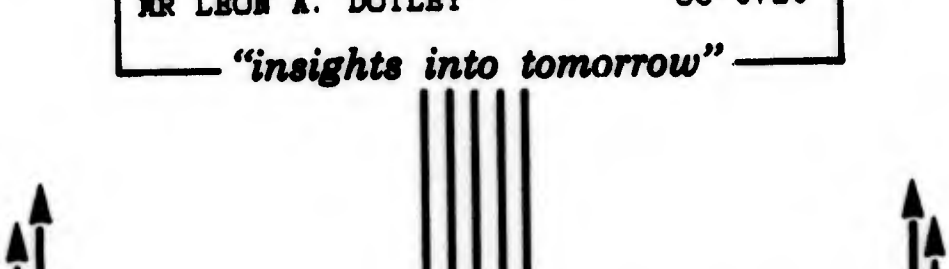
AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

AFLC MANPOWER AND THE WEAPON SYSTEM ACQUISITION PROCESS

MR LEON A. DOILEY 86-0720

"insights into tomorrow"



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REPORT NUMBER 86-0720

TITLE AFLC MANPOWER AND THE WEAPON SYSTEM ACQUISITION PROCESS

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Submitted to the faculty in partial fulfillment of requirements for graduation.

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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

AFLC has not always receive adequate manpower to support newly acquired weapon systems. This study evaluates the acquisition process to determine the appropriate acquisition milestone AFLC manpower should be requested.

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PREFACE

The primary objective of this study is to determine if AFLC manpower to support the acquisition and maintenance of major weapon systems is requested at the appropriate weapon system acquisition milestone. Therefore, those issues in the acquisition process necessary to clarify points within the parameters of this paper are discussed extensively. The study does not address the entire major weapon system acquisition process. An undertaking of that magnitude is beyond the purpose and scope of this study.

The study is intended to remind senior Air Force officials that manpower costs are integral to the acquisition of major weapon systems. These costs must be quantified very early in the decision making process.

The assistance rendered by my sponsor, Mr Paul Hoffmann, Hq AFLC/XRP, and my ACSC advisor, Lt Col Robert Weis, is appreciated. Their patience and professional guidance contributed to the success of this project.

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REPORT NUMBER 86-0720

AUTHOR(S) MR LEON A. DOILEY, DAF Civilian

TITLE AFLC MANPOWER AND THE WEAPON SYSTEM ACQUISITION PROCESS

I. Problem. The Air Force Logistics Command (AFLC) is a principal player in the acquisition and maintenance of major weapon systems. It is imperative that AFLC receive manpower when needed to accomplish required logistic activities. AFLC manpower has not always been received when needed. Therefore, workload has been accomplished at the expense of ongoing programs and weapon systems already on board. All programs, including newly acquired weapon systems, suffer. The problem statement: Does the Planning, Programming, and Budgeting System (PPBS) adequately provide AFLC with manpower authorizations associated with the acquisition and maintenance of major weapon systems and is the timing of the request for manpower a contributing factor?

II. Objectives. The primary objective of this project is to determine if AFLC manpower to support the acquisition and maintenance of major weapon systems is requested at the appropriate weapon system acquisition milestone. The secondary objective is to evaluate the adequacy of funding. This investigation focuses on the major milestones in the weapon systems acquisition process as they relate to manpower requirements and the historical performance relating to selected weapon systems.

III. Discussion of Analysis. Directives reflected in the bibliography were reviewed to determined what manpower related activities/requirements currently exist. The acquisition process was

analyzed to determine manpower related responsibilities and documentation requirements at each milestone. In addition, documents relating to the B-1B, Peacekeeper, and Advanced Medium Range Air-to-Air Missile (AMRAAM) weapon systems were reviewed to assess compliance with current directives. Findings are the result of this review and analysis.

IV. Findings and Conclusions:

The PPBS is a viable tool/vehicle for providing the resources necessary to accomplish the mission. The PPBS is the only vehicle available for obtaining funds for approved programs.

The timing of the request for AFLC manpower is a contributing factor in its failure to receive adequate manpower to support newly acquired weapon systems. Full funding may not be realized, but letting the need be known very early in the process will alert DoD and Congress to these costs.

The requirement to address manpower is entwined in all phases of the acquisition process. Specific documentation requirements, at each milestone, are contained in all pertinent OMB, DoD, USAF, and AFLC directives.

Integrated Logistic Support Plans (ILSP) for the B-1B, Peacekeeper, and AMRAAM weapon systems do not conclusively reveal the extent these directives are enforced. The ILSPs referred to documents for which research time is not available.

Air Force Systems Command's (AFSC) System Program Office (SPO), specifically the Program Manager (PM), is the appropriate agency to sponsor the Program Decision Package (PDP). The SPO has responsibility and authority to ensure that total program costs are requested. AFLC sponsored the PDPs for the selected systems.

V. Recommendations. Circumstances surrounding the acquisition of each new system must be weighed individually and decisions made on the applicability of the following recommendations.

First Recommendation. The Defense Systems Acquisition Review Council (DSARC), AFSC's program managers, and Hq AFLC

enforce existing instructions to consider all manpower needs at all milestones in the acquisition process.

Second Recommendation. The PM include the total requirement in AFSC's POM submissions. The first time a requirement for manpower enters the last year of the Five Year Defense Program (FYDP), that requirement (or estimate) should be included in the Program Objective Memorandum (POM). Update the requirement each year as the time the resources are needed progresses through the FYDP. There should be very few instances when total requirements (including AFLC manpower) are not first reflected in the last year of the POM.

Third Recommendation. AFLC submit notional PDPs in support of AFLC's requirements in AFSC's POM.

Chapter One

INTRODUCTION

BACKGROUND

The Air Force Logistics Command (AFLC) is a principal player in the acquisiton and maintenance of major weapon systems. It is imperative that AFLC manpower is received when needed to accomplish the many responsibilities. Because manpower has not always been received when needed, workload has been accomplished at the expense of other ongoing programs and weapon systems already on board. When this happens, all programs, including newly acquired weapon systems suffer because no workloads are accomplished to the desired level.

A major system is "that combination of elements that will function together to produce the capabilities required to fulfill a mission need. The elements may include, . . .hardware, equipment, software, construction, or other improvements of real property" (14:3).

This research project is designed to determine if the timing of the request for manpower in the Planning, Programming, and Budgeting System (PPBS) is a contributing-factor in AFLC's frequent failure to receive, in a timely manner, the manpower needed to support major weapon systems acquired by the USAF. There may be several reasons for AFLC's inadequate manning situation, however, this paper only explores the timing of the request for manpower in the PPBS as a possible cause.

OBJECTIVES AND STUDY PLAN

Problem Statement. Does the PPBS adequately provide AFLC with manpower authorizations to accomplish workloads associated with the acquisition and maintenance of major weapon systems and is the timing of the request for manpower a contributing factor?

Objectives and Project Plan

Objective One. The first objective is to determine the optimum milestone in the acquisition process of new weapon systems to

request AFLC manpower in the PPBS. This objective includes the determination of which agency (AFSC, Hq USAF, or AFLC) should sponsor the Program Decision Package (PDP) requesting AFLC's manpower requirements.

The optimum milestone is determined by:

Reviewing the major milestones used in the acquisition of new major weapon systems.

Analyzing the function of each milestone and evaluating the adequacy of lead time to Program Management Responsibility Transfer (PMRT).

Judging information gathered in the above steps and determining the appropriate milestone AFLC manpower should be requested in the POM.

Objective Two. The second objective is to determine if AFLC has been requesting manpower requirements at that optimum milestone. This objective is accomplished by:

Selecting and analyzing certain major weapon systems for analysis.

Comparing historical request points for the selected weapon systems with the milestones in the acquisition process.

Objective Three. The third objective is to determine the rate of funding success AFLC has enjoyed in obtaining the manpower requested in the POM. This objective is accomplished by:

Reviewing AFLC's POM inputs for selected weapon systems.

Reviewing Air Force Transaction Registers from the Air Staff to AFLC for the selected weapon systems.

Evaluating the rate of funding AFLC enjoyed in the POM for the selected weapon systems.

Objective Four. The fourth objective is to determine if the PPBS adequately provides AFLC manpower for the acquisition and maintenance of new major weapon systems. This objective is accomplished by evaluating the findings of the first three objectives and making appropriate recommendations.

Chapter Two

ACQUISITION MILESTONES, PMRT, PPBS, AND AGENCY RESPONSIBILITIES

An objective of this study is to pinpoint the acquisition milestone AFLC manpower requirements should be requested. To meet this objective, taskings already in place are reviewed.

ACQUISITION MILESTONES

OMB Circular A-109 establishes the framework for acquiring major systems. The Circular does not establish a milestone numbering system, rather it assigns specific responsibilities to be carried out in an orderly manner. However, DoD effected specific milestone designations to ensure the accomplishment of OMB requirements. The original designations were milestones 0 through III. The Deputy Secretary of Defense approved consolidating milestones 0 with I and requiring documentation at III only when necessary (14:7; 27:205). Figure 2-1 summarizes responsibilities and reflects the original milestone designations. This is significant because though the Air Force recommended the consolidation, the Air Force has retained milestone 0 for internal management purposes (17:Atch 2).

Department of Defense (DoD) Directives 5000.1 and 5000.2, Major System Acquisitions and Major System Acquisition Procedures, respectively, outline and define DoD milestones. Milestones I and II (III when required) are points at which the Secretary of Defense makes decisions regarding the acquisition of major weapon systems. "The Defense Systems Acquisition Review Council (DSARC) shall advise the Secretary of Defense on milestone decisions for major weapon systems. . ." (22:Atch 1).

Department of Defense Directive (DoDD) 5000.39 ". . .establishes policy and responsibilities for Integrated Logistic Support (ILS), including manpower planning, as an inherent part of major system acquisitions. . ." (21:1). This directive places responsibility for ILS management squarely on the shoulders of the program manager (PM). The PM shall, by Milestone I, designate a qualified ILS manager "to serve as the focal point for manpower and other logistic planning. . ." (21:4). The PM "shall have a current ILS plan. . ." which identifies ". . .manpower and other support goals and demonstrated achievements. . . . For

multi-component acquisition programs, the ILS plan shall address the support requirements of all participating components" (21:4). ILS is "a unified. . .approach to the management and technical activities necessary to: (a) cause support considerations to influence requirements and design; (b) define support requirements that are optimally related to the design and to each other; (c) acquire the required support; and (d) provide the required support during the operational phase at minimum cost" (21:Encl 2). DoDD 5000.39 is a comprehensive directive. Among the requirements it establishes are:

To perform Logistic Support Analysis (LSA). A key element in performing this analysis is the requirement to identify at system and subsystem levels, by milestone I, support costs, manpower requirements, and Reliability and Maintainability of current compatable equipment "to provide comparative baselines for estimates of new systems, and to identify and set targets for improvement in the new system" (21:3).

To provide Government data to contractors "to use as a basis for ILS planning and LSA (such as baseline/operating scenarios and maintenance concepts, system readiness goals, schedules, maintenance and support cost data on current systems and manpower/skills availability)" (21:4).

To review "programmed manpower and other logistic resources for newly fielded systems for consistency with readiness objectives and compatibility with test and evaluation (T&E) results and early field experience." This responsibility has been assigned to the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) (21:6).

To include ILS as an integral part of the acquisition program. This is a responsibility of the program manager (21:7).

AFR 800-8 states Air Force policy for ILS management and sets up rules for applying ILS through the life cycle of systems and equipment (17:1).

The following discussion of acquisition milestones include specific support considerations imposed by these directives.

Milestone 0. Milestone 0 is an Air Force Integrated Logistics Support (ILS) program (AFR 800-8) imposed/retained milestone. Milestone 0 represents program initiation. Prior to this milestone, mission needs should have been identified.

> Determination of mission need should be reconciled with overall capabilities, priorities and resources. When analysis of an agency's mission shows that a need for a new major system exists, such a need should not be defined in equipment terms, but should be defined in terms of the mission, purpose, capability, agency components

involved, schedule and cost objectives, and operating constraints. A mission need may result from a deficiency in existing agency capabilities or the decision to establish new capabilities in response to a technologically feasible opportunity. Mission needs are independent of any particular system or technological solution (14:7).

	CONGRESS	DOD(OSD)	SERVICE (AIR FORCE)	INDUSTRY (PRIVATE)
IDENTIFYING DEFICIENCIES, NEEDS & GOALS (MILESTONE 0)	Concur	Approve	Advocate	Prepare
COMPETITIVELY EXPLORING ALTERNATIVES (MILESTONE I)	Commission	Reconcile	Evaluate	Innovate
CHOOSING PREFERRED SOLUTION (MILESTONE II)	Commission to Assess	Fund	Select	Invent
DEVELOPING SYSTEM FULL-SCALE (MILESTONE III)	Needed	Review	Manage	Design
PRODUCING/ DEPLOYING/ USING		Direct	Integrate	Produce

Figure 2-1. Summary of Responsibilities (27:377)

AFR 800-8 directs that manpower and other logistics resource constraints be identified in the mission element needs statement (17:Atch 2). This requirement is further refined by the Statements of Operational Need (SON) process. AFR 57-1, establishes the SON process as an integral part of the overall Air Force weapon system acquisition process by assigning specific responsibilities designed to assure effective accomplishment.

> The SON has three principal uses: It defines an operational need, obtains official validation of the need, and furnishes preliminary guidance for research, development, and acquisition (RD&A) planning by the responsible implementing and participating commands. The SON must be concise enough to facilitate processing and validation, but comprehensive enough to encompass the required guidance (18:Para 1c).

Hq USAF must validate all Air Force operational needs expected to lead to programs with prospective research, development, test and evaluation (RDT&E) costs greater than $15 million or prospective total costs (RDT&E plus production) greater than $75 million. A Program Decision Package (PDP) covering the program being proposed in response to an operational need must accompany the need when it is submitted for validation by the Air Staff (18:Para 3g).

The implementing command, usually AFSC or AFLC, or the originating command must develop the PDP. If the originating command develops the PDP, the implementing command must validate it (18:Para 3g).

> . . .The command submission (PDP) must list all needs . . . (18:Para 3g). "In each PDP, show manpower requirements by year for the entire five year defense program (FYDP) period. In an attachment to the PDP, explain in detail the increases and decreases. Also, state whether they have been validated through manpower channels. When no manpower change is required, include the statement "No manpower impact" in the PDP (18:Para 5f(2)(f)).

The Hq USAF OPR prepares a Justification for Major System New Start (JMSNS) for each new-start PDP appearing on the RD&A PDP List and is expected to lead to acquisition of a major system, a major modification, or an Air Force Designated Acquisition Program (AFDAP) (18:Para 5f(3). The validated JMSNS is the basis of Milestone 0 (Mission Need Determination) (26:I-10).

Enclosure 3 to DoDD 5000.39 dictates that prior to milestone 0, "Manpower and other logistic resource constraints have been identified in the SON. If appropriate, these constraints should be based on analysis of systems currently in the mission area" (21:Encl 3).

Milestone I. Milestone I is validation of the requirement, based upon preliminary evaluation of concepts, costs, schedule, readiness objectives, and affordability (22:Para E4b). The documentation required at this milestone is the System Concept Paper (SCP) (22:Para E12b). The SCP is used to summarize results of the concept exploration phase up to milestone I and is the basis of the recommendation to the Secretary of Defense.

> Alternative system design concepts will be explored within the concept of the agency's mission need and program objectives--with emphasis on generating innovation and conceptual competition from industry. Benefits to be derived should be optimized by competitive exploration of alternative system design concepts, and trade-offs of capability, schedule, and cost. Care should be exercised during the initial steps of the acquisition process not to conform mission needs or program objectives to any known systems or products that might foreclose consideration of alternatives (14:8).
>
> Selections from competing system design concept proposals will be based on a review by a team of experts, preferably from inside and outside the responsible component development organization. Such a review will consider: (1) Proposed system functional and performance capabilities to meet mission needs and benefits to be derived by trade-offs, where feasible, among technical performance, acquisition costs, ownership costs, time to develop and procure; and (2) The relevant accomplishment record of competitors (14:9).
>
> Advancement to a competitive test/demonstration phase may be approved when the agency's mission need and program objectives are reaffirmed and when alternative system design concepts are selected. Major system acquisition programs will be structured and resources planned to demonstrate and evaluate competing alternative system design concepts. . . . (14:10).

It is Air Force Policy that "the Program Manager (PM) . . . use manpower to influence the weapon system design, and to determine the quantity and skill-level requirements and the source of manpower" (15:Para 2r). The implementing command, normally AFSC, is responsible for appointing the PM and establishing a program office (15:Para 4c). The PM is responsible for preparing and issuing the Program Management Plan (PMP) for managing the acquisition program (15:Para 5e). The PMP addresses manpower requirements as follows:

"The determination of the operational system equipment manpower requirements is a joint effort of the program office, the operating command, other participating organizations, and the equipment contractors. . ." (15:Atch 3).

"The total requirements (grades and skills code) must be projected for officers, airmen, and civilians, by fiscal year, phased through the equipment's life cycle for implementing, supporting and operational (using) commands" (15:Atch 3).

". . .Organizational charts and brief functional statements for the operating command units to which the equipment and manpower will be allocated" (15:Atch 3).

The supporting command, normally AFLC, assists the PM in planning and conducting the integrated logistic support program. "It designates an experienced logistician as Deputy Program Manager for Logistics (DPML), develops logistics support alternatives and assesses supportability and affordability considerations" (26:I-17).

DoDD 5000.39 specifies activities which should have been accomplished during the Demonstration and Validation phase of the acquisition process:

> The logistic resource (including manpower) implications of alternative operational and support concepts have been evaluated. Projected manpower and other logistic resource requirements have been identified and are consistent with updated program constraints. Manpower and other logistic cost drivers of current systems have been identified at a detail level and targets for improvement on the new system have been established (21:Encl 3).

Milestone II. Milestone II decision is program go-ahead and approval to proceed with full-scale development. The timing of this milestone is a function of the acquisition strategy approved at Milestone I (22:Para E4c).

> Selection of a system(s) and contractor(s) for full-scale development and production is to be made on the basis of (1) system performance measured against current mission need and program objectives, (2) an evaluation of estimated acquisition and ownership costs, and (3) such factors as contractor(s) demonstrated management, financial, and technical capabilities to meet program objectives (14:11).

The documentation required at this milestone is the Decision Coordinating Paper/Integrated Program Summary (DCP/IPS) (22:Para E12c). The DCP discusses "readiness, sustainability, and economy of manpower, and how they are to be achieved" (23:Para 7). "The IPS summarizes in greater detail than the DPC (sic) various facets of the implementation plan. . .for a major weapon system" (23:Encl 5). Among the required expansions is manpower. Significant manpower differences in numbers and skills compared to a current compatable system must be explained (23:Encl 5).

Projected shortfalls in manpower occupational specialities required for the new system in critical career fields will be identified. It is recognized that new occupational specialities may be required. If shortfalls exist, the methods of

attaining the required manning will be explained (23:Encl 5). The IPS will have a one page annex on manpower reflecting estimated net changes in active forces, reserve forces and DOD Civilians (23:Encl 5, Atch 2).

By the time the decision to enter Full-Scale Development has been made, an estimate of "manpower requirements (by work center) and other support resource requirements have been determined. . .and are consistent with goals and thresholds for readiness and support-related parameters, and are presented in comparison to a contemporary baseline system" (21:Encl 3).

Milestone III. Milestone III represents production and deployment and indicates that Reliability and Maintainability (R&M) demonstrations have been acceptable (17:Atch 2). However, it may be necessary for the Secretary of Defense to make the production decision. In that case, the DCP/IPS "shall be updated to describe program changes since milestone II. . ." (23:Para D3e(2)(a)).

The milestone III decision is made after "A preliminary manning document and supporting analysis (including comparision by work center to a baseline system) are available, and manpower requirements can be met from projected DoD Component assets" (21:Encl 3).

During the Production and Deployment phase, ". . . explicit and visible plans and resources. . .for follow-on evaluation and analysis of the maintenance plan, support capability, . . .and manpower to meet system readiness goals" should be developed or obtained (21:Encl 3).

PROGRAM MANAGEMENT RESPONSIBILITY TRANSFER (PMRT)

AFR 800-4, outlines the responsibilities and policy surrounding Program Management Responsibility Transfer (PMRT) from AFSC to AFLC. Program Management Responsibility (PMR) is the "overall responsibility for all aspects of a given program. . . . The transfer of PMR for a system (by series) or equipment (by designation) from the implementing command to the supporting command. . ." occurs on an approved date. "The objective of PMRT is to accomplish an orderly, timely, and efficient transfer of overall PMR at the earliest practicable date during the production phase. . . . PMRT will be planned to occur based upon a program milestone determined jointly by the implementing and supporting commands early in the Full Scale Development (FSD) phase . . . . For those programs that do not undergo the FSD phase, the PMRT milestone selection should occur as early as practicable" (20:1).

> Generally, the PMRT milestone should be validated not later than one year before the occurrence of the PMRT milestone. Validation will be based on an assessment of achieving program and logistics support objectives, and an agreement that no significant impediment to PMRT is known or anticipated. . . . PMRT planning will be accomplished far enough in advance to accommodate the PPBS to ensure consideration of funding requirement for all tasks (20:2).

"Care must be exercised to ensure that the PMRT is scheduled to occur when the system/equipment is operational and the workload no longer requires developmental engineering" (1:i).

> Delayed PMRT and extended AFSC involvement in production efforts result in use of AFSC resources for tasks the AFLC item management system could accomplish more effectively. PMRT is not generally transferred from AFSC to AFLC as early as practicable in the production phase as required by AFR 800-4 (1:6).
>
> Failure to involve managers from both AFSC and AFLC early in the PMRT process can result in (1) "surprise" workload for AFLC, (2) non-accomplishment of residual tasks by AFSC, (3) programs not ready to transfer on the PMRT date, and/or (4) high logistics support costs. Program management responsibility transfer often occurs later than planned, with acquisition management tasks incomplete and/or not identified as residual tasks due to inadequate planning and programming by AFSC and AFLC (1:20).

Among the causes cited by AFALC Lessons Learned Bulletin is the failure of AFLC to plan and program for the resources to accomplish the new workload (1:20).

Hq USAF approves the transfer agreement and issues a Program Management Directive (PMD). PMDs, tailored to the needs of each individual program, provide direction to implementing and participating commands and satisfy documentation requirements (22: Para 1k).

PLANNING, PROGRAMMING AND BUDGETING SYSTEM

DoDD 5000.1 places responsibility for budgeting realistically for required resources, including manpower, squarely on the shoulders of the DoD Component (in this case, the Air Staff) (22:Para C2c(3)). "Affordability, which is a function of cost, priority, and availability of fiscal and manpower resources, shall be considered at every milestone and during the PPBS process" (22:Para E7). The PPBS has three distinct phases. Each phase "contributes toward attaining our ultimate objective -

providing operational commanders the best mix of forces and support attainable within fiscal constraints" (19:8).

Planning. The planning phase identifies the threat facing the nation "during the next 5-20 years, assesses our capability to counter it, and recommends the forces necessary to defeat it. Planning highlights critical needs and examines risks if recommended goals are not attained. . ." (19:8).

Programming. The programming phase matches available dollars against the most critical needs and develops a five-year resource proposal. After this proposal is approved, it becomes the basis for budgeting action (19:8). The POM process is an integral part of the programming phase. The POM "expresses the Air Force Five Year Program recommendations to OSD to meet the objectives of the Defense Guidance and the Air Force senior leadership, and identifies Air Force initiatives" (19:17).

"All Major Commands, Separate Operating Agencies, and Direct Reporting Units provide formal inputs" (19:17).

"Over 400 Program Element Monitors (PEMs) provide inputs on over 600 AF Program Elements (PEs) which cover the entire AF program" (19:17).

"Special high national interest areas - like PEACEKEEPER, B-1 and space systems - undergo additional reviews" (19:17).

"Functional areas - which cut across mission areas and individual PEs - are reviewed to provide "more than one look" at the same item so that decisions are made based on the most complete review possible" (19:17).

"Functional staff and MAJCOMs advocate programs and new initiatives throughout the process. MAJCOMs also review the POM at several points during its development" (19:17).

Budgeting. The budgeting phase:

> . . .refines the detailed costs and develops the Service estimate required to accomplish the approved program. Following review and approval, it serves as the input to the President's Budget. Budgeting plays a major role in defending the submission before Congress and executing Congressional appropriation legislation (19:8).

AFLC RESPONSIBILITIES

Figure 2-2 is a graphical expression of AFLC's (primarily the Weapon System Manager (WSM)) effort during the life cycle of major weapon systems (from conception to phase-out). The phasing of manpower needs is expressed in percentages of the total requirement at PMRT. The target percentage should be reached by the milestone date. Growth should be phased-in equitably by year to reach the projected manning percentage at the next milestone. The total requirement may exceed that required at PMRT if major modifications and system changes (upgrades) extend the life of the system (28:--). This study does not evaluate the validity of this expression. It is presented to reflect AFLC's gradual increase in weapon system related manpower requirements.

Conceptual/Validation	5%
Full-scale Development	15%
Production	40%
Initial Operational Capability (IOC)	80%
PMRT	100%

Air Force Acquisition Logistics Center (AFALC). The AFALC is the OPR for the Integrated Logistics Support programs for ". . . assigned weapon systems, equipment, and programs during all acquisition phases." The AFALC is also responsible for negotiating PMRT from AFSC to AFLC (6:Atch 6).

Materiel Management (MM). Among the responsibilities levied by AFLCR 23-43 to the Directorate of Materiel Management (MM) at the Air Logistics Centers (ALC) are:

"Worldwide logistical support management of weapon and support systems, programs, projects, items, federal supply classes, materiel management aggregations, and other materiel as assigned by HQ AFLC" (8:1-4).

Assist AFALC in integrated logistics support planning for "major weapon systems, equipment, and selected modification programs. . . . Participates in the development of logistics management and PMRT planning and implementation for assigned weapon systems, equipment, and/or hardware" (8:1-4).

Distribution (DS). The Directorate of Distribution (DS) is "responsible for receiving, storing, issuing, and shipping materiel, including materiel quality control, packaging, inventory, and transportation" (7:2). The number of line items associated with a particular weapon system determines the impact on DS.

Central Procurement (PM). The Directorate of Central Procurement (PM) contracts for provisioning and replenishment spare parts, engineering services, modifications, engineering changes and interium contractor support for programs assigned to the ALC (9:7).

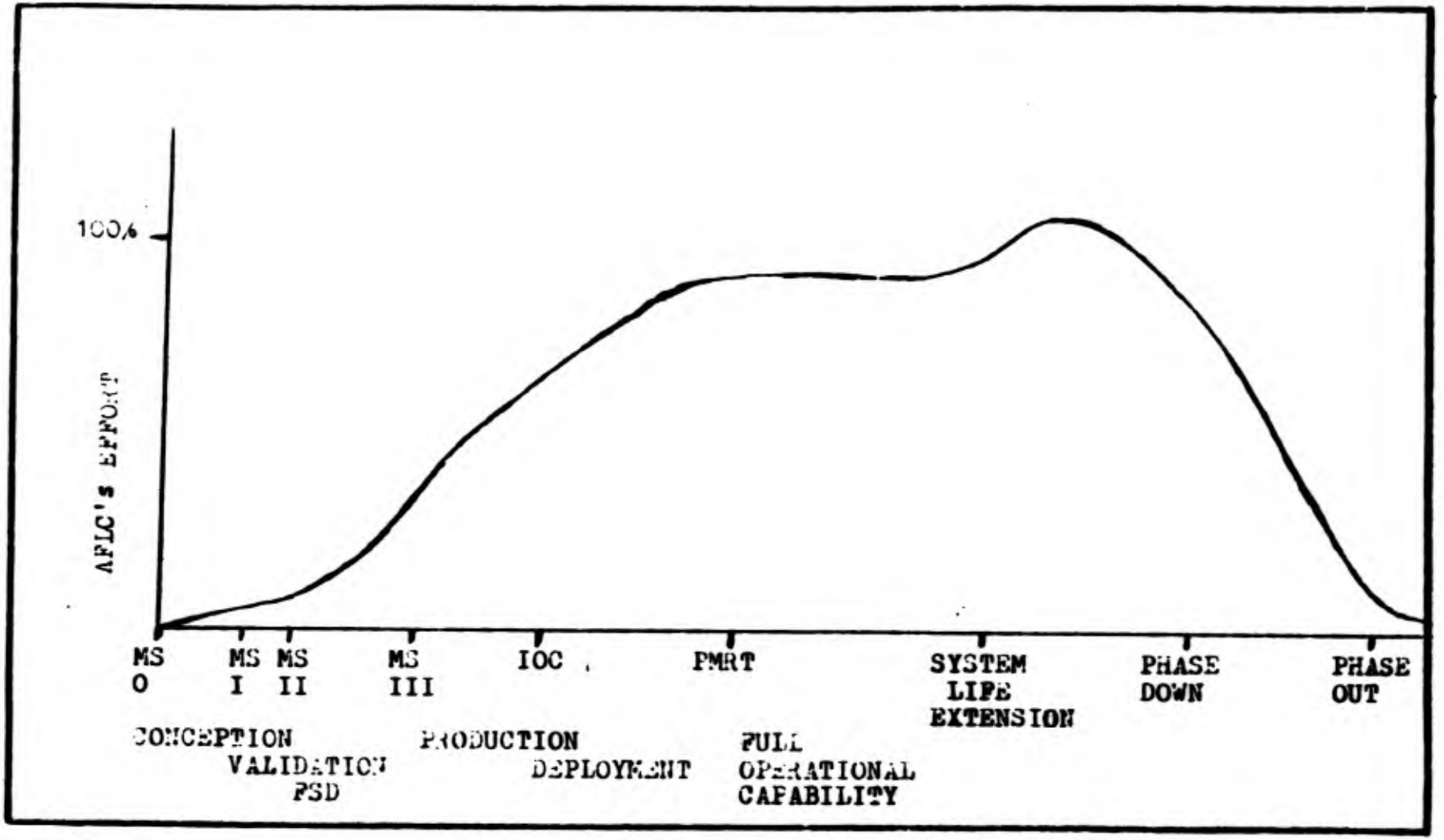

Figure 2-2. AFLC Effort in Life Cycle of Major Weapon Systems (28:--)

Chapter Three

AFLC'S FUNDING SUCCESS (SELECTED WEAPONS)

Hq AFLC issues POM guidance to field activities each year emphasizing the need for impact statements addressing ". . .what work will not be done, what programs will suffer, and what combat capabilities will be affected. . ." if requested manpower is not funded for specific weapon systems/programs (10:1). Though AFLC provides impact statements each year, the quality may suffer because commanders and senior management officials hesitate to state in unequivocal terms that a specific workload will not be accomplished.

SELECTED WEAPON SYSTEMS

The B-1B, Peacekeeper, and AMRAAM weapon systems were selected for analysis because of their visibility and contrast. Comparing these systems infers AFLC's success in obtaining required manpower and provides insight in determining if the manpower was requested at the appropriate acquisition milestone.

A brief description of the selected systems follows:

B-1B Aircraft. "The B-1A/B Bomber is a multi-role aircraft with maximum range, payload, and capability to perform the mission of a conventional bomber with cruise missile launch platform and nuclear weapons delivery." The total published program cost from 1973 through 1984 is $17,002.5M. Program costs include Research, Development, Test, and Evaluation (RDT&E) and Procurement Costs (24:2-11).

The B-1B program is somewhat unique in that its production was terminated by President Carter in June 1977 and restored in October 1981 by President Reagan. During those four years, development and flight test efforts continued under the Bomber Penetrative Evaluation (BPE) program. As a result, the B-1B program is enhanced by its ability to take advantage of the technical and cost data generated durirg the B-1A program (12:2).

The 1981 Defense Authorization Act, dated 8 September 1980, directed DoD to pursue the development of a new multi-role bomber to be initially operational no later than 1987. The aircraft must maximize range, payload, and possess the ability

to perform in both tactical and strategic roles. Initially, the B-1B will be employed as a penetrator with transition to the shoot and penetrate mission as the cruise missile carrying portion of the B-52 force is phased out (12:2).

A formal Defense Systems Acquisition Review Council (DSARC) was not required since the FSD decision by the Secretary of Defense included a concurrent decision on production (12:2).

The following are the major B-1B program milestones: (12:3)

Engineering Review	April 1982
Configuration Review	January 1983
First Flight B-1A #2	April 1983
First Flight B-1A #4	July 1984
B-1B Roll Out	September 1984
First Flight B-1B #1	October 1984
IOC	September 1986
Complete ALCM Flight Test	September 1987
Delivery B-1B #100	June 1988
PMRT to AFLC	January 1989

Figure 3-1 reflects schedules of production buys, deliveries and flight testing for the B-1B.

Peacekeeper. The Peacekeeper is a land based, surface-to-surface intercontinential ballistic missile. It "employs three solid rocket motors and a liquid rocket engine fourth stage. It will provide strategic deterrance through accurate delivery of nuclear payloads." The total published program costs from 1974 through 1984 is $14,517.8M. Program costs include RDT&E and procurement costs (24:3-18). The Peacekeeper has undergone a multitude of political and technical disputes regarding the basing mode. The current decision is to base the first increment in existing Minuteman silos. This decision is the premise upon which the following milestones are built (13:--).

First Silo Launch	August 1985
Finalize PMRT Plan	September 1985
First Basing Hardware Delivered	January 1986
First Missile to SAC	September 1986
IOC	December 1986
Facilities Construction Completed	September 1988
PMRT to AFLC	December 1989
Last Depot Facility Completed	January 1990

AMRAAM. The Advanced Medium Range Air-to-Air Missile (AMRAAM) is the next generation tactical air-to-air missile to be installed on the latest USAF, USN, and USMC aircraft (F-14, F-15, F-16, and F/A-18). The AMRAAM is the replacement for the Sparrow missile and is expected to be a viable weapon beyond the year

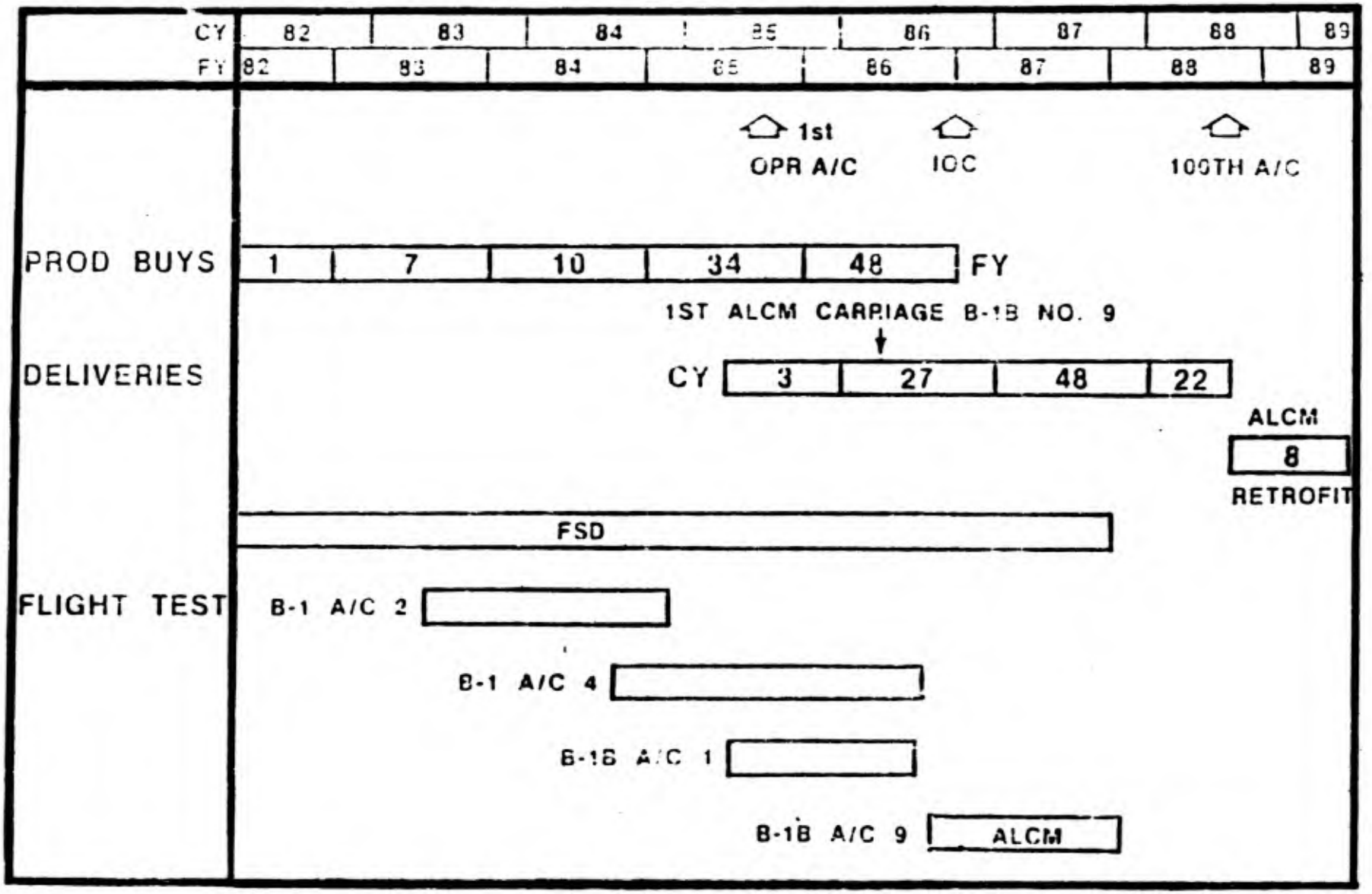

Figure 3-1. B-1B Major Milestones (12:3A)

2005. The AMRAAM will be interoperable with British and German aircraft. The AMRAAM is an all-weather, radar guided, all environment missile with electronic countermeasures, low-altitude cluster and launch and leave capabilities. The $6 billion program entered full-scale development in December 1981 and is expected to enter production in March 1988. PMRT is planned to occur immediately thereafter (4:Point Paper for AMRAAM/WASP). Total program costs from 1977 through 1984 is $763.2M, including $700.9M for RDT&E (24:3-4). Figure 3-2 reflects the AMRAAM Production Program for 1985 through 1992. The production program indicates scheduled lot buys from Raytheon and Hughes Corporations.

B-1B Aircraft and Peacekeeper Missile. AFLC first requested manpower to support the B-1B aircraft and the Peacekeeper missile in the FY83-FY87 POM. This was immediately after President Reagan revived the B-1 program and the latest decision to change the basing mode for the Peacekeeper. The programs were not fully funded; therefore, AFLC requested the shortfalls in the FY84-FY88, FY85-FY89, FY86-FY90, and FY87-FY91 POM cycles. Manpower requirements were updated because funding decisions were revised; i.e. allocated manpower requirements were withdrawn or shifted to the right. The numbers are only correct for a short period of time because of constant changes in political and budgetary actions. The following recap of the FY86-FY90 POM results were accurate for a short time in 1984 (prior to the A-2 exercise (the second level of POM review)), however, they are sufficient to illustrate AFLC's lack of total funding (16:10-11; 5:--).

	FY86	FY87	FY88	FY89	FY90
B-1B Aircraft Manpower:					
Required	375	445	319	123	123
Funded	0	114	120	34	34
Shortfall	375	331	199	89	89
Peacekeeper Manpower:					
Required	499	570	668	664	660
Funded	312	364	432	428	426
Shortfall	187	206	236	236	234

AMRAAM. AFLC first requested manpower to support the AMRAAM in the FY85-FY89 POM. The request was combined with the Wide Area Anti-armor Munition (WAAM) because both are managed by the Warner Robins Air Logistics Center (WR-ALC) and has minimal manpower requirements. Manpower was requested in the FY85 POM, not funded, and not resubmitted in subsequent POMs (4:--).

	FY85	FY86	FY87	FY88	FY89
AMRAAM Manpower					
Required	36	32	32	32	32
Funded	0	0	0	0	0
Shortfall	36	32	32	32	32

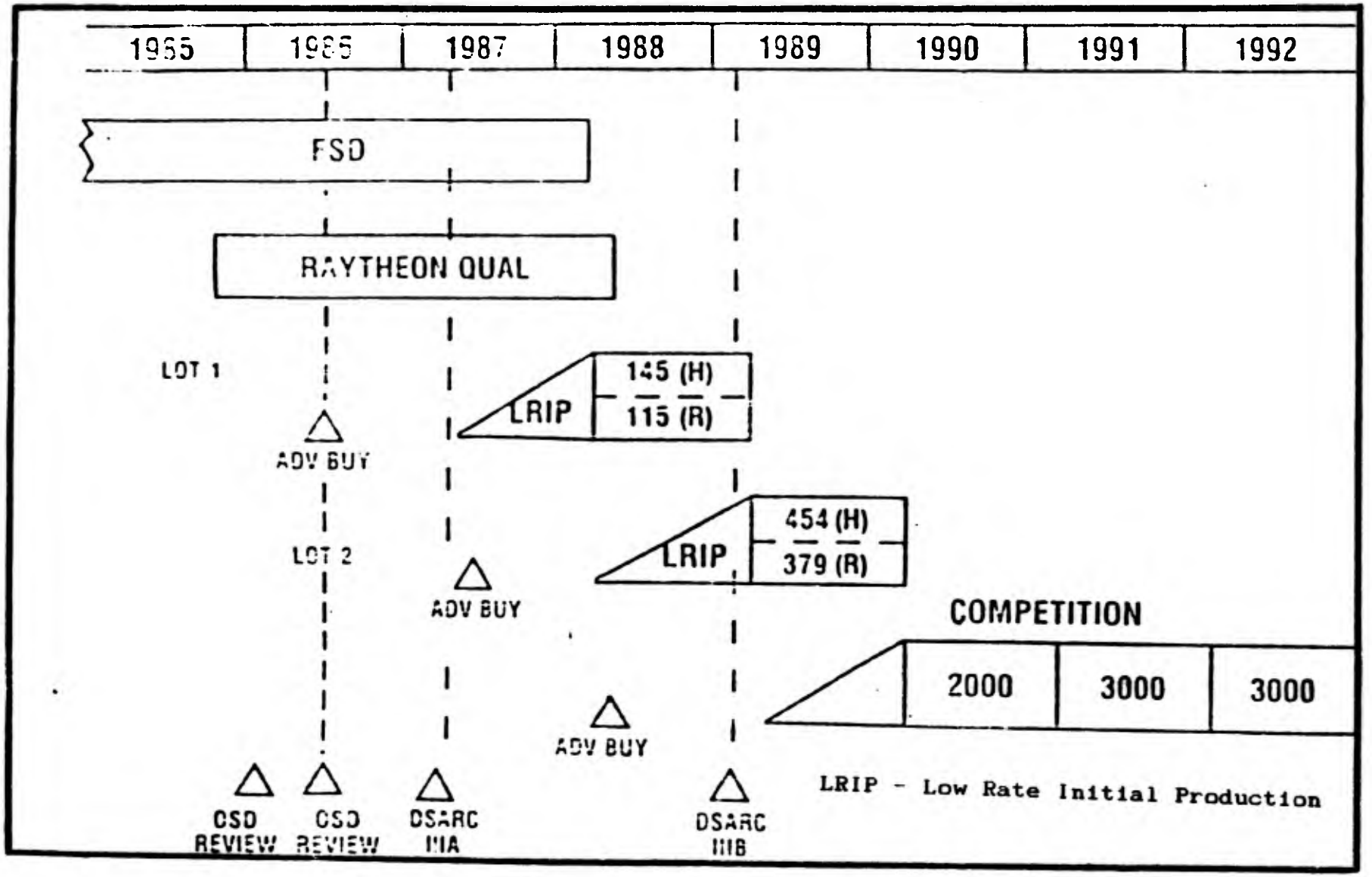

Figure 3-2. Production Program - AMRAAM (25:--)

AFLC requested manpower to support the B-1B and Peacekeeper nine years prior to PMRT. Manpower to support the AMRAAM, on the other hand, was not requested until six years prior to PMRT.

AFLC'S FUNDING RATE

Based upon the above information, AFLC enjoyed the following funding rates for the selected weapon systems. The percentages were correct prior to the FY86-FY90 POM A-2 exercise (1984). Subsequent political and economic adjustments have rendered them inaccurate. These rates are not intended to reflect AFLC's overall success or failure in obtaining manpower to accomplish its many responsibilities. They are only indicators!

Percent of Required Manpower Funded:

	FY85	FY86	FY87	FY88	FY89	FY90
B-1B	--	0	25.6	37.6	27.6	27.6
Peacekeeper	--	62.6	63.9	64.7	64.5	64.5
AMRAAM	0	0	0	0	0	--

Chapter Four

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

FINDINGS

Discussion. The requirement to address manpower is entwined in all phases of the acquisition process. Procedures are contained in pertinent OMB, DoD, USAF, and AFLC directives. Activities surrounding manpower are summarized at Figure 4-1. Integrated Logistic Support Plan (ILSP) for the Peacekeeper does not conclusively reveal the extent these directives are enforced. The ILSP refers to the Depot Maintenance Activation Plan (DMAP) and supplemental programs like the Combined DT&E/OT&E Program. This plan and programs are responsible for specifically addressing manpower needs (11:--). Supporting documents were not available during the period of research.

Appropriate Milestone for Requesting AFLC Manpower:

AFLC manpower needs should be included in every PPBS submission relating to the weapon system in question, beginning with mission analysis. The majority of AFLC's workload materializes at PMRT when 100% of AFLC manpower needs should be on board. However, the requirement builds through all phases of the acquisition process. AFLC manpower to support the selected weapon systems was not requested prior to milestone 0.

Prior to PMRT, overall program responsibility, under normal conditions, resides with AFSC; therefore, the responsibility for requesting all monies required for total program execution (including for AFLC manpower needs) belongs to AFSC, specifically the program manager.

> It is DoD policy that authority be "delegated to the lowest levels of the Component at which a comprehensive view of the program rests. . .the Military Service program manager shall be given authority and resources commensurate with the responsibility to execute the program efficiently. Reviews, such as those by. . .(DSARC), are a means to evaluate the information required for a decision which higher authority has specifically reserved and not delegated to the program manager. Reviews will not be used to request data other than those required as a basis for higher authority decisions" (22:10).

Funding Percentage. AFLC enjoyed an overall 34.4 percent funding rate in FY86 increasing to 56.4 percent in FY90 for the selected weapon systems. These percentages are subject to change because of the volatile political and economic climates that are expected to prevail for the next decade. Time and space does not allow

ACQUISITION PHASES	MANPOWER RELATED ACTIVITIES
MISSION ANALYSIS	SON - Includes PDP addressing manpower JMSNS - Validates need addressed in SON ILS - Ensure manpower is addressed in SON
< MILESTONE 0 >	
CONCEPT EXPLORATION	PMP - Manpower is factor in selecting alternatives SCP - Summaries concept exploration ILS - Evaluate manpower requirements
< MILESTONE I >	
DEMONSTRATION AND VALIDATION	DCP/IPS: DCP - Addresses economy of manpower IPS - Contains annex on manpower ILS - Identify manpower by workcenter
< MILESTONE II >	
FULL-SCALE DEVELOPMENT	DCP/IPS - Updated if SECDEF require ILS - Preliminary manning document
< MILESTONE III >	
PRODUCTION AND DEVELOPMENT	PMRT Validation PMRT - One year after validation PMD - USAF approves transfer ILS - Evaluate follow-on manpower

Figure 4-1. Manpower Activities Currently in the Acquisition Process

further investigation or analysis to determine the validity of this limited sample. However, the data infer that, in recent

years, AFLC's funding success has been far less than desirable (100%).

CONCLUSIONS

The timing of the request for AFLC manpower is a contributing factor in its failure to receive adequate manpower to support newly acquired weapon systems. Full funding may not become a reality, but letting the need be known very early in the process will alert DoD and Congress to these costs.

The PPBS, however, is a viable tool for providing necessary resources to accomplish the mission. This is not surprising since the PPBS is the only vehicle available for obtaining funds for approved programs. However, constraints are imposed by reality; i.e. military budget caps, manpower ceilings, etc. MAJCOMs have little control over these factors, but there is a responsibility to let needs be known at the appropriate time.

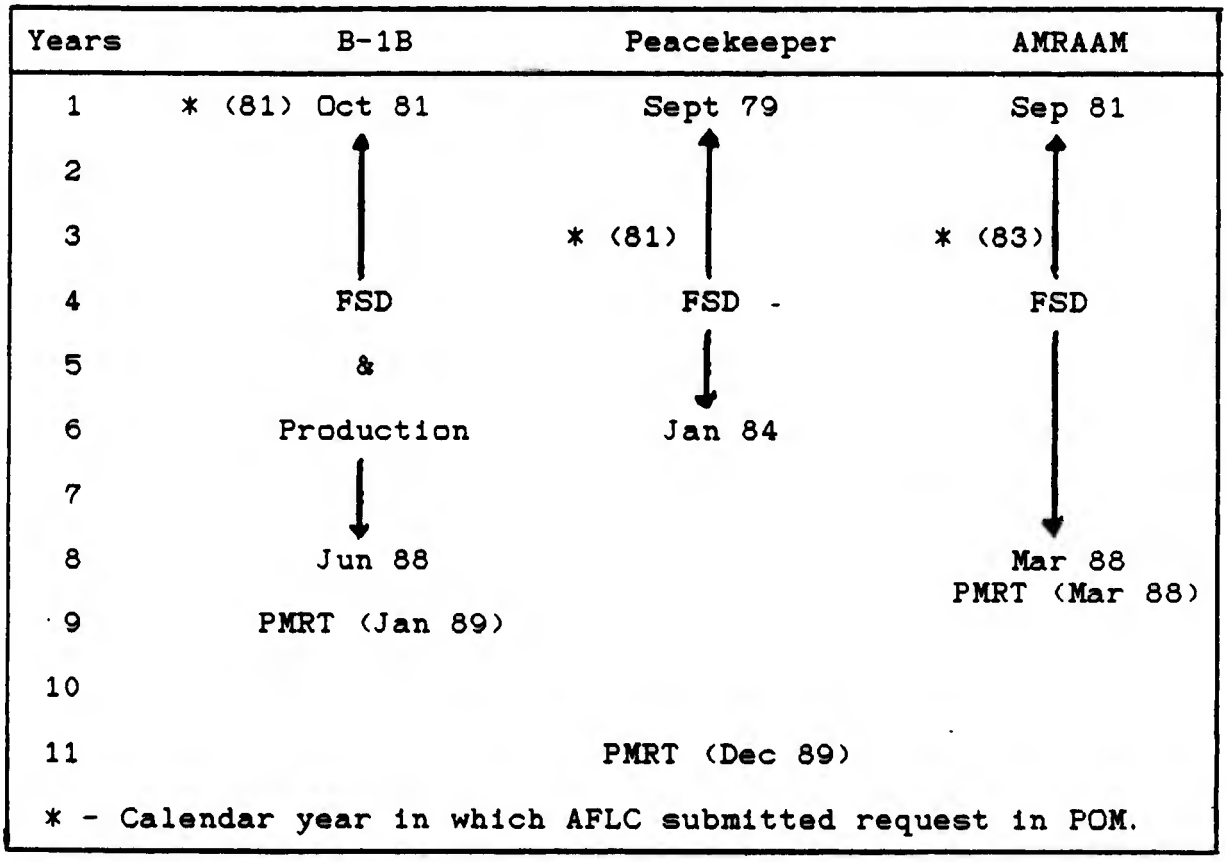

Figure 4-2. Points AFLC Requested Manpower

AFSC is the appropriate MAJCOM to sponsor the PDP for AFLC's manpower. The responsibility shifts to AFLC at PMRT.

Figure 4-2 is a summary of the points AFLC requested manpower to support the B-1B, Peacekeeper, and AMRAAM.

RECOMMENDATIONS

First Recommendation. DSARC, AFSC's program managers, and Hq AFLC enforce existing instructions to consider all manpower needs at all milestones in the acquisition process.

Second Recommendation. The PM include the total requirement in AFSC's POM submissions. The first time a requirement for manpower enters the last year of the FYDP, that requirement (or estimate) should be included in the POM. Update the requirement each year as the time the resources are needed progresses through the FYDP. There should be very few instances when total requirements (including for AFLC manpower) are not first reflected in the last year of the POM.

Third Recommendation. AFLC submit notional PDPs in support of AFLC's requirements in AFSC's POM.

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