JOINT PROGRAM MANAGEMENT HANDBOOK

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PREFACE

The 1996 *Joint Program Management Handbook, 2d Edition*, updates the 1994 edition; which was a replacement for the 1987 *Joint Logistics Commander's Guide for The Management of Joint Service Programs*, published by the Defense Systems Management College (DSMC). This Handbook addresses changes in the joint requirements process and the March 1996 revisions of the Department of Defense (DoD) 5000 Documents [Series] directive and regulation. If you are new to the acquisition process, or unfamiliar with changes to the acquisition process that have taken place since 1991, you should use this Handbook in concert with Professor Joseph Schmoll's *Introduction to Defense Acquisition Management, 3d Edition*, (DSMC Press, June 1996).

Similar to the Introduction to *Defense Acquisition Management, 3d Edition*, this Handbook also provides a quick guide to refresh the skills of experienced acquisition management professionals and serves as an introduction to joint acquisition management for students and newcomers. The views of experienced joint program managers are quoted within this guide to give practical advice to the reader.

Suggested additions, deletions, and other changes are encouraged from readers of this publication. For your convenience, at the back of this Handbook is a postage-paid Customer Feedback form. Please take a few minutes to fill it out and help us improve our publication.

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Although everyone provided tremendous support, one individual deserves special recognition. My sincere appreciation goes to Mr. Joseph Schmoll for his concept of a simple user-friendly Handbook.

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1

AN INTRODUCTION TO JOINT PROGRAM MANAGEMENT

Purpose

This Handbook is an introduction to joint program management for current and future joint program personnel. As a complement to the more general *Introduction to Defense Acquisition Management, 3d edition*, (DSMC Press, June 1996), this Handbook incorporates the perspectives of former joint program managers (PMs) gleaned from a Defense Systems Management College (DSMC)-sponsored interview program. This overview does not detail descriptions of how each component manages those joint programs for which it is the lead component. Joint programs are managed on a day-to-day basis in accordance with the lead components procedures. These details are left to the component. This Handbook provides additional guidance on policies and procedures that help assure a successful joint program.

General

Department of Defense (DoD) Regulation 5000.2-R defines a joint program as:

> *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) [Under Secretary of Defense (Acquisition and Technology)] or ASD(C^3I) [Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)] has designated a DoD organization to act as the lead (e.g., USSOCOM [U.S. Special Operations Command], BMDO [Ballistic Missile Defense Office], DARO [Defense Acquisition Reform Office]).

As the definition says, joint program management may vary from a Joint Major Defense Acquisition Program (MDAP) to simply one military department serving as a procuring agent for others. Periodically, all programs are supposed to be reviewed for joint potential. If the program is designated as "joint" at any of these points in the life cycle, a joint PM can be appointed.

The Joint Requirements Oversight Council (JROC) for acquisition category (ACAT) I[1], or Principal Staff Assistant (PSA) for ACAT IA programs reviews and validates component statements of mission needs and operational requirements documents (ORDs), as appropriate, and recommends establishment of joint programs based on their joint potential. The DoD component heads also recommend establishment of joint programs. The decision to establish a joint program will be made by the Milestone Decision Authority (MDA), who designates the lead component as early in the acquisition process as possible. The decision to establish a joint program is based on the recommendation of the JROC for programs that will be reviewed by the Defense Acquisition Board (DAB); the recommendation of the functional PSA and ASD(C^3I) for programs that will be reviewed by the Major Automated Information System Re-

[1] Refer to the Acquisition Category (ACAT) paragraph in Chapter 1 for ACAT definitions.

view Council (MAISRC), or the recommendation of the DoD component head (or a designated representative) for all other programs.

Congressional interest in supporting joint requirements and in avoiding duplication among the components often results in statutory or report language requests for joint programs. Joint programs are established for some of the following reasons:

- Provide a new joint combat capability;
- Improve component interoperability and reduce duplication among the components;
- Reduce development and production costs;
- Meet similar multiservice requirements; and
- Reduce logistics requirements through standardization.

Joint program examples include Joint Tactical Unmanned Aerial Vehicles (JTUAV), Joint Stand-Off Weapons (JSOW), V22 Osprey, the Joint Surveillance Target Attack Radar System (JSTARS), and the Joint Tactical Information Distribution System (JTIDS).

The MDA is the individual designated in accordance with criteria initiated by the USD(A&T) to approve entry of an acquisition program into the next phase. An MDA such as USD(A&T), designates joint programs. Joint programs are generally formed by agreements between component MDAs, or by direction of USD(A&T) or Congress. Formal milestone reviews are conducted to encourage joint program consideration. Each component, the Joint Staff, and the defense agencies coordinate Mission Need Statements (MNSs) to assess the joint potential of their requirements. The sponsoring com-

Joint Potential Designator (JPD)	
Independent	No potential for other service use, systems interface, or joint development or procurement.
Joint Interest	Joint program management is inappropriate, but a potential for other use or systems interface exists.
Joint	A potential for joint program management, joint funding, or joint development or procurement exists.

Source: CJCS MOP 77

Figure 1-1. Definition of Joint Potential Designator

mand assigns a Joint Potential Designator (JPD) in the MNS to indicate potential for joint management, funding, development, or procurement. Figure 1-1 presents these JPDs as defined in the Chairman of the Joint Chiefs of Staff Memorandum of Policy Number 77 (CJCS MOP 77). The JROC coordinates the JPD process for ACAT I programs, and the DoD components[2] perform the same function for ACAT II and III programs. The MDA approves joint program designation for ACAT I programs as early in the acquisition process as possible and appoints the lead DoD component.

All programs are torn between the requirements of the Executive Branch, Congress, and industry. Program managers often call this conflict the "tortured triangle." The joint PM often faces a more complex version of the "tortured triangle," because joint programs generally reflect more complicated joint requirements and are often larger in dollar value to serve the needs of multiple users. On the positive side, however, Congress and Office of the Secretary of Defense (OSD) usually look upon joint programs with greater favor.

[2] The Office of the Secretary of Defense; the Military Departments; the Chairman, Joint Chiefs of Staff and the Joint Staff; the Unified Commands; the Defense Agencies; and DoD Field Activities.

A successful joint PM must learn enough about the requirements and cultures of each supported component to place a capable and supportable weapon system in the hands of users. In Joint Pub 1, General Colin Powell, former CJCS, wrote, "Joint warfare is team warfare." By analogy, the successful joint PM must build a joint team, whose members are skilled in their own types of warfare, and be able to supervise an effective joint organization. Some joint program staffs manage large ACAT I or ACAT IA programs. These program offices have more senior-level oversight. Other joint program offices generally operate within the lead service's acquisition chain but face some unique life cycle challenges as will be described later in this Handbook.

Joint programs are managed through the lead DoD component's acquisition chain. The formal definition of joint programs includes programs with broad joint applications and programs in which one component may act as an acquisition agent for another component. Therefore, the joint PM must assess the needs of the Unified Command[3] and component customers and establish a functional management structure to accommodate their concerns. This Handbook describes regulatory requirements of joint programs and provides management advice designed to supplement, but not replace, DoDD 5000.1 and DoD 5000.2-R.

Views of Former Joint PMs:

- *Jointness may be defined as a single system that satisfies the needs of more than one component.*

- *Never lose sight of who the [joint] customer is and what exactly is required to support the mission objective and requirements.*

[3] Central Command; European Command; Pacific Command; Atlantic Command; Southern Command; Special Operations Command; Strategic Command; Space Command; and Transportation Command.

- *Each military service [component] has different terminology or "language." The joint PM is required to comprehend what the military service [component] "actually said" vs. what the military service [component] "actually meant to say."*

Authority for Joint System Acquisition

In general, standard procurement law (e.g., The Competition in Contracting Act) and regulations (e.g., the Federal Acquisition Regulation (FAR), the DoD FAR Supplement (DFARS), and the component supplements) apply to joint programs. The following should be emphasized for joint programs:

- **The Law:**

  - The DoD Reorganization Act of 1986 (Goldwater-Nichols) and another legislative report, *Defense Organization: The Need for Change*, which explains congressional reasoning for increasing jointness and the influence of the combatant commanders.

  - Section 2308, Title 10, U.S. Code, which describes terms and conditions for component withdrawal from joint programs.

- **Regulations:**

  - DoD Directive (DoDD) 5000.1, *Defense Acquisition*, March 1996, the broad policy directive.

  - DoD 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs*, March 1996, which implements this policy.

- Defense Acquisition Deskbook 1996, an automated system with references, best practices, and suggested formats for some documents.

- CJCS MOP 77,[4] *Requirements Generation System Policies and Procedures*. Provides policy for requirements generation and the processing of MNS and ORDs.

Acquisition Categories (ACATs)

- ACAT I programs are MDAPs. An MDAP is defined as a program estimated by the USD(A&T) to require eventual expenditure for research, development, test, and evaluation (RDT&E) of more than $355 million (fiscal year (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 U.S.C. §24305).

ACAT I programs have three subcategories:

1. ACAT ID, for which the MDA is USD(A&T). The "D" refers to the 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.)

3. ACAT IA programs are MAIS. A MAIS acquisition program is estimated by the ASD(C^3I) to require program costs for any single year in excess of $30 million (FY 1996 constant dollars), total program costs in ex-

[4] CJCS MOP 77 is currently being revised. Estimated publication date is 1 Aug 96.

cess 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(C^3I) to be ACAT IA.

ACAT IA programs have two subcategories:

1. ACAT IAM for which the MDA is the OSD Chief Information Officer (CIO). The "M" refers to MAISRC.

2. ACAT IAC, for which the MDA is the DoD component CIO. The "C" refers to Component.

The ASD(C^3I) designates programs as ACAT IAM or ACAT IAC.

- ACAT II[5] 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 RDT&E of more than $140M in FY 1996 constant dollars, or for procurement of more than $645M in FY 1996 constant dollars), or those designated by the DoD component head to be ACAT II. The MDA is the DoD CAE.

- 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 MAISs.

[5] ACAT II does not apply to automated information system acquisition programs.

- The DoD component is responsible for notifying the USD(A&T) or ASD(C^3I) when cost growth or a change in acquisition strategy results in reclassifying a formerly lower ACAT program as an ACAT I or IA program.

Interoperability

One of the most important considerations for any acquisition program is meeting interoperability requirements. Interoperability capabilities are particularly crucial for Command, Control, Computers, Communications, Intelligence, Surveillance, and Reconnaissance (C^4ISR) systems. Chairman, Joint Chiefs of Staff Instruction (CJCSI) 6212.01A covers the compatibility, interoperability, and integration of new or modifications to existing DoD systems that have C^4ISR capabilities (including weapon systems, DoD National Foreign Intelligence Programs, and Tactical Intelligence and Related Activities). The policies and procedures in CJCSI 6212.01A also include automated information systems (AIS) not normally included in C^4I definitions but which have missions requiring interface to the joint warfighter.

2

DEPARTMENT OF DEFENSE JOINT ACQUISITION POLICY AND REPORTING REQUIREMENTS

General

The Department of Defense Directive (DoDD) 5000.1 and Department of Defense Regulation 5000.2-R rank first and second in order of precedence for providing mandatory policies and procedures for the management of acquisition programs, except when statutory requirements override. The DoDD 5000.1 describes broad management principles which are applicable to **all** DoD acquisition programs including joint acquisitions. The DoD 5000.2-R describes operating procedures which are mandatory for Major Defense Acquisition Programs (MDAPs), Major Automated Information System (MAIS), and contain some mandatory guidance for selected nonmajor programs. This chapter highlights some policy areas of joint emphasis and the key documents that may be required of joint programs.

Memorandums of Agreement and Memorandums of Understanding

The terms Memorandum of Agreement (MOA) or Memorandum of Understanding (MOU) are usually interchangeable. They are the basis of a good joint program. They define the ground rules from which most other management actions flow. The rules for MOAs and MOUs for joint programs were defined in an MOA on Management of Multiservice Programs, signed 20 July 1973 (Appendix A). It is still the basis for the

authority given multiservice program managers (PMs).

Early identification of joint service opportunities ensures all players are brought in prior to the start of development. Having interested parties hammer out the details *before* development starts is critical to success. In particular, the process for negotiating the joint requirements is identified in the MOU. All participants must clearly state joint operational requirements and agree to them. If all participants do not agree to the requirements "up front," the joint PM will have a hard time trying to satisfy changing demands from two or more chains of command.

Typically these are some issues that should be addressed in MOAs and MOUs:

- Management
  - Determine the PM's scope of authority
  - Establish selection criteria
  - Define relationships between participants
    - -- full partners
    - -- associates
  - Determine management organization relationships

- Requirements
  - Establish program requirements
  - Establish process for validating changes
  - Define who can create changes

- Security
  - Determine degree of risk
  - Determine what will be controlled
  - Determine how control will occur

- Funding
  - Determine funding source
  - Determine share ratios/amounts

- Agree to funds control measures

- Contracting
  - Type of contract
  - Whose rules (lead/participating)

- Conflict Resolution Device(s)

- Integrated Product Teams (IPTs) to cover:
  - Requirements
  - Logistics
  - Cost/performance trade-offs
  - Interface/configuration control
  - Test and Evaluation (T&E)

Not all joint programs have MOUs or MOAs. On the other hand, some have many. It is possible to run a program without them; they just make it easier. It all depends on the needs of a specific program.

Acquisition Reviews

In support of all Acquisition Category (ACAT) ID and IAM programs, an Overarching Integrated Product Team (OIPT) is formed to provide assistance, oversight, and review as that program proceeds through its acquisition life cycle. The OIPT for ACAT ID programs is led by the appropriate Office of the Secretary of Defense (OSD) official (typically the Director of Strategic and Tactical Systems, the Assistant Deputy Under Secretary of Defense (Space and Acquisition Management), or the Deputy Assistant Secretary of Defense (Command, Control, Communications, and Intelligence/Acquisition) (DASD(C^3I)/A), depending on the program in question). The DASD (C^3I)/A will designate the OIPT leader for each ACAT IAM program. The OIPTs are composed of the PM, program executive officer (PEO), component staff, joint staff, Under Secretary of Defense (Acquisition and Technology)

(USD(A&T)) staff, and the OSD staff principals or their representatives, involved in oversight and review of a particular ACAT ID or IAM program.

In support of a planned milestone review by the Defense Acquisition Board (DAB) or Major Automated Information System Review Council (MAISRC), the OIPT normally convenes two weeks in advance of the anticipated review to assess information and develop recommendations for the milestone decision authority (MDA). A DAB Readiness Meeting (DRM) is normally conducted a couple of days prior to the DAB to provide the OIPT leader and the Component Acquisition Executive (CAE) an opportunity to make a recommendation as to whether the program is prepared to proceed to a formal DAB review. The DoD and component acquisition review processes include an analysis of potential for joint program designation. The OIPT leader, in coordination with the appropriate CAE, recommends to the MDA whether the anticipated review should go forward as planned.

Reporting Chains

Like service-unique programs, joint programs must have short, clear lines of authority. Figure 2-1 shows a typical ACAT ID and IAM joint program authority chain, which includes an acquisition authority, PEO, and PM. However, some joint programs may be structured with the joint PM reporting directly to the MDA.

Requirements

Joint program requirements may be initiated by a Unified Command, Commander-in-Chief (CINC), but the preferred means is staffing through a component in support of the concerned CINC.

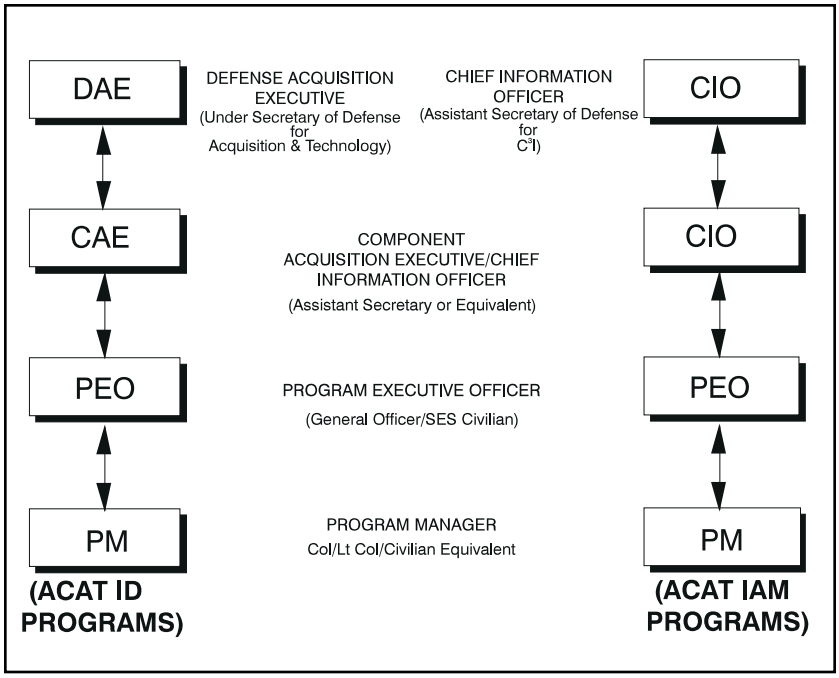

Figure 2-1. Joint DoD Acquisition Authority Chain (ACAT I Programs)

- The joint PM should learn the combatant commander's rationale for major programs, e.g., obtain wide-area battlefield surveillance or attack time-critical targets in adverse weather and at night.

- The joint PM must be sensitive to component concerns, e.g., operation in damp, salty environments; maintenance training; and weight.

Test and Evaluation

Just as for component-unique programs, the OSD Director, Operational Test and Evaluation (DOT&E) and the Director, Test, Systems Engineering, and Evaluation (DTSE&E) must provide written approval for the testing and evaluation ad-

equacy of most joint programs[6]. A combined developmental test and operational test (DT/OT) approach is encouraged to achieve time and cost savings. The combined approach must not compromise either DT or OT. A final independent phase of OT and evaluation is required for ACAT I and II programs prior to Milestone III. A lead organization must be designated to coordinate all testing involving more than one military department or defense agency. Test and evaluation programs must be structured to integrate all developmental test and evaluation (DT&E), OT&E, live-fire test and evaluation (LFT&E), and modeling and simulation activities conducted by different agencies as an efficient continuum. Test and evaluation objectives for each phase of development must be designed to allow assessment of system performance appropriate to each phase and milestone.

Lead Component Responsibilities

The designated lead Component:

- Maintains current program documentation;
- Manages the flow of milestone review and periodic reporting through the lead DoD service acquisition chain; and
- Manages the common research, development, test, and evaluation (RDT&E) funds for assigned joint programs (unless directed otherwise).

Program Funding

The lead component funds RDT&E for all program aspects that satisfy common requirements (unless funding exemption

[6] DOT&E and DTSE&E issue an annual OSD Test and Evaluation Oversight list of programs subject to OSD T&E oversight and review. Typically, all ACAT I, IA, and II programs, as well as many ACAT III programs are on this list.

has been approved by the MDA). Procurement is funded by the component in proportion to the number of items being bought by each component. The lead component has total program funding authority. Joint PMs must ensure that:

- Participating components fund component-unique integration and improvements and resulting procurements.

- Participants commit funds while MOAs and MOUs discuss funding.

The National Defense Authorization Act of 1993 changed the guidelines for withdrawing from joint programs, as follows:

- For ACAT I programs, the head of the withdrawing DoD component must notify the USD(A&T), the Vice Chairman of the Joint Chiefs of Staff (VCJCS), and the concerned component acquisition authority before withdrawing or "substantially reducing" program participation.

- Substantial reduction in program participation consists of a 50 percent or more decrease in its share of next presidential budget year funding, in total program funding, or in equipment quantities by the components seeking to reduce their participation.

The lead component assesses the impact of the participating component withdrawing or substantially reducing participation. The Joint Requirements Oversight Council (JROC) and DAB or the OIPT reviews this analysis and make recommendations. The USD(A&T) makes the final determination of whether the withdrawing component may drop the program or substantially reduce participation and whether the withdrawing component will be liable for any continuing funding costs. The withdrawing component may not reduce or eliminate funding prior to

the USD(A&T)'s final decision.

Similar procedures are used for ACAT II and III programs, with the lead component making an initial determination of whether the withdrawing component will have continuing financial obligations for the program. For ACAT II and III programs, withdrawal decisions by the head of the lead component or CAE may be appealed to the USD(A&T).

Views of Former Joint PMs:

- *Joint training saves dollars and adds to trade-offs and assistance for operational users. Joint logistics (one depot) helps monies pass through various checkpoints in the planning, programming, and budgeting system (PPBS). Any "jointness" that works needs to be emphasized and reemphasized to Congressional staffers and DoD agencies. Saves the program, sometimes.*

Any defaults or withdrawals from a program may have to be paid for by the component that bows out. The component should continue to pay for the program through the next milestone or PPBS cycle.

C^4I Support Plan

DoD 5000.2-R requires a C^4I support plan for all weapon systems/programs that interface with C^4I systems. The format for the C^4I support plans is planned for inclusion in the Acquisition Deskbook by October 1996.

Quality Assurance (QA)

A joint program must have a single QA program, a single change control program, a single integrated test program, and common documentation.

MDA may waive non-statutory requirements

Information	Milestone				Reference	
	0	I	II	III	DoD 5000.2-R	Other
Acquisition Decision Memorandum (ADM)		X	X	X	Part 5	
Acquisition Strategy (8 elements)		X	X	X	Part 3.3	10 USC 2435
Acquisition Program Baseline (APB)		X	X	X	Part 3.2.2	
Affordability Assessment		X	X	X	Part 2.5.2	
Analysis of Alternatives [1]	X	X			Part 2.4	
Beyond Low Rate Initial Production (LRIP) Report				X	Part 6.3.3	10 USC 2400
Component Cost Analysis (CCA)		X	X	X	Part 5.6	DoDD 5000.4
Cost Analysis Requirements Description (CARD)		X	X	X	Part 3.5.1	DoDD 5000.4
Exit Criteria		X	X	X	Part 3.2.3	
FYDP Funding Profile		X	X	X	Part 2.5.1	
Independent Estimate of Full Life Cycle Cost		X	X	X	Part 3.5.1	10 USC 2434
Legality of Weapons Under International Law [2]			X	X		DoDD 5000.1
Live Fire Test & Evaluation Waiver Certification [2]			X		Part 3.4.9	10 USC 2366
Live Fire Test & Evaluation (LFT&E) Report [2]				X	Part 6.3.2	10 USC 2366
Low Rate Initial Production (LRIP) Quantities [2]			X		Part 1.4.4.1	10 USC 2400
Manpower Estimate			X	X	Part 3.5.2	10 USC 2434
Mission Need Statement (MNS)	X				Part 2.3	CJCS MOP 77
Operational Requirements Document (ORD)		X	X	X	Part 2.3	CJCS MOP 77
Overarching IPT (OIPT) Leader's Report [2]	X	X	X	X	Part 5.4.1	
OIPT Staff Assessments	X	X	X	X	Part 5.4.1	
Program Office Estimate (POE) (life cycle costs)		X	X	X	Part 3.5.1	
System Threat Assessment [2]		X	X	X	Part 2.2	
Test & Evaluation Master Plan (TEMP)		X	X	X	Part 3.4.11	10 USC 2399
Test Results (DT&E, OT&E, LFT&E, etc.)			X	X	Part 6.3.1	

Notes:
1. MS 0 for AIS programs; MS I for others. May be required for MDA for MS II and III.
2. Normally not required for AIS programs

Figure 2-2. Information for Milestone Reviews ACAT I and IA Programs

Information Requirements for Milestone Reviews

Throughout the acquisition life cycle, the joint PM must comply with a number of requirements to provide program information to the MDA. Figures 2-2 and 2-3 show information that may be used by a typical joint program office to support a milestone review. Some additional information for use in joint program management is provided for some, but not all of the

MDA's for ACAT II & III programs have wide latitude and broad authority over the content and format of many (but not all) of these information elements MDA may waive non-statutory requirements

Information Element	Milestone				Reference	
	0	I	II	III	Primary	Other/Related
Acquisition Strategy		X	X	X	DoD 5000.2-R, 3.3	Core Mgmt Issue
Acquisition Program Baseline (APB)		X	X	X	DoD 5000.2-R 3.2.2	Core Mgmt Issue
Affordability/FYDP funding		X	X		DoD 5000.2-R, 2.5.2	Core Mgmt Issue
Analysis of Alternatives [1]	X	X			Core Mgmt Issue	DoD 5000.2-R, 2.4
Cost as An Independent Variable (CAIV) Objectives [2]		X	X	X	DoDD 5000.1, D.1.e	DoD 5000.2-R, 1.5
Environmental Health & Safety (EHS) Assessment [2, 3]		X	X	X	DoD 5000.2-R, 3.3.6	42 USC 4321-47
Legality of Weapons Under International Law [3]			X	X	DoDD 5000.1, D.2.j	
Life Cycle Cost Estimate		X	X	X	Core Mgmt Issue	DoD 5000.2-R, 3.5.1
Live Fire Test & Evaluation Waiver Certification [3, 4]			X		DoD 5000.2-R, 3.4.9	10 USC 2366
Live Fire Test & Evaluation Report [3, 4]				X	DoD 5000.2-R, 6.3.2	10 USC 2366
Low Rate Initial Production (LRIP) Quantities [3, 5]			X		DoD 5000.2-R, 1.4.1.1	
Mission Need Statement (MNS)	X				CJCS MOP 77	DoD 5000.2-R, 2.3
Operational Requirements Document (ORD)		X	X	X	CJCS MOP 77	DoD 5000.2-R, 2.3
Risk Assessment [2]		X	X	X	DoDD 5000.1, D.1.d	DoD 5000.2-R, 3.3.2
Staff Assessments	X	X	X	X	DoDD 5000.1, D.2.g	
Test & Evaluation Master Plan (TEMP) [6]		X	X	X	DoD 5000.2-R, 3.4.11	10 USC 2399
Test Results (DT/OT/LFT&E) [6]			X	X	DoD 5000.2-R, 6.3.1	

Notes:
1. MS 0 for AIS programs; MS I for others. May be required by MDA for MS II/III.
2. May be included in acquisition strategy.
3. Normally not required for AIS programs.
4. Covered ACAT II & product improvements to covered systems.
5. ACAT II only.
6. Programs on OSD T&E Oversight List and others designated by MDA.

Figure 2-3. Information for Milestone Reviews ACAT II and III Programs

information elements. DoD 5000.2-R, and the Defense Acquisition Deskbook go into more detail. The Defense Acquisition Deskbook is an automated reference system consisting of an on-line bulletin board and a reference library at **http://deskbook.osd.mil/deskbook** on the World Wide Web. The Deskbook reference library will be issued to the field on CD-ROM by the time this handbook is printed. The reference library contains mandatory policy and procedures (FAR/DFARS, 5000 documents, extracts from public law, Service and Agency regulations, etc.), and a discretionary section with amplifying guidance and lessons learned.

Because of the need to coordinate with multiple components, it often takes twice as long as for a single component program

to generate program information. Consequently, the joint PM needs to assess the program office's information requirements at an early stage and allow sufficient time not only for developing the information but also for coordinating with participating components.

Single Document for Milestone Decision Reviews

The DoD 5000.2-R provides that information required for milestone reviews may be combined into a single document. Further, if stand-alone documents are used, they must not contain redundant information in each document. The Air Force uses a single document called a *Single Acquisition Management Plan (SAMP)*. The SAMP is not a plan at all, it is an executive summary of information the MDA needs to make an informed decision. The joint PM may want to consider developing a single document for milestone reviews. One joint program, the Joint Direct Attack Munitions (JDAM) program, developed a SAMP for Milestone II. This JDAM SAMP was an executive "summary of the program at a level meant for the MDA to read and understand." It replaced all other DAB documents except the following, which remained as stand-alone:

- Acquisition Program Baseline (APB);
- Test and Evaluation Master Plan (TEMP);
- Joint Operational Requirements Document; and
- Cost Analysis Requirements Description (CARD).

The JDAM SAMP also did not replace the Acquisition Plan (a FAR/DFARS requirement). It only included major topics relevant to the milestone decision and the oversight process. Program details were in separate documents that the program office or contractor developed and maintained.

The following summaries include partial clarification on the joint implications of some of the milestone information requirements.

Analysis of Alternatives

The lead component head, or designated representative, often an operating command, is responsible for the analysis of alternatives. The analysis of alternatives (mandatory for ACAT I programs) are prepared by the lead component and considered at milestone reviews beginning at Milestone I. If the analysis of alternatives is supplemented by other participants, the lead component must ensure that assumptions and methodologies are consistent. Large joint programs will likely have modeling support to perform this analysis. Former joint PMs recommend several different models to improve and verify analysis.

View of Former Joint PM:

Economy of scale is an important issue in the Cost and Operational Effectiveness Analysis (COEA)[7] *and requirements process.*

Cost Analysis Requirements Description (CARD)

The CARD is prepared by the lead component with inputs from participants. The CARD establishes a system description for cost estimating purposes. For joint programs, the CARD must include common salient system features as agreed to by the participants and service-unique requirements. The CARD is provided in preliminary form to the Cost Analysis Improvement Group (CAIG).

[7] COEA has been replaced by the analysis of alternatives.

System Threat Assessment

The component intelligence command or agency produces the initial system threat assessment, described in Part 2, DoD 5000.2-R, before Milestone I. The system threat assessment contains a system-specific threat, e.g., hostile air defenses, an analysis of technically feasible weapons that could affect the proposed system, and critical intelligence parameters that, if changed, could affect the weapon system. The Director, Defense Intelligence Agency (DIA), advises the DAB and JROC and validates threats developed by the components for DAB review. The joint PM should understand the system threat assessment and be able to brief its status, but should leave substantive intelligence issues to professional intelligence officers.

Test and Evaluation Master Plan (TEMP)

Appendix III of DoD 5000.2-R describes TEMPs. Joint programs require a single TEMP. Therefore, the joint PM must broker a coordinated TEMP with the participants for DT and OT&E. The DOT&E and the DTSE&E are the approval authorities for TEMPs of programs listed on the OSD T&E Oversight list.

Acquisition Program Baselines (APB)

Rigorous internal management control systems are integral to effective and accountable program management. The objective is to perform acquisition functions efficiently and effectively. Joint PMs should control objectives for acquisition program cost, schedule, and performance parameters that are embodied in APBs. Material weaknesses are identified through deviations from approved APB parameters and exit criteria.

3

JOINT DEFENSE ACQUISITION MANAGEMENT ORGANIZATIONS

General

This chapter discusses the organizations involved in joint program management. It presents some historical background, describes the organizations that provide acquisition oversight, describes component relationships, and presents issues related to each.

Background

Joint program managers (PMs) operate in an environment shaped by fairly recent and continuing acquisition reforms. The latest major acquisition reforms started with President Reagan's Blue Ribbon Commission on Defense Management (the Packard Commission, named for its Chairman David Packard, a former Deputy Secretary of Defense). Among other things, the Packard Commission recommended the establishment of an Under Secretary of Defense (Acquisition) (USD(A) (now the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)). President Bush ordered a follow-on assessment of acquisition, which became known as the Defense Management Review (DMR). The DMR reiterated the findings of the Packard Commission, formed the basis of the previous 1991 Department of Defense (DoD) 5000 series—directive and instructions (DoDD 5000.1- DoDI 5000.2, and DoD 5000.2M.

More recent changes are available in the March 15, 1996 release of the DoD 5000 Documents, DoD Directive (DoDD),

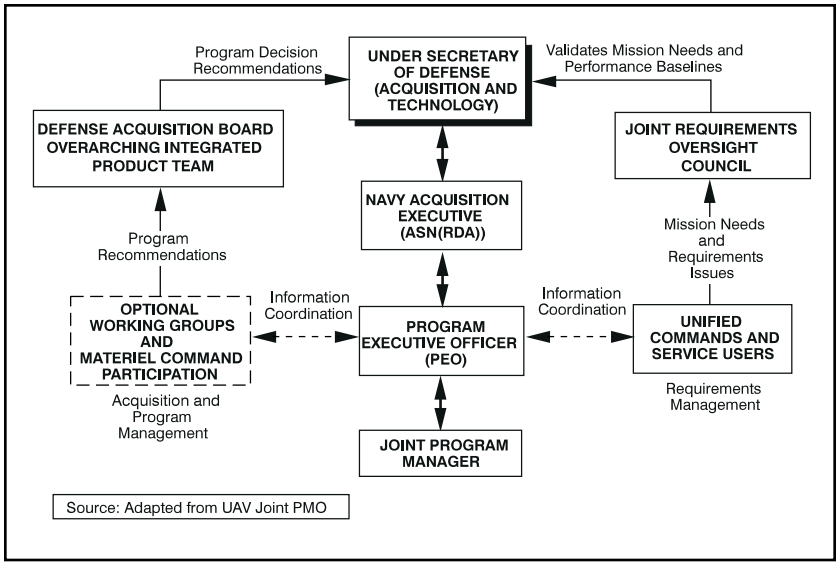

Figure 3-1. Streamlined Joint Program Reporting Chain

5000.1, *Defense Acquisition*, and DoD Regulation 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs*, (replaces DoDI 5000.2) which recommends a four-tiered, streamlined acquisition structure. The structure runs from the USD(A&T), through the Component Acquisition Executive (CAE), and full-time Program Executive Officers (PEOs) to the individual program managers (PMs). Figure 3-1 presents a sample reporting structure. The acquisition reform initiatives have carried the trend of streamlining even further simplifying and combining much of the policy contained in the former 5000 and 8000 series.

Joint Program Oversight Organizations

Joint PMs supervising an acquisition category (ACAT) ID or IAM program are concerned with the following personnel and organizations:

- USD (A&T): Serves as the Defense Acquisition Executive (DAE), and ranks third in the DoD for acquisition matters, taking precedence over the secretaries of the components. USD(A&T) has overall responsibility for acquisition policy inside the DoD.

- The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C^3I)): Serves as the department's Chief Information Officer (CIO). The ASD(C^3I) is the department's Acquisition Executive (AE) for Automated Information Systems (AISs), establishes acquisition policies and procedures unique to AISs, and chairs the Major Automated Information System Review Council (MAISRC).

- The CAEs and their staffs: The Assistant Secretary of the Army for Research, Development, and Acquisition (ASA(RDA)); the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN(RDA)) (supports the Marine Corps); and the Assistant Secretary of the Air Force for Acquisition (ASAF(A)). The Director of the Ballistic Missile Defense Organization (BMDO) is also an acquisition executive; however, all BMDO programs are reviewed by the Defense Acquisition Board (DAB) and the USD(A&T) is the MDA. Commander-in-Chief (CINC) Special Operations Command also has an AE; however, that AE manages ACAT II and III programs with little or no interface with Office of the Secretary of Defense (OSD) or component level staffs.

- The Joint Requirements Oversight Council (JROC): The JROC reviews ACAT ID and IAM programs at each milestone prior to the DAB review and all ACAT I programs at Milestone 0, with emphasis on requirements and performance baseline issues. The JROC is

chaired by the Vice Chairman of the Joint Chiefs of Staff (VCJCS) and includes the Vice Chief of Staff of the Army (VCSA); Vice Chief of Naval Operations (VCNO); Assistant Commandant, U.S. Marine Corps (ACMC); and Vice Chief of Staff of the Air Force (VCSAF).

- DAB/MAISRC Overarching Integrated Product Teams (OIPT's): After component review and JROC validation, ACAT ID and IAM programs are forwarded to an OIPT. Figure 3-2 illustrates the OIPT's responsibility for making a recommendation to the DAB or to the MAISRC about a program's readiness to proceed to the next phase of the acquisition life cycle. Typical issues include operational effectiveness; program cost growth and delays; failure to meet technical thresholds; logistics or other supportability problems; threat assessment changes; test and evaluation (T&E) issues; cooperative development or joint component concerns; and manpower availability.

- Defense Readiness Meeting (DRM): Just prior to the DAB, a DRM is held to determine if the program is ready to go to the full DAB. The OIPT leader and the CAE jointly make this determination. If there are no issues, the program may not be required to go before a formal DAB. The USD(A&T) has the option of signing the acquisition decision memorandum (ADM) after the DRM.

- DAB: After the OIPT and DRM reviews, the DAB reviews the program. The DAB is chaired by the USD (A&T) and includes senior OSD and component representatives. The VCJCS is the Vice Chair of the DAB. The Leader of the cognizant OIPT is also a member of the DAB. The USD (A&T) as the MDA for ACAT ID programs will issue a go or no-go decision, documented in an ADM.

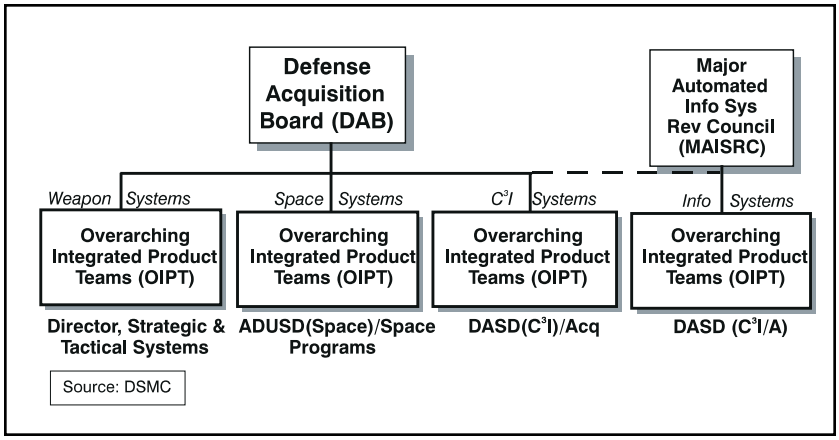

Figure 3-2. Defense Acquisition Board Overarching Integrated Product Teams

- MAISRC: The MAISRC is the senior DoD AIS acquisition review board for ACAT IAM programs, chaired by the ASD(C^3I). The MAISRC advises the ASD(C^3I) on major decisions on individual MAIS acquisition programs, specifically, and AIS acquisition policies and procedures, generally. The ASD(C^3I) signs the ADM for ACAT IAM program.

- Cost Analysis Improvement Group (CAIG): This OSD-level group, within the office of the Director, Program Analysis and Evaluation (DPA&E), is responsible for independent cost reviews. ACAT I program office and component cost analysis and life cycle cost (LCC) estimates must be provided to the CAIG no later than 21 days in advance of OIPT reviews.

- PEO: Joint PMs are generally supervised by a PEO within the lead component. The PEO has responsibilities for oversight of programs with a common nature (e.g., aircraft programs, tactical missile programs) within the lead component, and may exercise oversight of more than one joint program. The PEO can support

the joint PM by interceding to resolve issues within lead and participant budget staffs, procurement commands, and senior Washington area personnel such as those in the intelligence community or OSD. As part of their oversight authority, the PEO can recommend removal and replacement of PMs who are not performing satisfactorily.

A primary concern of an ACAT ID and IAM joint PM is the time management of interfacing with oversight organizations. Meeting DAB and MAISRC milestones requires months of preparation and travel. Prior to either review, the PM briefs the using commands; affected component logistics organizations; key component acquisition officials, such as the Component PEO and CAE; and other affected organizations. Briefing dates are generally not rescheduled unless there is a very high-level requirement or external reason, such as congressional queries about a program.

Views of Former Joint PMs:

- *The joint PM must learn perseverance.*

- *When communicating with DoD agencies (OSD), the PM must rely on continuous dialogue to keep them up to speed on program status and associated problem areas. In the long run, OSD may prove to be of assistance in keeping the program funded or to help resolve problem areas.*

Service Relationships

Joint PMs must coordinate fiscal, logistics, and other matters across one or more component staffs and with joint users. To coordinate effectively, the joint PM must understand the nature of the joint requirement. Furthermore, the joint PM faces a variety of users requiring special attention. For example, an Army user may be more concerned about target vehicle iden-

tification and issues within a sensor system (e.g., armored personnel carrier, tank, or type of tank) than an Air Force surveillance system PM who focuses on airframe and sensor requirements. The Navy and Marines often have special environmental protection requirements for equipment used or stored aboard ships. Even equipment rack size can be a factor for supportability. Service-specific use of technical jargon, informal component networks, and unique requirements, such as in the special operations area, require a special effort by joint PMs.

Views of Former Joint PMs:

- *Develop quarterly briefings for participants' staffs to keep them informed on program status and to eliminate surprises.*

- *Ensure that the lead component develops the basic "system." Any modifications added should be tested by the component for program compliance before implementing them into the mainstream.*

4

JOINT REQUIREMENTS GENERATION PROCESS

General

An understanding of requirements is especially key in joint programs for the reasons discussed in Chapter 3. Moreover, because of the pace of change in our national security environment and the resulting restructuring of the Unified Commands and Components that reflect this global environment, requirements are frequently altered today. The Secretary of Defense (SECDEF) has assigned new missions to the U.S. Atlantic Command, including overseeing joint exercises of Continental United States (CONUS) based forces and peacekeeping support. The Army is preparing for expeditionary operations under its *Land Force Dominance* doctrine. The Navy and Marine Corps are planning for more emphasis on littoral warfare as described in the Navy's *From The Sea* white papers. For its part, the Air Force has undertaken the most major reorganization since its founding to implement its *Global Reach-Global Power* strategy. Requirements generation is an evolutionary process, defining a needed capability to fulfill a deficiency or exploit a gap amid this changing military environment.

Mission Need Statement (MNS)

The MNS identifies the need or deficiency in broad operational terms. It is written after analysis shows that nonmateriel solutions and existing systems will not address the deficiency. Validation is the review by an operational

authority[8] to confirm the requirements, assess joint service potential, and make a Milestone 0 recommendation. The approval authority sends the requirement for action to the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)) for acquisition category (ACAT) I programs, to the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence (ASD(C^3I)) for ACAT IAM programs, and to the Department of Defense (DoD) Component Acquisition Executive (CAE) for other categories. The approval authority should also recommend the Joint Potential Designator (JPD) and may recommend the lead component for joint programs. The Commander-in-Chiefs (CINCs), Component Chiefs and Heads of Defense Agencies may validate and approve ACAT II and III MNS. Except for U.S. Special Operations Command (USSOCOM), the Unified Command CINCs have no CAE. The Unified Commands generally work with their components to find a sponsor, but may send an MNS directly to the JROC for resolution and recommendation of a lead component.

Operational Requirements Document (ORD)

The ORD focuses on incorporating the results of cost-schedule-performance trade-offs from the alternatives analysis. The ORD documents system requirements for fielded systems, including system capabilities and characteristics. Further, it specifies system requirements with regard to performance objectives and thresholds and identifies key parameters. An *objective* is the most operationally meaningful, time critical, cost effective level of performance—better than a threshold. Any more could be considered **gold-plating**. A *threshold* is the minimum acceptable level of performance needed to meet the user's need. Below this, the system's value becomes questionable.

[8] The Joint Requirements Oversight Council (JROC) does this for Acquisition Category (ACAT) I, an Office of the Secretary of Defense (OSD) Principal Staff Assistant (PSA) for ACAT IA, and the component chief or agency head for ACAT II and III.

Thresholds and objectives may be the same parameter. *Key performance parameters* are those capabilities and characteristics so significant that failure to meet them may cause the program to be reassessed or terminated.

The ORD provides a link from the MNS to the acquisition program baseline (APB), test and evaluation master plan (TEMP), and to the contract specifications. Contract specifications for the Program Definition and Risk Reduction (PDRR) phase must be consistent with (but not necessarily match) ORD threshold values, showing technical progress to the objective values. Contract specifications should reflect objective values in the Engineering and Manufacturing Development (EMD) phase.

Interoperability of C^4I Systems

The J-6, Joint Staff, certifies all component approved MNS and ORDs for conformance with joint C4 policy and doctrine, architectural integrity, and interoperability standards. Chairman, Joint Chiefs of Staff Instruction (CJCSI) 6212.01A describes this certification process.

Views of Former Joint PMs:

- *A major cost driver is the inability to make decisions on joint requirements.*

- *Contract problems can be traced back to technical issues and related to the ability to meet the requirements levied upon the system. Problems arise from a lack of distinction between program "objectives" and "thresholds" wherein the components set their thresholds equal to their objectives for fear that their objectives would otherwise not be met. The joint PM must validate the requirements on merit, with a value-added perspective.*

- *The Joint Requirements Oversight Council (JROC) process is important because of user participation and the ability to coordinate or identify requirements issues.*

- *In development of the ORD, 50 percent of the time is spent with users discussing trade-offs.*

5

LIFE CYCLE MANAGEMENT OF JOINT PROGRAMS

General

The acquisition life cycle, as depicted in Figure 5-1, consists of a series of decision points and phases of activity. This chapter reviews those decision points and phases and provides general observations and recommendations regarding the joint program manager's (PM's) activities in each phase.

Pre-Milestone 0 - Determination of Mission Need

Just prior to Milestone 0, the Joint Requirements Oversight Council (JROC) reviews Mission Need Statements (MNS) for potential acquisition category (ACAT) I programs to determine if the expressed need is common to more than one component and may ultimately result in the initiation of a joint program. For ACAT IA programs, the JROC or the Principal Staff Assistant (PSA) may perform this function. As discussed earlier in this Handbook, joint

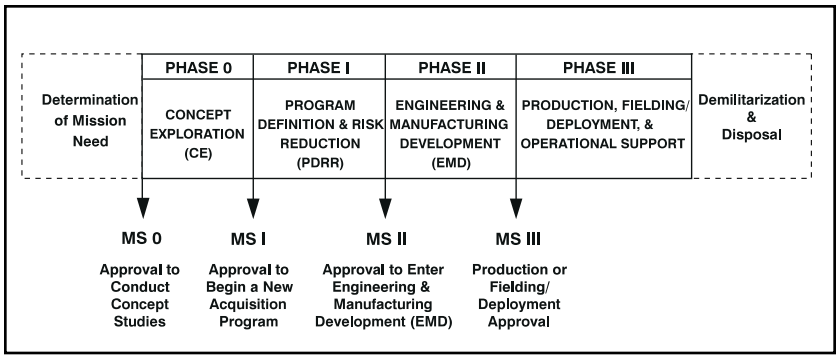

Figure 5-1. Acquisition Milestones and Phases

programs do not formally exist at this point in the acquisition cycle. Nevertheless, if a joint requirement is deemed to exist, the JROC/PSA recommends designation of a lead component for conducting the Concept Exploration (CE) phase of the program to the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)), or the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence (ASD(C^3I)).

Milestone 0 - Approval to Conduct Concept Studies

The JROC examines the needs expressed by the components to confirm that they cannot be met by nonmateriel solutions (e.g., a change in tactics). For ACAT I programs, if the JROC determines that a common need expressed by two or more components can only be met by a materiel solution, the Defense Acquisition Board (DAB) assesses the JROC's findings and recommends to the USD(A&T) whether studies should be conducted. The USD(A&T) formally initiates the concept studies phase via an Acquisition Decision Memorandum (ADM) that names the lead components to conduct the studies, identifies minimum alternatives to be explored, and establishes the criteria for exiting the CE phase.

The JROC/PSA will perform a similar function for ACAT IA efforts. The ASD(C^3I) signs the ADM initiating the CE phase for these programs.

For ACAT II and III programs, the components, through the DoD Component Acquisition Executive (CAE), determine whether to initiate the CE phase.

Phase 0 - Concept Exploration (CE)

During Phase 0, the lead component initiates a wide variety of short-term studies to assess alternatives to satisfying the need. These studies address trade-offs among cost, performance, and schedule. Although at this point a joint program still does not formally exist, the activities of the staff conducting the studies begin to take

on some of the flavor of a joint program.

This is a critical stage in the development of a joint program. There must be coordination among the participating components to identify their specific needs. The lead component staff conducting the studies needs to be cognizant of the different components' approach to system employment and logistics support, to include possible component-unique needs. Because of the impact on the unit and life cycle costs (LCC) of the alternatives, the quantities and the logistics support infrastructures needed by each component are also addressed at this point. Furthermore, whoever is leading the program, prior to the designation of the joint PM, needs to conduct interservice coordination to develop the acquisition strategy. The proposed acquisition strategy must comply with all relevant arms control treaties.

It is here that the system requirements begin to take shape. Interviews with joint program personnel determined that defining *must meet system requirements* is the most critical factor in the eventual success of the program. The participants must agree on system requirements and identify specific service-unique requirements that need to be paid for separately by that component.

Milestone I - Approval to begin a New Acquisition Program

This milestone marks the official birth of a joint program. The decision to initiate a joint program to develop a new system is made only after it has been determined that the need cannot be met by using or modifying an existing military system, using or modifying an existing commercial or allied system, or pursuing a cooperative research and development (R&D) program with one or more allied nations.

The decision to initiate a joint program is promulgated via an ADM approving the initiation of the new joint program under the leadership of a particular component and giving permission to enter the next acquisition phase.

Phase I -Program Definition and Risk Reduction (PDRR)

During Phase I, joint program office (JPO) activities go into full swing. The program office is established (if not already formed) and jointly manned. Funding from multiple components is brought together under the control of the lead component. Funding for common research, development, test, and evaluation (RDT&E) is provided by the lead component, while funding for component-unique requirements is provided by the component needing the unique capability.

As the phase continues, contracts are let to develop and demonstrate hardware and software systems. Testing is also conducted to determine if the systems being developed meet the established requirements.

In addition, the logistics support infrastructure required to support the system is examined in detail. There are basic underlying differences in logistics infrastructures among the participating components. These differences primarily affect maintenance concepts and maintenance support equipment. The joint PM must ensure that sufficiently detailed planning occurs to account for these differences and that commonality is maintained to the greatest extent possible.

Because this is the fledgling stage of the system acquisition cycle, it is the phase during which the program is most vulnerable to external criticism, political pressures, and change. During this phase, the joint PM must work very closely with the participating components to maintain "jointness" and to balance attention between the internal day-to-day activities of the program and external factors that may work to derail the program. Briefings to external organizations become routine, and virtually every program management decision needs to be coordinated through multiple channels. Historically, it has been commonplace for participating components to second-guess the joint PM and develop their own

independent technical and cost estimates regarding the program. Such independent assessments, particularly if they lead to radically different conclusions, can result in mixed signals to higher headquarters and even to the Congress. Consequently, it is absolutely essential for the joint PM to be able to reconcile differences among the participating components so that common and consistent data are presented to outside organizations. This will prevent confusion and help maintain an accurate understanding of the program by all concerned parties.

At the end of the phase, the joint PM must be able to demonstrate success in meeting the objectives of Phase I and present results upon which to make a sound decision to proceed into the EMD phase.

Milestone II - Approval to enter Engineering and Manufacturing Development (EMD)

EMD of approval marks is a significant step for any program, but it is even more significant for a joint program because of the obstacles that generally must be overcome to get this far. Because of differences among the components, some joint programs never pass this step and are pursued no further. Others are completely restructured at this point before they are permitted to continue.

Although joint programs normally are initiated at Milestone I, this step may also mark the beginning of a joint program. Because the opportunity for satisfying joint requirements is reviewed throughout the acquisition cycle, some individual component programs have been merged at this point into a new single joint program. An example is the creation of the Joint Stand-Off Weapon (JSOW) Program, under the leadership of the Navy, resulting from the merger of the Navy's Advanced Interdiction Weapon System (AIWS) Program and some Air Force weapons programs that were still in the CE phase.

In either case, EMD approval constitutes perhaps the most signifi-

cant acquisition milestone because of the commitment that has to be made by the components to the continuation of the program after this point. According to Department of Defense (DoD) 5000.2-R, terminating or cutting funding or quantities from a joint program by any participating component may require the withdrawing component to provide continuing financial support to the program. Although this requirement is imposed from the onset of the joint program, given the much greater financial commitments associated with EMD, the decision to proceed into the next phase makes it extremely costly for a component to withdraw from participation after this point.

Phase II - EMD

The EMD phase presents a continuing set of challenges to joint program management. As this phase progresses, many activities within each of the participating components need to be brought together to ensure that the program proceeds on schedule. Among the activities that present the greatest challenge to the joint PM are joint component test and evaluation (T&E), and planning for deployment and subsequent logistics support.

System testing often becomes a problem area, particularly with regard to how well the system satisfies previously agreed upon "joint" requirements. There is often pressure to develop component-unique modifications and variants to the basic system to meet unique requirements. Another issue that arises is the desire by each component to participate directly in the testing of the system, not only in terms of operational test and evaluation (OT&E), but also in developmental test and evaluation (DT&E). This competition has often led to duplicate testing and the manufacture of extra test assets to satisfy these desires. A unified test plan under the management of the lead component must be coordinated with the participating components to ensure that system tests address the test concerns of the participating components.

As the EMD phase progresses, more detailed planning must be

conducted regarding how the system will be deployed and logistically supported. The magnitude of planning activities that must occur may lead to the development of large, often separate staffs within the program office to conduct the logistics planning for each component and perform the necessary interservice coordination to ensure smooth deployment.

The joint PM must work with each of the components to ensure continued funding of the program. In particular, final agreement must be reached regarding proposed production quantities and rates because of their effect on unit costs and logistics support.

During this phase, the JPO must plan for the support of the system once it is deployed. One such type of support entails collecting and analyzing feedback from the user components on the reliability of the systems used in the OT&E. This means that procedures and systems need to be developed to physically collect and process data that may be collected in different reporting formats and processed using different computer systems. It also means that the joint program staff that will analyze the data need to be cognizant of the differences in reporting criteria, formats, and levels of detail used by the different components in collecting the data.

The systems for OT&E may be acquired through low rate initial production (LRIP). The number of systems needed will have to be coordinated with the participating components well in advance. The numbers will be based on an early operational assessment of prototypes by an independent operational test agency during Phase I. It is important to note the reasons that may be used to justify an LRIP: to provide production representative articles for OT&E; to work the problems out of the manufacturing process; and to ramp up to full rate production smoothly.

Milestone III - Production or Fielding/Deployment Approval

The decision to proceed from EMD into Phase III signifies that the joint program has successfully navigated innumerable obstacles

over the years and is ready to begin delivering usable products to the components. To fund the production of the system, each participating component must program procurement dollars for its share of the production.

Phase III - Production, Fielding/Deployment and Operational Support

During Phase III the principal responsibility of the joint PM is to ensure that the system is being built as planned, on cost, and delivered satisfactorily to the user. Phase III calls for even more coordination with the user Components, particularly with regard to delivery of systems and their accompanying maintenance support subsystems including extensive amounts of technical orders and other documentation. To facilitate this process, the JPO may need to have personnel colocated with the logistics organizations of the user components.

Recognizing that virtually every major weapon system has considerable overlap between the production and subsequent operations and support, the joint PM must ensure that procedures and systems are in place during Phase III to support the system after it is fielded.

Feedback from users invariably results in a need to modify the system even as it is being produced and deployed. This necessity means that the joint PM must continue to coordinate with the users on requirements and identify common and component-unique modification requirements. Furthermore, it means that, although the program is in the Phase III, RDT&E funding must continue to be provided to pay for continued development and testing of these modifications. Agreement on the required modifications and funding for them can normally be handled within the purview of the JPO in coordination with the Components affected.

Operational support begins with delivery of the first systems to the user. The primary responsibility of the joint PM is to ensure

that users' needs continue to be met, primarily through tracking system reliability and processing problem reports. It also entails managing continued production of spares and repair parts and maintenance support systems, identifying the need for system modifications and improvements, and managing them once they are approved.

Furthermore, it is common for joint PMs to manage multiple variants of a system, each of which may be in a different phase of the acquisition cycle. A classic example of such a program is the AIM-9 Sidewinder Air-to-Air Missile program, which in 1991 included the AIM-9L in operation, the AIM-9M in production and being deployed, the AIM-9R in the EMD phase, and the AIM-9X in the CE phase.

Modification Approval (If Required)

Sometimes a major modification to the system must be made, because of evolving changes in the threat, to overcome deficiencies discovered through operational testing or use, or to reduce operations and support costs. Changes that need to be made to systems are considered "modifications." Whenever the magnitude of a modification is such that it meets ACAT I or IA criteria or is designated as Major Defense Acquisition Program (MDAP) by the USD(A&T), the proposed modification will be considered a separate acquisition effort. For modifications or changes that do not meet ACAT I or IA, they will be considered part of the basic program.

6

JOINT RESOURCE ALLOCATION

General

As discussed below, the joint program manager (PM) is involved in the four phases of the Resource Allocation Process (RAP):

- Planning, Programming, and Budgeting System (PPBS) (Phase I);
- Enactment (Phase II);
- Apportionment (Phase III); and
- Execution (Phase IV).

These phases are calendar-driven and independent from the event-driven acquisition process. The joint PM must take care to not confuse the phases of the RAP with those of system development.

Phase I - Planning, Programming, and Budgeting System (PPBS)

Resources for joint programs are provided through the Department of Defense (DoD) PPBS. From the standpoint of the joint PM, the component Program Objective Memorandums (POMs) and budgets are usually the source of programmatic funding. The Office of the Secretary of Defense (OSD) and the Commanders-in-Chief (CINCs) of the Unified Commands can provide support for joint issues, including specific programs, during the PPBS cycle.

The Deputy Secretary of Defense (DEPSECDEF) manages the PPBS with the advice and assistance of the Defense Resource Board (DRB), which he chairs. The advocacy for joint programs in the PPBS process often comes from Congress, OSD, the Joint Chiefs of Staff (JCS), and the Unified Commands. The joint PM should be aware of the operational concept for employing the system when fielded in order to understand the related planning and programming processes that occur within the components, JCS, and OSD. For example, U.S. Southern Command counters Latin American security issues with a peacetime engagement strategy that uses command, control, communications, and intelligence (C^3I) systems to help host governments cope with insurgents, narcotics traffickers, and other threats. During the PPBS process, the Unified Command CINCs can advocate system and other needs through Integrated Priority List (IPL) submissions from the CINCs to the DRB through the JCS.

View of Former Joint PM:

- *Must understand the PPBS process and associated "drills." The PM must learn not to panic. The PMs need to have most documentation available to give honest, if tentative answers.*

Phase II - Enactment

Congressional review of the DoD portion of the President's budget is undertaken by authorizing committees and appropriating committees before budget bills are introduced into law. Congressional authorization specifies the substance of a program, including authorizations for major weapons programs. The Senate Armed Services Committee (SASC) and the House National Security Committee (HNSC) are the major DoD authorizing committees. A review of their subcommittees suggests some areas of interest. The SASC has subcommittees on Acquisition and Technology, Airland Forces,

Personnel, Readiness, Seapower, and Strategic Forces. The HNSC has subcommittees on Military Installations and Facilities, Military Personnel, Military Procurement, Military Readiness, and Military R&D. The HNSC has established special oversight panels on Morale, Welfare, and Recreation, and the Merchant Marine. The joint PM may have dealings with the staffs of these committees and, more formally, through OSD or component congressional liaison. It is important that the program description provided to Congress be consistent with authorization bill language. Moreover, the joint PM should be aware of report language affecting the project, since failure to note the language may result in funding or statutory penalties.

The House and Senate Appropriations Committees (HAC/SAC) and their Defense Subcommittees on Defense and Military Construction start formal reviews of the proposed presidential budget in February. Appropriations committees apply funding across all federal programs, e.g., education, defense, entitlements. Accordingly, competing demands such as infrastructure needs often result in defense decrements. The appropriations committees reconcile authorizations with budget funds. The House and Senate vote on both authorization and appropriation bills after conference committee meetings. The OSD Comptroller issues guidance when the authorization and appropriation bills are inconsistent (as they can be). If enactment of the appropriations bill is delayed beyond the start of the fiscal year, a "continuing resolution" (CR) is passed to authorize obligations that do not exceed the lesser rate of prior year obligations or what is reflected in prior action of Congress. The OSD and the components also provide guidance during CRs. These CRs usually allow federal agencies to operate for a fixed period at a reduced spending rate while Congress finishes work on each agency's actual budget for the coming year.

Views of Former Joint PMs:

- *The biggest problem associated with congressional and component staffs is perceptions.*

- *Briefings on the "Hill" to congressional staffers are important to aid communication and exchange of important program status data.*

Phase III - Apportionment

The Office of Management and Budget (OMB) allocates funding to OSD. In turn, these funds are reallocated to the components and other DoD organizations. Apportionment allows the President, through OMB, DoD, and the components, to control funding execution rates. Joint PMs are affected by the monitoring that accompanies this process. The Components monitor the rates at which funds are committed (assigned to a project); obligated (placed on contract); and expended or disbursed (paid to a vendor). The OSD uses the information collected and analyzed by the components to exercise its financial control. Control by OSD includes taking money back when expenditure or obligation rates are too low or assigning to the components, and other organizations, recoupment objectives, and plans for saving current or prior year funding. The joint PM needs to be cognizant of the cycles within each of the components from which to obtain funding. As an example, one major joint program lost several million dollars because the other participating component's deadline for pulling unobligated money back occurred much earlier than the lead component's deadline.

Views of Former Joint PMs:

- *The PM must understand the PPBS process and have a working knowledge of each military service's [component's] budget process. Each military service*

[component] must have money to support the program; this precludes any problems encountered in the system development phase.

- *Budget shortfalls need to be addressed for each military service's [component's] budget submission window and discussed with the program management team or working group.*

Phase IV - Execution

The execution phase occurs when appropriated funds are spent on defense programs. The obligation and expenditure terms discussed above apply to the execution phase, since the program expenditures provide the raw data that DoD uses for apportionment management. The DoD fiscal structure is an annual process tied to Congress. The Defense Acquisition Board (DAB) process is a DoD management control system that can be overruled by the budget. The DAB can clear a program to advance to the next milestone, but DAB guidance is legally and practically contingent on funding.

The inherent tension in the process for joint PMs is that the PPBS is a calendar-based process, while joint program funding needs are related to acquisition milestones, engineering, and production schedules. A sensitivity to the component personnel who monitor the budget aspects of joint programs is crucial to finding ways to adjust the DoD resource management system to individual programs. For example, the components have been delegated $10 million for operations and maintenance (O&M) and procurement, and $4 million for research, development, test, and evaluation (RDT&E) reprogramming authority from OSD and by Congress through past practice. This delegation is called below-threshold reprogramming. Larger funding amounts can be reprogrammed (redirected) to higher priority projects with congressional approval. The PPBS and execution are also related, in that the PM must work

with budget staffs to provide necessary funding continuity for projects. Contract and budget staffs can help the joint PM plan for needed fiscal continuity. Execution is closely related to the PPBS calendar cycle, but driven by technical events.

Using other defense components to contract and manage key program activities can adversely affect program execution if they fail to spend the program funds as planned. Consequently, the joint PM must work closely with program control personnel to monitor execution of funds.

Views of Former Joint PMs:

- *Understanding the "color" of money is a necessity. The PM needs to understand where, when, and how the money comes. Knowing the (color) differences of RDT&E, procurement, and O&M dollars is an absolute .*

- *Gaps may exist from program start to entry into production. Therefore, a PM must have periodic reviews of the program to ensure focus, intent, and purpose remain at the forefront.*

7

BUSINESS AND TECHNICAL ASPECTS OF SYSTEMS ACQUISITION IN A JOINT ENVIRONMENT

General

This chapter discusses business and technical aspects of joint program management. It complements Chapter 5 (life cycle management) and Chapter 6 (planning, programming, and budgeting system (PPBS) issues) by highlighting selected acquisition areas:

- Program Office Administration and Personnel;
- Acquisition Plan (AP);
- Acquisition Program Baseline (APB);
- Program Protection and System Security;
- Contracting;
- Request for Proposal (RFP) Preparation;
- Systems Engineering (SE);
- Risk Management;
- Logistics Support;

- Integrated Process and Product Development (IPPD);
- Configuration Management (CM); and
- Operational Test and Evaluation (OT&E).

Program Office Administration and Personnel

Administrative and personnel planning are important for joint programs. Joint Program Offices (JPO) adhere to the Department of Defense (DoD) component's acquisition regulations and should use the lead DoD component's administrative procedures. The joint program manager (PM) must recognize that some key administrative matters, e.g., funding and personnel evaluations, must be prepared in accordance with sister component standards. The deputy joint PM is normally selected from the most important participating Component. The deputy is crucial to building and sustaining relationships with the sister component and in serving as an alter ego of the joint PM, especially when the PM is traveling. It should be noted that when more than one participating component is involved, the program office may have a deputy PM from each. The selection of other key personnel such as the logistics manager and key system deputy manager (e.g., Deputy PM for Avionics) requires a sensitivity toward other components' career paths and rating procedures. It is important to review the personnel briefs of key personnel who are nominated for program roles. Matrix management is often an effective way to manage joint programs. The lead component usually provides the greatest amount of engineering staff, with participating components performing discrete tasks or providing integrated personnel. Given normal fluctuations in design and engineering schedules, matrix management is often used to align engineering personnel with tasks.

View of Former Joint PM:

- *Always split work with the deputy PM. The requirement may be based on expertise, but cross talk is important for program performance.*

- *Joint programs should have a short but concise training program for personnel newly assigned to the program.*

- *People issues are very demanding in joint program management.*

- *Joint liaison through the life cycle of the program provides continuity and authority.*

Acquisition Plan (AP)

Joint programs require special attention to multiservice funding requirements and to acquiring the right mix of joint expertise for the source selection process. The AP must specify appropriate joint funding commitments, including the type of moneys required. Joint users and component logisticians for systems should be represented on the Source Selection Advisory Council (SSAC), the Source Selection Evaluation Board (SSEB), and in Statements of Work (SOW) reviews and Contract Data Requirements List (CDRL) calls.

View of Former Joint PM:

- *Relationships are important to cultivate and manage through the program's life cycle.*

Acquisition Program Baseline (APB)

The APB is developed by the PM for the Milestone I decision and is managed through the Consolidated Acquisition Reporting System (CARS). The baseline is updated before each Mile-

stone. Appendix I of DoD 5000.2-R describes the CARS APB formats. The joint PM submits the baseline through the decision chain to the Milestone Decision Authority (MDA). For acquisition category (ACAT) IC and IAC programs, the Component Acquisition Executive (CAE) will approve the baseline. For ACAT ID or IAM programs, the lead DoD service will submit the APB to Under Secretary of Defense (Acquisition and Technology) (USD(A&T)) or Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD(C^3I)) for approval.

The APB contains key cost, schedule, and performance parameters for the program. ACAT I programs have the most formal deviation reporting requirements, but all programs will require program baseline deviation reporting. Joint program baseline issues have involved a lack of understanding of key performance parameters and their significance. Joint PMs need to keep consistent parameters in key documentation: operational requirements document (ORD), the test and evaluation master plan (TEMP), the APB, and in Joint Requirements Oversight Council (JROC) presentations for ACAT I programs.

View of Senior JROC Member:

- *"Key performance parameters should be output oriented, measurable, achievable, and testable." Attributed to the Vice Chief of Staff USAF.*

Program Protection and System Security

Joint programs must have an effective security plan. The plan should protect key sensitive aspects of the program from espionage threats and include government and industry program participants. The plan should discuss operational security (OPSEC) issues, especially if the program is sensitive. Security is important to program execution because delays in secu-

rity clearances and plant accreditations can adversely affect scheduling, especially in special access programs. Information security is becoming more of an issue. Communications and computer systems must be accredited for various levels of classification, including special access levels. Delays in accreditation can adversely affect the program if the joint PM does not plan for system certifications. Additionally, communications security (COMSEC) equipment is increasingly embedded in equipment at the design stage, requiring early planning for COMSEC.

Views of Former Joint PMs:

- *Must have program protection plan for sensitive programs.*

- *Security issues and special access requirements need to be addressed in Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs). Identify constraints and responsibilities of military services [components] and contractors. Sometimes lead component regulations are followed; if this is the case, need to ensure all military services [components] associated with the program understand primary guidance.*

- *Special access security is a major issue that needs to be addressed.*

Contracting

Contracting is controlled by the law and the FAR. Accordingly, the bulk of contracting is standard across the components in its broad framework, but there are differences in component proposal evaluation procedures and other operating procedures. Since joint programs may have more requirements changes than other programs, a good relationship with contracting is important to translate objectives into contract terms and types.

Views of Former Joint PMs:

- *Contracting personnel must be brought in early to help with joint program efforts. Contracting officials must be aware of operational requirements. They cannot write contracts on "floating" requirements. Contracting personnel must be visionaries and have perspectives on creative contracting.*

- *Contracting is an area that is of great importance to the joint PM. Contracting may provide a view on acquisition and business strategies, associations with contractors (what you can say and do), and applications to the Contracting Officers Representative (COR). A problem for the joint PM is the lack of multiservice contracting procedures.*

Request for Proposal (RFP) Preparation

Preparing an RFP for joint programs is similar to single-service RFP development. However, joint component RFPs require more careful coordination of evaluation criteria and other key factors. Joint programs should be structured to maintain competition throughout development and production. Joint PMs must also understand the significance of RFP language relating technical and cost evaluations. The more the draft RFP language emphasizes technical merit over cost, the greater the chances of the RFP driving the program to the most costly solution in a technical area. Nevertheless, identified high-risk areas may still warrant greater emphasis on technical merit over cost.

View of Former Joint PM:

- *Successful programs have a common purpose from the beginning. This saves time, money, and precludes "gold plating." Program requirements should be thoroughly*

addressed with respect to objectives and technical feasibility.

- *Bring users and contracting personnel in early to review concept formulation.*

Systems Engineering (SE)

As with service programs, SE in joint program management is an essential tool. Interrelationships, e.g., sensor to ground station, munitions to multiple component platforms, can be analyzed by operational research techniques to develop optimum solutions. When combined with analysis of key performance parameters and operational testing, systems engineering can help a joint PM effectively limit risk in a very complex undertaking.

Views of Former Joint PMs:

- *Integrated Product Team (IPT) (contractor and government personnel) integration was useful and necessary in keeping the program together and on track. The contractor identifies high-profile, priority, and cost issues they want the joint PM to control and monitor. Teams are identified to handle issues, i.e., security and maintenance. The contractor identifies teams and the executive board monitors overall management and timeliness.*

- *Military services [components] have to establish requirements, priorities, and technical parameters at program implementation. Before each acquisition phase, define requirements and redefine thresholds and objectives.*

Risk Management

In many ways, program management is risk management, and joint programs add to the number of risks facing the joint PM.

By definition, the joint PM has multiple users, requirements, and funding sources. These customers can adversely affect the health of the program by requirements and funding variations and by raising political issues. A common issue is the degree and effectiveness of interoperability of the new system with participating component systems. Accordingly, the joint PM should be careful to monitor technical risks in order to help maintain program consensus and to ensure proper interoperability.

Risk control is an active way to manage program risk. Multiple development efforts and early prototyping are methods of minimizing risk in programs. Another way is to include a low-risk design backup in case the higher risk primary approach is not feasible. Preplanned product improvement provisions, evolutionary development, and other incremental development techniques, especially if coordinated with user commands, can split development problems into small increments and defer large risks. The use of standard software and software reuse can also minimize software and program development risks. Finally, when a parameter such as weight or range is vital to system performance, it may be appropriate to use a board that has representatives from all affected technical functions to closely monitor its progress. This may be chaired by the joint PM. It provides management focus to the parameter by staffing all changes that affect the parameter. The board can also relate logistics and other functions to the key performance parameters to improve life cycle system performance.

Views of Former Joint PMs:

- *Interoperability is the number one concern among all military services [components]. Commonality (standard maintenance and repair) is also important. Interoperability includes the joint interface/integration of documents and integration with users to determine what it is you want to interface.*

- *Office of the Secretary of Defense (OSD) policies, which attempt to drive a "common" platform or system, have an impact on addressing all the military services' [components'] requirements and may need to be reviewed for overall program effectiveness.*

Logistics Support

In warfare, logistics is often the most serious planning constraint. Given this military imperative, it is important to understand both lead component and participating component logistics policies and procedures to field a sustainable system. Continuous Acquisition and Life cycle Support (CALS) should be considered for integration into joint programs. Failure to achieve logistics agreements with component logistics chiefs can lead to mandatory reviews and program turbulence. Logistics support plans may be prepared to document the required logistics support if desired by the PM, or as advised by the IPT(s).

Within 90 days of awarding the Phase II contract award, the joint PM must ensure that the lead component reports to their senior logistics authority[9] and initiate work on an interservice logistics support agreement. This agreement is completed prior to Milestone III. If a program fails to meet this 90-day milestone, a program review will be chaired by the logistic head of the lead service. This review focuses on removing impediments to interservice logistic support through a time-phased action plan.

View of Former Joint PM:

- *Joint logistics (one depot) helps monies pass through various check points in the PPBS.*

[9] For example, Commander, Air Force Materiel Command, or to his/her designated representative.

Integrated Product and Process Development (IPPD)

The joint PM must employ the concept of IPPD throughout the program design, development, production and fielding processes. The use of IPTs is key to the successful employment of IPPD. The IPPD management process integrates all activities from product concept through production and fielding. Multidisciplinary teams are used to simultaneously optimize the product and its manufacturing and supportability components to meet cost and performance objectives.

Configuration Management (CM)

Always challenging, CM can be more difficult in a joint program. Some users, with good intentions, will want to introduce government-furnished software to tackle a particular task such as aircraft scheduling or flight time recording. The sense of former joint program management debriefings was that a good handle on CM indicated effective program control.

View of Former Joint PM:

- *When you have good CM, you have firm control of the program. To get a background on joint program management, review reports from the Department of Defense Inspector General (DoD/IG) and Government Accounting Office (GAO) representatives.*

Operational Test and Evaluation (OT&E)

The art of joint management in OT&E is in planning for lead component test management, sister component participation, and fidelity to user requirements. In complex joint programs, operational tests (OT) should provide feedback to the users and demonstrate system supportability. In other words, the effective joint PM will use the test and not resist the test. The OTs are also used to identify new uses and tactics for the sys-

tem. Joint users must be involved in OTs to further military knowledge and tactics in areas like Short Takeoff or Landing (STOL) techniques, low-observable systems, and other new warfighting technologies. This cooperation must be described in a joint TEMP, which is coordinated with the participating components. Separate testing provisions may be allowed for component-unique systems or modifications. Such separate testing must be paid for by the component with the unique requirement.

8

JOINT PROGRAM MANAGEMENT

General

This chapter reviews the previous chapters by highlighting and integrating significant management issues.

Program Office Structure

Joint program management should start with the user's vision of the military requirement, e.g., more lethal and supportable munitions or wide area, all-weather battlefield surveillance. The joint program manager (PM) should then think in broad terms about the best program office structure to meet those requirements. Traditionally, these structures have ranged from a jointly staffed program office with ties to component points of contact to a single component program office receiving some funding from other Components.

Program Office Charter

Joint programs require a charter to formalize their roles and missions and to clarify joint standing with the components. Although there is no set format for these charters, the following areas should be addressed:

- Designation of the program;
- Statement of program objectives;
- Joint PM's role and accountability consistent with Department of Defense (DoD) 5000 Documents;

- Specification for joint funding consistent with withdrawal rules discussed in Chapter 2;
- Definition of component roles;
- Reporting requirements consistent with DoD 5000 Documents prohibitions on dual reporting;
- Program office organization and initial staffing;
- Joint operating procedures;
- Assignment of a deputy PM, usually from the major participating component;
- Methods of resolving component conflicts, usually referral to a higher authority;
- Creation of joint committees for source selection, test, and evaluation plans, etc.;
- Performance evaluations of personnel; and
- Provisions to review and update the charter.

Management

Joint PMs must deal with changes in component requirements, doctrine, tactics, and funding. Figure 8-1 describes the affect of this on program documentation.

Changes to the Threat

As mentioned earlier, joint PMs must be particularly sensitive to the military environment of their program. Significant changes in these areas have ripple effects on the integrated program documentation, especially its risk assessment, the test

Affects these... / Any Changes In These	Schedule	Analysis of Alternatives	Acquisition Strategy	Risk Assessment	Acquisition Program Baseline (APB)	Logistics Support Plans	T&E Master Plan (TEMP)	Request for Proposal (RFP)	Opertnl Rqmts Document (ORD)	Engineering Specifications	Computer Resources plans	System Threat Assessment
Targets/Threats		X		X			X		X			X
Operational Conditions		X		X	X	X	X		X	X		X
Operational Performance Parameters		X		X	X	X	X		X	X		
Crew Size		X		X		X	X					
Software Requirements & Testing	X											
Test Article Requirements	X			X	X	X	X	X	X	X	X	
Operational Issues/Tactics		X					X		X			
Support Equipment	X			X	X	X	X		X	X	X	
Simulators	X			X	X	X	X			X	X	
Development Requirements	X			X	X		X	X				
Most Promising Alternative	X	X	X	X	X	X	X	X	X	X	X	X
Acquisition Strategy	X		X	X	X			X				
Program Schedule	X		X	X	X	X		X	X			
Cost Estimates	X	X		X	X			X				
Support System			X	X	X	X		X	X	X		
Training			X		X	X		X	X	X	X	
Built in Test (BIT) Capability			X			X			X			

Figure 8-1. Required Changes in Program Documentation

and evaluation master plan (TEMP), the request for proposal (RFP), the operational requirements document (ORD), engineering specifications, and the system threat assessment.

Operational Requirements/Performance Changes

The nature of joint programs can result in changes and "requirements creep." Range, payload, and other changes need to be documented in the risk assessment, Acquisition Program Baseline (APB), logistics support plan, TEMP, engineering specifications, RFP, ORD, and system threat assessment. Related operational performance parameter changes require the same documentation, without any system threat assessment changes.

Operational Issues and Tactics Changes

Joint programs are also more subject to changes in user employment concepts and tactics. For example, the Air Force may publish a new Bomber Road Map that affects the program, or relatively new peacekeeping requirements in support of United Nations-controlled forces may cause program requirement changes. The analysis of alternatives, TEMP, and ORD should be updated to reflect operational changes.

Software Requirements and Testing

Changes in software requirements and testing also ripple through a joint program, much like a major operational change, because of the pervasive influence of software in modern weapon systems.

Change and Uncertainty

As discussed in Chapter 7, systems analysis of relationships is a useful tool for joint PMs. The joint PM should expect more changes in their program for the reasons discussed in this Hand-

book and adaptively plan to integrate changes and reduce uncertainty in key program areas.

The program team, including contractors and component budget staffs, can adapt to change, but uncertainty about key production decisions is likely to drive up costs and otherwise adversely affect the program. Therefore, program control must emphasize communications to help the program staff adjust to change constructively and not to become unfavorably altered by uncertainty. Strong leadership is needed to meet program goals in a dynamically changing geopolitical and physical environment.

Political Dynamics

As explained in Chapter 1, the definition of a joint program includes multiple users. These users and their constituencies will exert pressure on the joint PM through requirements changes and fiscal decisions. The joint PM needs to understand the concerns of users and component proponents, accommodate their needs in the program to the extent that they can, or explain real technical and fiscal limitations in a way that program constituents can understand. This process is complicated by cultural differences in component doctrine, jargon, and planning. Furthermore, the joint PM must always be aware that senior defense officials and the Congress may become involved in very large or well-publicized joint programs.

> *Technology provided the means to win the Gulf War, but it was leadership, the painstaking creation of a quality force, and years of hard training that brought the victory about. (Col Harry G. Summers, Jr., USA, Ret, On Strategy II: A Critical Analysis of the Gulf War, 1992.)*

APPENDIX A*

MEMORANDUM OF AGREEMENT ON MANAGEMENT OF MULTISERVICE SYSTEMS/ PROGRAMS/PROJECTS

***Appendix A consists of a document reformatted from the original. It is intended for illustrative purposes only. Page location of specific text varies somewhat from the originals.**

MEMORANDUM OF AGREEMENT ON THE MANAGEMENT OF MULTISERVICE SYSTEMS/ PROGRAMS/PROJECTS

1. Purpose:

This Memorandum establishes policies for implementing multiservice systems, program/project management in accordance with DoD Directive [DoDD] 5000.1, "Acquisition of Major Defense Systems," 13 July 1971[10]. It is the basic policy document for management of multiservice systems, programs and projects, and the framework within which, like DoDD 5000.1, acquisition management procedures must operate.

2. Policy:

The Service designated as the Executive Agent shall have the authority to manage the program/project under the policies and procedures used by that Service. The Program/Product Manger, the Program/Project Management Office, and, in turn, the functional elements of each Participating Service will operate under the policies, procedures, data, standards, specifications, criteria and financial accounting of the Executive Service. Exception, as a general rule, will be limited to those where prior mutual agreement exists or those essential to satisfy the substantive needs of the Participating Services. This may require the Participating Services to accept certain deviations from their policies and procedures so as to accommodate the assumption of full program/project responsibility by the Executive Service. Demands for formal reporting as well as nonrecurring needs for information will be kept to a minimum.

[10] Author's Note: Although written in the early 1970's, this MOA is still considered by the Joint Logistics Commanders (JLCs) to contain valid guidance. However, the reader should substitute reference to current DoD 5000 documents where appropriate.

3. Responsibilities:

a. The Executive Service will:

(1) Assign the Program/Project Manager.

(2) Establish an official manning document for the Program/Project Management Office which will incorporate the positions to be occupied by representatives of the Participating Services, e.g., Department of the Army Table of Distribution and Allowances (TDA)/Department of the Navy Manpower Listing/Department of the Air Force Unit Detail Listing (UDL). The manning document developed from the Joint Operating Procedure on Staffing will also designate a key position for occupancy by the Senior Representative from each of the Participating Services.

(3) Staff the Program/Project Management Office with the exception of the positions identified on the manning document for occupancy by personnel to be provided by the Participating Services. Integrate the Participating Service personnel into the Program/Project Management Office.

(4) Be responsible for the administrative support of the Program/Project Management Office.

(5) Delineate functional tasks to be accomplished by all participants.

b. The Participating Services will:

(1) Assign personnel to the Program/Project Management Office to fill identified positions on the manning document and to assist the Program/Project

Manager in satisfying the requirements of all participants. Numbers, qualifications and specific duty assignments of personnel to be initially provided by each Participating Service will be reflected in the Joint Operating Procedure.

(2) The Senior Representative from each Participating Service will be reflected in the Joint Operating Procedure.

(3) The Senior Representative from each Participating Service will be assigned to a key position in the Program/Project Management Office and report directly to, or have direct access to, the Program/Project Manager. This key position could include assignment as Deputy to Program/Project Manager. He will function as his Service's representative, with responsibilities and authorities as outlined in Paragraph 3.d of this Agreement.

(4) Provide travel funds and support necessary for the accomplishment of the responsibilities of their representatives in the management of the Program/Project.

(5) Accomplish Program/Project functional tasks as specifically assigned in the Charter, in the Master Plan and Joint Operating Procedures (JOPs), or as requested and accepted during the course of the Program/Project.

c. The Program/Project Manager will:

(1) Satisfy the specific operational, support and status reporting requirements of all Participating Services.

(2) Be responsible for planning, controlling, coordinating, organizing and directing the validation, development, production, procurement and financial management of the Program/Project.

(3) Review, on a continuing basis, the adequacy of resources assigned.

(4) Assure that planning is accomplished by the organizations responsible for the complementary functions of logistics support, personnel training, operational testing, military construction and other facilities, activation or deployment.

(5) Refer to the appropriate authority those matters that require decisions by higher echelons. The following items will be referred to appropriate authority:

(a) Deviations from the established Executive Service policy except as specifically authorized by the Program/Project documentation (reference Paragraph 4 below).

(b) Increases in funding of the Program/Project.

(c) Changes to milestones established by higher authority.

(d) Program/Project changes degrading mission performance or altering operational characteristics.

d. Participating Service Senior Representative(s) within the Program/Project Management Office will:

(1) Speak for his parent Service in all matters subject to the limitations prescribed by his Service. Au-

thority of the Service Senior Representative is subject to the same limitations listed above for the Program/Project Manager.

(2) Refer to his parent Service those matters which require decisions by higher echelons.

4. Documentation:

Management for particular Multiservice Program/Projects shall be documented by:

(a) A Multiservice Program/Project Manager Charter. The responsible Commander in the Service having principal Program/Project management responsibility will cause the preparation, negotiation and issuance of a jointly approved Charter which will identify the Program/Project Manager and establish his management office. The Charter will define his mission responsibility, authority and major functions, and describe his relationships with other organizations which will use and/or support the Program/Project. The Charter will describe and assign responsibility for satisfying peculiar management requirements of Participating Services which are to be met in the Program/Project and will be jointly approved of the Headquarters of each involved Service by persons officially appointed to approve such Charters.

(b) A Program/Project Master Plan. This is the document developed and issued by the Program/Project Manager which shows the integrated time-phased tasks and resources required to accomplish the tasks specified in the approved statement of need/performance requirements. The plan will be jointly approved for each involved Service by persons officially appointed to approve such plans.

(c) Joint Operating Procedures (JOPs). These will identify and describe detailed procedures and interaction necessary to carry out significant aspects of the Program/Project. Subjects for JOPs may include Systems Engineering, Personnel Staffing, Reliability, Survivability, Vulnerability, Maintainability, Production, Management Controls and Reporting, (including SAR), Financial Control, Test and Evaluation, Training, Logistics Support, Procurement and Deployment. The JOPs will be developed and negotiated by the Program/Project Manager and the Senior Representative from the Participating Services. An optional format is suggested in Attachment 1 to this Agreement. This action will be initiated as soon as possible and accomplished not later than 180 days after promulgation of the Multiservice Program/Project Manager Charter. Unresolved issues will be reported to the Charter approving authorities for resolution.

(d) Coordination/Communication. Where Participating Services are affected, significant program action, contractual or otherwise, will not be taken by the Program/Project Manager without full consultation and coordination with the Participating Services while the matter is still in the planning stage. All formal communications from the Program/Project Management Office to higher authority in the Executive or Participating Services will be signed by the Program/Project Manger or his designated representative. Substantive change to the Charter, Master Plan, or JOPs will be negotiated with affected participating Services prior to issuance as an approved change. No restrictions will be placed on direct two-way communications required for the prosecution of the Program/Project work effort, other than that required for security purposes.

1 Atch (JOP Format)

We approve this Memorandum of Agreement and its implementing regulation.

/s/HENRY A. MILEY, JR.
General, USA
Commanding General
US Army Materiel Command

/s/I.C. KIDD, JR.
Admiral, USN
Chief of Naval Material
Naval Material Command

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JOINT AMC/NMC/AFLC/AFSC OPERATING PROCEDURE FORMAT

I. INTRODUCTION:

This paragraph is intended to give a description and a brief review of the functional area of interest including why the JOP is necessary. Outline briefly the overall requirement which needs fulfillment.

II. SCOPE:

This scope will outline the various phases of the Program/ Project and tie down the overall limits of the functional area of interest in terms of time and any special provisions or limitations.

III. REFERENCES:

Include all applicable AMC/NMC/AFLC/AFSC regulations, directive, etc., that are pertinent to the functional area of interest.

IV. RESPONSIBILITIES:

This paragraph is intended to identify the relationships and responsible entities such as who has the overall management responsibility and who has the support responsibility. In addition, this paragraph should describe what the “product” or the effort should be.

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V. PROCEDURES:

This paragraph should define the work to be accomplished and indicate the main steps of action, including coordination, which are required to conduct the tasks involved properly in developing the functional area of interest.

APPROVAL:

Senior Representative Participating Service	Program/Project Manager Executive Service

[1] This memorandum of agreement is published as a joint regulation, AFLC/AFSC R 800-2. AMCR 70-59/NAVMATINST 5000.10A.

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