

23 December 1996

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN, JOINT CHIEFS OF STAFF
UNDER SECRETARY OF DEFENSE (POLICY)
UNDER SECRETARY OF DEFENSE (COMPTROLLER)
UNDER SECRETARY OF DEFENSE (PERSONNEL AND
READINESS)
ASSISTANT SECRETARY OF DEFENSE (COMMAND,
CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
ASSISTANT SECRETARY OF DEFENSE (LEGISLATIVE
AFFAIRS)
ASSISTANT SECRETARY OF DEFENSE (PUBLIC AFFAIRS)
GENERAL COUNSEL
INSPECTOR GENERAL
DIRECTOR, OPERATIONAL TEST AND EVALUATION
DIRECTORS, DEFENSE AGENCIES
USD (A&T) PRINCIPAL STAFF ASSISTANTS

SUBJECT: Proposed Changes to DoD 5000.2-R

The attached package is the sum of the proposed changes to DoD 5000.2-R for calendar year 1996. The purpose in sending this package out for wide coordination prior to seeking format SD-106 concurrence is to ensure adequate resolution of any issues that the acquisition community may raise concerning the proposed changes.

The proposed changes largely reflect new statutory language, and modifications in policy and practice that have occurred since the DoD 5000.2-R was signed out on March 15, 1996. The most important of these changes are:

- The dollar thresholds for major systems and ACAT II programs are now listed in Fiscal Year 96 dollars (5000.2-R Definitions and Section 1.3.3, respectively).
- The policy for delegation of an ACAT ID program to ACAT IC by the USD (A&T) is amplified in Section 1.3.1.1.
- Statutory language designed to promote increased consideration of technological issues early in the development process is present in Section 1.4.

- Statutory language requiring the Joint Requirements Oversight Council to evaluate cost and schedule, in addition to performance, is included in Sections 2.3, 3.2.1, 3.2.2, and 5.5.
- Statutory language directing the Program Manager to consider leasing as part of the acquisition strategy is included in Section 3.3.1.4.
- The requirement to accomplish an Integrated Baseline is incorporated in Section 3.3.4.6.
- Delegation of independent life cycle cost estimates for ACAT IC programs is expanded in Section 3.5.1.
- Possible ways to remedy a program deviation are clarified in Section 6.2.1.1.

While the above list is not wholly inclusive of all the proposed changes to DOD 5000.2-R, the list does represent the most substantive proposed changes for this calendar year. In addition to these changes, minor clarifications and editorial changes are also included in the attached document.

Comments on the proposed changes must be submitted no later than 30 days from the date of this memo and must be submitted in electronic format using the attached 5000.2-R Comment disk or your own 3.5” disk using Word 6.0 or higher. Please open the document “5000-2.doc” in MS Word for instructions on use of the Comments disk. If using your own disk, formatting instructions are contained at Tab B “Procedures for Coordinating Change 2 to 5000.2-R”.

Upon receipt of comments from the acquisition community, the Defense Acquisition Policy Working Group (DAPWG), led by members of the D, API and the DUSD (AR) staffs, will meet with members of the acquisition community to resolve issues. Once the issues are resolved through the DAPWG to the satisfaction of all parties involved, a line-in/line-out version of the 5000.2-R will be circulated with an SD-106 to secure formal coordination.

/Signed/

Daniel P. Czelusniak
Director, Acquisition
Program Integration

Attachments as stated

Procedures for Coordinating Change 2 to 5000.2-R

1. Please use the attached format. This will expedite our process of building a database of all comments/suggested changes. Please provide us with an electronic version of your comments.
2. Fill-in POC information one time, then copy page as necessary.
3. Uniquely number each comment with an ID number. Use your agency's code, below, to preface a three-digit serial number, starting with 001. For example: EVS-003. If not listed, make one up. This will enable us to accurately communicate with you and enable you to track your comments.
4. Please submit a separate form for each comment. If several changes to a paragraph are related, make them one comment. If a paragraph requires two or more non-related changes, make each suggested change a separate comment.
5. Please provide a rationale for your suggestion.
6. If changing text wording, tell us the change you want. If you choose, you may copy and paste the original text to the "Comment" section of the form and then edit it to offer us your suggested changes. Use the font attribute "strikethrough" to show deleted text, and use "double underline" to show added text. (You can even put buttons on the tool bar next to the default "bold"- "italics"- "underline" buttons -- **B I U**. Call Bob Miglin, (703) 912-3582, for help.) Please do not use Word's revision capability. (We have found using font attributes to be safer, surer, and in some ways easier than using "Revisions.") Here's an example: this text ~~should~~ must be deleted and this text has been added.
7. Please use the following format for telephone numbers: DSN format: 999-9999; Commercial phone format: (999) 999-9999.
8. We really would appreciate your comments in electronic format. During the last coord, the Air Force gave us a disk and it really helped the database work.

Assistant Secretary of Defense (C3I)	C3I
Assistant Secretary of Defense (Economic Security)	ECS
Assistant Secretary of Defense (Legislative Affairs)	LA
Assistant to the Secretary of Defense (Atomic Energy)	AE
Assistant to the Secretary of Defense (Public Affairs)	PA
Chairman of the Joint Chiefs of Staff	JCS
Commander in Chief, Special Operations Command	SOC
Defense Systems Management College	DSMC
Deputy Under Secretary of Defense (Acquisition Reform)	AR
Deputy Under Secretary of Defense (Advanced Technology)	ADVT
Deputy Under Secretary of Defense (Environmental Security)	EVS
Deputy Under Secretary of Defense (Logistics)	LOG
Deputy Under Secretary of Defense (Space)	SPC
Director of Defense Research and Engineering	DDRE
Director, Acquisition Program Integration	API
Director, Administration and Management	DAM
Director, Ballistic Missile Defense Organization	BMDO
Director, Defense Information Systems Agency	DISA
Director, Defense Intelligence Agency	DIS
Director, Defense Logistics Agency	DLA
Director, Defense Nuclear Agency	DNA
Director, Defense Procurement	DP
Director, National Security Agency	NSA
Director, Office of Small and Disadvantaged Business Utilization	SAD
Director, Operational Test and Evaluation	DOTE
Director, Program Analysis and Evaluation	PAE
Director, Strategic and Tactical Systems	STS
Director, Test, Systems Engineering and Evaluation	DTSE
General Counsel	GC
Inspector General	IG
Joint Requirements Oversight Committee	JROC
Secretary of the Air Force	USAF
Secretary of the Army	USA
Secretary of the Navy	USN
Special Operations/Low-Intensity Conflict	LIC
Under Secretary of Defense (Acquisition & Technology)	A&T
Under Secretary of Defense (Comptroller)	USDC
Under Secretary of Defense (Personnel & Resources)	P&R
Under Secretary of Defense (Policy)	USDP

Comment Form
DoD 5000.2-R Change 2
Document Review Record

Service/Agency: (Use one of the above, if appropriate.)

Unit/Organization: (office symbol)

POC:

DSN (+extn, if required):

Comm Ph# (+extn, if required):

E-Mail:

Date of Comment:

ID #:

Paragraph/Section#:

Category: Use Major, Significant, Minor, or Administrative/Editorial

Comment:

Rationale:

(Sample) **Comment Form**
DoD 5000.2-R Change 2
Document Review Record

Service/Agency: Deputy Under Secretary of Defense (Logistics)

Unit/Organization: DM

POC: Tom Smith

DSN (+extn, if required): 123-1234

Comm Ph# (+extn, if required): (703) 123-4567

E-Mail: username@etc.com

Date of Comment: 10/16/96

Comment ID: LOG-001

Paragraph#: 3.3.4.5 Continuous Acquisition and Life-Cycle Support (CALs) (Digital Data)

Category: Minor

Comment: Change first sentence:

Beginning in ~~FY97~~ immediately, all new contracts shall require on-line access to...

And add the following after existing text:

Preference shall be given to the use of data item descriptions listed in DOD 5010.12-L, Acquisition Management Systems Data Requirements Control List (AMSDL) in accordance with DOD Manual 5010.12-M. The Regulation hereby authorizes the publication of DOD 5010.12-M which describes the DoD Technical Data Management Program and DOD 5010.12-L which lists the data item descriptions and source documents approved for use in acquisition.

Programs electing not to use the data management processes described in DOD 5010.12-M must find other ways to comply with Public Law 104-13, The Paperwork Reduction Act of 1995.

Rationale:

1. DOD 5010.12-M and DOD 5010.12-L must be “authorized” to be published under the DOD Directives System. These documents are fundamental to the process used by DOD to manage and control the “information collection burden” it imposes on contractors. The process has been accepted and approved by the Office of Management and Budget as complying with P.L. 104-13, the Paperwork Reduction Act of 1995.
2. DoD’s Technical Data Management Program provides a means of standardizing the information products to be developed and delivered (or made accessible) by the contractor. It has been the primary means by which the requirements specified under 4.3 (4)d and 4.3.3.3 have been met.

List of DoD 5000.2-R Paragraphs X Marks the location of Changes

As of: December 13, 1996

Department of Defense Instruction 5000.2 REFERENCES A. REISSUANCE AND PURPOSE B. APPLICABILITY AND PRECEDENCE C. DEFINITIONS Defense Acquisition Deskbook Acquisition Phase Acquisition Program Automated Information System (AIS) Integrated Product and Process Development (IPPD) Major Automated Information System Acquisition Program (MAISAP) Major Defense Acquisition Program (MDAP) X Major system Major Milestone Milestone Decision Authority (MDA) X Additional definitions in a Glossary at Appendix VII (Deleted). D. IMPLEMENTATION E. TABLE OF CONTENTS X Table of Contents Part 1--Acquisition Management Process 1.1 Purpose 1.2 Overview of the Acquisition Management Process 1.3 Categories of Acquisition Programs and Milestone Decision Authorities 1.3.1 ACAT I 1.3.1.1 Delegation of Milestone Decision Authority for ACAT I Programs (Added) 1.3.2 ACAT IA	X 1.3.3 ACAT II 1.3.4 ACAT III X 1.4 Acquisition Phases & Accomplishments 1.4.1 Determining Mission Needs and Identifying Deficiencies 1.4.2 Phase 0: Concept Exploration 1.4.3 Phase I: Program Definition and Risk Reduction 1.4.4 Phase II: Engineering and Manufacturing Development 1.4.4.1 Low-Rate Initial Production 1.4.5 Phase III: Production, Fielding/Deployment, and Operational Support 1.4.5.1 Operational Support X 1.4.5.2 Modifications 1.4.6 Demilitarization and Disposal 1.5 Milestone Decision Points 1.5.1 Milestone 0: Approval to Conduct Concept Studies 1.5.2 Milestone I: Approval to Begin a New Acquisition Program 1.5.3 Milestone II: Approval to Enter Engineering and Manufacturing Development 1.5.3.1 Approval to Enter LRIP X 1.5.4 Milestone III: Production or Fielding/Deployment Approval 1.6 Integrated Product Teams Part 2--Program Definition 2.1 Purpose 2.2 Intelligence Support 2.2.1 Evaluation of Command, Control, Communications, Computers,
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Revisions to DoD 5000.2-R

This is the total set of proposed changes for Change 2.

Each section with revisions appears in this extract. I tried to provide adequate surrounding text to ensure the context of the section comes through.

For each section, deleted text appears with a strike-through attribute; added text appears underlined. Look for the vertical change highlight bar in the margin to highlight the fact that the text changed. We did have a few text passages in the original that were underlined. They may appear here, but without the vertical change highlight bar.

For sections with multiple, perhaps unrelated changes, the section only appears once with all changes collated. When two nearby sections have changes, the extract may include intervening unchanged text, to allow you to judge the flow of the revision and again reinforce the context of the changes. Just remember to watch for the vertical margin marker.

When appropriate, a cleaned-up version of the change appears below each section extract. The cleaned-up version has all editing marks removed and reads as the new text will read. It appears in a different font and in italics. These cleaned-up extracts have less surrounding text than the line-in line-out version preceding it.

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C. DEFINITIONS

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7. Major Defense Acquisition Program (MDAP). An acquisition program that is not a highly sensitive classified program (as determined by the Secretary of Defense) and that is: (1) designated by the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)) as an MDAP, or (2) estimated by the USD(A&T) to require an eventual total expenditure for research, development, test and evaluation of more than 355 million in fiscal year (FY) 1996 constant dollars or, for procurement, of more than 2.135 billion in FY 1996 constant dollars (**10 USC 2430**).

8. Major System. A combination of elements that shall function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, or any combination thereof, but excluding construction or other improvements to real property. A system shall be considered a major system if it is estimated by the USD(A&T) to require an eventual total expenditure for RDT&E of more than 13575 million in FY 19961980 constant dollars (~~approximately 140 million in FY 1996 constant dollars~~), or for procurement of more than 640300 million in FY 19961980 constant dollars (~~approximately 645 million in FY 1996 constant dollars~~) (**10 USC 2302(5)**).

9. Major Milestone. A major milestone is the decision point that separates the phases of an acquisition program. MDAP milestones include, for example, the decisions to authorize entry into the engineering and manufacturing development phase or full rate production. MAIS milestones may include, for example, the decision to begin program definition and risk reduction.

*8. Major System. A combination of elements that shall function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, or any combination thereof, but excluding construction or other improvements to real property. A system shall be considered a major system if it is estimated by the USD(A&T) to require an eventual total expenditure for RDT&E of more than 135 million in FY 1996 constant dollars, or for procurement of more than 640 million in FY 1996 constant dollars (**10 USC 2302(5)**).*

10. Milestone Decision Authority (MDA). The individual designated in accordance with criteria established by the USD(A&T), or by the ASD(C3I) for AIS acquisition programs, to approve entry of an acquisition program into the next phase.

—Additional definitions appear throughout this Regulation, and in a Glossary at Appendix VII.

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Appendices

Appendix I Consolidated Acquisition Reporting System

Appendix II Operational Requirements Document

Appendix III Test and Evaluation Master Plan

Appendix IV Live-Fire Test and Evaluation

Appendix V Major Automated Information System Quarterly Report

Appendix VI ~~Cost/Schedule Control~~Earned Value Management Systems
Criteria

~~Appendix VII Glossary (to be published as Change 1)~~

Part 1
Acquisition Management Process

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1.3 Categories of Acquisition Programs and Milestone Decision Authorities

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1.3.1 ACAT I

ACAT I programs are MDAPs. An MDAP is defined as a program estimated by the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)) to require eventual expenditure for research, development, test, and evaluation of more than \$355 million (FY 1996 constant dollars) or procurement of more than \$2.135 billion (FY 1996 constant dollars), or those designated by the USD(A&T) to be ACAT I (**10 USC §2430**).

ACAT I programs have two sub-categories:

1. **ACAT ID**, for which the MDA is USD(A&T). The “D” refers to the Defense Acquisition Board (DAB), which advises the USD(A&T) at major decision points.
2. **ACAT IC**, for which the MDA is the DoD Component Head or, if delegated, the DoD Component Acquisition Executive (CAE). The “C” refers to Component.

The USD(A&T) designates programs as ACAT ID or ACAT IC.

1.3.1.1 Delegation of Milestone Decision Authority for ACAT I Programs

All ACAT I programs fall under the responsibility of the USD(A&T). The USD(A&T), at any time, may delegate Milestone Decision Authority of an ACAT I program to the CAE. If the USD(A&T) redesignates a formerly ACAT ID program as an ACAT IC program, the following direction shall apply:

1. Exit criteria (see 3.2.3) established by the USD(A&T) prior to the delegation of decision authority shall be maintained in effect unless the USD(A&T) concurs with any changes;

2. The CAE shall approve Acquisition Program Baseline (APB) (see 3.2.2) changes, including updates for threshold breaches, and provide a copy of the new APB to USD(A&T).

3. The CAE may adjust acquisition strategies (see 3.3), including CAIV objectives (see 3.3.3) and LRIP quantities (see 1.4.4.1), after providing notification to the USD(A&T);

4. The OSD Cost Analysis Improvement Group (CAIG) need not conduct Independent Cost Estimates for ACAT IC programs unless specifically requested by USD(A&T). This request usually accompanies the designation of the program as ACAT IC.

1.3.2 ACAT IA

ACAT IA programs are MAISs. A MAIS is estimated by the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I)) to require program costs for any single year in excess of \$30 million (FY 1996 constant dollars), total program in excess of \$120 million (FY 1996 constant dollars), or total life-cycle costs in excess of \$360 million (FY 1996 constant dollars), or those designated by the ASD(C3I) to be ACAT IA.

ACAT IA programs have two sub-categories:

1. **ACAT IAM** for which the MDA is the Office of the Secretary of Defense (OSD) Chief Information Officer (CIO) (formerly the Senior IM Official, the ASD(C3I)). The "M" refers to Major Automated Information Systems Review Council (MAISRC).
2. **ACAT IAC**, for which the MDA is the Department of Defense (DoD) Component Chief Information Officer (CIO) (formerly the Senior IM Official). The "C" refers to Component.

The ASD(C3I) designates programs as ACAT IAM or ACAT IAC.

The DoD Component is responsible for notifying the USD(A&T) or ASD(C3I) when cost growth or a change in acquisition strategy results in reclassifying a formerly lower ACAT program as an ACAT I or IA program.

1.3.3 ACAT II*

ACAT II programs are defined as those acquisition programs that do not meet the criteria for an ACAT I program, but do meet the criteria for a major system. A major system is defined as a program estimated by the DoD Component Head to require eventual expenditure for research, development, test, and evaluation of more than 135\$75M in fiscal year (FY) 1996 1980-constant dollars (~~approximately \$140M in FY~~

~~1996 constant dollars~~, or for procurement of more than ~~640~~\$300M in FY ~~1996~~1980 constant dollars (~~approximately \$645M in FY 1996 constant dollars~~), or those designated by the DoD Component Head to be ACAT II (**10 USC ~~12302(5)~~**). The MDA is the DoD CAE.

* Not applicable to ACAT IA programs.

1.3.3 ACAT II*

*ACAT II programs are defined as those acquisition programs that do not meet the criteria for an ACAT I program, but do meet the criteria for a major system. A major system is defined as a program estimated by the DoD Component Head to require eventual expenditure for research, development, test, and evaluation of more than 135M in fiscal year (FY) 1996 constant dollars, or for procurement of more than 640M in FY 1996 constant dollars, or those designated by the DoD Component Head to be ACAT II (**10 USC ~~12302(5)~~**). The MDA is the DoD CAE.*

1.3.4 ACAT III

ACAT III programs are defined as those acquisition programs that do not meet the criteria for an ACAT I, an ACAT IA, or an ACAT II. The MDA is designated by the CAE and shall be at the lowest appropriate level. This category includes less-than-major AISs.

1.4 Acquisition Phases & Accomplishments

All programs, including highly sensitive classified, cryptologic, and intelligence programs, shall accomplish certain core activities, (~~described [throughout in DoDD 5000.1](#) and in this Regulation~~). How these activities are conducted shall be tailored to minimize the time it takes to satisfy an identified need consistent with common sense and sound business practice. Some activities apply to ACAT I programs only, not to ACAT IA programs. Other important key activities for each phase are described in the remainder of this Regulation and will be applied on a program by program basis through the IPT process.

All programs, including highly sensitive classified, cryptologic, and intelligence programs, shall accomplish certain core activities, described throughout this Regulation. How these activities are conducted shall be tailored to minimize the time it takes to satisfy an identified need consistent with common sense and sound business practice. Some activities apply to ACAT I programs only, not to ACAT IA programs. Other important key activities for each phase are described in the remainder of this Regulation and will be applied on a program by program basis through the IPT process.

Tailoring shall give full consideration to applicable statutes. The number of phases and decision points shall be tailored to meet the specific needs of individual PMs, based on objective assessments of a program's category status, risks, the adequacy of proposed risk management plans, and the urgency of the user's need. Tailored acquisition strategies may vary the way in which core activities are to be conducted, the formality of reviews and documentation, and the need for other supporting activities. ACAT II and III program managers shall work with their decision authorities to tailor any documentation and decision points to the needs of the individual program.

To promote increased consideration of technological issues early in the development process, the MDA shall, at each acquisition program decision, consider (10 USC 2364¹⁵):

1. any position paper prepared by a Defense research facility on a technological issue relating to the major weapon system being reviewed; and
2. any technological assessment made by a Defense research facility.

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1.4.5 Phase III: Production, Fielding/Deployment, and Operational Support

The objectives of this phase are to achieve an operational capability that satisfies mission needs. Deficiencies encountered in Developmental Test and Evaluation (DT&E) and Initial Operational Test and Evaluation (IOT&E) shall be resolved and fixes verified. The production requirement of this phase does not apply to ACAT IA acquisition programs or software-intensive systems with no developmental hardware components. During fielding/deployment and throughout operational support, the potential for modifications to the fielded/deployed system continues.

1.4.5.1 Operational Support

The objectives of this activity are the execution of a support program that meets the threshold values of all support performance requirements and sustainment of them in the most life-cycle cost-effective manner. A follow-on operational testing program that assesses performance and quality, compatibility, and interoperability, and identifies deficiencies shall be conducted, as appropriate. This activity shall also include the execution of operational support plans, to include the transition from contractor to organic support, if appropriate.

1.4.5.2 Modifications

Any modification that is of sufficient cost and complexity that it could itself qualify as an ACAT I or ACAT IA program shall be considered for management purposes as a separate acquisition effort. Modifications that do not cross the ACAT I or IA threshold shall be considered part of the program being modified, unless the program is no longer in production. In that case, the modification shall be considered a separate acquisition effort. Modifications may cause a program baseline deviation. Deviations shall be reported using the procedures in Part 6.

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1.5 Milestone Decision Points

The MDA shall establish tailored milestone decision points for each acquisition program as early as possible in the program life cycle.

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1.5.4 Milestone III: Production or Fielding/Deployment Approval

The purpose of the Milestone III decision point is to authorize entrance into production for an ACAT I or into deployment for an ACAT IA program.

At this milestone, the MDA shall approve the following:

1. Acquisition strategy,
2. APB (**10 USC 12435**, for ACAT I), and
3. Phase III exit criteria, if appropriate
4. CAIV objectives.

Note: The decision to proceed beyond LRIP cannot be finalized until the DOT&E Beyond LRIP and LFT&E reports are received by the Congressional Defense Committees (**10 USC 12399** & **10 USC 12366**).*

* Not applicable to ACAT 1A programs.

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Part 2
Program Definition

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2.3 Requirements Evolution

Department of Defense (DoD) Components shall document deficiencies in current capabilities and opportunities to provide new capabilities in a Mission Need Statement (MNS) expressed in broad operational terms. The MNS shall identify and describe the mission deficiency; discuss the results of mission area analysis; describe why non-materiel changes (i.e., doctrine, tactics, etc.) are not adequate to correct the deficiency; identify potential materiel alternatives; and describe any key boundary conditions and operational environments that may impact satisfying the need such as information warfare. The MNS shall be prepared in accordance with **CJCS MOP 77** [and validated prior to Milestone 0](#). System performance objectives and thresholds shall be developed from, and remain consistent with, the initial broad statements of operational capability. The requirements shall be refined at successive milestone decision points, as a consequence of cost-schedule-performance trade-offs during each phase of the acquisition process.

In the process of refining requirements, key concepts that should be adhered to include:

1. keeping all reasonable options open and facilitating trade-offs throughout the acquisition process;
2. avoiding early commitments to system-specific solutions, to include avoiding early commitments to solutions that inhibit future insertion of commercial off-the-shelf equipment or components;
3. defining requirements in broad operational capability terms; and
4. using minimum acceptable operational performance (thresholds) to establish operational test criteria.

At each milestone beginning with program initiation (usually Milestone I), thresholds and objectives initially expressed as measures of effectiveness or performance and minimum acceptable requirements for the proposed concept or system shall be documented by the user or user's representative in an Operational Requirements Document (ORD) (see Appendix II). Thresholds and objectives in the ORD shall consider the results of the analysis of alternatives and the impact of affordability constraints. Key Performance Parameters (KPPs), validated by the JROC [or cognizant PSA](#), shall be included in the appropriate Acquisition Program Baseline (APB) (see 3.2.2). A KPP is that capability or characteristic so significant that failure to

meet the threshold can be cause for the concept or system selection to be reevaluated or the program to be reassessed or terminated. KPPs are extracted from the ORD and included in the APB. User or user representative participation in each acquisition phase is essential.

In addition, the user or user's representative shall work with the Program Manager or other system developer to establish, at program initiation, and refine, at subsequent milestones, cost as an independent variable (CAIV) objectives and critical schedule dates. These CAIV objectives and critical schedule dates shall also be included in the APB. The JROC shall evaluate cost and schedule, as well as performance, when considering acquisition programs (10 USC §181⁵) including CAIV objectives and critical schedule dates.

Thresholds and objectives are defined below. The values for an objective or threshold and definitions for any specific parameter contained in the ORD, TEMP, and APB shall be consistent.

1. **Threshold.** The threshold value is the minimum acceptable value that, in the user's judgment, is necessary to satisfy the need. If threshold values are not achieved, program performance is seriously degraded, the program may be too costly, or the program may no longer be timely. The spread between objective and threshold values shall be individually set for each program based on the characteristics of the program (e.g., maturity, risk, etc.).
2. **Objective.** The objective value is that desired by the user and which the PM is attempting to obtain. The objective value could represent an operationally meaningful, time critical, and cost-effective increment above the threshold for each program parameter. Program objectives (parameters, and values) may be refined based on the results of the preceding program phase(s).

2.3.1 Evaluation of Requirements Based on Commercial Market Potential

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2.4 Analysis of Alternatives

An analysis of alternatives shall be prepared and considered at appropriate milestone decision reviews of ACAT I programs, beginning with program initiation (usually Milestone I).

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2.4.1 Preparation Responsibilities

The DoD Component (or PSA [office](#) for ACAT IA programs) responsible for the mission area in which a deficiency or opportunity has been identified normally prepares the analysis of alternatives.

1. The DoD Component Head (or PSA for ACAT IA programs), or as delegated, but not the Program Manager (PM), is responsible for determining the independent activity responsible for preparing the analysis.
2. The lead DoD Component for a joint program is responsible for ensuring that a comprehensive analysis is prepared for a joint program. If the single analysis is to be supplemented by individual DoD Component developed analyses, the lead DoD Component shall ensure that the assumptions and methodologies used are consistent across the analyses.
3. For ACAT ID and ACAT IAM programs, the DoD Component Head or designated official shall ensure coordination with the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)) or Assistant Secretary of Defense (Command, Control, Communications and Intelligence) (ASD(C3I)) staff, the Joint Staff (or PSA) staff, the DOT&E staff, and the Director, Program Analysis & Evaluation (PA&E) staff takes place early in the development of the alternatives analysis. The staffs can make valuable contributions by ensuring that the full range of alternatives is considered; organizational and operational plans are developed with input from the Commanders in Chief of the Unified Commands and are consistent with U.S. military strategy; and joint-service issues, such as interoperability, security, and common use, are addressed. To form the basis for development of an analysis plan, the Director, PA&E shall prepare guidance for the analysis of alternatives in coordination with the offices listed above. This guidance shall be issued by USD(A&T) or ASD(C³I).

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2.5 Affordability

These procedures establish the basis for fostering greater program stability through the assessment of program affordability and determination of affordability constraints.

1. [Affordability is the degree to which the life-cycle cost of an acquisition program is in consonance with the long-range investment and force structure plans of the Department of Defense or individual DoD Components.](#) Individual program plans and strategies for new acquisition programs shall be consistent with overall DoD planning and funding priorities.
2. Affordability shall be assessed at each milestone decision point beginning with program initiation (usually Milestone I). No acquisition program shall be approved to proceed beyond program initiation unless sufficient resources, including manpower, are programmed in the most recently approved Future Years Defense Program (FYDP), or will be programmed in the next Program Objective Memorandum (POM), Budget Estimate Submission (BES), or President's Budget (PB).
3. Cost Analysis Improvement Group (CAIG) reviews shall be used to ensure cost data of sufficient accuracy is available to support reasonable judgments on affordability for ACAT I programs. The manpower estimate for the program shall address manpower affordability in terms of military end-strength and civilian work years. The Cost/Performance IPT (CPIPT) shall ensure that cost and benefit data of sufficient accuracy is available to support reasonable affordability judgments for ACAT IA programs.
4. DoD Component Heads shall consult with the USD(A&T) or the ASD(C3I), as appropriate, on program objective memoranda (POM) and budget estimate submissions (BES) that contain a significant change in funding for, or reflect a significant funding change in, any program subject to review by the DAB or Major Automated Information Systems Review Council (MAISRC). This consultation shall be accomplished prior to submission of the POM or BES to the Secretary of Defense, as specified in the USD(A&T) Charter, **DoDD 5134.1**.

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2.7 Advanced Concept Technology Demonstrations (ACTDs)

ACTDs are a means of demonstrating the use of emerging or mature technology to address criticalurgent military needs. ACTDs themselves are not acquisition programs, although they are designed to provide a residual, usable capability upon completion. If the user determines that additional units are desirneeded beyond the residual capability and that these units can be funded, the additional buys shall constitute an acquisition program with an acquisition category generally commensurate with the dollar value and risk of the additional buy. The nature of the acquisition program will depend on what additional development, if any, is needed upon completion of the ACTD, (e.g., an ACTD may result in an acquisition program with a short EMD phase or no EMD phase, depending on the modifications necessary to meet the needs of the user).

Part 3
Program Structure

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3.2 Program Goals

Every acquisition program shall establish program goals for the minimum number of cost, schedule, and performance parameters that describe the program. These program goals shall be identified as objectives and thresholds.

3.2.1 Objectives and Thresholds

Each parameter shall include both an objective and a threshold value (see 2.3). If no objective is specified, the threshold value shall be the objective value. Threshold values shall be individually set for each program based on the characteristics of the program (e.g., maturity, risk, etc.). If the threshold values are not otherwise specified, the threshold value for performance shall be the same as the objective value, the threshold value for schedule shall be the objective value plus six months for ACAT I and three months for ACAT IA, and the threshold value for cost shall be the objective value plus 10 percent. Cost, schedule, and performance may be traded-off (see 3.3.32.1 for procedures) within the range between the objective and the threshold (known as the “trade space”) without obtaining MDA approval. Trade-offs outside the trade space may not be made without the approval of the MDA and ORD approving authority. In addition, key performance parameters validated by the JROC or by a PSA may not be traded-off without JROC approval or PSA review.

3.2.2 Acquisition Program Baselines

Every acquisition program shall establish an Acquisition Program Baseline (APB) to document the cost, schedule, and performance objectives and thresholds of that program beginning at program initiation. Performance shall include supportability and, as applicable, environmental requirements. For Acquisition Category (ACAT) I programs, the APB implements the requirement in **10 USC §2220(a)(1) and §2435** beginning at Milestone I. The format for the APB is included in the Consolidated Acquisition Reporting System (CARS) (see Appendix I).

3.2.2.1 Preparation and Approval

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3.2.2.2 APB Content

The APB shall contain only the most important cost, schedule, and performance parameters. The most important parameters are those that, if the

thresholds are not met, the MDA would require a reevaluation of alternative concepts or design approaches. The total number of cost, schedule, and performance parameters in an APB shall be limited as described below. The values of the parameters shall represent the program as it is expected to be produced or deployed.

1. **Performance.** The specificity and number of performance parameters evolve as the program is better defined. At Milestone I, performance parameters shall be defined in broad terms. Measures of effectiveness or measures of performance shall be used in describing needed capabilities early in a program. More specific program parameters shall be added as necessary to the APB as the program requirements become better defined. The total number of performance parameters shall be the minimum number needed to characterize the major drivers of operational effectiveness and suitability, schedule, technical progress, and cost. This minimum number shall include the key performance parameters described in the ORD and validated by the JROC for inclusion in the APB (see 2.3). The value of an objective or threshold in the APB shall not differ from the value for a like objective or threshold in the ORD. In addition, the definitions for like parameters in the APB and ORD shall be consistent. These performance parameters may not completely define operational effectiveness or suitability. Therefore, the MDA may add additional performance parameters not validated by the JROC. For AIS programs, an important performance parameter may involve economic benefit or return on investment.
2. **Schedule.** The schedule parameters shall include program initiation, major milestone decision points, initial operating capability, and any other critical system events. These specific other critical events shall be proposed by the PM and approved by the MDA for each program. The JROC shall evaluate program schedule criteria (10 USC 181⁵⁰), including critical schedule dates (see 2.3).
3. **Cost.** The cost parameters shall be limited to Research, Development, Test and Evaluation (RDT&E) costs; procurement costs; military construction costs; the costs of acquisition items procured with operations and maintenance funds, if applicable; total quantity (to include both fully configured development and production units); average unit procurement cost (defined as the total procurement cost divided by total procurement quantity); program acquisition unit cost (defined as the total of all acquisition related appropriations divided by the total quantity of fully configured end items); and any other cost objectives designated by the MDA, (e.g., life-cycle cost objective -- see 3.3.3); all in base year dollars. As the program progresses through later acquisition phases, procurement costs shall be refined based on contractor actual (or return) costs from program definition and risk reduction, engineering and manufacturing development, or from initial production lots. In all cases, the cost parameters shall reflect the total

program and be realistic cost estimates, based on a careful assessment of risks and realistic appraisals of the level of costs most likely to be realized. The amount budgeted shall not exceed the total cost threshold estimated in the APB. For ACAT IA programs, the ACAT I cost parameters apply, with the addition of military pay and Defense Business Operations Fund (DBOF). [In compliance with 10 USC 181⁵¹, the JROC shall evaluate program cost criteria \(see 2.3\).](#)

No funds shall be obligated for an ACAT I program after that program enters engineering and manufacturing development or production and deployment until an APB has been approved by the MDA, unless the USD(A&T) has specifically approved the obligation, in accordance with **10 U.S.C. §2435(b)**.

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3.3 Acquisition Strategy

Each PM shall develop and document an acquisition strategy that shall serve as the roadmap for program execution from program initiation through post-production support. ...

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3.3.1 Sources

In developing and updating the acquisition strategy, the PM shall consider all prospective sources of supplies and/or services that can meet the need, both domestic and foreign. Commercial and non-developmental items shall be considered as the primary source of supply.

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3.3.1.4 Leasing

The PM shall consider the use of leasing in the acquisition of commercial vehicles and equipment whenever the PM determines that leasing of such vehicles is practicable and efficient. However, the PM shall not enter into any lease with a term of 18 months or more, or extend or renew any lease for a term of 18 months or more unless the PM has considered all costs of such a lease (including estimated termination liability) and has determined in writing that the lease is in the best interest of the Government. (10 USC 2401a⁴⁹)

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3.3.3 Cost as an Independent Variable (CAIV)

The acquisition strategy shall address methodologies to acquire and operate affordable DoD systems by setting aggressive, achievable cost objectives and managing achievement of these objectives. Cost objectives shall be set to balance mission needs with projected out-year resources, taking into account anticipated process improvements in both DoD and defense industries.

3.3.3.1 Cost/Performance Tradeoffs

The best time to reduce life-cycle costs is early in the acquisition process. Cost reductions shall be accomplished through cost/performance tradeoff analyses,

which shall be conducted before an acquisition approach is finalized. To facilitate that process, the Overarching IPT (OIPT) for each ACAT I and ACAT IA (as required) program shall establish a Cost/Performance IPT (CPIPT). The user community shall have representation on the CPIPT. Industry representation, consistent with statute and at the appropriate time, shall also be considered.

Upon approval of a MNS (see 2.3), an approach shall be formulated to set and refine cost objectives. By program initiation (usually Milestone I), each ACAT I and ACAT IA PM shall have established life-cycle cost objectives for the program through consideration of projected out-year resources, recent unit costs, parametric estimates, mission effectiveness analysis and trades, and technology trends. A complete set of life-cycle cost objectives shall include RDT&E, production, [MILCON](#), operating and support, and disposal costs. At each subsequent milestone review, cost objectives and progress towards achieving them shall be reassessed.

Maximizing the PM's and contractors' flexibility to make cost/performance tradeoffs without unnecessary higher-level permission is essential to achieving cost objectives. Therefore, the number of threshold items in requirements documents and acquisition program baselines shall be strictly limited, the threshold values shall represent true minimums, and requirements shall be stated in terms of capabilities, rather than technical solutions and specifications. RFPs shall include a strict minimum number of critical performance criteria that will allow industry maximum flexibility to meet overall program objectives. Cost objectives shall be used as a management tool. The source selection criteria communicated to industry should reflect the importance of developing a system that can achieve stated production and life-cycle cost thresholds.

The CPIPT (normally led by the PM or the PM's representative) shall be empowered to recommend to the PM performance or engineering and design changes as long as the threshold values in the Operational Requirements Document (ORD) and APB can be achieved. If the changes require ORD/APB threshold value changes, the leader of the CPIPT shall notify the PM and the OIPT leader. The PM shall ensure that the changes are brought before the ORD and/or APB approval authorities for decision. The CPIPT shall have responsibility for integrating and evaluating all cost performance trade-offs analyses conducted.

While the approach outlined here applies to ACAT I and ACAT IA programs, the same principles may be applied to other programs at the discretion of the CAE.

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3.3.4 Contract Approach

The acquisition strategy shall discuss the types of contracts contemplated for each succeeding phase, including considerations of risk assessment, reasonable

risk-sharing by Government and contractor(s), and the incentive structure for contractors to decrease cost.

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3.3.4.3 Cost Performance

The purpose of ~~cost/schedule control~~earned value management systems (EVMS) criteria ~~(C/SCSC)~~ is to provide the contractor and the Government PMs with accurate data to monitor execution of their program and to:

1. Preclude the imposition of specific cost and schedule management control systems by providing uniform evaluation criteria to ensure contractor cost and schedule management control systems are adequate.
2. Provide an adequate basis for responsible decision making by both contractor management and DoD Component personnel by requiring that contractors' internal management control systems produce data that: (a) indicate work progress; (b) properly relate cost, schedule, and technical accomplishment; (c) are valid, timely, and able to be audited; and (d) provide DoD Component managers with information at a practical level of summarization.
3. Bring to the attention of DoD contractors, and encourage them to accept and install management control systems and procedures that are most effective in meeting requirements and controlling contract performance.
4. Provide a baseline requirement against which industry, national, and international standards may be evaluated for authorization by the USD(A&T) as substitutes for EVMS criteria.

When applicable, the contract shall require that any system used by the contractor in planning and controlling the performance of the contract shall meet the criteria set forth in Appendix VI. Nothing in these criteria is intended to affect the basis on which costs are reimbursed and progress payments made, and nothing herein shall be construed as requiring the use of any single system, or specific method of management control of evaluation of performance. The government shall not require the contractor's internal systems to be changed provided they satisfy these criteria.

Unless waived by the MDA or a designated representative, compliance with the C/SCSCEVMS criteria shall be required on significant contracts and subcontracts within all acquisition programs, including highly sensitive classified programs and major construction programs. This also includes significant contracts executed for foreign governments and for specialized organizations such as the Defense Advanced Research Projects Agency, and significant acquisition effort performed by

Government activities. Significant contracts include research, development, test, and evaluation contracts and subcontracts with a value of \$70 million or more or procurement contracts and subcontracts with a value of \$300 million or more (in FY 1996 constant dollars). Compliance with the [C/SCSCEVMS criteria](#) on contracts and subcontracts below these thresholds may be required when, in the DoD Component manager's judgment, the contract risk or management interest requires assurance that the contractor's cost and schedule management control systems are acceptable. On contracts that are determined to be not significant enough for [C/SCSCEVMS criteria](#) applicability, the cost/schedule status report (C/SSR) (see 6.4.3) shall be required unless excluded in accordance with the following paragraph.

Compliance with the [C/SCSCEVMS criteria](#) shall not be required on firm fixed price contracts (including firm fixed price contracts with economic price adjustment provisions), time and materials contracts, and contracts which consist mostly of level-of-effort work. Exceptions may be made by the MDA for individual contracts.

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3.3.4.5 Continuous Acquisition and Life-Cycle Support (CALS) (Digital Data)

Beginning in FY97, all new contracts shall require on-line access to, or delivery of, their programmatic and technical data in digital form, unless analysis shows that life-cycle time or life-cycle costs would be increased by doing so. Preference shall be given to on-line access to contractor developed data through contractor information services rather than data delivery. No on-going contract, including negotiated or priced options, shall be renegotiated solely to require the use of digital data, unless analysis shows that life-cycle costs would be reduced.

Acquisition strategies and plans shall describe the extent of implementation of these requirements in accordance with **DFARS 207.105**. Solicitations shall require specific proposals for an integrated data environment to support systems engineering and logistics activities. The PM shall ensure compatibility of data deliverables with existing internal information systems, and augment such systems as required to provide timely data access and distribution consistent with **DFARS 227 and 252**.

[This Regulation hereby authorizes the publication of DOD 5010.12-M, DoD Technical Data Management Program; and DOD 5010.12-L, Acquisition Management Systems Data Requirements Control List \(AMSDL\), which lists the data item descriptions and source documents approved for use in acquisition.](#)

[Programs electing not to use the data management processes described in DOD 5010.12-M must find other ways to comply with Public Law 104-13, The Paperwork Reduction Act of 1995.](#)

3.3.4.6 Integrated Baseline Reviews

For contracts requiring compliance with DoD EVMS criteria (see Part 3.3.4.3) or Cost/Schedule Status Report (C/SSR) requirements (see Part 6.4.3), program managers and their technical staffs or Integrated Product Teams (IPTs) will review contractor planning baselines within six months after contract award. The program manager's review of a contractor's performance measurement baseline is known as an Integrated Baseline Review (IBR). The objectives of the IBR are:

1. Ensure reliable plans and performance measurement baselines are established which (a) capture the entire scope of work, (b) are consistent with contract schedule requirements, and (c) have adequate resources assigned to complete program tasks;
2. Improve the use of cost/performance data by Government and contractor program managers as a management tool; and
3. Reduce the number of EVMS criteria management systems reviews based on insights developed through assessment of the contractor's actual implementation of their management system and processes on the instant contract. (Note, however, that IBRs are not management systems reviews. Significant management systems concerns observed during an IBR should be referred to the cognizant surveillance activity for appropriate action.)

It should be noted that the purpose of an IBR is to achieve a mutual understanding of the plan and its relationship to the underlying management control systems and processes that will operate during contract execution. Consequently, while an IBR may surface disagreements, the contractor cannot fail an IBR.

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3.3.5 Management Approach

The acquisition strategy shall be developed in sufficient detail to establish the managerial approach that shall be used to achieve program goals.

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3.3.5.3 Joint Program Management

Any acquisition system, subsystem, component, or technology program that involves a strategy that includes funding by more than one DoD Component during any phase of a system's life cycle shall be defined as a joint program. Joint programs

shall be consolidated and collocated at the location of the lead Component's program office, to the maximum extent practicable. This includes systems where one DoD Component may be acting as acquisition agent for another DoD Component by mutual agreement or where statute, DoD Directive, or the USD(A&T) or ASD(C3I) has designated a DoD organization to act as the lead (e.g., USSOCOM, BMDO, DARO). In the case of a designated organization given acquisition responsibilities, the CAE of that organization shall utilize the acquisition and test organizations and facilities of the Military Departments to the maximum extent practicable, rather than create new, unique organizations and facilities. The relationship between the designated organization and the Military Departments and Defense Agencies shall be specified in a Memorandum of Agreement (MOA). [The MOA shall address, at a minimum, the following topics: system requirements, funding, manpower, and the approval process for the ORD and other program documentation.](#) Mission needs, operational requirements, and program strategies shall be structured to encourage and to provide an opportunity for multi-Component participation. The DoD Components shall periodically review their programs and requirements to determine the potential for cooperation.

The JROC, or Principal Staff Assistant (PSA) for ACAT IA programs, shall review and validate ACAT I or ACAT IA Component MNS and ORDs, as appropriate, and shall recommend establishment of joint programs based on their joint potential. DoD Component Heads shall also recommend establishment of joint programs. The decision to establish a joint program shall be made by the MDA, who shall designate the lead Component as early in the acquisition process as possible. The decision to establish a joint program shall be based on the recommendation of the JROC for programs that shall be reviewed by the Defense Acquisition Board (DAB), the recommendation of the functional PSA and Assistant Secretary of Defense for Command, Control and Communications (ASD(C3I)) for programs that shall be reviewed by the Major Automated Information Systems Review Council (MAISRC), or the recommendation of the DoD Component Head (or a designated representative) for all other programs.

The designated lead DoD Component Head shall select a single qualified program manager for the designated joint program. The selected joint program manager is fully responsible and accountable for the cost, schedule, and performance of the system development. In cases where the joint program is a consolidation of several programs with multiple Component program managers, the joint program manager retains responsibility for overall system development and integration.

A designated joint program shall have one quality assurance program, one program change control program, one integrated test program, and one set of documentation and reports to include one Joint ORD, one Test and Evaluation Master Plan (TEMP), one APB, one DAES, one Quarterly Report for ACAT IA programs, and one Selected Acquisition Report (SAR) for ACAT I programs. The documentation for milestone reviews and periodic reports shall flow only through the lead DoD

Component acquisition chain, and shall be supported by the participating DoD Components. Unless otherwise directed by the MDA or agreed to through an Memorandum of Agreement (MOA) signed by all Components, the lead DoD Component shall budget for and manage the common RDT&E funds for assigned joint programs. Individual DoD Components shall budget for their unique requirements. Inter-Component logistics support shall be utilized to the maximum extent practicable, consistent with effective support to the operational forces and efficient use of DoD resources.

A lead organization shall be designated to coordinate all operational test and evaluation involving more than one DoD Component. A single report on operational effectiveness and suitability will be produced.

DoD Components may not terminate or substantially reduce participation in joint ACAT ID programs without the approval of the USD(A&T). Before any such termination or substantial reduction is approved, the proposed termination or substantial reduction shall be reviewed by the JROC. The USD(A&T) may require a Component to continue to provide some or all of the funding necessary to allow the joint program to continue in an efficient manner after approval of a Component request to terminate or substantially reduce that Component's participation (**10 USC §2311(c)**). Substantial reduction is defined as a funding or quantity decrease of 50% or more in the total funding or quantities in the latest President's Budget for that portion of the joint program funded by the Component seeking to reduce its participation.

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3.3.7 Source of Support

It is DoD policy to ~~maintain adequate~~retain limited organic core depot maintenance capabilities ~~to provide effective and timely response to meet essential wartime surge demands,~~ ensure competitive capabilities~~promote competition,~~ and sustain institutional expertise. Support concepts for new and modified systems shall maximize the use of contractor provided, long-term, total life-cycle logistics support that combines depot-level maintenance for non-core-related workload along with wholesale and selected retail materiel management functions. Best value over the life cycle of the weapon system~~Life-cycle costs~~ and use of existing contractor capabilities, particularly while the system is in production, shall be key determinants~~play a key role~~ in the overall decision~~selection~~ process. ~~Other than stated above, and with an appropriate waiver, DoD organizations may be used as substitutes for contractor-provided logistics support, such as when contractors are unwilling to perform support, or where there is a clear, well-documented cost advantage.~~ The PM shall provide for long-term access to data required for competitive sourcing of systems support throughout its life cycle. ~~The waiver to use DoD organizations must be approved by the MDA.~~

3.3.7 Source of Support

It is DoD policy to maintain adequate organic core depot maintenance capabilities to provide effective and timely response to surge demands, ensure competitive capabilities, and sustain institutional expertise. Support concepts for new and modified systems shall maximize the use of contractor provided, long-term, total life-cycle logistics support that combines depot-level maintenance for non-core-related workload along with wholesale and selected retail materiel management functions. Best value over the life cycle of the weapon system and use of existing contractor capabilities, particularly while the system is in production, shall be key determinants in the overall decision process. The PM shall provide for long-term access to data required for competitive sourcing of systems support throughout its life cycle.

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3.4 Test and Evaluation

Test and evaluation programs shall be structured to integrate all developmental test and evaluation (DT&E), operational test and evaluation (OT&E), live-fire test and evaluation (LFT&E), and modeling and simulation activities conducted by different agencies as an efficient continuum.

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3.4.5 Operational Test and Evaluation

Operational test and evaluation (OT&E) programs shall be structured to determine the operational effectiveness and suitability of a system under realistic conditions (e.g., combat) and to determine if the minimum acceptable operational performance requirements as specified in the ORD have been satisfied. The following procedures are mandatory:

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4. The use of modeling and simulation shall be considered during test planning. Whenever possible, an operational assessment shall draw upon test results with the actual system, or subsystem, or key components thereof, or with operationally meaningful surrogates. When actual testing is not possible to support an operational assessment, such assessments may rely upon computer modeling, simulations (preferably with real operators in the loop), or an analysis of information contained in key program documents. However, as a condition for proceeding beyond LRIP, initial operational test and evaluation shall not comprise an operational assessment based exclusively on computer modeling; simulation; or, an analysis of system requirements, engineering proposals, design specifications, or any other information contained in program documents (**10 USC 12399**). The extent of modeling and simulation usage in conjunction with operational and test evaluation shall be explained in the Test and Evaluation Master Plan (see [3.4.113-4.8](#)).

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3.5 Life-Cycle Resource Estimates

For all ACAT I and IA programs, a life-cycle cost estimate shall be prepared by the program office in support of program initiation (usually Milestone I) and all subsequent milestone reviews.

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3.5.1 Life-Cycle Cost Estimates

The life-cycle cost estimates shall be:

1. Explicitly based on the program objectives, operational requirements, contract specifications for the system, and, for ACAT I programs, a program DoD work breakdown structure (WBS) or, for ACAT IA programs, a life-cycle cost and benefit element structure agreed upon by the IPT;
2. Comprehensive in character, identifying all elements of cost that would be entailed by a decision to proceed with development, production, and operation of the system regardless of funding source or management control;
3. For ACAT I programs, consistent with the cost estimates used in the analysis of alternatives, the manpower estimates behind the operation and support costs shall be consistent with the manpower estimate; and,
4. Neither optimistic nor pessimistic, but based on a careful assessment of risks and reflecting a realistic appraisal of the level of cost most likely to be realized.

For ACAT I programs, the DoD Component sponsoring the acquisition program shall establish, as a basis for the life-cycle cost estimates, a description of the salient features of the acquisition program and of the system itself. This description, referred to here as a Cost Analysis Requirements Description (CARD), shall be given to the teams preparing the program office life-cycle estimate, component cost analysis, and independent life-cycle cost estimate 180 days in advance of a planned Overarching Integrated Product Team (OIPT) or Component review, unless another due date is agreed to by the OIPT. The CARD shall be flexible, tailored, and make reference to information available in other documents available to the cost estimators. For joint programs, the CARD shall include the common program as agreed to by all participating DoD Components as well as all unique program requirements of the

participating DoD Components. For ACAT IA programs, the PM shall prepare the CARD in coordination with the appropriate IPT members.

For all ACAT ID programs, and for those ACAT IC programs as directed by the USD(A&T), the Office of the Secretary of Defense (OSD) CAIG shall prepare an independent life-cycle cost estimate and a report for the appropriate MDA for all Milestone reviews, after Milestone 0. For programs with significant cost risk or high visibility, the CAE may request that a component cost analysis estimate also be prepared in addition to the program office life-cycle cost estimate.

For all ACAT IC programs, except those reviewed by the CAIG, a Component cost agency that is not directly responsible for carrying out the development or acquisition of the program shall prepare an independent life-cycle cost estimate and a report for the appropriate MDA for all Milestone reviews, after Milestone 0.

For all ACAT IA programs, the PSA or sponsoring DoD Component shall ensure that a Component cost analysis is created for Milestone I and updated for Milestone II. The MDA may direct an updated analysis for subsequent decisions points, if conditions warrant. At Milestone I, the component may conduct a sufficiency review of the PM's life-cycle cost estimate in lieu of a full analysis. The IPT shall establish the content for the sufficiency review.

3.5.2 Manpower Estimates *

The manpower estimate shall:

1. Outline the DoD Component's official manpower position;
2. Address whether the program is affordable from a military end strength and civilian work year perspective;
3. Clearly state the risks associated with achieving manpower numbers reported in the estimate; and
4. Consider the program objectives, but shall base the estimate on a careful assessment of the risks and a realistic appraisal of the level of improvements most likely to be realized.

The manpower estimate shall report the total number of personnel needed to operate, maintain, support, and provide training for the program upon full operational deployment. It shall report the number of military (officer, warrant officer, and enlisted), DoD civilian, and contract manpower requirements for each fiscal year of the program beginning with initial fielding and ending with full operational deployment. A separate estimate should be provided for each Component (for joint programs) and separately for the Active, Reserve, and National Guard forces.

The estimate shall report manpower requirements and authorizations (as military end-strengths and civilian work years) for each fiscal year, and shall indicate if there are any resource shortfalls for any fiscal year covered in the report. The report shall state whether any increase in military end strengths or civilian work years (beyond what is included in the Future Years Defense Program) or whether waivers to existing manpower constraints will be required to support full operational deployment of the system. The report shall also address whether the manpower requirements represent an increase over what was required for the predecessor (replaced) system(s), as appropriate, and whether the manpower objectives and thresholds in the ORD, if established, were met or exceeded. For ACAT ID programs, the office of the Under Secretary of Defense for Personnel and Readiness shall review the report and provide an assessment to the OIPT.

[*Not applicable to ACAT IA programs.](#)

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Part 4
Program Design

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4.3 Systems Engineering

The Program Manager shall ensure that a systems engineering process is used to translate operational needs and/or requirements into a system solution that includes the design, manufacturing, test and evaluation, and support processes and products.

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4.3.3 Acquisition Logistics

The PM shall conduct acquisition logistics management activities throughout the system development to ensure the design and acquisition of systems that can be cost-effectively supported and to ensure that these systems are provided to the user with the necessary support infrastructure for achieving the user's peacetime and wartime readiness requirements.

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4.3.3.4 Support Resources

Support resources such as operator and maintenance manuals, tools, support equipment, training devices, etc. for major weapon system components shall not be procured before the weapon system/component hardware and software design stabilizes. The PM shall consider the use of embedded training and maintenance techniques to enhance user capability and reduce life-cycle costs. Where they are available, cost-effective, and can readily meet the user's requirements, commercial support resources shall be used.

DoD automatic test system (ATS) families or COTS components that meet defined ATS capabilities shall be used to meet all acquisition needs for automatic test equipment hardware and software. ATS capabilities shall be defined through critical hardware and software elements. The introduction of unique types of ATS into the DoD field, depot, and manufacturing operations shall be minimized, and the selection shall be based on a cost and benefit analysis that ensures that the ATS chosen is the most beneficial to the DoD over the life cycle.

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- #### 4.3.5 Software Engineering

Software shall be managed and engineered using best processes and practices that are known to reduce cost, schedule, and technical risks. It is DoD policy to design and develop software systems based on systems engineering principles, to include:

1. Developing software system architectures that support open system concepts; exploit commercial off-the-shelf (COTS) computer systems products; and provide for incremental improvements based on modular, reusable, extensible software;
2. Identifying and exploiting software reuse opportunities, Government and commercial, before beginning new software development;
3. Use of the Ada programming language to develop code for which the government is responsible for life-cycle maintenance and support. Additional guidance is contained in **DoDD 3405.1**;
4. Use of DoD standard data. Additional guidance is contained in **DoDD 8320.1**;
5. Selecting contractors with the domain experience in developing comparable software systems, a successful past performance record, and a demonstrable mature software development capability and process; and
6. [Use of a software measurement process in planning and tracking the software program, and to assess and improve the software development process and associated software products.](#)~~Use of software metrics to effect the necessary discipline of the software development process and assess the maturity of the software product.~~
7. Ensuring that information warfare risks have been assessed (**DoDD TS-3600.1**).

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- #### 4.3.7 Environment, Safety, and Health

All programs, regardless of acquisition category, shall comply with this section and be conducted in accordance with applicable federal, state, interstate, and local environmental laws and regulations, Executive Orders (EOs), treaties, and agreements.

Environmental, safety, and health (ESH) analyses shall be conducted, as described below, to integrate ESH issues into the systems engineering process and to support development of the Programmatic ESH Evaluation (see 3.3.6).

4.3.7.1 National Environmental Policy Act

The PM shall comply with the National Environmental Policy Act (NEPA) (**42 USC 4321-4370d**), implementing regulations (**40 CFR 1500-1508**), and executive orders (**EO 12114 and EO 11514**) by analyzing actions proposed to occur in upcoming program phases that may require NEPA or EO analysis and providing the MDA with milestones and status for each planned analysis. Any analysis required under either NEPA or EO must be completed before the appropriate official may make a decision to proceed with a proposed action that may affect the quality of the human environment. NEPA and EO analysis is tied to proposed, program-specific actions. NEPA and EO documentation shall be prepared in accordance with DoD Component implementation regulations and guidance. The CAE is the final approval authority for system-related NEPA and EO documentation. The PM shall forward a copy of final NEPA documentation for ACAT I programs to the Defense Technical Information Center for archiving.

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4.4 Other Design Considerations

The following requirements shall be considered as part of program design. While all requirements must be considered, it is recognized that all may not apply.

4.4.1 Survivability

Unless waived by the MDA, mission-critical systems, regardless of ACAT, shall be survivable to the threat levels anticipated in their operating environment. System (to include the crew) survivability from all threats found in the various levels of conflict shall be considered and fully assessed during Phase I prior to Milestone II.

4.4.1 Survivability

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Part 5
Program Assessments & Decision Reviews

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5.3 Major Automated Information Systems Review Council

The Major Automated Information Systems Review Council (MAISRC) is the Department's senior level forum for advising the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD(C3I)) on critical decisions concerning ACAT IAM programs.

The MAISRC is chaired by the ASD(C3I). Principal members of the MAISRC include representatives from the offices of the Under Secretary of Defense (Comptroller); the Joint Chiefs of Staff; the DOT&E; the [Director of PA&EDTSE&E](#); the Director API; the DTSE&E; the Deputy ASD(C3I); the user representatives; and the cognizant [Chief Information Officer\(s\)](#)/[Senior Information Management Official\(s\)](#) or Component Acquisition Executives(s), as appropriate. The Deputy ASD(C3I Acquisition) is the MAISRC Executive Secretary and either leads or designates the leader of the OIPT.

The MAISRC Chairman is also routinely supported by senior advisors (or their representatives), such as, but not limited to, the Under Secretary of Defense (Personnel and Readiness); the Assistant Secretary of Defense (Economic Security); the Assistant Secretary of Defense (Health Affairs); the Assistant Secretary of Defense (Reserve Affairs); the Deputy Under Secretary of Defense (Logistics); the Director DP; [and the Director, Defense Information Systems Agency \(DISA\); and the Deputy Assistant Secretary of Defense \(Information Management\)](#). Other senior Defense officials may be invited by the ASD(C3I) to participate in MAISRC meetings as needed.

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designates the leader of the OIPT.

The MAISRC Chairman is also routinely supported by senior advisors (or their representatives), such as, but not limited to, the Under Secretary of Defense (Personnel and Readiness); the Assistant Secretary of Defense (Economic Security); the Assistant Secretary of Defense (Health Affairs); the Assistant Secretary of Defense (Reserve Affairs); the Deputy Under Secretary of Defense (Logistics); the Director DP; and the Director, Defense Information Systems Agency (DISA). Other senior Defense officials may be invited by the ASD(C3I) to participate in MAISRC meetings as needed.

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5.5 Joint Requirements Oversight Council Review Procedures

The Joint Requirements Oversight Council (JROC) shall review all deficiencies that may necessitate development of major systems prior to any consideration by the DAB or, as appropriate, MAISRC at Milestone 0. The JROC shall validate an identified mission need, assign a joint potential designator for meeting the need, and forward the Mission Need Statement (MNS) with JROC recommendations to the USD(A&T).

The JROC shall play a continuing role in the validation of key performance parameters in program baselines prior to DAB, or where applicable, MAISRC, reviews of ACAT I or ACAT IA programs (including, unless directed by the Secretary or Deputy Secretary of Defense, highly sensitive classified programs) prior to all successive milestone reviews.

Per **10 USC 181²**, the Joint Requirements Oversight Council (JROC) shall assist the Chairman of the Joint Chiefs of Staff in the following ways:

1. Identify and assess the priority of joint military requirements (including existing systems and equipment) to meet the national military strategy;
2. Consider alternatives to any acquisition program that has been identified to meet military requirements by evaluating the cost, schedule, and performance criteria of the program and of the identified alternatives; and
3. Ensure that the assignment of the priorities of joint military requirements conforms to and reflects resource levels projected by the Secretary of Defense through defense planning guidance.

5.6 Cost Analysis Improvement Group Procedures *

The OSD Cost Analysis Improvement Group (CAIG) is established in accordance with **DoDD 5000.4**. The DoD Component responsible for acquisition of a system shall work with the CAIG providing cost, programmatic, and technical information required to estimate costs and appraise cost risks, and shall facilitate visits of the CAIG staff to the program office, product centers, test centers, and system contractor(s).

Whether for an ACAT ID (or ACAT IC, as requested by the USD(A&T)) milestone review or a program review:

1. Documentation of draft program office and component cost analysis life-cycle cost estimates shall be given to the CAIG no later than 45 calendar days in advance of the scheduled OIPT or Component review meeting.
2. The program office and component cost analysis life-cycle cost estimates and/or Component cost position prepared as part of an ACAT I milestone review shall be presented to the OSD CAIG at least 21 calendar days before

- the scheduled OIPT or Component review meeting. The CAIG will provide feedback based on its independent review of the life-cycle cost estimate(s), validate the methodology used to make the cost estimate(s); and determine whether additional analysis is required.
3. The final program office and component cost analysis (when required by the CAE) life-cycle cost estimates and/or Component cost position shall be given to the CAIG no later than ten calendar days prior to a scheduled OIPT or Component review meeting.

* Not applicable to ACAT IA programs.

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Part 6
Periodic Reporting

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6.2 Cost, Schedule, and Performance Program Reports

This Part establishes mandatory policies and procedures for accomplishing periodic and phase reporting by:

1. Evaluating program accomplishments and progress towards meeting cost, schedule, and performance goals.
2. Providing periodic reports to MDAs with adequate information to oversee the acquisition process.

6.2.1 Acquisition Program Baseline Reporting

Program Managers (PMs) shall maintain a current estimate of the program actually being executed and shall report the current estimate of each baseline parameter periodically, as requested, to the MDA.

The current estimate is a DoD Component's latest estimate of program acquisition cost, quantity, schedule milestone dates, and performance characteristics of the approved program. The approved program is reflected in the currently approved APB, ADM, or in any other document reflecting a more current decision of the MDA. Changes reflected in the PPBS that do not reflect fact-of-life changes are not to be reported until approved and included in the President's budget. Conversely, fact-of-life changes will always be included in the Current Estimate, even if they are included in the PPBS memorandums. An exception is the Current Estimate reported in the December SARs, which reflects the President's Budget.

—For Acquisition Category (ACAT) I and ACAT IA programs, current estimate this reporting shall be done quarterly in the Defense Acquisition Executive Summary (ACAT I) (see 6.2.2) or the Major Automated Information System (MAIS) Quarterly Report (ACAT IA) (see 6.2.3).

6.2.1.1 Program Deviations

A program deviation occurs when the PM has reason to believe that the current estimate of a performance, schedule, or cost parameter is not within the threshold value (as defined in 3.2.1) for that parameter. When a deviation occurs, the PM shall immediately notify the MDA that a program deviation has occurred. Within 30 days of the occurrence of the program deviation, the PM shall notify the MDA of the reason for the program deviation and the actions that need to be taken to bring the program back

within the baseline parameters (if this information was not included with the original notification). Within 90 days of the occurrence of the program deviation, one of the following shall have occurred: (1) the program shall be back within APB parameters; (2) a new APB (changing only those parameters that breached ~~or are directly affected by the breached parameter~~) shall have been approved; (3) a program review (at the OIPT level) shall have been held to revise the entire baseline; or (4)(3) or the PM shall at least have provided a date when one of the above three actions will occur for the program to be back within APB parameters or for the submission of a new APB.

6.2.1.1 Program Deviations

A program deviation occurs when the PM has reason to believe that the current estimate of a performance, schedule, or cost parameter is not within the threshold value (as defined in 3.2.1) for that parameter. When a deviation occurs, the PM shall immediately notify the MDA that a program deviation has occurred. Within 30 days of the occurrence of the program deviation, the PM shall notify the MDA of the reason for the program deviation and the actions that need to be taken to bring the program back within the baseline parameters (if this information was not included with the original notification). Within 90 days of the occurrence of the program deviation, one of the following shall have occurred: (1) the program shall be back within APB parameters; (2) a new APB (changing only those parameters that breached) shall have been approved; (3) a program review (at the OIPT level) shall have been held to revise the entire baseline; or (4) the PM shall at least have provided a date when one of the above three actions will occur.

For ACAT ID and ACAT IAM programs, if one of these three actions has not occurred within 90 days of the program deviation, the Under Secretary of Defense (Acquisition and Technology (USD(A&T))), for ACAT ID programs, the ASD(C3I) for ACAT IAM programs, or the Component Acquisition Executive (CAE), for ACAT IC and ACAT IAC programs, shall require a formal program review to determine program status.

6.2.2 Defense Acquisition Executive Summary* (DD-ACQ(Q) 1429).

The purpose of the Defense Acquisition Executive Summary (DAES) report is to highlight both potential and actual program problems to the USD(A&T) before they become significant.

The PM shall propose for USD(A&T) consideration tailoring the content of the DAES Report for each program. At a minimum, the DAES is the vehicle for reporting program assessments, unit cost (**10 USC §2433**), current estimates ([see 6.2.1](#)) of the APB parameters (**10 USC §2435**), status reporting of exit criteria, and vulnerability assessments (e.g. APB deviation) (**FMFIA**).

The DAES shall present total costs and total quantities for all years as projected through the end of the acquisition phase. If not identified in the Future Years Defense Program (FYDP), best estimates for costs beyond the FYDP shall be provided in keeping with the concept of total program reporting. The total program concept refers to the entire weapon system acquisition process from concept exploration through production. In the case of programs that are subsystems to platforms and whose procurement is reported in the platform budget line, approved acquisition program funding for such subsystem programs shall be reported.

Examples of these subsystem programs include command, control, communications, and intelligence (C3I) electronics, ship electronics suites, and strategic submarine missile weapons equipment that are essentially subsystems of a platform(s).

To facilitate the resolution of data item entry questions and the flow of administrative preparation instructions, DAES report focal points shall be established in the Office of the USD(A&T), the Offices of the DoD CAEs, the Offices of the Program Executive Officers (PEOs), and in the reporting PM's office.

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6.2.4 Selected Acquisition Reports DD-COMP* (Q&A) 823

Selected Acquisition Reports (SARs) shall be prepared and submitted to Congress for all ACAT I programs, in accordance with **10 USC §2432**. The SAR shall be prepared using CARS software.

6.2.4.1 SAR Content and Submission

The SAR provides the status of total program cost, schedule, and performance, as well as program unit cost and unit cost breach information; and, in the case of joint programs, the SAR shall include such information for all joint participants. Each SAR shall also include a full life-cycle cost analysis for the reporting program and its antecedent program.

The SAR for the quarter ending December 31 is called the annual SAR. Each annual (December) SAR, shall be submitted 60 days after the date on which the President transmits the budget to Congress for the following fiscal year. Annual SARs are mandatory for all programs that meet the reporting criteria.

SARs for the quarters ending March 31, June 30, and September 30 are submitted within 45 days after the fiscal year quarter. These quarterly SARs are reported on an exception basis when there has been a:

1. 15 percent or more increase in the current estimate [\(see 6.2.1\)](#) of the Program Acquisition Unit Cost (PAUC) compared to the currently approved APB PAUC, or a 15 percent or more increase in the current estimate of the Average Procurement Unit Cost (APUC) compared to the currently approved APB APUC, both in base year dollars, or
2. six-month or greater delay in the current estimate of any schedule milestone since the current estimate reported in the previous SAR.

3. Milestone II or Milestone III and associated APB approval within 90 days prior to the quarterly 'as of date'.

Limited reporting is allowed for pre-Milestone II programs. Such programs may submit Research, Development, Test and Evaluation (RDT&E)-only reports that exclude procurement, military construction, and acquisition-related operations and maintenance. DoD Components shall submit the names of those programs for which they intend to submit RDT&E-only SARs to the USD(A&T) 30 days before the end of the reporting quarter. The USD(A&T) will notify Congress 15 days before a report is due of the programs for which limited reports will be submitted.

Whenever the USD(A&T) proposes to make changes in the content of a SAR, the Under Secretary shall submit a notice of the proposed changes to the Committee on Armed Services of the Senate and the Committee on National Security of the House of Representatives. The changes shall be considered approved by the Under Secretary, and may be incorporated into the report, only after the end of a sixty day period beginning on the date on which notice is received by those committees.

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6.2.5 Unit Cost Reports (UCR) COMP* (Q&AR) 1591

With the exception of pre-Milestone II programs reporting RDT&E costs only, UCRs shall be prepared for all ACAT I programs for which SARs are submitted, in accordance with **10 USC 12433**.

6.2.5.1 Unit Cost Content and Submission

Unit cost reporting shall begin with the submission of the initial SAR and shall terminate with the submission of the final SAR.

The PM shall on a quarterly basis, submit to the CAE a written report on the unit costs of the program. The written report shall be in the DAES. The report shall be provided to the DoD CAE by the last working day of the quarter in accordance with the DAES submission procedures.

The PM shall include in each report the following information:

1. The Current Estimate ([see 6.2.1](#)) of the PAUC and the APUC (in base-year dollars).
2. The cost and schedule variances in dollars of the major contracts since the contract was entered into.
3. Any changes from program schedule milestones or program performance reflected in the currently approved APB that are known, expected, or anticipated by the PM .

6.2.5.2 UCR Breaches

The PM shall immediately submit a UCR to the CAE whenever the PM has reasonable cause to believe that:

1. The Current Estimate ([see 6.2.1](#)) of either the PAUC or APUC (in base-year dollars) has increased by 15 percent or more over the PAUC or APUC of the currently approved APB (in base year dollars), respectively. This is a Congressionally reportable unit cost breach.
2. The cost of a major contract has increased at least 15 percent or more over the contract cost. This is an internal DoD reportable breach only.

If the CAE determines that there is an increase in the current estimate of the PAUC or APUC cost of at least 15 percent or more over the currently approved APB, the CAE shall inform the USD(A&T) and the DoD Component Head concerned.

If the Component Head concerned subsequently determines that there is, in fact, an increase in the Current Estimate of the PAUC or APUC of at least 15 percent over the currently approved APB, the Component Head shall notify Congress in writing of a breach within 45 days after the end of the quarter in the case of a quarterly report, or 45 days after the date of the report in the case of the reasonable cause report. In either case, the notification will include the date on which the Component Head's determination was made.

In addition, the Component Head shall submit a SAR for either the fiscal year quarter ending on or after the determination date, or for the fiscal year quarter that immediately precedes the fiscal year quarter ending on or after the determination date. This SAR will contain the additional, breach-related information.

If the current estimate of the PAUC or APUC increases by at least 25 percent over the currently approved APB, the USD(A&T) will submit a written certification to Congress before the end of the 30 day period beginning on the day the SAR containing the unit cost information is required to be submitted to Congress. The certification shall state that:

1. Such acquisition program is essential to the national security.
2. There are no alternative programs that will provide equal or greater military capability at less cost.
3. The new estimates of the PAUC or APUC are reasonable.
4. The management structure for the acquisition program is adequate to manage and control the PAUC and the APUC.

If the DoD Component Head makes a determination of either a PAUC or APUC 15 percent or more increase and a SAR containing the additional unit cost breach information is not submitted to Congress as required, or if the DoD Component Head makes a determination of a 25 percent increase in the PAUC or APUC and a certification of the USD(A&T) is not submitted to Congress as required, funds appropriated for RDT&E, procurement, or military construction may not be obligated for a major contract under the program. If an increase in the PAUC or APUC of 25 percent or more results from the termination or cancellation of an entire program, program certification by the USD(A&T) is not required.

*Not applicable to ACAT IA programs.

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6.4 Contract Management Reports*

The reports prescribed by this section shall be used for all applicable defense contracts and are required for effective management of defense acquisitions. Use of electronic media shall be required. The Work Breakdown Structure (WBS) used in preparing the reports covered by this section shall be in conformance with the program WBS (see 4.4.1). Except for high-cost or high-risk elements, the normal level of reporting detail required shall be limited to level three of the contract WBS.

~~*Not normally applicable to ACAT IA programs due to the lower dollar value of ACAT IA contracts.~~

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6.4.2 Cost Performance Report (CPR) DID DI-MGMT-81466 (DoD 5010.12-L)

The CPR DD Form 2734/1, 2734/2, 2734/3, 2734/4, and 2734/5 shall be used to obtain contract cost and schedule performance information for use in making and validating program management decisions. This report provides early indicators of contract cost and schedule problems and the effects of management action taken to resolve problems affecting cost and schedule performance.

1. CPRs shall be required on all contracts that require compliance with the ~~Earned Value Management~~~~Cost/Schedule Control~~ Systems (EVMS) Criteria (C/SCSC) (see 3.3.4.3 and Appendix VI).
2. CPRs may be required on flexibly-priced (for example, fixed-price incentive or cost type) contracts that do not require compliance with the EVMS criteria~~C/SCSC~~, but on which the DoD Components requires more data than is available on the Cost/Schedule Status Report (see 6.4.3). Such applications shall not be used in lieu of a valid EVMS c~~Cost/Schedule Control Systems~~ Criteria requirement. CPR formats, level of detail, frequency, and variance analysis shall be limited to the minimum necessary for effective management control.
3. CPRs shall not be required on firm fixed price contracts unless unusual circumstances require cost and schedule visibility.
4. Data reported on the CPR shall be summarized directly from the same systems used for internal contractor management.
5. The CPR is subject to tailoring to require less data. All reporting provisions shall be negotiated and specified in the contract, including reporting frequency, variance analysis requirements, and the Contract WBS to be reported. The CPR is intended to be a primary means of communication

between the contractor and the PM to report cost and schedule trends to date, and permit assessment of their likely affect on future performance on the contract.

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**DoD 5000.2-R
Appendices**

Table of Contents

<u>Appendix</u>	<u>Title</u>
I	Consolidated Acquisition Reporting System -- Acquisition Program Baseline -- Selected Acquisition Reports* -- Defense Acquisition Executive Summary*
II	Operational Requirements Document
III	Test and Evaluation Master Plan
IV	Live-Fire Test and Evaluation**
V	Major Automated Information System Quarterly Report***
VI	Earned Value Management Cost/Schedule Control Systems Criteria*
VII	Glossary (to be published as Change 1 to the Regulation)

- * Not applicable to ACAT IA programs
** Normally not applicable to ACAT IA programs
*** Not applicable to ACAT I programs

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Appendix I

Consolidated Acquisition Reporting System Mandatory Procedures and Formats

CARS is a personal computer-based data entry and reporting software package that maintains and reports information on defense programs. Its use is required for all major defense acquisition programs (MDAPs), but may also be used for non MDAP programs. The system consists of three reporting modules that generate the Acquisition Program Baseline (APB), the Selected Acquisition Report (SAR), and the Defense Acquisition Executive Summary (DAES). The Unit Cost Report, an additional statutory requirement, is included in the DAES. CARS also includes some analysis routines (such as the Computational Module that supports the SAR cost change calculations), and SAR and DAES data checks. A CARS Help Line is maintained to support CARS users.

Use of CARS is controlled by a unique program number identification system, which is assigned to each using program by the OUSD(A&T) focal point. Except for narrative/memo type information, the format of the APB, SAR, and DAES is specified by the CARS software.

Some, but not all, of the information is shared between the three reporting modules. This includes the Acquisition Program Baseline, which is reported in the DAES and the SAR, and certain contract information. Some of the information in CARS, such as the SAR and Acquisition Program Baseline, can only be edited by the appropriate OUSD(A&T) or Component focal point. Changes in this information must be approved by the appropriate milestone decision authority. A disk containing the revised/new information is distributed by the appropriate OUSD(A&T) or Component focal point.

The development and maintenance of CARS and upgrades to the system are the responsibility of the OUSD(A&T)API. Questions, including requests for copies of the software, should be directed to that organization. Instructions for preparing the SAR, DAES, and APB and sample reports for the SAR and DAES are provided in the automated [Defense Acquisition Deskbook](#).—~~A sample APB format is attached.~~

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Appendix III

Test and Evaluation Master Plan Mandatory Procedures and Format

Mandatory TEMP Format and Content

1. PART I--SYSTEM INTRODUCTION

- a. Mission Description. Reference the Mission Need Statement or briefly summarize the mission need described therein.
- b. System Threat Assessment. Reference the system threat assessment and briefly summarize the threat environment described therein.
- c. Measures of Effectiveness and Suitability. List the performance (operational effectiveness and suitability) capabilities and characteristics identified as required in the ORD. The critical operational effectiveness and suitability parameters and constraints include manpower, personnel, training, software, computer resources, transportation (lift), compatibility, interoperability and integration, etc. For each listed required capability or characteristic, provide the minimum acceptable value and the objective from the ORD. If the Operational Test Agency (OTA) or the DOT&E determines that the required capabilities and characteristics contained in the ORD provide insufficient [measurecriteria](#) for an adequate OT&E, the OTA or DOT&E shall propose additional [measurecriteria](#) through the IPT process. Upon receipt of such a proposal, the ORD approval authority shall establish the level of required performance characteristics.
- d. System Description. Briefly describe the system design, or reference another program document that includes the following items:
 - (1) Key features and subsystems, both hardware and software (such as architecture, interfaces, security levels, reserves, etc.), allowing the system to perform its required operational mission.
 - (2) Interfaces with existing or planned systems that are required for mission accomplishment. Address relative maturity and integration and modification requirements for nondevelopmental items. Include interoperability with existing and/or planned systems of other DoD Components or allies.
 - (3) Critical system characteristics or unique support concepts resulting in special test and analysis requirements (e.g., post deployment software support, hardness against nuclear effects; resistance to countermeasures; development of new threat simulation, simulators, or targets).

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4. PART IV--OPERATIONAL TEST AND EVALUATION OUTLINE

b. Critical Operational Issues

- (1) List in this section the critical operational issues. Critical operational issues are the operational effectiveness and operational suitability issues (not parameters, objectives or thresholds) that must be examined in operational test and evaluation to evaluate/assess the system's capability to perform its mission.
- (2) A critical operational issue is typically phrased as a question that must be answered in order to properly evaluate operational effectiveness (e.g., "Will the system detect the threat in a combat environment at adequate range to allow successful engagement?") and operational suitability (e.g., "Will the system be safe to operate in a combat environment?")
- (3) Some critical operational issues will have critical technical parameters and thresholds. Individual attainment of these attributes does not guarantee that the critical operational issue will be favorably resolved. The judgment of the operational test agency is used by the DoD Component to determine if the critical operational issue is favorably resolved.
- (4) If every critical operational issue is resolved favorably, the system should be operationally effective and operationally suitable when employed in its intended environment by typical users.

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6. Annex A--BIBLIOGRAPHY

- a. Cite in this section all documents referred to in the TEMP.
- b. Cite all reports documenting technical, live fire, and operational testing and evaluation.

7. Annex B-ACRONYMS. List and define acronyms used in the TEMP.

8. Annex C-POINTS OF CONTACT. Provide a list of points of contact as illustrated by Figure [23](#).

9. ATTACHMENTS. Provide as appropriate.

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Appendix IV

Live Fire Test and Evaluation Reports Mandatory Procedures & Formats

Implementation

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The LFT&E strategy shall be structured to provide a timely and reasonable examination and understanding of the vulnerability/lethality of U.S. weapon systems and munitions/directed energy weapons to the full spectrum of validated combat threats/targets. Subsequent product improvements to covered systems/major munitions programs meeting the statutory criteria are also required to undergo LFT&E if there is a significant impact to vulnerability or lethality. If any doubt exists, the system should be assumed to be covered and appropriate action taken. This includes waiver action if the testing would be unreasonably expensive and impractical. Legal counsel should be consulted to verify the final determination of program status. All LFT&E is conducted by the Services with OSD oversight. Non-Developmental Items (NDI) and Advanced Technology Demonstrators/Prototypes that meet the definition of covered system/major munitions program are also required to undergo LFT&E.

LFT&E of all systems shall be predicated upon the DoD Intelligence Community's official assessment of the principal threat systems and capabilities an adversary might reasonably bring to bear in an attempt to defeat or degrade a specific U.S. system as described in the [validated system threat assessment report or equivalent](#) document.

LFT&E of all systems shall be predicated upon the DoD Intelligence Community's official assessment of the principal threat systems and capabilities an adversary might reasonably bring to bear in an attempt to defeat or degrade a specific U.S. system as described in the validated threat document.

Vulnerability and lethality assessments may require the use of validated modeling/simulation and other analytic techniques. Where modeling/simulation and other analytical efforts are essential elements in a LFT&E strategy, pre-shot predictions shall be included.

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Appendix VI

Cost/Schedule Control Earned Value Management Systems Criteria Mandatory Procedures & Reporting

Introduction and Purpose

This Appendix provides mandatory procedures to ensure proper implementation of Earned Value Management Cost/Schedule Control Systems (EVMS) Criteria (C/SCSC). The contractors' management control systems shall include policies, procedures and methods that are designed to ensure that they will accomplish the considerations reflected herein.

Organization

- a. Define all the authorized work elements for the program, and related resources to meet the requirements of the contract, using the contract A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.
- b. Identify the internal program organizational elements structure including and the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.
- c. Provide for the integration of the contractor's company's planning, scheduling, budgeting, work authorization and cost accumulation systems processes with each other, and as appropriate, the contract program work breakdown structure, and the program organizational structure.
- d. Identify the managerial positions company organization or function responsible for controlling overhead (indirect costs).
- e. Provide for integration of the contract program work breakdown structure with and the program contractor's functional organizational structure in a manner that permits cost and schedule performance measurement for contract work breakdown structure and organizational by elements of either or both structures as needed.

Planning, Scheduling, and Budgeting

- a. Schedule the authorized work in a manner that which describes the sequence of work and identifies the significant task interdependencies required to meet the development, production, and delivery requirements of the contract program.

b. Identify physical products, milestones, technical performance goals, or other indicators that will be used to measure ~~output~~progress.

c. Establish and maintain a time-phased budget baseline, at the ~~cost control~~ account level, against which ~~contract-program~~ performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the control account level. Initial budgets established for ~~this purpose-performance measurement~~ will be based on either internal management goals or the external customer negotiated target cost including estimates for authorized but undefinitized work. On government contracts, if an over target baseline is used for performance measurement reporting purposes, prior notification must be provided to the customer. ~~Any other amount used for performance measurement purposes must be formally recognized by both the contractor and the Government.~~

d. Establish budgets for ~~all~~ authorized work with ~~separate~~ identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors.

e. To the extent it is practical to identify the authorized work ~~can be identified~~ in discrete, ~~short span~~ work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire ~~cost-control~~ account ~~can~~ is not ~~be~~ subdivided into ~~detailed~~ work packages, identify the far term effort in larger planning packages for budget and scheduling purposes.

f. Provide that the sum of all work package budgets, plus planning package budgets within a ~~cost-control~~ account equals the ~~cost-control~~ account budget.

~~g. Identify relationships of budgets or standards in work authorization systems to budgets for work packages.~~

~~h.g.~~ Identify and control level_-of_-effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical ~~cannot be identified as discrete, short span work packages or as apportioned effort~~ may be classified as level_-of_-effort.

~~i.h.~~ Establish overhead budgets for ~~the total costs of~~ each significant organizational component of the company for whose expenses which will become indirect costs. Reflect in the ~~contract-program~~ budgets, at the appropriate level, the amounts in overhead pools that are planned to be allocated to the ~~contract-program~~ as indirect costs.

~~j.i.~~ Identify management reserves and undistributed budget.

k.i. Provide that the contract program target cost goal plus the estimated cost of authorized but unpriced work is reconciled with the sum of all internal contract program budgets and management reserves.

Accounting Considerations

a. Record direct costs ~~on an applied or other acceptable basis~~ in a manner consistent with the budgets in a formal system ~~that is~~ controlled by the general books of account.

b. When a work breakdown structure is used, summarize direct costs from cost control accounts into the work breakdown structure without allocation of a single cost control account to two or more work breakdown structure elements.

c. — Summarize direct costs from the control cost accounts into the contractor's ~~functional~~ organizational elements without allocation of a single cost control account to two or more organizational elements.

d. Record all indirect costs which will be allocated to the contract.

e. — ~~Identify the bases for allocating the cost of apportioned effort.~~

f.e. Identify unit costs, equivalent units costs, or lot costs ~~as applicable when needed~~.

g.f. For EVMS, ~~the contractor's~~ material accounting system will provide for:

(1) Accurate cost accumulation and assignment of costs to cost control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques.

~~(2) — Determination of price variances by comparing planned versus actual commitments.~~

~~(3)~~ Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material.

~~(4) — Determination of cost variances attributable to the excess usage of material.~~

~~(5) — Determination of unit or lot costs when applicable.~~

~~(6)~~ Full accountability ~~for of~~ all material purchased for the contract, program including the residual inventory.

Analysis and Management Reports

a. At least on a monthly basis, generate the following information Identify at the cost-control account and other levels as necessary for management control on a monthly basis using actual cost data from, or reconcilable with, the accounting system:

(1) Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance. budgeted cost for work scheduled and budgeted cost of work performed;

(2) Comparison of the amount of the budget earned and the budgeted cost for work performed and actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.; and

(3) Variances resulting from the comparisons between the budgeted cost for work scheduled and the budgeted cost for work performed and between the budgeted cost for work performed and actual or applied direct costs, classified in terms of labor, material, or other appropriate elements together with the reasons for significant variances.

b. Identify, at least on a monthly basis, in the detail needed by management for effective control, budgeted indirect costs, actual indirect costs, and cost variances with the reasons for significant variances significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management.

c. Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances.

ed. Summarize the data elements and associated variances listed in subparagraphs a. (1) and (2), directly above, through the contractor program organization and/or work breakdown structure to support management needs and any the customer reporting level specified in the contract.

d. Identify significant differences on a monthly basis between planned and actual schedule accomplishment and the reasons.

e. Identify Implement managerial actions taken as a the result of criteria items in paragraphs a. through d., directly above earned value information.

f. Develop revised estimates of cost at completion ~~Based on performance to date, on commitment values for material, and on estimates of future conditions, develop revised estimates of cost at completion for work breakdown structure elements identified in the contract and compare these with the contract budget base and the latest statement of funds requirements reported to the Government. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements.~~

Revisions and Access to Data Maintenance

a. Incorporate contractual authorized changes ~~expeditiously in a timely manner~~, recording the effects of such changes in budgets and schedules. In the directed effort prior to negotiation of a change, base such revisions on the amount estimated and budgeted to the functional program organizations.

b. Reconcile original current budgets ~~to prior budgets for those elements of the work breakdown structure identified as priced line items in the contract, and for those elements at the lowest level in the program work breakdown structure, with current performance measurement budgets~~ in terms of changes to the authorized work and internal replanning in the detail needed by management for effective control.

c. Prohibit Control retroactive changes to records pertaining to work performed that would change previously reported amounts for direct actual costs, indirect cost earned value, or budgets. Adjustments should be made only except for correction of errors, and routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data.

d. Prevent revisions to the contract program budget ~~base~~ except for Government directed authorized changes ~~to contractual effort~~.

e. Document ~~internally the~~ changes to the performance measurement baseline ~~and notify expeditiously the procuring activity through prescribed procedures.~~
f. ~~Provide the Contracting Officer and the Contracting Officer's authorized representatives with access to the information and supporting documentation necessary to demonstrate compliance with the cost/schedule control systems criteria.~~

Introduction and Purpose

This Appendix provides mandatory procedures to ensure proper implementation of Earned Value Management Systems (EVMS) Criteria. The contractors' management control systems shall include policies, procedures and methods that are designed to ensure that they will accomplish the considerations reflected herein.

Organization

a. Define the authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.

b. Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.

c. Provide for the integration of the company's planning, scheduling, budgeting, work authorization and cost accumulation processes with each other, and as appropriate, the program work breakdown structure and the program organizational structure.

d. Identify the company organization or function responsible for controlling overhead (indirect costs).

e. Provide for integration of the program work breakdown structure and the program organizational structure in a manner that permits cost and schedule performance measurement by elements of either or both structures as needed.

Planning, Scheduling, and Budgeting

a. Schedule the authorized work in a manner which describes the sequence of work and identifies significant task interdependencies required to meet the requirements of the program.

b. Identify physical products, milestones, technical performance goals, or other indicators that will be used to measure progress.

c. Establish and maintain a time-phased budget baseline, at the control account level, against which program performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the control account level. Initial budgets established for performance measurement will be

based on either internal management goals or the external customer negotiated target cost including estimates for authorized but undefinitized work. On government contracts, if an over target baseline is used for performance measurement reporting purposes, prior notification must be provided to the customer.

d. Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors.

e. To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes.

f. Provide that the sum of all work package budgets plus planning package budgets within a control account equals the control account budget.

g. Identify and control level of effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort.

h. Establish overhead budgets for each significant organizational component of the company for expenses which will become indirect costs. Reflect in the program budgets, at the appropriate level, the amounts in overhead pools that are planned to be allocated to the program as indirect costs.

i. Identify management reserves and undistributed budget.

j. Provide that the program target cost goal is reconciled with the sum of all internal program budgets and management reserves.

Accounting Considerations

a. Record direct costs in a manner consistent with the budgets in a formal system controlled by the general books of account.

b. When a work breakdown structure is used, summarize direct costs from control accounts into the work breakdown structure without allocation of a single control account to two or more work breakdown structure elements.

Summarize direct costs from the control accounts into the contractor's organizational elements without allocation of a single control account to two or more organizational elements.

d. *Record all indirect costs which will be allocated to the contract.*

e. *Identify unit costs, equivalent units costs, or lot costs when needed.*

f. *For EVMS, the material accounting system will provide for:*

(1) *Accurate cost accumulation and assignment of costs to control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques.*

(2) *Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material.*

(3) *Full accountability of all material purchased for the program including the residual inventory.*

Analysis and Management Reports

a. *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:*

(1) *Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.*

(2) *Comparison of the amount of the budget earned and the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.*

b. *Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management.*

c. *Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances.*

d. *Summarize the data elements and associated variances through the program organization and/or work breakdown structure to support management needs*

and any customer reporting specified in the contract.

e. Implement managerial actions taken as the result of earned value information.

f. Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements.

Revisions and Data Maintenance

a. Incorporate authorized changes in a timely manner, recording the effects of such changes in budgets and schedules. In the directed effort prior to negotiation of a change, base such revisions on the amount estimated and budgeted to the program organizations.

b. Reconcile current budgets to prior budgets in terms of changes to the authorized work and internal replanning in the detail needed by management for effective control.

c. Control retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, earned value, or budgets. Adjustments should be made only for correction of errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data.

d. Prevent revisions to the program budget except for authorized changes.

e. Document changes to the performance measurement baseline.