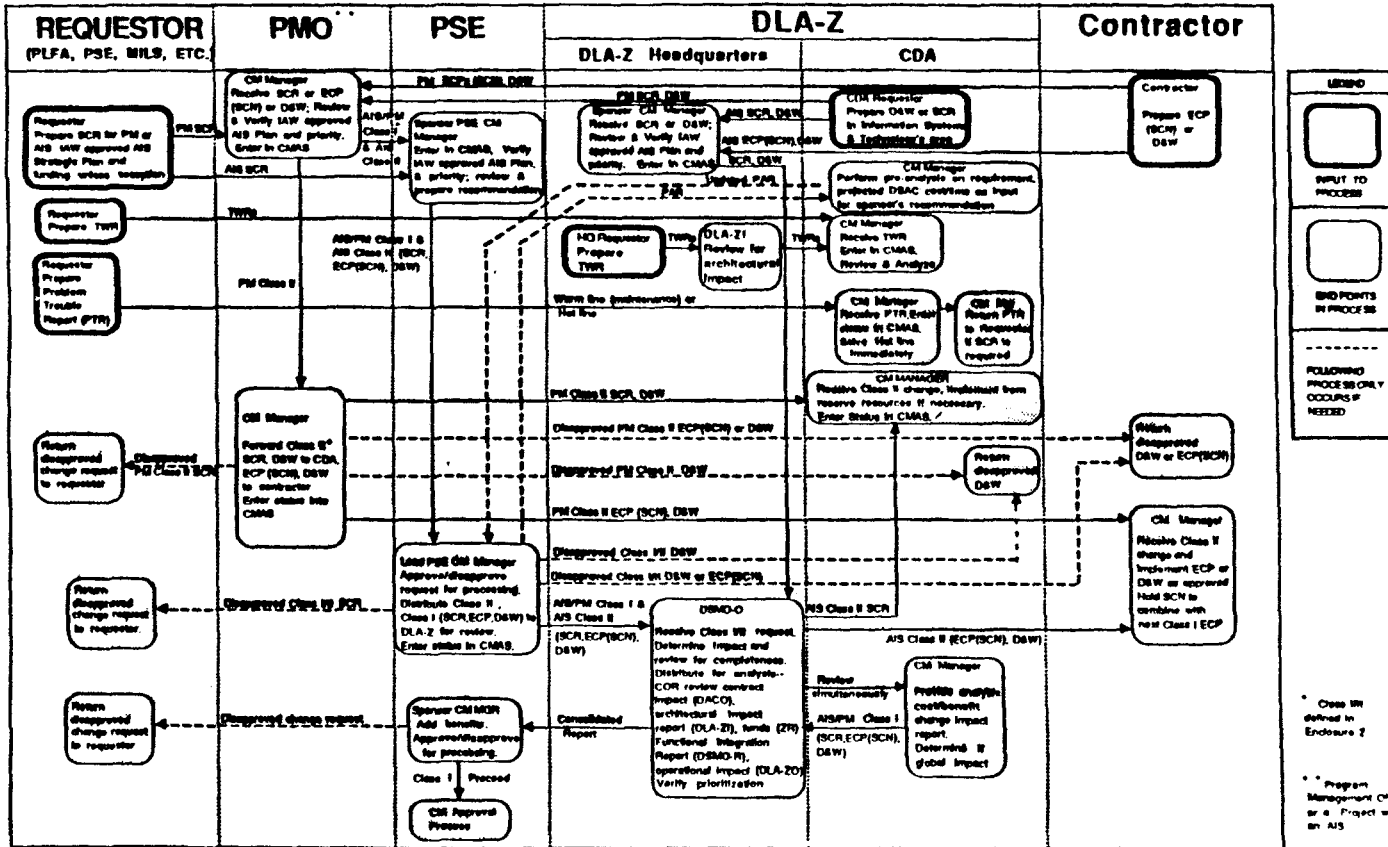


FIGURE 1

## DOCUMENT FLOW FOR CM APPROVAL PROCESS

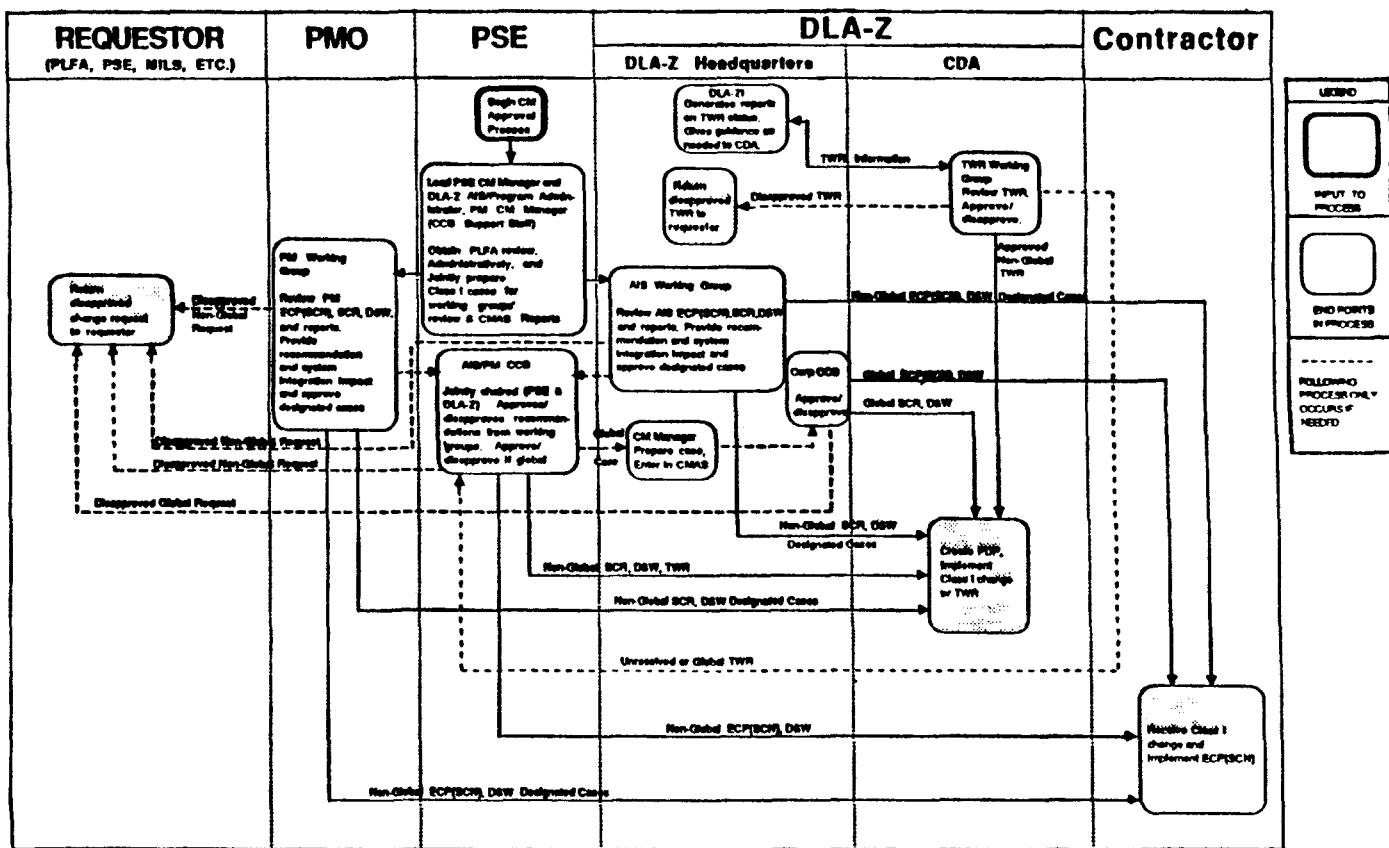


FIGURE (continued)



Deviations, and Waivers. The chairpersons of the AIS CCB should make the decision and sign the DD Form 1694 for critical and major deviations and waivers as requested from CDAs and contractors. The contractor must obtain consideration from the Government for each approved deviation or waiver. The requestor is notified if the CCB disapproves the change request.

h. If the case is determined to be a global change impacting the agencies mission areas in such a manner that the Corporate CCB must evaluate the impact, the case must be prepared by the Corporate Configuration Manager for review and approval by the Corporate CCB. If approved by the CCB, the SCR change will be incorporated in the CDA Project Development Plan (PDP) or the ECP will be provided to a contractor for implementation. If the case meets the criteria of a new modernization program, it must be reviewed by the DLA AIS Review Council. It must also be elevated to the Major AIS Review Council based on established criteria and dollar thresholds as stated in enclosure 2.

2. Technology Work Requests. An SCR may require the preparation of a Technology Work Request (TWR) for technology changes or a TWR can be a technical requirement usually generated by DLA-Z personnel.

a. The TWR section on the AWR form should be prepared by DLA-ZI, DSMO, DLA-ZO or the CDA and contain control numbers on the AWR to maintain status from receipt of the request through implementation. An AWR, with the TWR section filled in and the SCR section blank, is submitted to the CDA; entered by the CDA in the automated CM system; and is scheduled through the PDP process for implementation.

b. DLA-Z initiated TWRs will be submitted to DLA-ZI for review and then forwarded to the CDA for processing. If the CDA has processed a TWR and it requires further DLA-Z review, it is forwarded to DLA-ZI for review and guidance by the Information Systems and Technology CCB prior to incorporating the request in the CDA PDP for implementation.

3. Problem Trouble Reports. The requestor will submit by telephone a Problem Trouble Report (PTR) to the responsible CDA who will document problems relating to hardware, software, or telecommunications. The actual problem will be

documented with status updates on the AWR Form or the automated CM system in the PTR section. Software problems will be defined as warm line or hot line in accordance with the urgency and priority of the response. Immediate resolution is required of a hot line which is a critical problem that prevents the accomplishment of a SAIS task necessary for operations and for which no reasonable alternative action can be taken. Valid hot lines take precedence over all other CDA development efforts and are normally corrected within 24 hours from receipt of sufficient data. A warm line is a noncritical program conformance problem that either does not affect any necessary SAIS tasks, or if affected, those tasks can be temporarily accomplished through alternate action until CDA resources can be provided to resolve the problem. The Configuration Manager at the CDA will return the AWR with the PTR information to the requestor if an SCR is required and explain the reason for changing the type of request. DLA-Z will assist the CDA in resolving cases where the validity or classification of a PTR is in question and cannot be resolved by the requestor and CDA.

a. PTRs are submitted to the CDA when SAIS programs are not in conformance with design specifications and are causing mission degradation because of their design. PTRs are also submitted when SAIS programs do not perform according to the approved design details as reflected in either the initially approved Functional Description (FD) or a subsequently approved system change request; the program failed to execute as anticipated; or the documentation is seriously deficient.

b. Hot lines may be submitted by telephone or electronically to the CDA on the PTR form during duty or nonduty hours. Hot lines of a very sensitive nature should be forwarded in a secure manner as sensitive material to the CDA, such as explaining a system problem in which one can enter the operating system. Hot line PTRs initially submitted by telephone must be entered into the automated CM system by the CDA within 24 hours. Complete status on PTRs will be maintained in the automated CM system by the CDA and will be available for read access by DLA-Z, PSEs, and other PLFAs. PTR status reports will be available from the automated CM system for the originator, PLFAs, PSEs, and AIS Administrators to acknowledge receipt of the

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PTR and provide information of action taken or planned.

c. The CDA will schedule and process PTRs within the man-hour percentage allocated for PTRs by the appropriate AIS PDP.

D. Configuration Status Accounting. The configuration status accounting function provides traceability of the current approved configuration identification and of the changes thereto, and acts as a management tool for monitoring all related tasks resulting from such changes. Configuration Status Accounting will be invoked on contracts using the applicable sections of MIL-STD-483. The data elements used in Configuration Status Accounting are contained in the DLA CM Automated System (CMAS) Requirements and Implementation Plan.

1. A representative from the program office or AIS Administrator or Site Administrator shall conduct inprocess reviews (IPRs) on system configuration documentation, as required, with the functional PSE, contracting, and the developer/contractor attending.

2. DSMO will prepare an Information Resource Management (IRM) prerule in accordance with the General Services Administration FIRMR 20119 which states that a configuration management report on the Major Information Systems is required.

3. The CM users and Configuration Managers must report to the appropriate personnel within the CM organization to fulfill status accounting via the automated CM system.

E. Configuration Reviews and Audits. Configuration reviews and audits verify that the specifications and related documentation comply with regulations and policy. The audit function validates the achievement of development requirements and the accuracy of a production configuration documented in the CI's technical documentation. The criteria for reviews and audits are outlined in MIL-STD-1521B and the CM Plan. The technical reviews shall be conducted by the CDA or the Program Office, representing DLA-Z, as appropriate.

1. The functional PSEs shall conduct the Systems Requirements Review which is a formal review of the functional baseline. DLA-Z will participate in the review.

2. DLA-Z shall conduct a Systems Design Review with the developer to ensure the design supports the requirements. The risk of the allocated requirements and the design will be reviewed with the functional PSEs.

3. DLA-Z shall conduct a Preliminary Design Review (PDR) which is a technical review of the design. The PDR will be presented by the developer to DLA-Z for review with the functional PSEs.

4. DLA-Z shall conduct the Critical Design Review at the end of the Definition/Design Phase to ensure that the detailed design satisfies the requirements. It will be presented by the developer with the functional PSEs attending.

5. DLA-Z shall conduct a Final Design Review, with the functional PSEs attending, to certify the final system design and to ensure acquisition plans will provide the resources needed to fully support the system design and approved schedule.

6. DLA-Z shall conduct a Test Readiness Review, with the functional PSEs participating, which examines the System Integration Testing results and final system functionality. The results are certified in the system test by the CDA.

7. A team of DLA representatives or internal inspectors shall perform the Functional Configuration Audit which determines whether the performance, specified in the system specifications, has been achieved and will result in the certification of the functional test by the Lead Functional PSE.

8. A team of DLA representatives or internal inspectors shall perform the Product Configuration Audit. This audit physically examines all configuration items, including software and hardware, and compares them against their respective technical documentation. The results of this audit will be the verification of the Product Baseline by the audit team and the certification of the environmental test by the Head of the PLFA.

9. DLA-Z shall conduct a Formal Qualification Review with the functional PSEs participating. This review is a formal examination of the Operational Test and Evaluation (OT&E) and follow-on OT&E test results to determine that all operations meet specifications. The result of the review will be certification of the Initial Operational Capability by the Head of the PLFA.

10. It is the responsibility of the host of the reviews to ensure that the proper personnel are invited to attend the reviews. PSE Configuration

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Managers, Program Configuration Managers, and Corporate Configuration Managers should be given the invitation to attend.

11. The Configuration Managers, functional PSEs, Program Offices, and PLFA sites shall respond to CM requests and audits from the Corporate CCB.

**IX. FORMS AND REPORTS**

**A. FORMS.** The following is a list of the required forms utilized in the CM process. A description of how to complete all the forms outlined below is in the DLA CM Plan. The regulation or military standard is also provided as appropriate.

1. DLA Form 558, 558-1/2/3, Automated Data Processing/Telecommunications Work Request (DLA(AR)2510(Z)).
2. DD Form 1692, Engineering Change Proposal, page 1 as described in MIL-STD-480B.
3. DD Form 1692-1, Engineering Change Proposal, page 2 as described in MIL-STD-480B.
4. DD Form 1692-2, Engineering Change Proposal, page 3 as described in MIL-STD-480B.
5. DD Form 1692-3, Engineering Change Proposal, page 4 as described in MIL-STD-480B.
6. DD Form 1693-4, Engineering Change Proposal, page 5 as described in MIL-STD-480B.

7. DD Form 1693-5, Engineering Change Proposal, page 6 as described in MIL-STD-480B.

8. DD Form 1696, Specification Change Notice, as described in MIL-STD-480B.

9. DD Form 1694, Request For Deviation/Waiver, as described in MIL-STD-480B.

10. DLA Form 1799, Pre-analysis Requirement.

11. Other, letter, military letter, or memorandum.

**B. REPORTS.** The following are reports utilized in the CM process. The Users Manual for the DLA automated CM system.

1. **STANDARD REPORTS.** The following is a list of the standard types of reports generated from the DLA automated CM system.

- a. Configuration Items Summary Report
- b. Requirements Traceability Reports
- c. Configuration Item Review and Audit Status Report
- d. Documentation Reports
- e. Configuration Reporting
- f. Change Control Reports
- g. Change Implementation Reports
- h. Problem Trouble Reporting
- i. Data Dictionary Reports

2. **AD HOC REPORTS.** AD HOC queries will be available for the CM users and will provide for various sorting capabilities.

BY ORDER OF THE DIRECTOR

2 Encl

1. List of Definitions
2. Criteria Utilized by Configuration Managers to Classify a Case



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Staff Director, Administration

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COORDINATION: DLA-A, DLA-C, DLA-G,  
DLA-I, DLA-K, DLA-KS, DLA-L, DLA-LP,  
DLA-LR, DLA-O, DLA-P, DLA-Q, DLA-S,  
DLA-W, DLSC, DASC, DSAC, DIPEC, DRMS

## LIST OF DEFINITIONS

**Definitions used** For the purpose of this regulation, the following definitions apply:

1. **ADP/T Work Request (AWR).** A document used to record and transmit internal DLA requirements (SCR, TWR, and PTR), approvals/disapprovals, and related implementation actions.
2. **Allocation.** A specific distribution of funds.
3. **Automated Information System (AIS).** A collection of functional user and ADP personnel, procedures and equipment, including ADP/Telecommunications equipment and software, which is designed, built, operated, and maintained to collect, record, process, store, retrieve, transmit, and display information.
4. **Automated Information System Administrator.** The individual designated by the Assistant Director, Office of Information Systems and Technology, DLA-Z, to be responsible and accountable for, and perform general oversight of an AIS.
5. **Automated Information System New Development.** A development effort whose size and scope requires Life Cycle Management as defined in DLAR 4730.1, DoDD 7920.1 and DoD-STD-7935A.
6. **Baseline.** A configuration identification document or a set of such documents formally designated by the Government at a specific time during a CI's life cycle. Baselines, plus approved changes from those baselines, constitute the current approved configuration identification. For configuration management purposes there are three baselines, which are established sequentially, as follows:
  - a. **Functional Baseline (FBL).** The initially approved documentation describing a system's or item's functional characteristics and the verification required to demonstrate the achievement of those specified functional characteristics.
  - b. **Allocated Baseline (ABL).** The initially approved documentation describing an item's functional and interface characteristics that are allocated from those of a higher level CI, interface requirements with interfacing configuration items, additional design constraints and the verification required to demonstrate the achievement of those specified functional and interface characteristics.
  - c. **Product Baseline (PBL).** The initially approved documentation describing all of the necessary functional and physical characteristics of the CI, any required joint and combined operations interoperability characteristics of a CI (including a comprehensive summary of the other service(s) and allied interfacing CIs or systems and equipments), and the selected functional and physical characteristics designated for production acceptance testing and tests necessary for support of the CI.
7. **Benefits.** Outputs or effectiveness expected to be received or achieved over time as a result of undertaking a proposed investment.
8. **Case.** A case consists of the appropriate SCR, ECP/SCN, TWR, or D&W forms with the classification worksheet and the justification and supporting documentation attached.
9. **Central Design Activity (CDA).** A DLA activity that has been assigned Standard AIS development and maintenance responsibilities by DLA-Z.
10. **Computer Software (or Software).** A combination of associated computer instructions and computer data definitions required to enable computer hardware to perform computational control functions.
11. **Computer Software Configuration Item (CSCI).** A configuration item for computer software.
12. **Computer Software Documentation.** Technical data or information, including computer listings and printouts, which documents the requirements, design or details of computer software; explains the capabilities and limitations of the software; or provides operating instructions for using or supporting computer software during the software's operational life.
13. **Configuration.** The functional and physical characteristics of hardware, firmware, software or a combination thereof as set forth in technical documentation and achieved in a product.
14. **Configuration Audit.** The verification of a CI's conformance to specifications, drawings and other contract requirements.
  - a. **Functional Configuration Audit (FCA).** The formal examination of functional characteristics of a CI, prior to acceptance, to verify that the item

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achieved the performance specified in its functional or allocated configuration identification.

b. Product (Physical) Configuration Audit (PCA). The formal examination of the "as built" configuration of a CI against its technical documentation to establish the CI's initial product configuration identification (PCI).

15. Configuration Control. The systematic proposal, justification, evaluation, coordination, approval or disapproval of proposed changes, and the implementation of all approved changes in the configuration of a CI after formal establishment of its baseline.

16. Configuration Control Board (CCB). A board composed of technical and administrative representatives who approve or disapprove proposed engineering changes to an approved baseline.

17. Configuration Identification. The selection of the documents to comprise the baseline for the systems and CIs involved, and the numbers and other identifiers affixed to the items and documents. The approved documents that identify and define the item's functional and physical characteristics in the form of specification, drawings, associated lists, interface control documents, and documents referenced therein. The configuration identification is developed and maintained through three distinct evolutionary increasing levels of detail, each used for establishing a specific baseline. The two levels of configuration identification are as follows:

a. Configuration Item (CI). An aggregation of hardware, firmware, software, or any of its discrete portions, which satisfies an end use function and is designated for configuration management. CIs may vary widely in complexity, size and type, from an aircraft, ship or electronic system to a test meter or round of ammunition. During development and manufacture of the initial (prototype) production configuration, CIs are those items whose performance parameters and physical characteristics must be separately defined (specified) and controlled to provide management insight needed to achieve the overall end use function and performance. Any item required for logistic support and designated for separate procurement is a CI.

b. Configuration Management (CM). A discipline applying technical and administrative direction and surveillance to:

(1) Identify and document the functional and physical characteristics of CIs;

(2) Audit the CIs to verify conformance to specifications, interface control documents and other contract requirements;

(3) Control changes to CIs and their related documentation; and

(4) Record and report information needed to manage CIs effectively, including the status of proposed changes and the implementation status of approved changes.

18. Configuration Status Accounting (CSA). The recording and reporting of information needed to manage configuration effectively, including:

a. A listing of the approved configuration identification;

b. The status of proposed changes, deviations, and waivers to the configuration;

c. The implementation status of approved changes; and

d. The configuration of all units of the CI in the operational inventory.

19. Contractor. An individual, partnership, company, corporation, association or other service having a contract with the procuring activity for the design, development, manufacture, maintenance, modification or supply of items under the terms of a contract. A Government activity performing any or all of the above functions is considered to be a contractor for configuration control purposes.

20. Data. Recorded information, regardless of form or characteristics, including administrative, managerial, financial, scientific, technical, engineering, and logistics data, whether required to be delivered to the Government or retained by the contractor, as well as data developed by the Government.

21. Deficiencies. Deficiencies consist of two types:

a. Conditions or characteristics in any hardware or software which are not in compliance with the specified configuration identification; or

b. Inadequate (or erroneous) configuration identification which has resulted, or may result, in CIs that do not fulfill approved operational requirements.

22. Detailed Functional Requirement. A set of detailed instructions developed in AWR Form 558

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using the general functional requirement to provide both functional and data processing personnel with clear concise statements of the specific functional logic and functional operation capabilities to be designed, programmed, tested, and implemented.

23. Deviation. A specific written authorization, granted prior to the manufacture of an item, to depart from a particular performance or design requirement of a specification, drawing or other document for a specific period of time. A deviation differs from an engineering change in that an approved engineering change requires corresponding revision of the documentation defining the affected item, whereas a deviation does not contemplate revision of the applicable specification or drawing.

24. Engineering Change. An alteration in the approved configuration identification of a CI under development, delivered or to be delivered.

- a. Class I engineering change (See enclosure 2.)
- b. Class II engineering change. (See enclosure 2.)

25. Engineering Change Priorities. The priority assigned to a Class I engineering change, which determines the methods and resources to be used in review, approval and implementation. The priority will determine the relative speed at which the ECP is to be reviewed, evaluated, ordered and implemented, if approved. Priorities can be emergency, urgent, routine, or minor.

26. Engineering Change Proposal (ECP). A proposed engineering change and the documentation by which the change is described, justified, and submitted by the contractor to the procuring activity for approval or disapproval.

27. ECP Types. A term covering the subdivision of ECPs on the basis of the completeness of the available information delineating and defining the engineering change. They will be identified as preliminary or formal.

28. Firmware. The combination of a hardware device and computer instructions or computer data that reside as read only software on the hardware device. The software cannot be readily modified under program control.

29. Fit. The ability of an item to physically interface or interconnect with or become an integral part of another item. (Used in MIL-STD-480B)

30. Form. The defined configuration of an item including the geometrically measured configuration density, and weight or other visual parameters which uniquely characterize an item, component or assembly. For software, form denotes the language level and media. (Used in MIL-STD-480B)

31. Function. The action or actions which an item is designed to perform. (Used in MIL-STD-480B)

32. General Functional Requirement. A set of functional goals, objectives, criteria, policies, and/or other considerations documented in a AWR which describe in non-ADP terminology, and without regard to ADP equipment or its considerations, new or revised tasks to be accomplished by an established Standard Automated Information System.

33. Hardware. Articles made of material, such as tools, fittings, machine parts, weapons, vehicles, but not including computer programs or technical documentation.

34. Interface Control. The process of:

- a. Identifying all functional and physical characteristics relevant to the interfacing of two or more items provided by one or more organizations.
- b. Ensuring that proposed changes to these characteristics are evaluated and approved prior to implementation.

35. Item. A nonspecific term used to denote any product, including systems, subsystems, assemblies, subassemblies, units, sets, accessories, computer programs, computer software or parts.

36. Lead Functional PSE. The HQ DLA PSE designated by the Director, DLA, as having overall responsibility for developing and coordinating functional priorities within AIS(s).

37. Life Cycle Cost. The sum total of the direct, indirect, nonrecurring, recurring, and other related costs incurred, or estimated to be incurred, in the design, development, production (including manufacture and fabrication), acquisition, test and evaluation, acceptance, operation, maintenance, modernization, deactivation and support of a configuration item over its anticipated life span.

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38. Modernization Changes to an existing AIS that involve implementing state of the art automation concepts or technologies.

39. Non-Developmental Item (NDI). Non-developmental items are existing developed and available hardware or software that are capable of fulfilling DoD requirements, thereby minimizing or eliminating the need for costly, Government-sponsored research and development (R&D) programs. An NDI is usually an off-the-shelf or commercial-type product, but may also include hardware or software already developed by or for the DoD, or other Military Services or foreign military forces.

40. Physical Characteristics. Quantitative and qualitative expressions of materiel features, such as composition, dimensions, finishes, form, fit, and their respective tolerances.

41. PreAnalysis Requirement (PAR). Form utilized by the Lead PSE which obtains technical information from the CDA on the proposed requirement in order to aid in the decision of whether or not to proceed on with the processing of the requirement by forwarding it to DLA-Z.

42. Privately Developed Item (PDI). An item developed at private expense and offered to the Government, with Government control of the article's configuration normally limited to its form, fit and function.

43. Problem Trouble Report. A report that identifies a program that is not in conformance with design specifications as approved in the original FD or subsequent SCR, or that is causing mission degradation because of its design. Depending upon their criticality, PTRs are transmitted to the design activity as either hot lines or warm lines.

44. Project. A planned AIS new development or modification initiative having clearly defined scope and specific objectives. A project may be implemented as a single entity or as sequential increments.

45. Project Development Plan (PDP). A document designed to provide corporate visibility for all SAIS development and serves as a contract between HQ DLA and the various DLA central design activities. (See DLAR 4730.6 for details.)

46. Specification. A document intended primarily for use in procurement, which describes the essential

technical requirements for items, materiel or services including the procedures for determining whether or not the requirements have been met.

47. Specification Change Notice. A document used to propose, transmit and record changes to a specification.

48. Sponsoring Principal Staff Element. The HQ DLA PSE having functional responsibility for a systems change request.

49. Standard Automated Information System. A uniform, and centrally designed AIS consisting of computer programs which support computer applications at DLA mission and support activities. SAISs are developed and maintained by CDAs in accordance with standard DLA policies and procedures.

50. System. A composite of equipment, skills, and techniques capable of performing or supporting an operational role, or both. A complete system includes all equipment, related facilities, material, software, services and personnel required for its operation and support to the degree that it can be considered a self-sufficient item in its intended operational environment.

51. System Change Request (SCR). A requirement to change an existing system and transmitted on an ADP/T Work Request form.

52. Technical Data. Recorded information, regardless of form or characteristics, of a technical nature. Technical data may document research, experimental, developmental, or engineering work or be used to define a design or process or to procure, produce, support, maintain, or operate materiel. The data may be graphic or pictorial delineations in media such as drawings or photographs, text in specifications or related performance or design type documents, or computer printouts. Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications and related information, and computer software documentation. Technical data does not include computer software or financial, administrative, cost and pricing, and management data, or other information incidental to contract administration.

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53. Technical Reviews A series of system engineering activities by which the technical progress on a project is assessed relative to its technical or contractual requirements. The reviews are conducted at logical transition points in the development effort to identify and correct problems resulting from the work completed thus far before the problems can disrupt or delay the technical progress. The reviews provide a method for the contractor and procuring activity to determine that the development of a CI and its identification have met contract requirements. (See MIL-STD-1521.)

54. Technology Work Request. Technology Work Requests are requirements prepared on the AWR form to request changes to the DLA technical platform through resources from the CDA technology organizations.

55. Waiver. A written authorization to accept an item which, during manufacture or having been submitted for inspection, is found to depart from specified requirements, but is considered suitable for use "as is" or after repair by an approved method.



### CRITERIA UTILIZED BY CONFIGURATION MANAGERS TO CLASSIFY A CASE

**I. GENERAL.** There are various types of requests as shown in paragraph II below that can be submitted as a case and within each type is a set of further classifications which need to be decided upon to define the priorities, characteristics, and categories of the request. The decision process for classification of a request is shown in exhibit 1. The **FIRST** decision that needs to be made is: What is the type of request?

**II. TYPES OF REQUESTS.** There are five types of requests which are classified as Class I or Class II and are submitted on standard forms identified below:

ADP/T Work Request (SCR, TWR, & PTR) - DLA Form 558 Series.

Request for Waiver - DD Form 1694.

Request for Deviation - DD Form 1694.

Engineering Change Proposal - DD Form 1692 Series.

Specification Change Notice - DD Form 1696.

The **SECOND** decision that needs to be made is: What class, within the type already selected, is the request?

**A. CLASS I CRITERIA** If one of the following criteria is fulfilled, the request is a Class I classification or major request:

1. A change to a CI (i.e., software, hardware).
2. Performance impacted by change.
3. Reliability, maintainability or survivability impacted by change.
4. Interface characteristics impacted by change.
5. Functional/technical requirements impacted by change.
6. Government Furnished Equipment (GFE) impacted by change.
7. Security impacted by change.
8. Compatibility or interoperability impacted by change.
9. Operation and maintenance manuals impacted for which adequate change/revision funding is not provided in existing contracts.
10. Schedule is impacted by change.
11. Funding is impacted by change.

12. Interchangeability, substitutability, or replaceability (as applied to CIs) impacted by change.

13. The following contractual factors are impacted:

- a. Cost including fees and incentives.
- b. Contractual deliveries.
- c. Contract warranties or guarantee.
- d. Scheduled contract milestones.

14. Change corrects deficiencies.

15. Effectiveness change in operational or logistics support requirements.

16. Change produces a substantial life cycle cost savings.

17. Change prevents slippage in an approved Class I AWR (SCR) delivery schedule. A Class I AWR must use the PDP process as the method of implementation.

**B. CLASS II CRITERIA.** If only the following criteria is fulfilled, the request is a Class II minor request:

1. Minor change to a CI or its documentation with its impact being within the scope of a current contract without changing the Government approved configuration identification other than to add the Class II change to the Product CI.

2. Corrects documentation errors; adds clarifying notes or views; adds, deletes or corrects non-executable comment lines of code to software.

3. Enhances contractor productivity without detriment to the Government.

4. Interchangeability, substitutability or replaceability of CIs are not affected.

After DLA-Z approval, Class II AWRs will be implemented from CDA Reserve Resources which will be established during the PDP process.

The Specification Change Notice (SCN) can be submitted by itself, but usually accompanies an Engineering Change Proposal. A proposed SCN is used to update a specification either to support a proposed ECP or a design change or because the specification needs to be modified. An SCN is only classified as a Class I or II change; there is not a lower classification description.

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### DECISION PROCESS FOR CLASSIFICATION OF A REQUEST

TYPE OF REQUEST	CLASS I MAJOR (M)	CLASS II MINOR (M)	PRIORITY	CHARACTERISTIC	CATEGORY	GLOBAL CRITERIA	DAISRC/MAISRC CRITERIA
1. SCR	1. A CHANGE TO A CI 2. PERFORMANCE IMPACTED 3. RELIABILITY, MAINTAINABILITY, OR SERVICEABILITY IMPACTED 4. INTERFACE CHARACTERISTICS IMPACTED 5. FUNCTIONAL/TECHNICAL REQUIREMENTS IMPACTED 6. GOVERNMENT FURNISHED EQUIPMENT IMPACTED	1. ERROR CHANGE TO CI OR ITS DOCUMENTATION WITHOUT CHANGE TO CONTRACT OR CI 2. CORRECTS DOCUMENTATION ERRORS 3. ENHANCES CONTRACTOR PRODUCTIVITY WITHOUT DETRIMENT TO GOVERNMENT 4. INTERCHANGEABILITY, SUBSTITUTABILITY OF CI NOT AFFECTED 5. A SOFTWARE CHANGE THAT DOES NOT MODIFY THE PROGRAM LOGIC, I.E., TABLES, FORMULA CHANGES	A. BANDED B. DISCRETION ESSENTIAL C. ROUTINE	1. HIGH PAYBACK 2. TECHNICAL 3. FUNCTIONAL 4. DOCUMENTATION	4. NEW DEVELOPMENT 5. MODIFICATION	1. COST = 10 MILLION IN 1 YR OR 75 MIL DURING PROGRAM/PROJECT 2. IMPACTS MORE THAN 1 LEAD FUNCTIONAL PDB AREA OF RESPONSIBILITY 3. CI PURCHASE THAT IS GLOBAL IN NATURE 4. SPECIAL INTEREST	1. COST = 20 MILLION IN 1 YR OR 150 MIL DURING PROGRAM/PROJECT (DAISRC CRITERIA ONLY PER DoD 8004.1 AND DoD 7020.2) 2. DAISRC REVIEWS ALL DAISRC CASES. 3. SPECIAL INTEREST (DAISRC/MAISRC) DAISRC CASES HAVE CRITERIA SUCH AS COST = 10 MILLION IN 1 YR OR 75 MIL DURING PROGRAM/PROJECT. 4. RESERVES THE RIGHT TO REVIEW ANY AND ALL AIBs (DAISRC/MAISRC)
2. DRIVER	7. SECURITY IMPACTED 8. COMPATIBILITY OR INTEROPERABILITY IMPACTED 9. OPERATION AND MAINTENANCE MANUALS IMPACTED		A. CRITICAL (CLASS II) B. MAJOR (CLASS I) C. MINOR (CLASS II)	NOT APPLICABLE	NOT APPLICABLE		
3. DEVIATION	10. SCHEDULE IMPACTED 11. PURPOSE IMPACTED 12. INTERCHANGEABILITY, SUBSTITUTABILITY, OR REPLACEABILITY IMPACTED 13. CONTRACTUAL FACTORS IMPACTED 14. CHANGE CORRECTS DEFICIENCIES		A. CRITICAL (CLASS II) B. MAJOR (CLASS I) C. MINOR (CLASS II)	NOT APPLICABLE	NOT APPLICABLE		
4. SCP	15. EFFECTIVENESS CHANGE IN OPERATIONAL OR LOGISTICS SUPPORT 16. CHANGE PRODUCES A SUBSTANTIAL LIFE-CYCLE COST SAVINGS 17. CHANGE PREVENTS SLIPPAGE IN SCHEDULE		A. EMERGENCY (CLASS I) B. URGENT (CLASS I) C. ROUTINE (CLASS I) D. MINOR (CLASS II)	NOT APPLICABLE	NOT APPLICABLE		
5. TWR	NOT APPLICABLE	NOT APPLICABLE	A. CRITICAL B. VIOLATE DUE DATE C. EXPEDITE DISSEM OPERATION D. OTHER	1. PUBLIC LAW OR DoD REGULATION 2. DLA DIRECTOR OR DoD SPONSORED 3. PDB SPONSORED 4. OTHER	4. INITIAL SUBMISSION 5. RESUBMISSION 6. CANCELLATION		
6. PTR	NOT APPLICABLE	NOT APPLICABLE	A. HOTLINE B. WARLINE	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE

EXHIBIT 1

The THIRD decision that needs to be made is: What priority, within the type already selected, is the request?

**III. ADP/T WORK REQUEST.** After the ADP/T Work Request (AWR) is determined to be either Class I or Class II, the following classifications shall be made by the PSE or PM Configuration Manager in order to define the case. Defining the case will facilitate the analysis and evaluation of the case for technical review, and actions to be taken by the working group, AIS CCB, and Corporate CCB as needed. The technical review by DLA-Z and the CDA of an emergency or mandated request with a short suspense shall take no more than 48 hours. All other categories of requests shall be completed within 30 calendar days of receipt of the request by DLA-Z. An AWR is utilized only for DLA internal requests. The AWR contains three possible types of requests which are system change requests (SCRs), technology work requests (TWRs), and Problem Trouble Reports (PTRs), previously known as a Program Trouble Report. The following are the priority choices relating to an SCR:

**A. Mandated** - A requirement mandated by law, regulatory agencies, the Director of DLA, OSD direction, or interservice agreement (i.e., DLA policy letters, Approved MILSTRIP Change Letters (AMCLs), DIDS change requests), usually includes a suspense date.

**B. Mission Essential** - A requirement, which if not fulfilled, will stop a mission or support area from performing its function.

**C. Routine** - A requirement that could better the performance of a mission or support area or does not meet the criteria of a mandated or mission essential priority ("A" or "B").

**SCR Characteristics.** After one of the priorities are chosen, as mandated, mission essential, or routine, the SCR characteristics must be further defined. These characteristics are one of the following:

**1. High Payback** - A characteristic of "A" or "B" or "C" priority choice which is expected to produce tangible savings exceeding \$10,000, and expected to have a discounted payback period of 2 years or less.

**2. Technical** - A characteristic of "A" or "B" or "C" priority choice which is designed to improve the operating efficiency of an AIS without changing its functionality.

**3. Functional** - A characteristic of "A" or "B" or "C" priority choice which is designed to improve the operating efficiency of an AIS by changing its functionality.

**4. Documentation** - A characteristic of "A" or "B" or "C" priority choice which affects documentation only, i.e., no program changes required.

**SCR Categories.** Within each of the above stated priorities, a category must be further defined. The following are the categories of an SCR request:

**a. New Development** - This requirement will ultimately take the form of a Mission Need Statement (MNS), but might be initiated as an SCR on the AWR form.

**b. Modification** - This requirement, which includes the adaptive modifications, must be submitted as an SCR on an AWR.

**PTR Priorities.** The following are the priority choices, as depicted in exhibit 1, relating to a PTR:

**A. Hot Line** - If the PTR is categorized as a "hot line", it will be solved immediately.

**B. Warm Line** - If the PTR is categorized as a "warm line", it will be solved in a routine manner using CDA reserved resources established during the PDP process.

A PTR could, after review, be diagnosed as a modification and not a maintenance requirement, depending on the findings from the troubleshooting of the problem, resulting in the preparation of an SCR by the receiving CDA.

**TWR Priorities.** The following are the priority choices, as depicted in exhibit 1, relating to a TWR:

**A. Critical** - If not done, it will seriously impair efficiency or function of mission accomplishment.

**B. Inviolate Due Date** - The due date cannot be violated.

**C. Expedite Mission Operation** - The result would improve function or efficiency.

**D. Other** - Those that are not defined above would be prioritized as other.

**TWR Characteristics.** After one of the priorities are chosen, as critical, inviolate due date, expedite mission operation, or other, the TWR characteristics

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tics must be further defined. These characteristics are one of the following:

1. Public Law or DoD Regulation - If the requirement is mandatory because of public law, directive, etc.
2. DLA Director or DoD Sponsored - If the requirement has been requested by the DLA Director or DoD.
3. PSE Sponsored - If the requirement is sponsored by a PSE.
4. Other - Those that are not defined above would be characterized as other.

**TWR Categories.** Within each of the above stated priorities, a category must be further defined. The following are the categories of a TWR request:

- a. Initial Submission - When the request is submitted for the first time.
- b. Resubmission - When the request has been submitted on a previous occasion.
- c. Cancellation - When the request is being cancelled.

**IV. REQUEST FOR WAIVER.** The following are the priorities of a waiver:

**A. Critical**

- Waiver consists of acceptance of an item having a critical defect.

or

- Nonconformance with contract or configuration identification requirements involving security or safety.

**B. Major**

- Waiver consists of acceptance of a lot of items having a number of major defects in the sample equalling or exceeding the number that requires rejection of the lot.

or

- Consists of acceptance of an item having a major defect.

or

- Nonconformance with contract or configuration identification requirements involving performance; reliability, interchangeability, survivability or maintainability of the item or its repair parts; effective use or operation, specifications such as weight or appearance.

**C. Minor**

- Waiver consists of acceptance of a lot of items having a number of minor defects in the sample equalling or exceeding the number that requires rejection of the lot.

or

- Consists of acceptance of an item having a minor defect.

or

- Having a nonconformance with contract or configuration identification requirements which does not involve any of the factors listed under "A" or "B" criteria.

Critical and major priority ("A" and "B") - can only be classified as a Class I request; should be approved/disapproved within 30 calendar days of receipt by procuring activity; and must be approved by a DLA contracting officer.

Minor priority ("C") - is classified as a Class II request; and should be approved/disapproved within 10 working days of receipt by the approval activity.

**V. REQUEST FOR DEVIATION.** The following are the priorities of a deviation:

**A. Critical**

- Deviation is a departure from a characteristic in the documentation.

or

- A departure involving security or safety.

**B. Major**

Deviation is a departure involving performance; reliability, interchangeability, survivability, maintainability.

or

Durability of the item; effective use or operation; specifications, i.e. weight, size, or appearance.

C. Minor - Deviation is a departure which does not involve above "A" and "B" factors.

Critical and major priority ("A" and "B") can only be classified as a Class I request; should be approved/disapproved within 30 calendar days of receipt by procuring activity; and must be approved by DLA contracting officer.

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Minor Priority ("C") - is classified as a Class II request; and should be approved/disapproved within 10 working days of receipt by the approval activity.

**VI. ENGINEERING CHANGE PROPOSALS.** The following are the priorities of an ECP:

**A. Emergency**

- A change in operational characteristics which if not accomplished without delay may seriously compromise national security.

or

- To correct a hazardous condition which may result in serious injury to personnel or in extensive damage/destruction of equipment which usually will require withdrawing the item from service temporarily or discontinuing further testing or development pending resolution of the condition.

**B. Urgent**

- A change which if not accomplished expeditiously may seriously compromise the mission effectiveness of deployed system.

or

- To correct a potentially hazardous condition which if uncorrected could result in injury to personnel or damage to equipment, but allows continued use of the affected item provided the operator has been informed of the hazard and appropriate precautions have been defined and distributed to the user.

or

- To meet significant contractual requirements (i.e., when lead time will necessitate slipping approved production, or deployment schedules if the change was not incorporated.

or

- To affect an interface change which if delayed would cause a schedule slippage or increase cost.

or

- To affect net life cycle cost savings to the Government through value engineering, or through other cost reduction efforts where expedited processing of the change will be a major factor in realizing lower costs.

**C. Routine** - A change in which emergency or urgent is not applicable.

**D. Minor**

- A change that does not affect interchangeability, substitutability or replaceability of CIs, or when repairable, their subassemblies and parts.

or

- A substitution of parts or material which does not have a functional, logistic or reliability impact.

or

- A change in documentation only (errors, notes, or comments).

Emergency, urgent, or routine ("A" and "B" and "C") - can only be defined as a Class I request; requests with either "A" or "B" priority have a higher priority than routine. The processing time for an emergency request for decision and contractual authorization shall take no more than 48 hours; the processing time for an urgent request shall take no more than 30 calendar days; and the processing time for a routine request shall take no more than 90 calendar days.

For a Class I ECP, on the form there is a justification code which explains why the change is being requested; refer to DLA CM Plan, under Class I engineering change proposal section, for the definitions of the codes. This information will aid in the classification process. For example, an ECP with a justification code of "V" will be considered to be a "B" class request; while a "C" class ECP with a code "R" justification will have a higher priority than the other "C" class ECPs.

Priority "D" - can only be classified as a Class II request. The review process for a minor request will be completed within 3 workdays after receipt by the Government. The contractor shall not implement the change until it is approved by the Government.

For all priorities, when the Government disapproves an ECP, the originator will be notified in writing within 30 calendar days of the decision and will be given the reason for disapproval.

The THIRD decision is made after the classification has been defined, the Configuration Manager of the CDA must determine if the request has global (corporate) impact and needs to be reviewed by the Corporate CCB. If only one of the following criteria is fulfilled, the request must be reviewed by the Corporate CCB.

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**VII. CRITERIA FOR CORPORATE REQUEST.** When one of the types of requests meet the following criteria, as depicted in exhibit 1, it will be reviewed and approved by the Corporate CCB:

1. Cost of the request is \$15 million in 1 year or \$75 million during the program/project.
2. Request impacts AISs of more than one Lead Functional PSE responsibility or establishes a new AIS.
3. Configuration item (CI) purchase which is global in nature for DLA.
4. Special interest.

Requests that fulfill either 1 or 4 criterion above should be classified as a DAISRC/MAISRC (mod-

ernization) program and the requests should be referred to DSMO-R to begin the program review process.

The AIS or PM CM Manager, as appropriate, must review and validate the Working Groups' previously calculated classifications of the submitted requests before forwarding to the AIS/PM CCB.

The Corporate CM Manager (DLA-Z's CM Manager) and support staff administratively support the Corporate CCB. The Corporate CM Manager FIRST must review and verify the classifications previously calculated by the AIS/PM CCB. Also, the Corporate CM Manager classifies if it is a DAISRC/MAISRC case as defined in exhibit 1.

### AN EXAMPLE OF CLASSIFYING AN ECP

First, a Configuration Manager must decide on the class of the ECP. As a scenario example, the Program Configuration Manager defines the classification of an ECP as a Class I request.

Next, the Program Configuration Manager decides on the priority of the ECP. The ECP has been defined as a priority C (Routine) ECP by meeting the definition. (Remember, a priority C ECP has automatically a Classification of a Class I because it is considered to be a major request.)

Next, the CDA Configuration Manager decides if the request has global impact. The CDA Configuration Manager decides that the request includes a CI

purchase which is global in nature for DLA. The CDA Configuration Manager defines the request as meeting the criterion defined for number 3 of a global request.

The Corporate Configuration Manager decides if the request can be classified as a DAISRC/MAISRC case. (Remember, a number 3 Corporate request is not qualifying as a DAISRC/MAISRC criterion.) The Corporate Configuration Manager defines the case as not being a DAISRC/MAISRC case.

Therefore, the classification of the request by the Configuration Manager is as follows in code format: ECP-I.C.3.

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 7 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES. (Project No. 1FE-0018)

RECOMMENDATION 4b: We recommend that the Commandant of the Marine Corp; the Army Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief of Staff Command, Control, Communications and Computers; and the Director, Defense Logistics Agency verify recorded labor hours, and use them in making future project estimates.

DLA COMMENTS: Concur. The CDAs utilize a new resource management tool which contains data on labor hours and work. The supervisors are responsible for the accuracy of the data. The data captured will be utilized in aiding the CDAs in their future estimation to include trend analysis.

DISPOSITION:

- Action is ongoing. Estimated Completion Date:
- Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- Nonconcur. (Rationale must be documented and maintained with your copy of the response.)
- Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 28 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 9 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES, (Project No. IFE-0018)

RECOMMENDATION 5: We recommend that the Commandant of the Marine Corps; the Army, Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; and the Director, Defense Logistics Agency develop procedures to reevaluate approved software changes, similar to the Air Force, when software development costs will exceed the latest estimate by 15 percent.

DLA COMMENTS: Concur. In addition, DLA re-evaluates a requirement if six months has passed before the requirement has begun to be fulfilled. This coincides with DLA's established project resourcing cycle.

DISPOSITION:

- Action is ongoing. Estimated Completion Date:
- Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- Nonconcur. (Rationale must be documented and maintained with your copy of the response.)
- Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 28 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller



MANAGEMENT COMMENTS: DEFENSE LOGISTICS AGENCY (cont'd)

FORMAT 8 of 9

DATE OF POSITION: 6 Mar 92

TYPE OF REPORT: AUDIT

PURPOSE OF INPUT: INITIAL POSITION

AUDIT TITLE AND NO.: REVIEW OF SOFTWARE DEVELOPMENT AT CENTRAL  
DESIGN ACTIVITIES. (Project No. IFE-0018)

RECOMMENDATION 4c: We recommend that the Commandant of the Marine Corps; the Army Director of Information Systems for Command, Control, Communications and Computers; the Navy Commanding Officer, Naval Information Systems Management Center; the Air Force Deputy Chief of Staff Command, Control, Communications and Computers; and the Director, Defense Logistics Agency require that overtime be used to meet only those milestones that are cost-effective.

DLA COMMENTS: Concur. DLA uses overtime when it is deemed cost effective. However, cost effectiveness is not the only acceptable criteria for using overtime. Overtime is also justified to fulfill a mandated or an emergency requirement. For trend analysis and lessons-learned, DLA will be tracking the actual versus estimated use of resources.

DISPOSITION:

- Action is ongoing. Estimated Completion Date:
- Action is considered complete.

RECOMMENDATION MONETARY BENEFITS: (WHERE APPLICABLE)

DLA COMMENTS:  
ESTIMATED REALIZATION DATE:  
AMOUNT REALIZED:  
DATE REALIZED:

INTERNAL MANAGEMENT CONTROL WEAKNESS:

- Nonconcur. (Rationale must be documented and maintained with your copy of the response.)
- Concur; however, weakness is not considered material. (Rationale must be documented and maintained with your copy of the response.)
- Concur; weakness is material and will be reported in the DLA Annual Statement of Assurance.

ACTION OFFICER: Donna McCloud, DLA-ZSS, x44326, 28 Jan 92

PSE REVIEW/APPROVAL: Bobby L. Parsons, DLA-ZD, Deputy Executive Director,  
Office of Information Systems and Technology, x46257,  
31 Jan 92

DLA APPROVAL: Helen T. McCoy, Deputy Comptroller

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