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LOGISTICS MANAGEMENT BY WEAPON SYSTEM, (U)  
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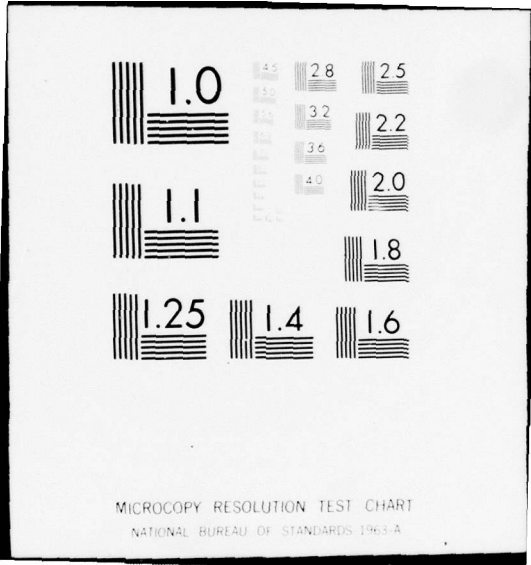
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LOGISTICS MANAGEMENT

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WEAPON SYSTEM

XRS REPORT 76-11 ✓

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ABSTRACT

Headquarters Air Force requested the Air Force Logistics Command (AFLC) conduct a study to determine the feasibility of quantifying the resource impact of deleting particular weapon systems for the Air Force inventory. Therefore, the purpose of this study was: (1) review the extent of weapon system visibility within the existing AFLC requirements data systems, and (2) conceptualize a management information system that would quantify (in a timely manner) the impact on AFLC managed and/or controlled resources due to a significant change in the force composition or weapon/support system capability. The study concentrated on the five areas that displayed the greatest potential for weapon system forecasting: (1) Aircraft Modifications, (2) Aircraft Replenishment Spares and Repair Parts, (3) Aircraft Initial Spares and Repair Parts, (4) Depot Purchased Equipment Maintenance, and (5) Civilian Personnel.

The study disclosed the primary AFLC requirements forecasting data systems have varying degrees of Mission, Design, Series (MDS) level visibility. These data systems, for the most part, are not programmed to accumulate resource requirements by weapon/support system and to modify these systems would require extensive reprogramming. These data systems also do not have the capability to forecast and/or accumulate all resource requirements in a sufficient number of years to accommodate the POM/FYRP period. Therefore, the study concluded that AFLC can achieve weapon/ support system visibility and a "what if" simulation capability only after a substantial resource expenditure. The existing data systems will require extensive modification in order to provide factors, tables and accounting data that can be utilized in a Weapon System Resource Accounting System (WSRAS). AFLC completion of an operational WSRAS is dependent upon the amount of AFLC resources available for this task and the extent of system capability. However, a three (3) to five (5) year time frame for completion does not appear unrealistic.

The views expressed herein are those of the authors and do not necessarily reflect the position of Headquarters, AFLC.

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## PREFACE

The study was initiated in response to an AF/LGX letter dated 2 June 1976, "Deletion of Weapons Systems." One study objective was to review the current AFLC requirements forecasting data systems to determine if the resource impact of deleting particular weapon systems from the Air Force inventory could be quantified. The other study objective was to conceptualize a management information system that would permit "what if" simulation of the resource requirements resulting from a significant change in force composition and/or weapon system capability.

The report provides an overview of the weapon system visibility currently existing within the AFLC requirements data systems. There are specific recommendations presented for each resource requirements data system to improve the weapon system visibility of the system. The authors have also conceptualized the requirements portion of a Weapon System Resource Accounting System (WSRAS) for use as a point of departure for future work. It is recognized this conceptualized system is only the start, but the future system development by the Directorate of Plans should identify those areas requiring further study.

The list of people deserving appreciation for their assistance is much larger than space permits. The Directorate of Management Sciences extends special thanks to John Patricia, Howard Overly, Dave Johnston, Bobby Becker and Henry Frank for their assistance in instructing the authors on the primary resource requirement data systems employed in the study. Additionally the authors would like to personally thank Bob Zerbe, Rolf Hagton, Bud Godfrey, Debbie Townsend, Dave Ellenberg, Helen Herd, and Pat Kouse for their invaluable assistance on this study.

TABLE OF CONTENTS

| Chapter |  | Page |
|---------|--|------|
|         | EXECUTIVE SUMMARY  | i    |
| I       | INTRODUCTION   | 1    |
|         | Statement of the Problem   |      |
|         | Objectives of the Study  |      |
|         | Study Limitations  |      |
|         | Assumptions  |      |
|         | Organization of Study  |      |
| II      | WEAPON SYSTEM VISIBILITY WITHIN AFLC<br>MANAGED CENTRAL PROCUREMENT APPROPRIATIONS                                       | 5    |
|         | General  |      |
|         | BP110000 - Modifications   |      |
|         | BP120000 - Inservice Direct Ground Support<br>Equipment  |      |
|         | BP150000 - Replenishment Spares and Repair<br>Parts  |      |
|         | BP160000 - Initial Spares and Repair Parts   |      |
|         | Remaining 3010 Appropriation Budget Programs   |      |
| III     | WEAPON SYSTEM VISIBILITY WITHIN THE AFLC<br>OPERATIONS AND MAINTENANCE (O&M)<br>APPROPRIATION                            | 14   |
|         | General  |      |
|         | Depot Purchased Equipment Maintenance (DPEM)   |      |
|         | Civilian Personnel   |      |
| IV      | RATIONALE FOR EXCLUDING THE OTHER AFLC<br>MANAGED AND/OR CONTROLLED APPROPRIATIONS<br>AND FUNDS FROM WSRAS CONSIDERATION | 19   |
|         | Stock Funds  |      |
|         | General  |      |
|         | Rationale of Excluding the Stock Fund<br>Divisions   |      |
|         | Data Base Enhancement  |      |

| Chapter  | Page |
|--|------|
| Industrial Fund  |      |
| General  |      |
| Rationale for the Exclusion of the DMS<br>Portion of the Air Force Industrial<br>Fund  |      |
| Data Base Enhancement  |      |
| Other Appropriations/Funds   |      |
| General  |      |
| Data Base Enhancement  |      |
| V    CONCEPTUALIZED WEAPON SYSTEM RESOURCE<br>ACCOUNTING SYSTEM - REQUIREMENTS PORTION | 24   |
| General  |      |
| Data System - D041   |      |
| Data System - D039   |      |
| Data System - G079   |      |
| Data System - G035B  |      |
| Data System - Logistics Manpower Model   |      |
| Data Input - Manual  |      |
| VI   CONCLUSIONS AND OBSERVATIONS  | 31   |
| Attachments  |      |
| 1    AF/LGX letter of 2 June 1976  |      |
| 2    XRX/XRS Outline of Agreement  |      |
| 3    Flow Chart - WSRAS Source Data Systems  |      |
| 4    Chart - Weapon System (MDS) Visibility<br>Assessment                              |      |

## EXECUTIVE SUMMARY

1. On 2 June 1976, AF/LGX requested that AFLC conduct a study to determine the feasibility of quantifying the resource impact of deleting particular weapon systems from the Air Force inventory. AF/LGX's ultimate objective was for AFLC to devise a quick reaction capability to "what if" type questions concerning the deletion of weapon systems. The Directorate of Management Sciences (XRS) was assigned the responsibility of reviewing the existing AFLC requirements forecasting data systems to assess current weapon system visibility. Based upon the XRS review, the Plans Directorate (XRX) is to initiate action to design a management information system that would quantify (in a timely manner) the impact on AFLC managed and/or controlled resources. The XRS findings and recommendations relative to the XRX management information system development are summarized below.

2. There are five major AFLC requirements forecasting models/data systems that compute and/or accumulate the monetary and manpower resource requirements for the AFLC Program Objective Memorandum (POM). These five data systems are (1) D041 - Recoverable Consumption Item Requirements System, (2) D039 - Computation of Requirements for Equipment Type Items, (3) G079 - Systems and Equipment Modification/Maintenance Program, (4) G035B - Central Management of Depot Maintenance and (5) LMM - Logistics Manpower Model. The remaining significant POM resource requirements are manual inputs although planned modifications to existing data systems and/or new data systems will reduce a substantial portion of these manual inputs.

3. HQ AFLC is also responsible for overall management of the General Support and Systems Support Divisions (GSD & SSD) of the Air Force Stock Fund. The GSD operating program/budget is derived from the resource requirements generated by the base level 1050II supply system and consolidated at each Major Command. These Major Command summaries are then consolidated by HQ AFLC and further refined prior to submission to HQ USAF, OSD and OMB for approval. SSD resource requirements are computed by D075 (Nonrecoverable Central Secondary Item Stratification Computation System) based primarily on past demand data provided by the EOQ Buy Computation System (AFLC D062) and any known or anticipated changes in the major force structure. D062 computes whole-sale stock levels and materiel replenishment requirements

for all centrally procured nonrecoverable consumption type items. D075 then utilizes this D062 output to form an operating program/budget for the current, apportionment and budget years. This operating program/budget is also subsequently approved and apportioned by HQ Air Force, OSD, and OMB. Both the GSD and SSD operating programs are influenced to a large extent by the amount of funds available at the procuring activity (customer) to purchase these stock funded items. Air Force customers either reimburse the Stock Fund Divisions directly and apply the items in support of specific weapon/support systems or indirectly through the reimbursement of the Depot Maintenance Services portion of the Air Force Industrial Fund. In essence, appropriated funds are used to reimburse for Stock Fund items that support specific weapon/support systems. For purposes of this study, it was assumed HQ AFLC would provide information to the operational commands to assist them in portraying the required appropriated fund reimbursements of the stock funded items by weapon/support system.

4. As might be expected, weapon system visibility varies greatly between data systems. The D041 data system has extensive weapon system visibility since each national stock number (NSN) has application data. The D039 data system has provision for weapon system visibility but a substantial amount of the requirements are coded only to a Major Command. G079 has extensive weapon system visibility since modification and maintenance programs are identified to a specific weapon system (MDS level). The G035B system has extensive proration and allocation procedures to distribute the Depot Purchased Equipment Maintenance (DPEM) resource requirements by weapon system for use as a data source in the DODI 4151.15 system (Depot Maintenance Support Programming). The Logistics Manpower Model has weapon system (MD level) visibility, based on allocation procedures for approximately 60 percent of the manpower. The D075 data system has weapon system visibility (MD level) for approximately 71 percent of the SSD line items. This 71 percent includes 16 percent of the line items which are used on only one series aircraft and 55 percent that are MD peculiar or coded to a predominant weapon/support system (system accounts for more than 50 percent of the requirement). The D075 has provision to portray a maximum of seven MDS applications in the item record but often MD rather than MDS is entered in the item record. Therefore, D075 would require increased application capacity and integrity prior to the allocation of SSD resource requirements by weapon/support system at the MDS level.

5. The fact that these data systems were designed to fulfill an operational need independent of each other results in these systems being less-than-optimal for inclusion in a weapon system resource accounting system (WSRAS) and "what if" simulation. Reprogramming these data systems to accommodate a WSRAS appears to be an inefficient use of computer capacity since the extensive program run time and limited application of the various data systems make quick reaction "what if" simulation prohibitive. "What if" simulation and weapon system visibility is further compounded because of the need to expand the data systems to cover the AFLC POM time period. At least one data system (D041) would require extensive reprogramming for such expansion. Therefore, it appears the best alternative is for HQ AFLC to design a new data system that specifically quantifies "resource impact" caused by changes in the major force program and permits quick reaction "what if" simulation. This data system should be designed to address, where possible, the factors presented in the 2 June 1976 AF/LGX letter, but concentrate on the monetary aspect of resource management.

6. The conceptualized model presented in Chapter V of this report should serve as a baseline. This model could be used to accumulate weapon system resource requirements for the AFLC POM submission in addition to facilitating quick reaction "what if" simulation. The majority of the forecasting factors used in this model could be obtained and/or developed from the existing functional requirements data systems. However, these data systems require extensive modification to develop the factors and/or data tables that would be the data sources for the WSRAS. Data systems should be developed (or current development continue) to forecast requirements and record expenditures for the significant resource requirements which are manual inputs into the POM. The Comprehensive Engine Management System (CEMS) is an example of a data system that is currently under development which will have this forecasting and recording capability while such a data system still needs to be developed for Second Destination Transportation resource requirements.

7. The logistics management systems requirements and validation process should insure all modifications to existing systems or new data systems have considered both weapon system visibility and AFLC POM implications. The process should also include a review of the actions taken by the functional organization to increase weapon system visibility at the feeder data system level and ultimately at the WSRAS level.

8. All feeder data systems which record resource expenditures should be modified where possible to obtain additional weapon system visibility. This visibility is essential to enhance AFLC's forecasting ability through refinement of the weapon system factors and tables used in the requirements portion of the WSRAS. The Standard Equipment Reporting Designator (SRD) should be considered as a method of identifying resource expenditures to a specific weapon system. The accounting for expended resources, however, should be worked in conjunction with the requirements portion of the WSRAS so that the accounting portion is totally supportive in improving requirements forecasting. In addition, the resource requirements accounting systems should incorporate maximum weapon/support system visibility throughout the program/POM period and in terms of all relevant accounting methods (MDS, element of expense and program element code).

9. In summary, AFLC can achieve weapon system visibility and "what if" simulation capability only after a substantial resource expenditure. The existing data systems will require extensive modification in order to provide factors, tables, and accounting data that can be utilized in a WSRAS. The existing functional data systems will also require further modification to address those specific AF/LGX and AFLC "what if" type questions that are not conducive to WSRAS programming. While these functional data systems are being modified, the WSRAS must be developed and programmed to achieve the ultimate AF/LGX objective of AFLC being able to quickly quantify, by weapon system, the overall resource impact resulting from "what if" simulation. AFLC completion of a fully operational WSRAS is dependent upon the amount of AFLC resources available for this task and the extent of system capability. However, a three to five year time frame for completion does not appear unrealistic.

## CHAPTER I

### INTRODUCTION

By means of a 2 June 1976 letter (atch 1), AF/LGX requested that AFLC conduct a study to determine the feasibility of quantifying the resource impact of deleting particular weapon systems from the Air Force inventory. The ultimate AF/LGX objective was for AFLC to devise a quick reaction capability to respond to questions of the "what if" type concerning deletion of weapon systems. This AF/LGX request was later expanded to include quick reaction to "what if" questions concerning any contemplated change in the force structure. The study was to be worked in conjunction with several other AFLC efforts such as Logistics Capability Measurement System (LCMS), management by weapon system and weapon system essentiality.

It was decided that the AFLC study would be a two phase effort involving the Directorate of Management Sciences (XRS) and Directorate of Plans (XRX) of the DCS/Plans and Programs. The initial phase, to be performed by XRS, was to determine if the impact of changes in force structure could be quantified and, if so, develop a methodology for XRX consideration. The second phase, to be performed by XRX, was to apply the methodology to alternative systems for consideration during the FY 79-83 Program Objective Memorandum (POM) exercise. In formulating an outline of agreement between XRX and XRS (atch 2), XRX 'bundled' the weapon system deletion/resource impact problem together with the other XR efforts and expressed a requirement for XRS to conceptualize an AFLC Weapon System Resource Accounting System (WSRAS). The XRX/XRS outline of agreement provided guidelines for obtaining a conceptual definition of WSRAS.

The study team decided, however, that developing an all-encompassing WSRAS was, in fact, forcing a solution before fully exploring the nature of the problem. Consequently, it was decided this initial phase of the study would be limited to responding to the original intent of the AF/LGX letter.

### STATEMENT OF PROBLEM

To quantify the impact on AFLC managed and controlled resources due to a significant change in force composition and/or weapon system capability.

## OBJECTIVES OF THE STUDY

The purpose of this study was to: (1) review the extent of weapon system visibility existing within the AFLC requirements data systems and (2) conceptualize a management information system that will quantify (in a timely manner) the impact on AFLC managed and controlled resources due to a significant change in force composition and/or weapon system capability.

## STUDY LIMITATIONS

The term "resource impact" encompasses the entire spectrum of Air Force activity when considered in the context of changing the force composition and/or weapon system capability. Therefore, for purposes of this study, the term "resource impact" refers only to the men, materiel, equipment and facilities, and appropriations for which AFLC is responsible for managing and/or controlling. The study is further restricted to only the forecasting of resource requirements and does not attempt to address the after-the-fact accounting aspect of resource management.

The manpower resource only includes AFLC civilian and military personnel performing duties within AFLC and paid from the AFLC Operation and Maintenance (O&M) Appropriation or the Air Force Military Personnel Appropriation. Civilian and military personnel performing duties in the Air Force Industrial or Stock Fund were, therefore, excluded from consideration as a manpower resource. However, the work performed and the salaries paid to Stock and Industrial Fund employees are indirectly considered through the Depot Purchased Equipment Maintenance (DPEM) portion of the AFLC O&M Appropriation.

The materiel area includes the AFLC portion of the Aircraft (3010), Missile (3020), and Other (3080) Procurement Appropriations in addition to the materiel purchased with the AFLC O&M Appropriation. The AFLC managed divisions of the Air Force Stock Fund were not explicitly incorporated as an integral component of the conceptualized AFLC logistics management by weapon system model. This exclusion was based in part on AFLCP 173-3, A Guide For Estimating Aircraft Logistics Support Costs, dated 12 March 1974, which states: "expense material purchased from the System Support Division or the General Support Division of the Air Force Stock Fund will ordinarily be included in the depot maintenance and the base maintenance cost estimate." The GSD and SSD resource requirements forecasting systems should be continuously reviewed, however, for ways to achieve and/or enhance MDS visibility.

The maintenance portion of materiel management was limited only to the services purchased by the AFLC O&M appropriation. Therefore, the study did not consider the resource impact caused by a changing force structure on the Depot Maintenance Services (DMS) portion of the Air Force Industrial Fund nor field and organization level maintenance. The rationale for excluding the Industrial Fund DMS is also discussed in Chapter IV.

The facilities and equipment review was limited to the equipment items purchased by the central procurement appropriations and not facilities and equipment acquired, constructed and installed under the Military Construction Appropriation (3300). This decision assumed military construction enhances the overall utility of the facility and, consequently, is not assignable to specific weapon systems. In those isolated instances where military construction could be reasonably allocated, it was assumed the planned expenditure could and would be identified and included in the overall weapon system resource impact.

The current AFLC organizational structure will not be changed to expand the capability to manage logistics by weapon system (HQ AFLC letter, 22 June 1976, Logistics Systems Improvement).

The review of monetary requirements disclosed that eighty percent of the AFLC managed and controlled funds were included in three aircraft appropriation budget programs (BPs) and four O&M appropriation expense categories. Therefore, this study concentrated on these seven areas and more specifically the five areas that displayed the greatest potential for weapon system forecasting. These five areas are: (1) Aircraft Modifications, (2) Aircraft Replenishment Spares and Repair Parts, (3) Aircraft Initial Spares and Repair Parts, (4) Depot Purchased Equipment Maintenance and (5) Civilian Personnel.

#### ASSUMPTIONS

HQ AFLC has long recognized the desirability of having weapon system visibility and has made positive progress toward a responsive logistics management by weapon system Management Information System. However, the many and varied problems of attaining logistics management by weapon system have resulted in only limited weapon system visibility in the current AFLC resource management systems. It is assumed that the AFLC effort to achieve logistics management by weapon system will be intensified in the future and continue to receive high priority within AFLC.

It is assumed that the necessary data automation support will be available to modify existing data systems and/or create additional data systems.

#### ORGANIZATION OF STUDY

The weapon system visibility within AFLC managed Central Procurement and Operations and Maintenance appropriations is discussed in Chapters II and III. The rationale for excluding the other AFLC managed and controlled Funds and Appropriations is outlined in Chapter IV. Chapter V conceptualizes the requirements portion of a Weapon System Resource Accounting System (WSRAS), while Chapter VI presents the study conclusions and observations.

## CHAPTER II

### WEAPON SYSTEM VISIBILITY WITHIN AFLC-MANAGED CENTRAL PROCUREMENT APPROPRIATIONS

1. GENERAL. AFLC has three significant central procurement (CP) appropriations: Aircraft Procurement (3010), Missile Procurement (3020), and Other Procurement (3080). Within each of these three CP appropriations, there are Budget Programs (BPs) which identify specific AFLC resource requirements. The significant AFLC CP resource requirements are, for the most part, forecasted and accumulated by three data systems - G079 Systems and Equipment Modification/Maintenance Program, D039 Equipment Item Requirements Computation and D041 Recoverable Consumption Item Requirements System.

The G079 system accumulates a substantial portion of the resource requirements for Aircraft Modifications (BP110000) and Missile Modification (BP210000). D039 accumulates the resource requirements for Support Equipment (BP120000), Replacement Equipment (BP220000), Munitions and Associated Equipment (BP810000), Vehicular Equipment (BP820000), Electronic and Telecommunications Equipment (BP840000) and Other Base Maintenance and Support Equipment (BP850000). The D041 data system computes the resource requirements for Aircraft Replenishment Spares and Repair Parts (BP150000), Missile Replenishment Spares and Repair Parts (BP 250000) and Spares and Repair Parts for Electronic and Telecommunications Equipment (BP 8M0000). Therefore, suggestions designed to improve the capability of these data systems to forecast or accumulate resource requirements impact several BPs and CP Appropriations. Consequently, the data system enhancements and specific recommendations applicable to these three data systems which are discussed in conjunction with an Aircraft Procurement Appropriation BP also apply to the other resource requirements forecasted or accumulated by the data system.

The Aircraft Procurement Appropriation (3010) has seven significant budget programs (BPs 110000, 120000, 150000, 160000, 170000, 180000, and 190000). Of the seven, this study concentrated on four, BP110000 (Modifications), BP120000 (Support Equipment), BP150000 (Replenishment Spares and Repair Parts) and BP160000 (Initial Spares). BP170000

(War Consumables) and BP190000 (Other Charges) resource requirements were reviewed only to determine the current extent of weapon system visibility while BP180000 (Procurement Other Than Air Force) was excluded from review.

The Missile Procurement Appropriation is small in comparison to the Aircraft Procurement Appropriation. The Missile Appropriation has five significant BPs (BPs 210000, 220000, 240000, 260000, and 280000). Three of the five BP resource requirements (210000-Modifications, 220000-Replacement Equipment, and 250000-Replenishment Spares and Repair Parts) are forecasted or accumulated by the same data system that produces the counterpart Aircraft Procurement BP resource requirement. The BP260000 Initial Spares and Repair Parts resource requirement forecast procedures are similar to those outlined for BP160000 and results in extensive weapon system visibility. The BP280000-Procurement Other Than Air Force resource requirements forecasting was excluded from review for purposes of this study.

The Other Procurement Appropriation has seven major BPs. These seven BPs are BP 810000 (Munitions and Associated Equipment), BP 820000 (Vehicular Equipment), BP840000 (Electronic and Telecommunication Equipment), BP8M0000 (Spares and Repair Parts for Electronic and Telecommunications Equipment) and BP850000 (Other Base Maintenance and Support Equipment), BP870000-Procurement Other Than Air Force and BP880000-Equipment Modification. The resource requirements for the equipment portion of BP810000, all of BP820000, BP840000, and BP850000 are accumulated by the D039 data system. However, the potential for weapon system visibility within these BPs is extremely limited by the very nature of the equipment. BP 810000 resource requirements are primarily for War Readiness Materiel (WRM) which is not identified to a specific weapon system. The vast majority of vehicle requirements are identified by major command and relating these requirements to a weapon system would be extremely difficult. The Electronic and Telecommunications equipment requirements, and the associated spare parts requirements, are primarily for ground radar systems which are themselves considered weapon systems. Therefore, the data base enhancement for these BPs would be to identify and allocate component radar resource requirements against the major end item. The spares and repair parts resource requirements for electronic equipment are computed by D041. The equipment MOD resource requirements are manually computed while the BP840000 resource requirements forecasting was excluded from review.

## 2. BP110000 - Modifications

a. General. Forecasting for BP110000 resource requirements is accomplished by both HQ USAF and HQ AFLC. Class V

modifications (MODs) currently are forecasted and controlled completely by HQ USAF while Class IV modifications are forecasted and controlled jointly by HQ USAF and HQ AFLC. The MOD forecasts in the Program Objective Memorandum (POM) are at the Mission Design (MD) level and based on information available at the Air Staff and HQ AFLC. The POM forecast is expressed in terms of resource requirements for (1) capability enhancement, (2) service life extension, (3) reliability and maintainability and (4) safety and other. Action has recently been initiated to increase AFLC participation in the forecasting and scheduling of Class V modifications. This AFLC participation is essential as modification resource requirements gain increased importance relative to PDMs in the depot maintenance workload. The future HQ AFLC/AF philosophy may well be to schedule PDMs in conjunction with modifications rather than the reverse as is now the case. This increased HQ AFLC participation also has the advantage of permitting the outyear resource requirements to be forecasted by the command responsible for the ultimate accomplishment of the work.

b. Data Systems/Sources. The majority of approved Class IV and V Update installation MODs are included in the G079 data system (Systems and Equipment Modification/Maintenance Program) although Engines, Other Major End Items (except simulators) and Exchangeables are excluded from control. The G079 system displays the MOD resources that are programmed for a particular MDS. The resource cost is obtained by having the MOD priced and analyzed by the activity responsible for accomplishing the modification. The G079 data system is currently being reprogrammed to include three (3) additional years and incorporate the MODs that are now controlled outside the system. The G079 system monitor at HQ AFLC also initiated action during this study to determine the cost of adding another three years visibility, incorporating tentative MODs and permitting selective output printing. The G026 Material Improvement Program (MIP) data system currently includes those material deficiencies that could eventually become approved MODs. These tentative MODs are identified by a T designator in the G026 data system although the dollar cost of the modification is not included in the data system.

c. Assessment. The G079 data system has extensive weapon system visibility at the MDS level since the work-loading is based upon a specific factor (i.e., flying hours, equipment months, approved MODs, etc.). The system is deficient for POM/FYRP purposes in terms of years displayed and the forecasting of outyear resource requirements. The

years displayed deficiency could be corrected upon approval of the proposed Data Automation Request (DAR) that was discussed above. The problem of forecasting and portraying outyear modification resource requirements could be solved in several different ways. Either the G079 or the G026 data system could be programmed to accumulate the resource requirements necessary to accomplish tentative modifications in addition to the MODs assumed by HQ AFPC during weapon system transition from AFSC. Resource requirements resulting from the forecasting of unknown/unknowns (unk/unks) modifications or the matching of weapon system capability with mission requirements could either be portrayed in one of these two data systems or controlled off-line. G079 previously had Program Element Code (PEC) visibility but this feature was eliminated from the system about two years ago. The decision to eliminate PEC visibility was based on the results of an informal survey at HQ Air Force and the ALCs which indicated there was no requirement for this product.

d. Data Base Enhancement.

(1) The G079 data system and the G026 data system (if tentative MODs continue to be controlled within G026) should be expanded to encompass the number of fiscal years required for the POM/FYRP. Engine, OMEL and exchangeable MODs should be incorporated in the G079 data system at the earliest possible time. The PEC visibility should be reinstated into G079, if it is determined a valid requirement now exists for this feature.

(2) Depending upon final placement of tentative MODs, the appropriate data system should be reprogrammed to identify the dollar value, by weapon/support system, of the potential (T number) MODs. This would require changing the AFPC Form 48 to accumulate this additional information and portray the financial impact by fiscal year. The update MODs identified during weapon/support system transition which require the expenditure of AFPC resources should be entered into the designated data system at the earliest possible time.

(3) The MOD area requiring the most study is the forecasting of the unknown/unknowns since no scientific forecasts are currently made of these resource requirements. This forecasting of unknown MODs requirements would require the application of statistical data bases and procedures in order to analyze past history and develop estimates.

3. BP120000 Inservice Direct Ground Support Equipment - Common

a. General. The Air Force Equipment Management System (APEMS) concerns itself with maintaining a balance between authorized equipment and in-use equipment. Weapon system visibility is recorded to the extent possible at both ends of that relationship; i.e., in the Tables of Authorization and in the quarterly surveys of base equipment. Weapon system visibility is also an element, though a rather elusive one, in the equipment requirements computation data system (D039).

A new equipment authorization systems that is being developed and tested--The New Allowance Document System (NADS) should go a long way towards providing a more valid relationship between equipment requirements and weapon systems.

b. Data System/Sources. The resource requirements for equipment items are accomplished through the D039 data system. In this system, net resource requirements are by: organization, base, major command, and weapon/support system. The fourth category, weapon/support system, is often either undesignated, assigned on the basis of predominant use, or simply assigned to a command. The D039 data system input concerning weapon system designation of a given piece of equipment is from several sources. The prime source is currently C008, the USAF Equipment Data Bank, but this source often reflects the too-broad designation of major command. An alternate input source, though not much better, is the Organization Control File (OCF) portion of K005C, which can be used to determine the preponderance of aircraft or systems assigned to a unit. Potentially the best source for valid weapon system designation is NADS, a feature of which is the C009, Weapon System Support Equipment Analysis System. This C009 system, now developed only for the F-4, will eventually have Tables of Allowance developed for equipment items for nine weapon systems. Development of NADS and C009 should be accelerated to embrace the remaining weapon/support systems.

c. Assessment. D039 currently has the capability to accommodate weapon/support system visibility but cannot portray all resource requirements in a sufficient number of years for the AFPC POM/FYRP. The weapon/support system visibility, however, is very limited since a large portion of the resource requirements specify either a major command or predominant aircraft as the MDS. The reality that certain equipment not be associated with a specific reporting unit also presents a problem in identifying resource requirements by MDS and PEC. D039 currently has no capability to identify resource requirements by PEC.

d. Data Base Enhancement. Greater integrity is needed in the assignment of weapon system applicability to equipment items. The data systems in use have the necessary fields and are capable of producing weapon system structured reports, but the content of the data fields is too often suspect or not in a meaningful context. Only input data discipline will solve this problem.

#### 4. BP150000 Replenishment Spares and Repair Parts

a. General. The aircraft replenishment spares and repair parts BP is the single largest BP within the Aircraft Procurement Appropriation. This BP is just slightly less than the combined total of the Missile Procurement (3020) and Other Procurement (3080) Appropriations. Therefore, the ability of AFLC to forecast BP150000 requirements by weapon system would significantly increase AFLC's overall weapon system visibility. The data system that forecasts BP150000 requirements is D041 (Recoverable Consumption Item Requirements System). Consequently, a significant amount of time was spent gaining an understanding of the D041 data system in an attempt to integrate this system into a quick and responsive Weapon System Resource Accounting System (WSRAS).

b. Data System/Sources. The D041 data system has a capacity to forecast 54 months although the final 10 month forecast includes retention computations. Consequently, the actual requirements computations display is for 44 months and then only if the lead time of the buy exceeds 21 months. If less than 21 months, the D041 data system only displays a meaningful forecast for 33 months. D041 has extensive weapon system visibility at the national stock number (NSN) level since the application data reflects both the using weapon system(s) and the installed quantity.

The D041 computes line item requirements on the basis of one of four operational factors - flying hours, squadron months, equipment months or drone recoveries. The D041 data system currently requires significant computer run time at the ALCs and substantial manual review to obtain the line item requirements. The D041 has about 40 Data Automation Requests (DARs) outstanding to modify and expand the present system with another 40 DARs yet to be written. One of the DARs submitted was to increase the requirement computation by one year. This DAR was estimated to require 15,000 manhours to complete. A large portion of this effort was to evaluate every data field to allow inclusion of new data requirements because of an already saturated data system. Therefore, D041 expansion to cover the POM submission years and also be reactive to "what if" simulation appears prohibitive in terms of computer run time and capacity.

c. Assessment. The D041 data system aggregates resource requirements to a budget code. This budget code identifies the lowest level that the resource requirement can be assigned in terms of weapon/support system visibility (i.e., common user, MD or MDS). Whenever one specific weapon/support system generates more than 50 percent of the total resource requirement of an item, this weapon/support system is considered predominant and assigned the entire resource requirement. The majority of the resource requirements are assigned at the MD or predominant weapon/support system level with MDS visibility available only for peculiar items or when there is only one series of weapon/support system. D041 currently has no PEC visibility.

d. Data Base Enhancement.

(1) The D041 data system should be structured to include a separate aggregation of resource requirements by weapon/support system. This aggregation should be broken out by those requirements that are related to a nonoperational requirement (i.e., prepositioned, negotiated safety level, and additive requirements) as opposed to those forecasted requirements that are variable with the operational requirements. The variable portion of the resource requirements (i.e., operating, order and ship time, base repair cycle and base and depot safety level) could then be programmed for "what if" simulation. The base and depot variable safety level requirements present a problem since these resource requirements are based on other factors than just the total resource requirements. Therefore, future work in this area is necessary to devise a method that can quickly produce an approximation of safety levels based on changes to the total resource requirements.

(2) The current D041 data system has the necessary information to portray the effect of a production lead time constraint on Procurement's ability to respond to operational requirement changes. There is a problem, however, in approximating the termination costs that must be paid if on order assets are excess to future Air Force needs. This information is necessary to properly evaluate the resource impact caused by the proposed force composition change and, if available, should be programmed into the WSRAS data system through a file maintained by the responsible Inventory Manager (IM).

(3) The Air Staff sponsored Logistics Management Institute (LMI) aircraft availability model could possibly be modified to forecast resource impacts by weapon system based on "what if" simulation. This model currently computes aircraft availability based on a specified amount of BP150000 fund availability and the allocation of these funds to specific

weapon systems (MD level) or the resource requirements necessary to obtain a specified availability. The LMI model uses D041 data in its computations but the model does not have the capability to recompute requirements based on "what if" simulation. Therefore, the extension of the LMI model to perform this "what if" simulation and translate the result into aircraft availability appears to be a reasonable follow-on phase.

(4) If expansion of the LMI model is impractical, AFLC should begin programming a mini-D041 data system as an integral component of a WSRAS. This system should use, for the present, D041 data elements in addition to adding several other data elements. The basic structure of such a system is further detailed in Chapter V.

(5) Weapon systems entering the Air Force inventory in the future present a problem in the forecasting of replenishment spares and repair parts and exchangeable resource requirements. This area requires additional study concerning the best method of estimating these resource requirements (i.e., possible use of contractor estimates or statistical analyses of similar in-being weapon systems).

#### 5. BP160000 Initial Spares and Repair Parts

a. General. Initial spares and repair parts requirements are computed using a percentage factor that is developed through analysis of past experience with similar type weapon systems. The factors are then applied against the end-costs and/or quantities of appropriate system components as supplied by the applicable Air Staff or AFSC System Program Office (SPO). A delivery schedule for initial spares is developed to coincide with aircraft deliveries and assign the estimated cost by year. Weapon system visibility is total at the MDS level since BP160000 resource requirements are based on this allocation factor.

b. Data System/Sources. There is no formalized data processing system in support of the BP160000 area. End-cost data from the SPOs are received in LOR on hard-copy forms. LOR then computes and schedules the requirements with an LOR-developed CREATE routine following determination by the BP160000 manager of the scheduling factors. Resource requirements are developed for each year for which deliveries of the weapon system are scheduled for purposes of the POM.

c. Assessment. The manual inputs for BP160000 are identifiable by weapon/support system (MDS level) because of the factoring technique. However, this technique does not provide extensive visibility concerning the items that comprise the resource requirement (i.e., other spares, technical data, etc.). The CEMS will eventually provide a mechanized system to forecast initial spares engine requirements while the remainder of the requirements must be developed by analysis of the individual elements. PEC visibility currently does not exist for the BP160000 resource requirements.

d. Data Base Enhancement. A BP160000 data base must be created for use in the WSRAS if all resource requirements of any weapon system are to be considered in an automated routine. This data base should specifically identify those items that compose the BP160000 resource requirements, by weapon system (MDS) and through the POM/FYRP period.

6. Remaining 3010 Appropriation Budget Programs.

a. BP170000 War Consumables. Budget Program 170000 relates to specific items bought for specific weapon systems and the near-term requirements can be related to weapon systems. However, the out year BP170000 requirements can only be approximated for the POM submission since a large portion of future requirements often relates to weapon systems not yet in an operational status. The BP manager has indicated that many of the approximation factors provided by the Air Staff have not been forthcoming during the past two years' forecasting efforts. Therefore, the WSRAS must estimate the out year requirements based on statistical analysis of similar weapon systems.

b. BP190000 Other Charges. This program, by definition, is difficult to relate to weapon system. The stock fund fuel purchased for contractor use is not identifiable to weapon system. Some of the first destination transportation (FDT) forecasted expenditures for Aircraft Procurement Appropriation items could possibly be allocated to weapon systems based on proposed expenditures. However, this type of allocation does not appear to be too meaningful since it assumes a relationship between appropriation expenditures and FDT costs. Therefore, the FDT portion of BP190000 should be reviewed in conjunction with any study performed to determine the reasonable methodology of forecasting second destination transportation (SDT) by weapon system.

The majority of BP190000 proposed expenditures deal with countermeasures equipment and USAF approved projects. These forecasted requirements could possibly be identified and/or allocated to weapon systems based on availability of required information from HQ USAF.

## CHAPTER III

### WEAPON SYSTEM VISIBILITY WITHIN THE AFLC OPERATIONS AND MAINTENANCE (O&M) APPROPRIATIONS

1. General. AFLC programs and budgets for resources within 12 DOD elements of expense within the Operation and Maintenance (O&M) Appropriation. The four (4) DOD expense elements of primary importance, however, are Depot Purchased Equipment Maintenance (DPEM), Civilian Personnel, Second Destination Transportation (SDT) and Other Purchased Services (OPS). Of these four, the most important is DPEM. DPEM has six major subcategories: Aircraft PDMS/MODs, Missile PDMS/MODs, Exchangeables, Engines, Other Major End Items (OMEIs), and Area Base Support. The Civilian Personnel portion deals with the manpower that is controlled and managed by AFLC. Manpower assigned to the Depot Maintenance Service (DMS) is excluded from this expense classification. Military personnel assigned to AFLC are considered in manpower computations but are not funded for by AFLC. SDT includes the funds to reimburse Military Airlift Command, LOGAIR, military Sealift Command, Commercial surface carriers, etc., for the transportation of goods. OPS includes a multitude of services, such as miscellaneous contractor services, service engineering by contract, reimbursement to other services, etc.

This study concentrated on the DPEM and Civilian Personnel portions of O&M. This decision was made because of the non-existence of forecasting data systems for both SDT and OPS requirements. The data collection system envisioned for SDT, which will summarize overseas shipment data, is a step towards forecasting of SDT requirements by weapon system. However, the formulation of an all encompassing data system that forecasts SDT requirements (LOGAIR, MAC, MSC, commercial, etc.) by weapon system requires further study. The study should concentrate on devising a data system that meets functional area needs and also accommodates forecasting SDT requirements by weapon system. One alternative might be to utilize the UNIVAC 1050II system to accumulate SDT costs by line item. These SDT costs could then be allocated to weapon systems based on application or issue data. This data base could then be used to forecast SDT requirements by weapon system.

The forecasting of OPS requirement by weapon system is difficult because of the many and varied expense categories included in this classification. The only OPS expense category that appears logical for weapon system forecasting is reimbursement of Other Services. This area relates to work accomplished on Air Force Weapon systems at Army and Navy Repair Centers. These expenditures are relateable to weapon systems through the Air Force Repair Requirement Computation data system (D073). The expansion of D073 to forecast these requirements by weapon system, however, does not appear justified at this time. Instead, the D041 should be expanded to identify those recoverable item repair requirements that are accomplished by other services. This would provide for an automatic update of OPS interservice requirements during "what if" simulations.

## 2. Depot Purchased Equipment Maintenance (DPEM).

a. General. DPEM forecasting is accomplished at the five ALCs and the Aerospace Guidance and Metrology Center. The DPEM requirements are accumulated in the G072C (Depot Maintenance Program and Long Range Planning System) at each ALC and forwarded to HQ AFMC. The G072C data system accumulates the Aircraft and Missile PDMs/MODs forecasted requirements from both the G079 data system and manual input for selected missile PDIs/MODs and all engine MODs. The Engine, OMEI, and ABMS requirements are manually input at the ALCs while the exchangeable resource requirement is input from the D041 data system.

HQ AFMC analyses the DPEM requirements from each site and accumulates these requirements in the G035B system, Central Management of Depot Maintenance. The G035B system produces a projection of total DPEM requirements by both maintenance manhour and appropriation requirements and provides DPEM data by weapon system to the DODI 4151.15 data system (Depot Maintenance Support Programming).

The DODI 4151.15 system projects the current year, budget year and four additional years by annual requirement. Organic, interservice, and contract workloads are forecasted and projections are made for direct, indirect, and overhead labor and material. Projected maintenance costs are developed by weapon system for work breakdown categories of Airframe, Engines, Aircraft and Engine Accessories, Electronic and Communications Equipment, Armaments and Support Equipment. A breakout by customer is also made including the revised Air Force DPEM program.

b. Data Systems/Sources. The G035B data system combines the DPEM requirements from the ALCs and ACMC based on data available from the G072C data system. However, the G035B

data system forecasts for aircraft PDMs/ MODs, the majority of the missile PDMs/MODs, and the exchangeables are accumulated from data systems that also forecast corresponding CP resource requirements (i.e., D041 and G079). The remaining portion of the approved missile PDMs/MODs and engine MODs, which are now manually input into G072C, will be included in G079 in the near future. In addition, AFLC is currently programming the Comprehensive Engine Management System (CEMS) data system. When completed, the CEMS will contain sufficient forecasting information to allow extraction and "what if" simulation by weapon system. The other two DPEM areas - OMEI and ABMS are small in resource impact and have limited potential for weapon system forecasting. Consequently, with the significant DPEM requirements being or about to be forecasted by weapon system, the G035B system should not be reprogrammed just to accommodate the OMEI and ABMS resource requirements.

c. Assessment. The G035B data system accumulates the DPEM resource requirements from various sources so the MDS visibility for each of the DPEM categories depends upon the source of this information. The PDM/MOD resource requirements are manually input into the G072C data system at the ALCs from data provided primarily by the G079 system. Therefore, these DPEM requirements have extensive MDS visibility. The exchangeable portion of DPEM is obtained from D041 by way of the ALC D/MM organization and manually input into G072C. The resource requirements necessary to accomplish this workload is computed within G072C by Federal Stock Class (FSC) and source of repair. This computed requirement is then identified back to a weapon/support system (MDS level) for peculiar items by means of a work breakdown structure code and for common items by a common item FSC factor. The MDS visibility for common items is, therefore, only as good as the applied factors. The engine repair requirements are identified to a weapon system at the MDS level through an allocation of the resource requirements by flying hours. The remaining two categories - OMEI and ABMS - have limited MDS visibility with a large portion of the requirements being coded general support. G035 currently has no capability for PEC visibility.

d. Data Base Enhancement.

(1) The enhancement of D041 and G079 data systems and the completion of CEMS will provide sufficient weapon system visibility for "what if" simulation of DPEM requirements. The CEMS data system should be expedited to allow the mechanized computation of the DPEM engine repair requirement. The CEMS should be programmed to cover the POM/FYRP years and provide specific data elements to permit "what if" simulation within a WSRAS.

(2) The OMEI and ABMS areas, where a limited amount of the resource requirement could be identified by weapon system, should be reviewed for manual input of specific weapon system resource requirements with possible computerization within the G035B at a later date.

(3) The G035B data system should be programmed to output DPEM requirements by weapon system in anticipation of an operational WSRAS. The OMEI and ABMS resource requirements should be explored for further weapon system identification at a later date.

### 3. Civilian Personnel.

a. General. AFLC manpower requirements are projected through the use of a logistic manpower model (LMM). The objective of the LMM is to develop manpower programming factors to reflect AFLC manpower requirements in relation to Air Force "P" Series documents. Those Air Force programming workloads which are used to determine manpower requirements are aircraft flying hours, aircraft inventory, missile inventory, installation population, installation square feet of floor space, and number of hospital beds. The LMM computation divides manpower requirements into fixed overhead, special activities and variable components. The fixed overhead component consists of all branch level and above managers and associated clerical support throughout AFLC. The specialized activity manpower requirements include security assistance programs, detachments and operating locations and special missions. These manpower requirements are based on specific mission or functional area standards and not the programmable factors. The variable component consists of the AFLC manpower required in direct support of the installation, technological repair center, and the operating commands.

The variable direct manpower requirements are identified to "P" series document factors to obtain the most realistic relationship between manpower requirements and force structure changes. Manpower requirements are prorated, where possible, to a weapon system (model design only). This assignment is accomplished by relating a given workload to weapon systems based on a combination of the material management aggregation code (MMAC) and line item count for each weapon system. The resulting manpower requirement factors are expressed in terms of manpower per flying hour and weapon system inventory. These factors are then applied to the aircraft inventory, flying hour program or missile inventory included in the "P" series documents to obtain manpower requirement projections by weapon system (MD level).

b. Data System/Sources.

(1) The HQ AFLC "MANCOMP" system determines current AFLC manpower requirements while the LMMs project the manpower requirements for future time frames based on Air Force "P" series documents. The "MANCOMP" computed manpower requirements are developed by functional area at each operating location and aggregated to a program element code (PEC). The PEC identifies the category of civilian personnel required to perform an assigned mission.

(2) At each location, actual manpower requirements are developed for the last fiscal year. Management engineering program manning equations are computed using last year's actual workload to determine baseline manpower requirements. At HQ AFLC, total command requirements are aggregated by PEC for the base period.

c. Assessment. The manpower resource requirements are sixty (60) percent identifiable to MD. MDS assignment would require accumulating prior workload data in greater detail and establishment of a baseline. The Current MD allocation factors (flying hours and inventory) could be further subdivided to the MDS level to apportion future resource requirements. This would provide for some limited MDS visibility in the manpower resource requirements. Manpower requirements are currently identified by PEC within the LMMs.

d. Data Base Enhancement.

(1) The LMMs accumulate data for weapon systems by MMAC. It has been suggested that a MMAC should be assigned to each newly designated weapon system (MDS level) and/or engine series as the system or engine is being brought into the inventory. This would facilitate relating workload to specific MDS identified systems.

(2) In the current LMMs, manpower is generally identified to a weapon system based on the programmable factors of weapon system flying hours and/or inventory. To obtain additional weapon system visibility, the programmable factors should be subdivided to the MDS level.

## CHAPTER IV

### RATIONALE FOR EXCLUDING THE OTHER AFLC MANAGED AND/OR CONTROLLED APPROPRIATIONS AND FUNDS FROM WSRAS CONSIDERATION

#### Stock Funds

1. General. There are three (3) HQ AFLC managed divisions of the Air Force Stock Fund. (General Support, Systems Support and Fuels). The General Support Division (GSD) acquires and maintains inventories for approximately 916,000 line items. The items range from aircraft, electronics, communications and vehicular parts to daily base operating consumables. GSD resource requirements are compiled primarily from the base level 1050II supply system. This system computes future resource requirements based upon past demands for each and every item. These item requirements are then adjusted for any known or anticipated force structure changes. The requirement computation is for only a two year period, and MDS visibility is negligible. The Systems Support Division (SSD) manages centrally procured expense items that have application in a given weapon system. The SSD inventory consists of approximately 476,000 line items and includes such items as initial provisioning and replenishment spare parts for aircraft and engines in addition to repair parts for airborne communications, electronic and meteorologic (CEM) items, ground cryptologic items and missiles and support equipment.

The SSD has MD visibility for approximately seventy-one (71) percent of the items in the inventory. Of the 71 percent, approximately 16 percent are coded to an MDS since the item application involves a single series aircraft. The other fifty-five (55) percent involves either an MD application or is assigned to a predominant aircraft. The D062 - Economic Order Quantity (EOQ) Buy Computation System - data system has the capability to include a maximum of seven applications per line item on the item record but this information is not used to either compute or allocate the resource requirements. The D062 system, in conjunction with D075 - Nonrecoverable Central Secondary Item Stratification (CSIS) Computation System, computes resource requirements for two years in the future although the EOQ buy for an individual item can vary from six (6) months to three (3) years. The Fuels Division is responsible for the worldwide sale of aviation fuels and oils and missile fuels. HQ AFLC provides centralized management to the Directorate of Aerospace Fuels, San Antonio Air Logistics Center.

2. Rationale of Excluding the Stock Fund Divisions. The three (3) Divisions of the Air Force Stock Fund sell things to other customers at a margin sufficient to cover the expenses of operation and replenish the inventory. The GSD resource requirements are computed by the standard base level supply system while SSD computes resource requirements based on the economic order quantity (EOQ) system. These Divisions, as revolving funds, purchase items for resale to other appropriated/funded Government agencies. Consequently, it is necessary for these Government agencies to forecast their Stock Fund requirements so that the agency will have appropriated funds available to purchase Stock Fund assets. These Government agencies currently forecast their Stock Fund requirements in total. However, these Government agencies could forecast their Stock Fund requirements by weapon system based on past consumption data and known or anticipated changes. This appears to be the most reasonable approach to relating GSD Stock Fund requirements to a weapon system because of the substantial number of GSD items that have no weapon system relationship other than the fact that the procuring Government agency supports a given weapon system(s).

The largest customer of the SSD is the Depot Maintenance Services (DMS) portion of the Air Force Industrial Fund. The DMS, as a revolving fund, sells its services to many different customers of which the AFLC O&M appropriation is the largest. Therefore, SSD forecasting of item requirements by weapon system and inclusion of these resource requirements in a WSRAS would require extensive coordination to preclude double or even triple accounting of the same SSD requirement. Weapon system forecasting of SSD requirements by the procuring Government agency would have several other advantages. First, the forecast would cover the Program Objective Memorandum (POM) years whereas the current SSD EOQ computational system is for only two years and would require extensive modification solely to accommodate the POM and "what if" simulation. Second, the forecast would be made at the management level where the past consumption visibility is the greatest and known or anticipated organizational and mission changes could be incorporated into the forecast.

The Fuels Division of the Air Force Stock Fund could forecast resource requirements by weapon system based on past consumption. However, procuring Government agency forecasting of Fuels Division resource requirements by weapon system has the same advantages as outlined for the SSD plus maintaining consistency between the three Stock Fund Divisions.

3. Data Base Enhancement. Government agencies should be required to forecast, as part of the appropriate fund supporting documentation, the agency's Stock Fund resource requirements by weapon/support system. The Government agency forecast of its SSD resource requirements, by weapon/support system, should be based on the agency's analysis and assessment of known or anticipated changes in the force structure plus information provided by HQ AFLC. However, HQ AFLC is currently unable to provide MDS information to these Government agencies given the current configuration of the D062 data system. Therefore, HQ AFLC should consider several D062 system modifications to obtain this MDS visibility and forecast resource requirements to correspond to the POM/FYRP time period.

The EOQ buy requirement is based on the dollar value of the forecasted demands, ALC carrying charges, and ordering costs. The EOQ computed buy requirement ranges from one-half year to three years while the budget/operating program resource requirement forecasts are for a two year period. Therefore, D062 must be modified to relate both the EOQ buy requirement and budget/operating program resource requirement projections to a common time period. It is reasonable to expect this common time period would be the POM/FYRP period in order to provide applicable weapon/support system information to the Government agencies responsible for forecasting the appropriated fund reimbursement. The EOQ computation is based on demands generated within a specified time period without regard to any independent variable (such as flying hours). Consequently, the current D062/D075 data system has weapon/support system visibility for computed resource requirements only for weapon/support system peculiar items.

SSD has proposed modifications to D062 to equate the demand rate to an independent variable where insufficient history is available and/or there is a substantial change in the major force structure. This approach would be particularly useful on new weapon systems (F-15, F-16, etc.) where past demand data is inadequate to forecast future resource requirements. SSD should consider expanding this approach to include all items and then accumulating data by weapon/support system to assist in the MDS allocation of resource requirements. This demand factor could then be used to both forecast and allocate resource requirements by weapon/support system. The D062 additive demands, generated as a result of quantitative requirements, should be identified to a weapon/support system if at all possible. HQ AFLC should devise procedures to provide SSD "customers" with an estimation of SSD resource requirements for those weapon/support systems that will be entering the Air Force inventory in the outyears of the POM/FYRP period.

## Industrial Fund

1. General. The Air Force Industrial Fund (AFIF) has one major service - Depot Maintenance Services (DMS) - which is managed by HQ AFLC. The DODI 4151.15 data system is used to identify workloads by weapon/support system based on data provided by G035B and the specified manpower and monetary constraints. The largest customer of the DMS is, by far, the AFLC O&M appropriation.

2. Rationale for the Exclusion of the DMS Portion of the Air Force Industrial Fund. The rationale for excluding DMS from weapon system resource accounting is the same as that for the HQ AFLC managed divisions of the Air Force Stock Fund. The DMS, as a revolving fund, obtains reimbursement for its services from several different customers. These customers, which are primarily Air Force organizations, must in turn budget for the appropriated funds that the procuring organization will require to reimburse DMS. Consequently, DMS (AFIF) could distribute the applicable 4151.15 forecasted output data to the appropriate reimbursing agency. These agencies could then identify, by weapon system, their particular DMS (AFIF) resource requirements in applicable appropriated fund/operating program requirement forecasts. The direct cite workload of the DMS could also be identified by weapon/support system in the budget and POM/FYRP submission of the reimbursing Government agency. These procedures have the advantage of increased operating command participation in the review and defense of the DMS resource requirements in addition to the other advantages previously discussed in conjunction with Stock Fund forecasting.

3. Data Base Enhancement. The inclusion of DMS requirements by weapon system in the activity's budget/POM submission should be accomplished by the Government organization that ultimately reimburses for the DMS service. This would require DMS (AFIF) to provide depot maintenance information to the applicable organization by weapon/support system. The 4151.15 data system has this information available, consequently, the only system change needed would be to output the data in the proper format. The system integrity should also be improved by continuous validation and updating of the allocation factors used in both the 4151.15 system and all feeder systems.

## Other Appropriations/Funds

1. General. AFLC manages or controls additional appropriations which were prima facie not considered reasonable to forecast by weapon system. Consequently, detailed

explanation will not be provided for any of these appropriations. The appropriation/funds included in this category are: Foreign Military Sales, Military Assistance, Family Housing, Military Construction, Air Force Claims and Wildlife Conservation.

2. Data Base Enhancement. HQ AFLC should not attempt weapon system forecasting for these particular appropriations/funds until completion of all other appropriations, although any future systems developed for management of security assistance should incorporate features to insure visibility by weapon system.

## CHAPTER V

### CONCEPTUALIZED WEAPON SYSTEM RESOURCE ACCOUNTING

#### SYSTEM - REQUIREMENTS PORTION

1. General. The first task in conceptualizing the requirements portion of a Weapon System Resource Accounting System (WSRAS) was to establish criteria upon which to judge the WSRAS adaptability of the existing AFLC requirements forecasting data systems. The criteria considered most important for this purpose was the systems' ability to react quickly to "what if" simulation. Therefore, foremost in the review of the AFLC requirement data systems was the possible reaction time of each system to "what if" simulation. Two criteria of almost equal importance were current weapon system (MDS level) visibility and the practicality of accumulating resource requirements by weapon system. Lastly, the data systems were analyzed to determine the feasibility of extracting currently available MDS information to obtain a requirements WSRAS.

The conceptualization of a WSRAS also required the placing of limits on the problem. Therefore, for purposes of WSRAS conceptualization, only HQ AFLC managed or controlled central procurement (CP) appropriations and Operation and Maintenance (O&M) appropriation were considered for the WSRAS. The monetarily significant CP requirements are forecasted and/or accumulated by the G079, D039 and D041 data systems. The remaining significant O&M appropriation forecasts are provided by the G035B data System and the Logistics Manpower Model (LMM). The D062 data system was not explicitly considered in this conceptualized system. This exclusion was based on the assumption the D062 output would be included in the appropriation request of the "customer." It was further assumed the D062 changes suggested in Chapter IV would be accomplished to permit forecasting of EOQ items by weapon/support system and that this information would be provided the procuring Government agency. Therefore, there were only the five data systems that were reviewed for inclusion in a conceptualized AFLC requirement WSRAS.

2. Data System - D041. The D041 data system computes the replenishment spares and repair parts buy and the exchangeable requirements for aircraft, missiles, and electronic and telecommunication equipment. The current D041 would require modification in order to accumulate the replenishment spares buy and the exchangeable requirements by weapon system. This modification would require that the two requirement forecasts be prorated across weapon systems based on the requirements driver and the application data. The D041 requirements computation would also need to be expanded in order to compute

requirements for a sufficient number of years to correspond to the HQ AFLC Program Objective Memorandum (POM) submission. This twofold modification and expansion of the D041 data system would require a major reprogramming effort because of present computer limitations.

The D041 data system further suffers for WSRAS purposes from an inability to respond quickly to "what if" simulation. The current D041 system has the capability of individually recomputing resource requirements for peculiar line items but not for the common line items. Therefore, it would be necessary to rerun the entire or, at the minimum, a large portion of the D041 system in order to approximate the resource impact caused by a significant change in force composition. Consequently, AFLC should design an abbreviated replenishment spares and repair parts data system which uses existing D041 data elements and is responsive to both the AFLC POM submission and "what if" simulation or explore the possibility of modifying the LMI availability model.

For the abbreviated version, the D041 should be reprogrammed to separate the operational (Flying hour, etc.) and non-operational (PDMs, additives, MAP, etc.) portions of the buy and exchangeable resource requirements. This modification would facilitate "what if" simulation by allowing the operational requirements to fluctuate while non-operational requirements remain constant. This modification, however, necessitates a further decision as to whether the in-being assets will be initially assigned to satisfy the operational or non-operational requirements. For conceptualization purposes, it was decided to first assign in-being assets to satisfy the non-operational requirements. This decision was made in order for the net buy requirement to be responsive to operational changes during "what if" simulation.

As expected, the biggest problem is the reallocation of the common item net buy and exchangeable requirements. Proper allocation of the revised net buy and exchangeable requirements necessitates a recomputation by line item and a reallocation by weapon system. This line item recomputation is necessary because any change in an operational requirement changes the initial baseline that was used to distribute the in-being assets and compute resource requirements. Unfortunately, this recomputation by line item could require extensive computer time during "what if" simulation.

Therefore, if the computer run time proves excessive, it may be necessary to sacrifice preciseness and group together certain common line items by National Stock Class (NSC). These aggregated common items should have a relative small dollar value and such a wide application that the change in the operational requirement of one weapon system will have a minimal resource impact. The criteria for the grouping could possibly be based on the number of weapon system users, usage requirements, dollar value or any combination of the three.

WSRAS data files should be built by weapon system and include both the peculiar and common items used on the weapon system. If it is necessary to group certain line items, separate data files should be built by NSC for these items. The resource requirements for these grouped items could then be computed and the in-being asset value deducted to obtain the net buy and exchangeable requirements. One possibility for distributing these resource requirements would be on the basis of each weapon system's percentage of the total gross requirement over a selected period of time.

The WSRAS weapon system data files should contain, as a minimum, selected D041 requirements factors, in-being assets, prepositioned and additive requirements, on order assets, order and ship time, production and administrative lead time, variable safety level factor, overhaul days, unit price and estimated repair cost. The variable safety level (VSL) should be coded in such a manner that the WSRAS can quickly recompute the VSL based on the changed operational requirement. The methodology and procedures to accomplish this VSL recomputation should be the subject of a follow-on study - once the basic format has been decided upon. The line item estimated repair cost could be extracted from several different sources (G019C data system, VSL, LMI Availability Model) and included in the weapon system line item files along with an estimated inflationary factor. This inflationary factor is necessary in order to arrive at projected exchangeable item repair requirements. The source of repair should also be included in the line item files (obtained from the D073 data system) so that the interservice portion of the Other Purchased Services could be updated automatically with simulated requirement changes.

The D041 replenishment spares and exchangeable line item data deals with existing weapon systems and line items. However, AFLC is also responsible for providing logistics support to the new weapon systems entering the Air Force inventory. To forecast the resource requirements necessary to satisfy this responsibility, AFLC should either build proforma data files for these new weapon systems (based on preliminary contractor data) or forecast support requirements based on statistical analysis of similar in-being weapon systems.

3. Data System --D039. This data system accumulates the equipment resource requirements. The basis for the gross requirement is the applicable Table of Allowance (TA) document modified for any forecasted requirement changes within the reporting activity. On-hand or projected in-being assets are offset against this gross requirement to obtain the net buy position. D039 has weapon system visibility but not the capability to accumulate all line item

requirements in sufficient years to support the AFLC POM submission. However, weapon system visibility is extremely limited with a substantial number of the equipment requirements being reported against a major command or the predominant weapon system at the reporting activity. Weapon system visibility is further diminished because of the necessity that classified reporting activities not be identified with specific equipment items.

Because of the limited weapon system visibility, it appears the best method for forecasting equipment requirements is to accumulate these requirements by reporting activity rather than by weapon system. This conclusion is based on the premise a reporting activity's equipment requirements will primarily be impacted by a change in the force composition rather than by a change in operational requirements. This would facilitate identification of necessary increases and/or decreases to an affected reporting activity's equipment requirements during "what if" simulation. Furthermore, common support equipment is, by definition, required to support several weapon systems rather than being an integral weapon system component. Therefore, the weapon system allocation procedures that were recommended for replenishment spares and repair parts requirements computations are not applicable to common support equipment.

The C009 system, Weapon System Support Equipment Analysis System, when fully implemented will further enhance future "what if" simulation of support equipment resource requirements. The C009 will identify the support equipment requirements for a particular weapon system(s). This data, when used in conjunction with the reporting activity data, will provide extensive visibility as to the changed support equipment net buy requirements resulting from "what if" simulation.

If WSRAS support equipment data files are constructed by reporting activity, equipment requirements should be divided by weapon system peculiar and common support items. This division will allow easy manipulation of weapon system peculiar equipment requirements and in-being assets during "what if" simulation. The common support equipment requirements should be subdivided into weapon system dedicated requirements and weapon system common requirements (supporting two or more weapon systems). This threefold type of requirements visibility should preclude adding unnecessary and/or deleting essential equipment requirements during "what if" simulation.

The data files should be constructed to contain the gross equipment requirement, in-being and on order assets, unit price, the asset replacement factor and the production-administrative lead time. The WSRAS should also contain

line item files so that excess assets, caused by weapon system deletions, can be redistributed against the Air Force worldwide net buy requirement.

4. Data System - G079. The majority of the approved weapon system modifications and maintenance programs are in the G079 data system. The current plan is for the G079 system to be expanded to incorporate all approved aircraft, missile, engine and other major end item (OMEI) modifications. The G079 system is also being expanded to include three more years but this extension is still insufficient to accommodate the POM submission. The G079 has the capability to accumulate modifications and programmed depot maintenance (PDM) requirements by weapon system. Therefore, the majority of the G079 reprogramming would be to extend the years covered to accommodate the AFLC POM.

The G026 data system, which portrays potential modifications, would require substantial reprogramming to accumulate potential modification resource requirements by weapon system. The G026 input data currently does not specify the resource requirements by weapon system or the anticipated time frame for implementation of the modifications. These two G026 system changes are necessary to achieve the desired information concerning anticipated future modifications during "what if" simulation.

Lastly, the feasibility of creating a statistical model that would assist in forecasting the unknown modifications workload should be explored. The model could be based on historical data about unprogrammed modifications and should attempt to correlate type of weapon system, mission profile, and cost of the modification. This statistical model could be further supported by a review of the forecasted weapon system capabilities versus the capability necessary to achieve a given scenario. The resultant shortfall in weapon system capabilities, if any, should be analyzed and an estimate made of the necessary modification requirements.

5. Data System - G035B. The G035 data system consolidates the G072C inputs from the ALCs into the AFLC DPEM resource requirements. The G072C mechanized data inputs are obtained from the G079 system for aircraft and missile PDMs/MODs and the D041 data system for exchangeables. The G072C manual inputs include the remaining portion of the aircraft and missile PDMs/MODs, engines, other major end items (OMEIs) and area base manufacturing support (ABMS).

The mechanized portion of the DPEM data should be input directly into the WSRAS from the G079 and D041 systems while the manual inputs should be from the G035B system. Currently, the engine portion of the DPEM constitutes the majority of the manual input data. However, the Comprehensive Engine Management System (CEMS) under development will eventually provide a mechanized interface from which the WSRAS can obtain the engine resource requirements. The data provided by the CEMS should be by weapon system (defined as type, model and series) to facilitate computation of the resource impact on DPEM engine requirements during "what if" simulation. The CEMS will also provide sufficient information to compute during "what if" simulation the resource impact on the initial spares (BP160000) engine buy. As discussed previously, the manual portion of the weapon system PDMs/MODs will eventually be covered by G079.

Consequently, OMEI and ABMS are the only two remaining areas that will require input through the G035B system. These two areas, however, provide very limited potential for weapon system forecasting. The major OMEI forecasted resource requirements area that could be identified to a weapon system is flight simulators. The ABMS area has very little potential for weapon system forecasting. Therefore, these two areas should be given a very low priority for WSRAS forecasting.

6. Data System - Logistics Manpower Model. The Logistics Manpower Model (LMM) currently computes future AFLC manpower requirements and equates a significant portion of that manpower to a weapon system. The LMM distributes manpower on either flying hours or weapon system inventory at the mission design (MD) level. Therefore, the LMM allocation factors require refinement to distribute computed manpower requirements to the MDS level. One approach might be to further divide flying hours and weapon system inventory, the two distribution bases, from the MD to the MDS level. This refinement could possibly be rather easy to accomplish and still provide adequate MDS visibility. It has also been suggested that the Materiel Management Aggregation Codes (MMACs), by which the historical computation data is collected, be assigned at the MDS rather than the MD level. This LMM system modification would require minimal modification of the various data systems that comprise the LMM.

However, this latter approach still presents a problem since all historical MMAC data is at the MD level. The alternative that only new weapon systems be assigned a MMAC at the MDS level is also unacceptable because of the length of time that would be involved in attriting the old weapon systems out of the Air Force inventory. Therefore, more research is

necessary to obtain reasonable approximations of manpower requirements by weapon system until a system can be designed that will equitably distribute manpower requirements by weapon system.

7. Data Input - Manual. Second Destination Transportation (SDT) and Other Purchased Service (OPS) are two significant O&M areas in which resource requirements are manually input. There is virtually no weapon/support system visibility in the SDT area although a significant portion of SDT resource requirement appears to have potential for weapon system forecasting. However, the forecasting of SDT requirements by weapon system would require AFLC to program a complete budgeting and accounting data system. This extensive of a data system appears to be quite some time off since it is estimated it will take a year to just begin accumulating SDT charges by base. This base accumulation could possibly be broken out later to line items and eventually related to a weapon system. However, for now, SDT will remain a manual input into the WSRAS.

The OPS area appears to have substantial weapon/support system resource forecasting potential. The four major areas where weapon/support system visibility is possible are: interservice work, interim contractor support, service engineering and contractor logistics support. The interservice resource requirements could be forecasted by weapon/support system as an output of several other data systems (D041 and G079). The other three areas have substantial weapon/support system visibility since the applicable work is covered by a funded/proposed contract.

## CHAPTER VI

### CONCLUSIONS AND OBSERVATIONS

#### Conclusions

The current AFLC requirements forecasting data systems have varying degrees of MDS visibility, with the preponderance having poor MDS visibility. Those data systems that currently have good MDS visibility are, for the most part, not programmed to accumulate resource requirements by weapon system and to accomplish such an accumulation would require extensive reprogramming. The data systems, with the exception of D039, do not forecast or display resource requirements to correspond to the AFLC POM. This is reasonable for the older data systems but of great concern is that new data system proposals, such as G072E, are being considered for implementation with an insufficient number of years to accommodate the AFLC POM. The same situation applies to the changes being made in existing data systems, such as G079, where additional years are being added in the program but the extension is still insufficient to accommodate the POM.

The D041 data system has extensive MDS, TMS or other appropriate system identifiers at the item record level. However, the D041 resource requirements are carried forward by line item aggregated to National Stock Class (NSC) rather than by weapon system. The ability to have the D041 system aggregate resource requirements by weapon system does not appear to require an extensive reprogramming effort. The net buy requirement for common items, however, does present a problem. The problem is that an inaccurate net buy requirement will result from a "what if" simulation unless the entire buy computation is reaccomplished. The percentage approach is inaccurate because the initial distribution of assets upon which the net buy computation is based will not be changed under the percentage approach. Therefore, in-being asset reassignment is necessary to accurately portray the overall impact by weapon system.

The D039 data system has provision for MDS visibility but the amount of useful MDS visibility is limited. For example, the D039 accumulates vehicle requirements by MDS but the MDS most frequently used is major command. Equipment requirements are often forecasted by the reporting unit against the pre-dominant weapon system although the equipment is also required to support other weapon systems. Therefore, deletion of the dominant weapon system in any "what if" situation could eliminate the requirement at the reporting unit but not the actual need.

The D039 does provide summary requirement and applied asset data for a seven (7) year period which would be sufficient for POM/FYRP reporting except for the procurement lead time. Once the procurement lead time exceeds 12 months for an item, D039 cannot compute and portray the resource requirement in a sufficient number of years for POM/FYRP purposes.

The G079 data system has excellent MDS visibility. However, the G079 does not accumulate system and equipment modification/maintenance program resource requirements in sufficient years to accommodate the AFLC POM. This situation will continue to exist even with the proposed change to extend the number of years displayed within the system. The other proposed G079 change of including the system modification/maintenance programs controlled outside G079 will also benefit WSRAS by bringing together all such resource requirements. The possible future inclusion of tentative but not yet approved MODs would even further enhance logistics management by weapon system.

The G035B data system accumulates AFLC Operation and Maintenance (O&M) Depot Purchased Equipment Maintenance (DPEM) requirements by consolidating the ALCs and AGMC G072C data system inputs. The G072C (Depot Maintenance Program and Long Range Planning System) data system extracts data from the G079 and D041 data systems, and incorporates the manual inputs for engines, selected PDMS/MODs, other major end items (OMEIs) and area base maintenance support (ABMS). The planned G079 improvements and completion of the Comprehensive Engine Management System (CEMS) will mean that all significant DPEM resource requirements are forecasted or accumulated by data systems other than G035B. Therefore, since a WSRAS would not need to interface with G035B once these changes are accomplished, AFLC should concentrate on expediting completion of the proposed G079 changes and the CEMS rather than improving G035B weapon system visibility.

Personnel requirements, both civilian and military, are projected by a series of Logistics Manpower Models (LMMs). There is a large percentage of the manpower requirements that are related to weapon systems (MD level) within the present LMMs. The LMM manpower requirements that are not currently coded to MD do not, for the most part, appear to lend themselves to MDS assignment with the possible exception of base operations and the command area.

#### Observations

The following observations resulting from this study are submitted for consideration. Suggested HO AFLC OPR/OCR are identified in parenthesis.

1. Consider the development of an AFLC Weapon System Resource Accounting System (WSRAS) designed to project resource requirements by weapon system (MDS), element of expense, and Program Element Code over the program period (current year plus five years). Characteristics of the WSRAS should include:

a. Capability to project resource requirements in support of wartime as well as peacetime activity.

b. Maximum employment of suitable data from existing resource computation systems.

(OPR: XR, OCR: ALL)

2. On an expedited basis initiate the modification of existing resource computation systems to provide POM period visibility and identification of resources by weapon system (MDS), Program Element Code, and element of expense.

(OPR: ALL)

3. Incorporate in systems requirements validation procedures-provisions to require resource requirements computation systems/modifications to include adequate POM period visibility, and weapon system/element of expense/ Program Element Code accounting.

(OPR: XR)

4. Consider the establishment of a task group under Command Planning and Programming Review Board auspices to identify and develop requirements associated with observations one and two above.

(OPR: XR, OCR: ALL)

5. Pending development of an appropriate WSRAS, continue present procedure of employing current resource requirement systems output, using manual factoring techniques in order to address "what if" questions and weapon system identification as required during program development exercises.

(OPR: XR, OCR: ALL)

ATCH 1

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON, D.C.



REPLY TO  
ATTN OF LGX

2 JUN 1976

SUBJECT: Deletion of Weapons Systems

TO: AFLC/CS

1. During the current Planning, Programming and Budgeting (PPBS) cycle, the DCS Systems and Logistics participants have stressed the concept of **deleting entire weapons systems from the inventory**. The rationale used to support this concept is that if the number of different types of aircraft can be reduced, support can be concentrated on the remaining aircraft. Thus, the support for the remaining aircraft should be enhanced, and the workload on the support functions should be reduced. While this concept is appealing, it is difficult to gain total support of the participants in the PPBS process unless it can be **quantitatively defined and defended**.

2. Request AFLC conduct a study and brief results by October 1976, to determine if the resource impact of deleting particular systems from the Air Force inventory can be quantified. This study should be worked in conjunction with the current AFLC efforts in the areas of Logistics Capability Measurement System, management by weapon system, and weapon system essentiality. The ultimate objective of this study is to have a quick reaction capability to respond to questions of the "What if" type concerning deletion of weapon systems from the Air Force inventory. Some of the factors that seem appropriate to consider are at Attachment 1. This list of factors is not intended to be complete, but rather they should serve as examples of the type of factors that should be considered. Your support in this effort is solicited. It will facilitate the presentation of a stronger case for considering logistics implications during future PPBS deliberations. Major Cartwright, Hq USAF/LGXX, ext 54960, is the Air Staff project officer.

FOR THE CHIEF OF STAFF

*Thomas M. Ryan*

THOMAS M. RYAN, JR., Maj Gen, USAF  
Director, Logistics Plans & Programs  
Systems & Logistics

1 Atch  
Proposed Factors

6-283



ATCH 1

FACTORS THAT SHOULD BE CONSIDERED WHEN DELETING ENTIRE SYSTEMS FROM  
THE AIR FORCE INVENTORY

1. Reduced costs due to ability to purge the system of all peculiar spares, maintenance capability, etc. . . ?
2. Reduced cost by no longer having the administrative requirement to have a SPO/SM for the system?
3. Possible increase in cost to support the systems that are retained? e.g., Given that the Air Force fighter inventory consisted of 100 F-4s and 100 F-105s, and 100 fighters had to be deleted from the inventory the concept under study would support reducing all of one type of aircraft. However, if all of the F-105s were deleted the existing F-105 spares inventory and maintenance capability would be negated. Therefore, the best decision may be to decrease both types of aircraft down to the level that can best be supported by the existing spares inventory and maintenance capability.
4. What benefits accrue to the Logistics System if an entire MDS is deleted from the Active Air Force inventory if the aircraft go to the Guard, to the Air Force Reserve, to a foreign country, or to storage at the Military Aircraft Storage and Disposition Center (MASDC)? Are there various degrees of readiness in storage at MASDC that would vary the benefits of deleting entire systems?
5. Can any benefits be identified as a result of phasing out a particular block of production aircraft vice an entire MDS? Can any benefits be identified as a result of phasing out a particular MDS (i.e., all F-105 Fs) vice the entire fleet of a particular system (i.e., the entire F-105 fleet)?
6. Does this type of benefit apply just to aircraft or can the same logic be applied to all types of systems the Air Force supports? e.g. Missiles, Vehicles, communications equipment, etc...
7. Are there any current Air Force/AFLC policies that if they were changed could increase the benefit to be gained by deleting entire systems?
8. If a system is going to require modification in order to perform a mission currently performed by a system that is being deleted can a break even point be established on when to modify and when to retain the system?
9. What costs would be incurred in retraining personnel who specialized in a particular weapons systems? e.g., Aircraft maintenance personnel at the organizational, intermediate, and depot level.

ATCH 1

10. Is it practical and cost effective to put system unique spares, AGE, and tooling in dormant storage as a system is deleted?

11. Are there any impacts on Second Destination Transportation costs including LOGAIR?

ATCH 2

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR FORCE LOGISTICS COMMAND  
WRIGHT-PATTERSON AIR FORCE BASE OHIO 45433



REPLY TO  
ATTN OF: XRX

30 JUN 1976

SUBJECT: Weapons Systems Resource Accounting System (WSRAS)

TO: XRS

1. In response to AF/LGX letter, 2 June 1976, "Deletion of Weapons Systems," and General Mullins' guidance on the development of the subject system, representatives of your office and XRX met 28 June 1976 to outline basic agreements on the definition process. I am sure that the attached outline will provide sufficient guidelines under which we may move to on conceptual definition of an AFLC Weapons Systems Resource Accounting System (WSRAS).

2. The coordinated effort of our two directorates should afford the effort, a high degree of expertise. If clarification or expansion of any of the agreement actions is required, don't hesitate to contact me.

A handwritten signature in cursive script, reading "Philip A. Tilson", is positioned above the typed name.

PHILIP A. TILSON, Colonel, USAF  
Director, Plans  
Ofc of DCS/Plans & Programs

1 Atch  
Outline of Agreement

OUTLINE OF AGREEMENT  
FOR  
THE DEFINITION OF A WEAPONS SYSTEMS  
RESOURCES ACCOUNTING SYSTEM

A. Definition Tasks Assumed by XRS:

1. Adherence to the guidance provided in AF/LGX letter, 2 June 1976.
2. Identification of data sources.
3. Provide general description of system logic and methodology.
4. Provide suggestions of required studies for data base changes or enhancement.
5. Construct specific recommendations for implementation (i.e., What should be done? Who is involved in development? and etc.).
6. Provide XRX with monthly informal status reports through briefings with the first to commence 20 July.
7. At completion of study, provide written report and briefing for review in this headquarters and the Air Staff. (Proposed completion date - 1 October 1976.)

B. System development will be the responsibility of XRX after the study/definition phase.

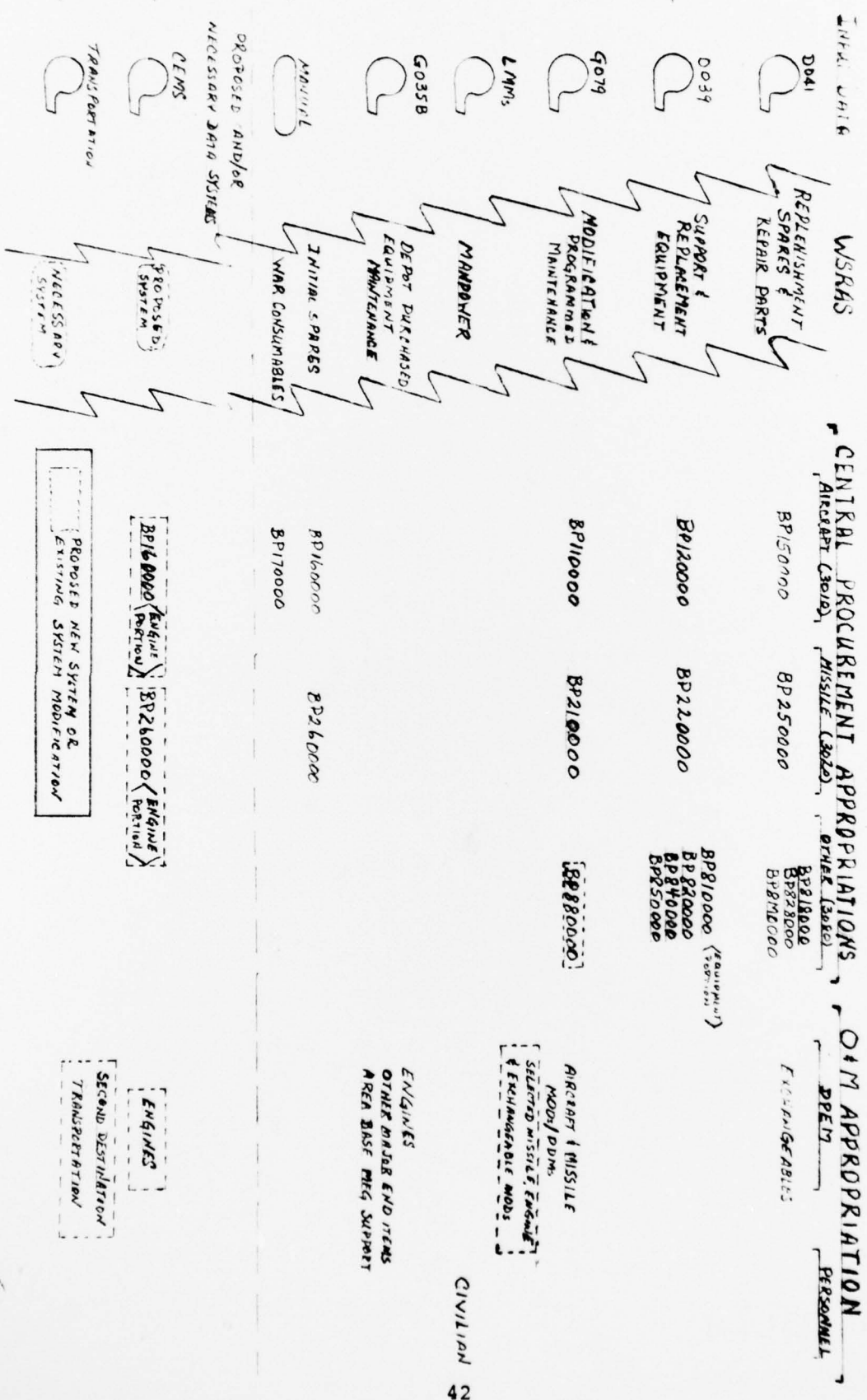
C. Both offices will maintain an active flow of information on this project through the action officers.

(Ltr ATCH 1)

ATCH 2

ATCH 3

# AFIC RESOURCE REQUIREMENTS FORECASTING - WSRAS



ATCH 4

AFLC Managed/Controlled Resource

Weapon System (MDS) Visibility Assessment

| Resource                         | Appropriation<br>(Element of<br>Expense) | Data System(s)       | System Visibility<br>Assessment <u>1/</u> | FYRP<br>Coverage<br>(5 yrs) <u>2/</u> |
|----------------------------------|--|----------------------|---|---------------------------------------|
| Operation & Maint                | 3400                                     |                      |   |                                       |
| Civ Personnel                    | 04                                       | LMM, MANCOMP         | Limited                                   | Complete                              |
| Travel of Personnel              | 05                                       | Manual               | Limited                                   | Limited                               |
| Transportation<br>(Second Destn) | 06                                       | Manual               | Limited                                   | Limited                               |
| Utilities & Rents                | 07                                       | Manual               | Limited                                   | Limited                               |
| Communications                   | 08                                       | Manual               | Limited                                   | Limited                               |
| (Depot) Purchased<br>Equip Maint | 09                                       | 3/G072C, G035B       | Complete                                  | Partial                               |
| Acft PDM/Mod                     |  | G079/Manual          | Complete/Partial                          | Partial                               |
| Msl PDM/Mod                      |  | G079/Manual          | Complete/Partial                          | Partial                               |
| Exchangeables                    |  | D041                 | Partial                                   | Partial                               |
| Engines                          |  | Manual               | Complete                                  | Complete                              |
| Other Major End Items            |  | Manual               | Limited                                   | Complete                              |
| Area Base Mfg Spt                |  | Manual               | Limited                                   | Complete                              |
| Purchased Equip<br>Maintenance   | 10                                       | Manual               | Limited                                   | Limited                               |
| Printing & Repro-<br>duction     | 11                                       | Manual               | Limited                                   | Limited                               |
| Other Purchases<br>Services      | 12                                       | Manual<br>D073, D041 | Partial                                   | Partial                               |
| Aircraft POL                     | 13                                       | Manual               | Limited                                   | Limited                               |
| Other Supplies                   | 15                                       | Manual               | Limited                                   | Limited                               |
| Equipment                        | 16                                       | Manual               | Limited                                   | Limited                               |

Atch 4

AFLC Managed/Controlled Resource

Weapon System (MDS) Visibility Assessment

| Resource                           | Appropriation<br>(BP Account) | Data System(s)        | System Visibility<br>Assessment 1/ | FYRP<br>Coverage<br>(5 yrs) 2/ |
|------------------------------------|-------------------------------|-----------------------|------------------------------------|--------------------------------|
| <u>Aircraft Procurement</u>        | <u>3010</u>                   |                       |                                    |                                |
| Modifications                      | 1100                          | G079, (G026)          | Partial                            | Partial                        |
| Support Equip                      | 1200                          | D039 (C009,<br>NADS)  | Partial                            | Partial                        |
| Replen. Spares                     | 1500                          | D041                  | Partial                            | Partial                        |
| Initial Spares                     | 1600                          | Manual                | Complete                           | Complete                       |
| War Consumables                    | 1700                          | Manual                | Complete                           | Partial                        |
| Other Charges                      | 1900                          | Manual                | Limited                            | Partial                        |
| <u>Missile Procurement</u>         | <u>3020</u>                   |                       |                                    |                                |
| Modifications                      | 2100                          | G079, (G026)          | Partial                            | Partial                        |
| Replacement<br>Equipment           | 2200                          | D039, (C009,<br>NADS) | Partial                            | Partial                        |
| Replen. Spares/<br>Parts           | 2500                          | D041                  | Partial                            | Partial                        |
| Initial Spares/<br>Parts           | 2600                          | Manual                | Complete                           | Partial                        |
| <u>Other Procurement</u>           | <u>3080</u>                   |                       |                                    |                                |
| Munitions/Equip                    | 8100                          | K005C/D039            | Complete/Limited                   | Partial                        |
| Vehicular Equip                    | 8200                          | D039                  | Limited                            | Partial                        |
| Elec/Tel Equip                     | 8400                          | D039                  | Limited                            | Partial                        |
| Elec/Tel Spares/<br>Parts          | 8M00                          | D041                  | Limited                            | Partial                        |
| Other Base Maint/<br>Support Equip | 8500                          | D039                  | Limited                            | Partial                        |
| <u>AF Stock Fund</u>               | <u>4921</u>                   |                       |                                    |                                |
| System Support                     | 64                            | D062/D075             | Limited                            | Limited                        |

1/ System Visibility Assessment Legend (MDS level visibility)

Limited - Less than 25%

Partial - Between 25% and 90%

Complete - Between 90% and 100%

2/ FYRP Coverage Legend (Portrayal of resource requirement)

Limited - 2 years or less

Partial - More than 2 but less than 7 years

Complete - Seven or more years

3/ The G035B data system accumulates the G072C data from the ALCs into the AFLC DPEM requirements. The G035B uses factoring techniques to allocate resource requirements by weapon system for the current plus five years. The input source to G072C (data system or manual) is indicated for each subcategory within DPEM.

Distribution List

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