

AD-A037 984

DEFENSE SYSTEMS MANAGEMENT COLL FORT BELVOIR VA
REVIEW OF MANAGEMENT APPROACHES OF SELECTED JOINT SERVICE ACQUI--ETC(U)
NOV 76 A F SMITH

F/6 5/1

UNCLASSIFIED

NL

|OF|

AD
A037984



END

DATE
FILMED
4-77

AD A 037984

DEFENSE SYSTEMS MANAGEMENT COLLEGE

2
B.S.



PROGRAM MANAGEMENT COURSE INDIVIDUAL STUDY PROGRAM

REVIEW OF MANAGEMENT APPROACHES
OF SELECTED
JOINT SERVICE ACQUISITION PROGRAMS

STUDY PROJECT REPORT
PMC 76-2

ALTO F. SMITH
GS-14 DAFC

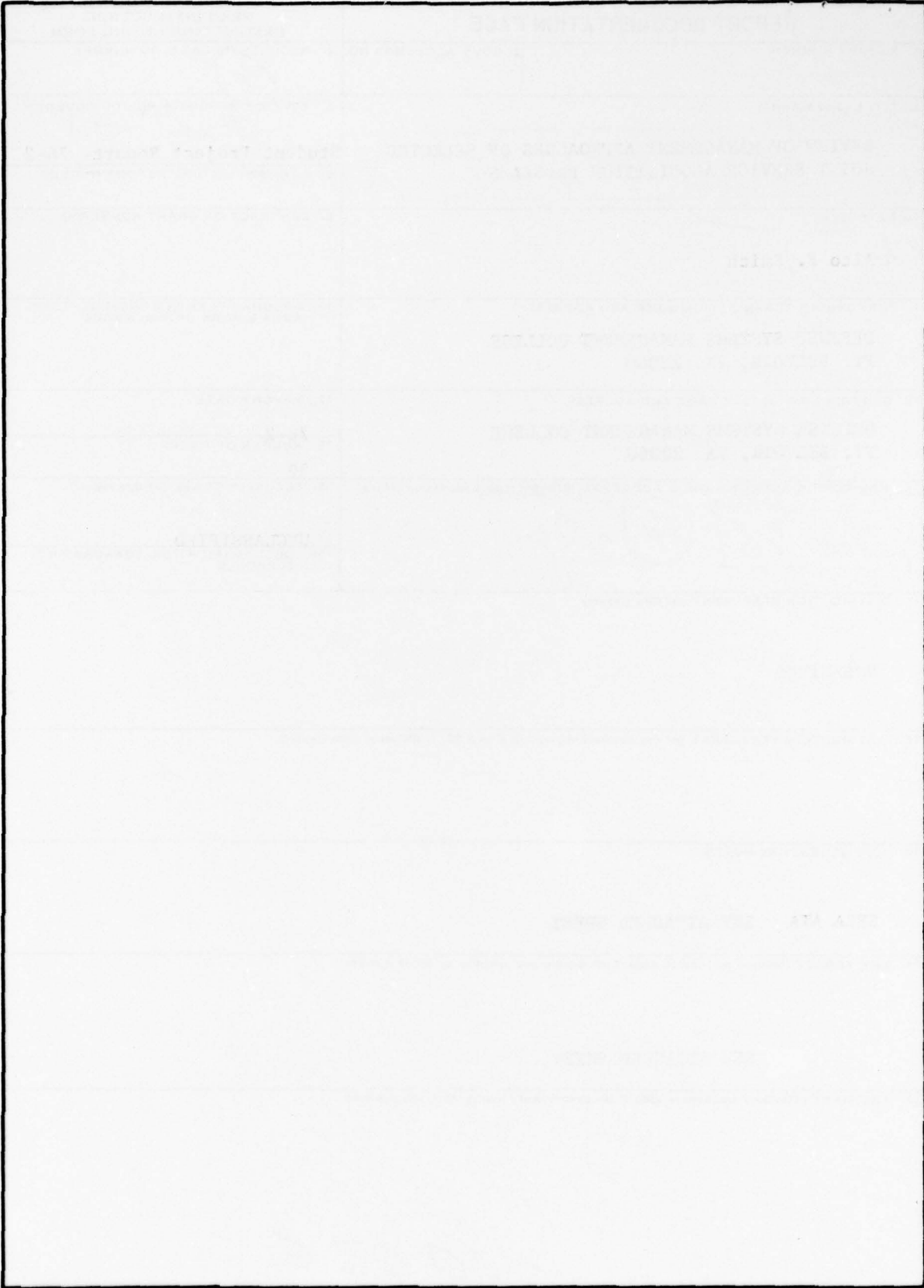
FORT BELVOIR, VIRGINIA 22060

ADJ NO.
JDC FILE COPY,

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

DDDC
RECEIVED
APR 11 1977
B

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) REVIEW OF MANAGEMENT APPROACHES OF SELECTED JOINT SERVICE ACQUISITION PROGRAMS.		5. TYPE OF REPORT & PERIOD COVERED Study Student Project Report 76-2
7. AUTHOR(s) Alto F. Smith		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS DEFENSE SYSTEMS MANAGEMENT COLLEGE FT. BELVOIR, VA 22060		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS DEFENSE SYSTEMS MANAGEMENT COLLEGE FT. BELVOIR, VA 22060		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Nov 76 12 42p.		12. REPORT DATE 76-2
		13. NUMBER OF PAGES 30
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
16. DISTRIBUTION STATEMENT (of this Report) UNLIMITED		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES SEE ATTACHED SHEET		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) SEE ATTACHED SHEET		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) 410 036		



DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE: Review of Management Approaches of Selected Joint Service Acquisition Programs

STUDY PROJECT GOALS: To examine a selected number of joint service acquisition programs, collect data to report lessons learned, identify any measurable trends that relate to management problems, assess the impact on program life cycle and present the data.

STUDY REPORT ABSTRACT:

→ This study examined a number of joint service acquisition programs to review the management approaches to joint programs with specific interest toward identifying problem trends, lessons learned and overall effectiveness of management approaches.

The study revealed that the economic and political pressures in recent years have resulted in a trend toward more joint service programs. It also revealed that emphasis and policy from OSD is lacking for more effective management of acquisition programs conducted on a joint service basis.

Data from study substantiated that significant cost savings can be realized through joint service acquisition programs. However, the realization of these savings is largely dependent on the executive service and participating services' management approach and attitude of the services' senior personnel assigned to the programs.

Numerous interviews were conducted with personnel inside and outside the joint service program offices. Many of the views expressed by the interviewees are reported in this study. Revealed from the study data is the need for a more active role by DDR&E and the services for increased emphasis for effective management of joint service acquisition programs.

KEY WORDS: Joint Service Programs
Management Approaches

NAME, RANK, SERVICE	CLASS	DATE
Alto F. Smith, GS-14, DAFC	PMC 76-2	November 1976

REVIEW OF MANAGEMENT APPROACHES
OF SELECTED
JOINT SERVICE ACQUISITION PROGRAMS

STUDY PROJECT REPORT
INDIVIDUAL STUDY PROGRAM

DEFENSE SYSTEMS MANAGEMENT COLLEGE
PROGRAM MANAGEMENT COURSE
CLASS 76-2

by

ALTO F. SMITH
GS-14 DAFC

NOVEMBER 1976

STUDY PROJECT ADVISOR
MR. WILLIAM H. CULLIN

ACCESSION for	
NTIS	White Section <input checked="" type="checkbox"/>
DDC	Buff Section <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. and/or SPECIAL
A	

This study project report represents the views, conclusions and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management College or the Department of Defense.

EXECUTIVE SUMMARY

Through economic, political and technological pressures, the trend is apparent for increasing numbers of joint service programs in the systems acquisition life cycle. Congress has gained the attention of the services, through the budget process, of this trend to more joint service efforts. Although joint service endeavors have been practiced since the early days of the military services, only in recent years has there been any evidence of a concerted effort to promote any significant increase in joint service activities. In 1966 the Joint Logistics Commanders organization was established to prevent unnecessary duplication and to standardize policies and procedures among the military services.

With the increased emphasis, by Congress and DOD, for joint service programs, it was the purpose of this study to review management approaches to joint service programs. The primary objective was to review some selected joint service programs, contrast the different management approaches for any problem trends, lessons learned and overall effectiveness and efficiency of management approaches.

The data collected for this study was obtained from project files, and interviews with individuals involved in joint service activities, in and out of the program office environment.

Although there may be a virtue in the vagueness, and lack of DOD directives for establishing and managing joint service programs, individuals interviewed expressed mixed reactions to current management approaches. However, there was agreement among the interviewees that the program success was almost totally dependent on the personality and management style of the senior service representatives charged with the joint service program responsibility.

Although no recommendations are made from the results of this study, sufficient conclusions can be drawn to merit an expanded study at the service's level, or higher, on this subject.

ACKNOWLEDGMENT

The writer is grateful to all the personnel who contributed their time, data and encouragement to this study. Without their assistance, the day-to-day impression of many facets of joint service program management could not have been obtained.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ii
ACKNOWLEDGMENT	iv
SECTION	
I. INTRODUCTION	1
II. SELECTED JOINT SERVICE ACQUISITION PROGRAMS	4
III. MANAGEMENT APPROACHES	9
IV. PROBLEM AREAS IN JOINT SERVICE ACQUISITION PROGRAMS	20
V. THE ROLE OF DDR&E IN JOINT SERVICES PROGRAMS	22
VI. THE ROLE OF THE JOINT LOGISTICS COMMANDERS IN JOINT SERVICE PROGRAMS	24
VII. SUMMARY	26
APPENDIX	
INTERVIEWEES	28
BIBLIOGRAPHY	29

SECTION I

INTRODUCTION

Joint acquisition programs as addressed in this study include the Research and Development phase of the programs and the subsequent acquisition/production phase. It is recognized that joint service efforts are conducted for the expressed purpose of technology advancement without any formal plan for a follow-on joint service acquisition program. These type programs will not be addressed, since technology programs are usually conducted between services' laboratories and the management approach and resource requirements differ somewhat from that of acquisition programs.

The purpose of this study was to examine a selected number of joint service acquisition programs in an attempt to identify any measurable trends that relate to management problems, and overall effectiveness of different management approaches.

In an attempt to get a representative cross section of management approaches for various acquisition programs, the selection of programs for review included major programs which fall under the Defense Systems Acquisition Review Council (DSARC) purview, and less than major programs. The acquisition phase of the selected programs ranged from the validation phase to the production phase.

The primary method of conducting the study was through surveying directives and literature that address joint service acquisition programs, and by interviewing personnel associated with joint service programs. In an attempt to obtain a cross section assessment of management approaches, personnel interviewed included program managers, action officers and DDR&E program monitors. All interviews were conducted in a non-attribution environment. Although the interviewees' anonymity has been maintained, the writer has taken care to accurately analyze and present the data herein.

Due to time constraints and limited resources, formal interviews were conducted only with people located in the Washington, D.C. area. It became apparent that interviews with program personnel outside the Washington, D.C. area would have provided very interesting and useful inputs. The organization of this report is structured to provide the chronology of the study effort as follows:

Section II is a presentation of the programs selected for review. A brief description of the selected programs, and the structured format for data collection is presented.

Section III addresses the management approaches by the services for joint service programs. This section deals with what appears to be the most critical aspect of the program from the standpoint of program success throughout the various phases of the acquisition process. Structuring the program office, establishing program charter, agreements on the

functional and management roles of the lead and participating service(s) are covered.

Section IV presents some of the problems in conducting joint service acquisition programs. Problems as identified in this study represent the more significant problems as viewed by interviewees. It was the interviewees' opinions that the problems reported here are the major distractions in effective accomplishment of joint service programs.

Sections V and VI present briefly the roles of DDR&E and the Joint Logistics Commanders (JLCs) in joint service acquisition programs, and how DDR&E and the JLCs direct and influence the management approaches to these programs.

Finally, Section VII presents a summary of the findings for this study effort.

SECTION II

SELECTED JOINT SERVICE ACQUISITION PROGRAMS

Selection Criteria

Since the objective of this study was to review management approaches to joint service acquisition programs, the selection of programs for review was based on representative program types. Major programs which are managed under the DSARC process were selected, and smaller programs not under the DSARC criteria were included to contrast any measurable difference in management approaches to different types of programs. Programs were selected that are conducted in a bi-service basis and on a tri-service basis for the same purpose of contrasting management approaches. The overriding selection criteria for programs in these categories was that personnel cognizant of the programs be located in the Washington, D.C. area since personnel interviews were relied upon to collect much of the data in this study.

Survey Format

A survey questionnaire format was designed to essentially collect the same type of data from each program. However, the interview discussions were not limited to the questionnaire format. The format used for data collection is as follows, with exception of minor variations for some programs.

- o Brief program description and purpose of program
- o Current status of program

- o By what process (DDR&E, interservice agreements, etc.) was lead service assignment effected for program management.
- o Rationale for lead service assignment.
- o How was program office structured (type organization, manning, Deputy Program Director from other service, rationale, etc.).
- o Type of formal agreements required/used to manage programs.
 - o Time required to effect coordinated position for program charter, memo of agreements, etc.
 - o Effectiveness of charter/agreements in managing program throughout program life cycle.
 - o Problems/recommendations.
- o How were program reviews/coordination conducted? i.e., frequency of reviews, locations, and type personnel participating.
- o How were problems/issues resolved? i.e., at working level in program office, service headquarters, or DDR&E.
- o Program funding:
 - o R&D funding by each service:
 - o Production funding by each service:
 - o How was funding level for each service determined?
- o Plan/procedures used for testing and configuration management/control.
- o Overall assessment of effectiveness/efficiency of joint service program, i.e.:
 - o Was the program completion schedule significantly extended due to joint service management?
 - o Were significant dollar savings realized by the joint service approach? Consider variable factors such as:
 - Travel cost
 - Personnel resources

Program schedule
Utility of hardware to all services
Logistics
Development cost
Production cost
Other

o General comments/recommendations.

Selected Programs/Description

Using the above survey format, researching program files and conducting personnel interviews, data was collected on the following eight joint service acquisition programs. A summary of these programs is shown in Figure 11-1.

THE SPARROW III MISSILE SYSTEM: The SPARROW III is a semi-active air-to-air radar missile. It provides an all-aspect attack capability under all weather conditions against a full spectrum of high performance attacking aircraft at various tactical speeds, altitudes and in a variety of electronic countermeasure environments. The SPARROW III AIM-7F has completed development and is the follow-on version of the earlier AIM-7 series of air-to-air missiles. The AIM-7F supports mission requirements of both the Navy and the Air Force. The SPARROW III is also used in a surface-to-air role by the U.S. Navy's Basic Point Defense Surface Missile System currently under development by the U.S. and allied countries and the Improved Point Defense Surface Missile System under development by the Naval Sea Systems Command.

SHRIKE AGM-45/STANDARD ARM AGM-78/HARM AGM-88: These are air-to-ground missiles for the Navy and Air Force

JOINT SERVICE PROGRAMS

IN DEVELOPMENT OR PRODUCTION

<u>PROGRAM</u>	<u>ACQUISITION STATUS</u>	<u>EXECUTIVE/LEAD SERVICE</u>	<u>JOINT SERVICE PARTICIPATION/INTEREST</u>
SPARROW III MISSILE SYSTEM	Production	Navy	Navy/Air Force
SHRIKE AGM-45/STANDARD ARM AGM-78/HARM AGM-88	Development & Production	Navy	Navy/Air Force
AIM-9L AIR-TO-AIR MISSILE	Production	Navy	Navy/Air Force
GATOR MINE PROGRAM	Development	Air Force	Navy/Air Force/Army
HAST - AERIAL TARGET	Development	Air Force	Navy/Air Force/Army
FAE - FUEL AIR EXPLOSIVE MUNITION	Development	Navy	Navy/Air Force/Army
XM-714 FUZE FAMILY	Development	Army	Navy/Marines/Air Force/Army
AIR - AIR INFLATABLE RETARDER	Development	Air Force	Navy/Air Force

FIGURE 11-1

operational requirements. The AGM-45/78/88 makes up a family of air-to-ground anti-radiation homing missiles developed to counter enemy ground weapon systems such as radars, and communications systems.

AIM-9L AIR-TO-AIR MISSILE: This is a joint Navy/Air Force project for the development/production of an improved infrared guided missile to supplement and replace the earlier versions of the AIM-9 Sidewinder air-to-air missiles. Improvements over the earlier Sidewinder missiles include a forward aspect capability against non-afterburning targets, more precise guidance, increased maneuverability and an improved fuze and warhead.

GATOR MINE SYSTEM: GATOR is a surface look-alike mine system designed for dispenser air delivery from Air Force and Navy tactical aircraft. It is being developed for battlefield use as an anti-armor and anti-personnel mine system. The Navy and Air Force will operationally air deliver the mine system in support of the Army's requirements.

HAST - AERIAL TARGET: HAST is a High Altitude Supersonic Target designed to operate at altitudes up to 100,000 feet and at speeds up to Mach 4. Its mission is to simulate performance and signature characteristics of threat aircraft and air-to-ground missiles. Operationally, HAST will be utilized to test and evaluate the effectiveness of Army, Navy and Air Force weapon systems under various threat scenarios. The HAST is an air launched, air recoverable, and reusable target

system that will provide high performance capability not presently available in the services aerial target inventory.

FAE II - FUEL AIR EXPLOSIVE MUNITION: The FAE II weapon is a second generation munition being developed for employment against a broad spectrum of targets in the Navy and Air Force mission role. The weapons consist of a 500-pound free-fall bomb and a large, station-limited free-fall bomb which will be effective against a broad target spectrum. The increased delivery accuracy will greatly increase the sortie effectiveness and enhance close air support missions.

XM 714 FAMILY OF FUZES: The XM 714 family of fuzes is a class of nose mounted fuzes for use on 20 to 40mm automatic cannon ammunition. The overall objective is to develop a family of XM 714 fuzes to satisfy current and future tri-service user needs.

AIR-AIR INFLATABLE RETARDER: This program objective is to develop an Air Inflatable Retarder for the MK 82 and MK 84 bombs to provide a supersonic low altitude delivery capability for tactical aircraft.

The above programs, in number and type, are sufficiently representative of joint service programs that different management approaches to joint service programs can be reviewed with a reasonable degree of validity.

SECTION III

MANAGEMENT APPROACHES

Management Policies

Before contrasting the management approach of the programs in this study, a brief overview of established policy for acquisition management of joint service programs will be presented.

First of all, the basic management policy for major defense systems is directed by the Office of the Secretary of Defense (OSD). This policy is explicit in that the development and production of a major defense system shall be managed by a single individual (program manager) who shall have a charter which provides sufficient authority to accomplish program objectives (1:2)¹. Additional policy is provided on joint service programs. For programs involving two or more services, the service having dominant interest shall designate the program manager, and his charter shall be approved by the cognizant official within OSD (1:2). It was interesting to note during interviews with program personnel that the term "dominant interest" had varied interpretations and connotations by different individuals.

The management principles outlined in above reference apply to all programs regardless of whether the program is

¹This notation will be used throughout the report for sources of quotations and major references. The first number is the source listed in the bibliography. The second is the page in the reference.

designated a major program by the Secretary of Defense/
Deputy Secretary of Defense.

Further acquisition management policy is contained in a joint Air Force/Army/Navy regulation for Management of Multi-Service Systems, Programs, and Projects (2:1-8). This regulation recognizes that every program is different, therefore, the basic management principles are provided for conducting joint service programs. Its purpose is to establish policies for implementing joint service programs in accordance with the DOD Directive referenced above. The policy states that the service designated as the Executive Agent shall have the authority to manage the program/project under the policies and procedures used by that service (2:3). This is a rather broad policy and includes areas such as procedures, data, standards, specifications, and financial accounting of the Executive Service. It is obvious then that this may require the Participating Services to accept certain deviations from their policies and procedures so as to accommodate the assumption of full management responsibility by the Executive Service. It does provide, however, for the Senior Representative from each Participating Service to be assigned to a key position, including Deputy to Program/Project Manager, in the Program Management Office and report directly to, or have direct access to, the Program Manager.

Organization for Program Management - Each Service

The acquisition management of weapon systems is the process of planning, organizing, coordinating, evaluating, controlling, and directing contractors and participating organizations to accomplish system program objectives. Since the services' weapon systems and roles and missions differ somewhat, it should be expected that the services' organization for management of weapon systems acquisition would also be somewhat different.

Although there are variations in program management organizations, there are three basic approaches used by the services in the management of system acquisition. These organization types are generally referred to as the Functional Management Organization, Program Management Organization and the Matrix Organization (3:49). The self-sufficient program office is organized and structured to operate by itself without having to rely on functional organizations for technical and administrative support. Conversely, the program office operating on the matrix principle relies on functional organizations for task performance.

There are advantages and disadvantages associated with both the self-sufficient program office organization and the functionally oriented (matrix) organization. The advantage of one organization structure tends to be the disadvantage of the other and vice versa; e.g., a matrix organization fosters greater specialization with less technical duplication but

makes coordination and communication more difficult. A self-sufficient program structure fosters coordination and communication, but makes specialization more difficult, and some technical duplication becomes inevitable.

The major programs in the Air Force are structured around a self-sufficient organization, while many of the smaller programs are organized around the matrix structure. The Navy projects are matrix oriented, while the Army projects are organized somewhere between the self-sufficient and the matrix organizations.

With the varied types of programs reviewed in this study, one would expect to find variations in the joint organizational and functional relationships for each program. The management organization for each program was tailored to best meet the program objectives within the latitude of each service's organizational policies. Representative of the joint operational and functional relationships for programs reviewed are shown in Figures III-1, 2, and 3. What is not apparent from the organization relationships depicted in Figures III-1, 2, and 3, is the large number and diverse locations of activities outside the program offices that participate in the programs. The SPARROW III MISSILE SYSTEM has eighteen Navy activities participating and the Air Force has nine (4:17-19). This increases the program coordination requirements significantly. The timely dissemination of information and coordination of program activities is indeed a challenge to joint service

Figure III-1
SPARROW III SYSTEM

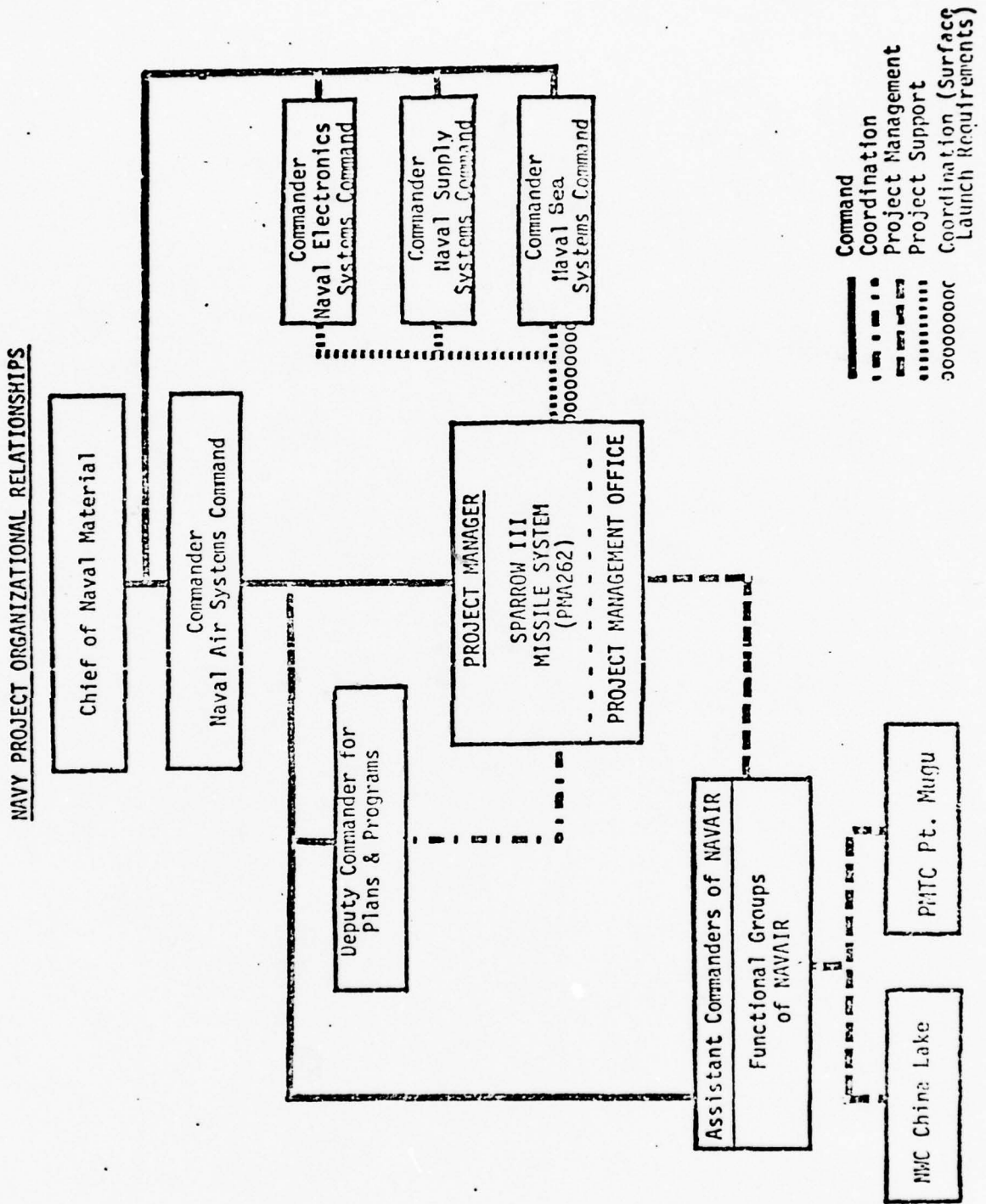
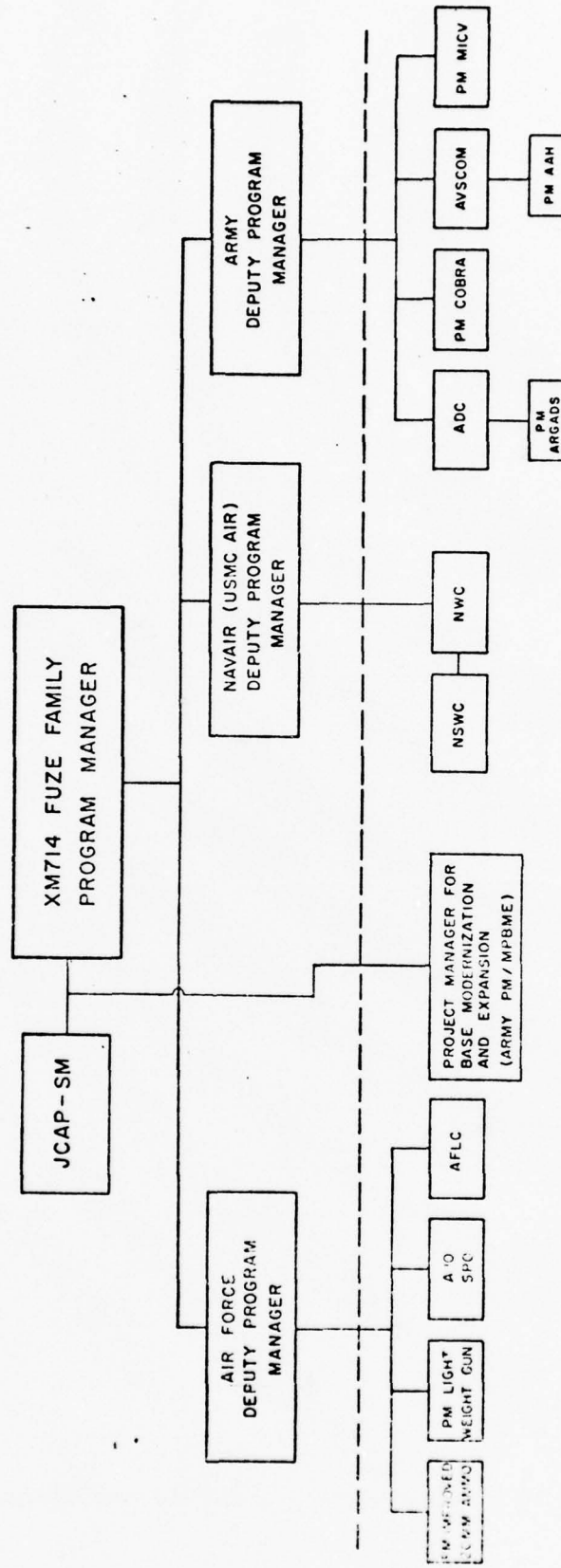


Figure III-2
 XM174 FUZE FAMILY

JOINT ORGANIZATION AND FUNCTIONAL RELATIONSHIPS



ORGANIZATIONS BELOW DOTTED LINE ARE SYSTEMS DEVELOPERS/MANAGERS.

program management. There is very little measurable data from this study that tends to support one service's joint organizational relationship approach as being more or less effective than the other services'.

Findings

Considered to be some of the significant findings from this study on management approaches for joint service programs are the following:

Executive/Lead Service Assignment: This is a somewhat grey area from the aspect of concise established policy, consistency in designating executive service, and at what phase of the program should the program become a joint service effort. Rationale for executive service assignment ranged from service with expertise, service with greatest user interest to which service's turn is up to bat. With the exception of the DDR&E Air Munitions Requirements and Development (AMARD) committee, which is responsible for the joint service harmonization of air and related munitions, there is no formal established policy on "how and when" acquisition programs will be designated joint service. Several interviewees expressed concern over this lack of policy, and felt it was detrimental to the planning and budgeting process in some programs. For example, if a program is not designated as joint service in the early conceptual phase, then in most cases the cost and schedule increase if the program is

subsequently designated joint service. This is due to individual service's system requirements and coordination implications.

Program Office Structure: The structure and manning of the program office did not differ markedly when contrasting programs of approximately equal magnitude. The larger programs were structured where a deputy program manager was assigned from the participating service. In the case of a tri-service program, a deputy program manager was assigned from each participating service. The effectiveness of the overall management was not so much a function of the structure and manning of the program office as it was the working relationship and harmony of the senior personnel representing each service. Another factor is the attitude and understanding of joint service program requirements by executive and participating service management at the levels above the program office. The smaller programs are structured with a small team, usually technical, by the executive service. The team conducts the contractual and in-house tasks, and performs overall coordination while the participating services assist in statement of work (SOW) preparation, proposal evaluation, design reviews, test planning, etc. Participating service personnel are not usually co-located in the program office. This may be a major disadvantage of small programs since the tendency is for the program to drift, in time, more toward a single service program.

Charter Documents: The charter documents, Joint Operating Procedures (JOP) and Joint Development Plan (JDP) for the programs were very complete and thorough. These documents covered all aspects of the joint program activities from responsibilities, interservice relationships, manning, etc. The SPARROW III MISSILE SYSTEM project office, in addition to the charter, has ten JOPs that cover everything from configuration management to administrative support. The charter is usually explicit to the point of naming key program personnel for the executive and participating service(s). The Air Force does not issue a charter document per se, as do the Army and Navy. Program Management Directives (PMDs) and other implementing directives are issued to the Air Force program office for assignment of responsibilities and objectives. For less than major programs, a program memorandum is issued by DDR&E outlining the task's objectives and responsibilities. It was of some interest to note that some of the personnel interviewed felt that although a chartering document is probably necessary to establish a joint program office, it has little use once the personnel are in place.

Resolution of Problems/Issues: The chartering documents direct the procedure to be used by the program manager and participating service representatives. The procedures typically direct that matters not resolvable at the program office level be channeled through the services' appropriate higher authority. The Army's approach on one program was

simply: "Refer through Army channels all matters not resolvable at the PMO and/or System Developer/Manager to DOD."

(5:3.4). A little more explicit was Navy direction which stated: "In those cases where action is required beyond the authority granted in this charter, the program manager shall refer the action to appropriate higher authority in the Department of the Navy and/or the Department of the Air Force with his recommendations, including alternatives available."

(4:3). Program personnel revealed that problems are usually resolved within the program office, but instances have required that problems be elevated to DDR&E for decisions/resolutions. Character and personality of program personnel are the overriding factors in problem resolution. Problems could usually be traced to lack of consistent management direction, program objectives, ambiguous or lack of coordinated and documented requirements. Changing requirements by the services were the one area most often identified as causing problems that impacted the program cost and schedule objectives.

Funding: The procedure for program funding, as a general rule was for the executive service to budget and fund for all common requirements (requirements common to all services), and individual service funding for peculiar requirements. Joint service agreement on common and peculiar requirements was also cited as a problem. In some programs the participating services tended to look on the program as a single service program and were very reluctant to provide any funding,

whereas the executive service at times had a tendency to classify common requirements as peculiar, and in these instances funding problems did occur, or requirements were deleted.

Effectiveness/Efficiency of Joint Service Programs:

It soon became apparent that data response to this question was highly subjective. This is due to the lack of any established policy to identify, track, and report tangible savings for joint service acquisition programs. Although the Joint Logistics Commanders do receive reports on tangible cost savings under their purview, these are programs that have completed the initial acquisition phase. One program interviewee reported that he felt a cost savings of approximately 50-60 million dollars was realized through the joint service development as opposed to conducting two independent programs. Another program office interviewee reported that he felt no cost savings would be realized through the joint service effort, but the answer would probably never be known. In his opinion, the additional development time and costs and reduced operational capability of the system will probably offset any cost advantage ever conceived. A major complaint was the unreasonable time required to effect coordination on program documentation and to obtain coordinated decisions on relatively simple matters. The average time for coordination of charters and JDPs was six to eight months. In one case a revised update to the charter required about six months.

There were reported cases where the lack of timely coordination and decision process for program issues had resulted in significant program cost and schedule impacts. From this study the obvious question is, are cost savings always realized from joint service programs? The edict for joint service programs because reduced cost is an erroneous assumption in some cases. It appears then that a reasonable objective of joint service programs would be to track and report to DOD on cost savings from joint service programs.

Recommendations/Comments: It was difficult to assess the objectivity of all the data collected under this area. Reports were varied. There were comments that the executive service should be given total and complete technical, management and financial responsibility, and allow no inputs from participating services except where requirements tradeoffs are involved. In contrast, another position was that joint programs should not be initiated until each service has documented and validated its requirements. To assure commitment and support of participating services, a joint program office should be established, and each service should budget for and fund a proportionate share of the program. Strong continuous DDR&E support and coordination is required throughout the life cycle of the program to assure interservice cooperation. Yet another position was that joint service programs offer significant cost and manpower savings. Although service peculiar requirements may add to the program cost,

the savings outweigh the disadvantages. It was generally recognized that one advantage for joint service programs is that it is easier to obtain congressional budget support for a joint program than to obtain support for separate programs which appear to duplicate technology and operational areas.

SECTION IV

PROBLEM AREAS IN JOINT SERVICE ACQUISITION PROGRAMS

From the data collected in this study, the major problem areas in joint service programs occur in the early research and development (R&D) phase of the programs. Once a program has completed the R&D phase and transitions into initial production, the problems/issues are reduced by a significant factor.

In general, the data tended toward a natural resistance by individual services to oppose joint programs. The parochial views, the "not invented here" attitude and the often used rationale of "it won't meet our requirements" seemed to provide the most opposition to joint programs. As pointed out earlier, the DOD and congressional budget process is the only effective attention-getter for the individual services to harmonize programs in the early R&D phase. There is a lack of high level direction to drive joint service programs in the conceptual phase. The less than major programs are greatly impacted by this lack of direction.

Some of the most often expressed reasons, by personnel interviewees and the writer's experience, for services' opposition to joint programs were:

- o Services oftentimes present requirements under guise of peculiar requirement.
- o Lack of willingness by services to compromise on requirements.

- o Lead/executive service approach to R&D is not responsive to participating services' requirements as participating services inadequately influence direction and progress of R&D.
- o In the past, joint service R&D programs have not become joint service procurement because:
 - o Service requirements changed service priorities changed
 - o Disagreement and dissatisfaction with R&D results.

There obviously is a need for a more truly joint service approach to R&D phases of program management. As an improvement toward joint service management, interviewees offered suggestions such as:

- o All management and funding should be under direct control of DDR&E with a "purple suit" team directing the effort.
- o Require maximum involvement (manning, funding, etc.) of participating services in joint programs.
- o Provide more ability for participating services to influence the conduct and outcome of programs.

SECTION V

THE ROLE OF DDR&E IN JOINT SERVICE PROGRAMS

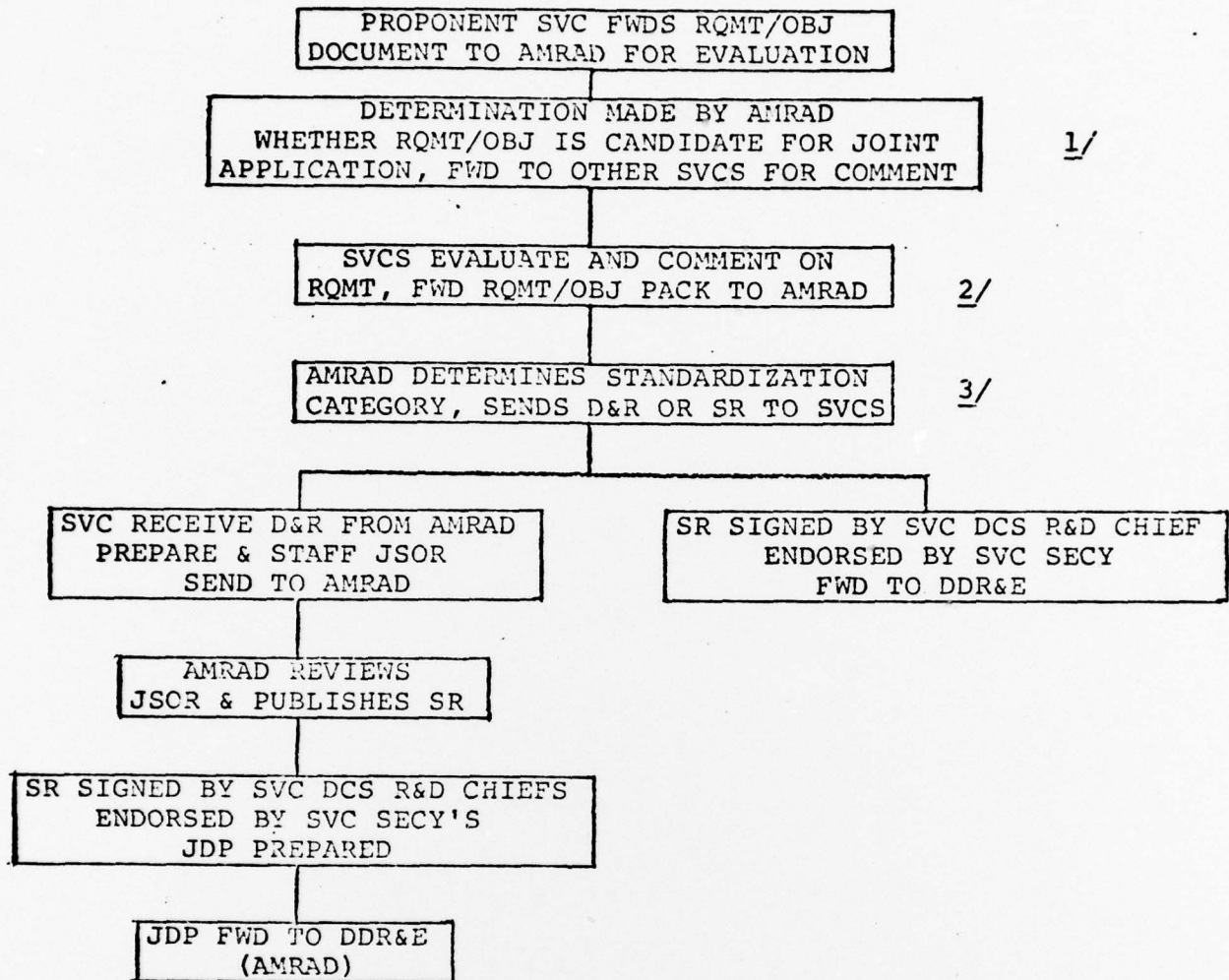
DDR&E, through the Air Munitions Requirements and Development (AMRAD) committee has established itself in the active role of harmonization of air munitions among the services. This was due to strong congressional pressures directed toward reducing duplicative service efforts in the area of air munitions. Congressional committees have for some time been insisting that the services give higher priority to the interchangeability and joint use of munitions where feasible. The AMRAD committee was established to assist the Director of Defense Research and Engineering (DDR&E), the Joint Chiefs of Staff (JCS), the Military Departments and other DOD components in ensuring, where practical, joint use qualitative requirements and design standardization of air and related munitions to fill the needs of more than one service (6:3). The scope of the committee's mission includes all non-nuclear air launched munition stores and those multi-purpose air weapons used in ground-to-ground and/or ground-to-air roles, including their checkout equipment, carriage, suspension, weapon missile seeker and fuze selection, and release.

The committee is made up of a chairman, a full time senior member from the Army, Air Force, Navy, and Marines. The full time members for Army, Air Force, and Navy interface with their respective service's Assistant Secretary for R&D,

and the R&D service chiefs. The chairman also receives advisor inputs from the JCS and ASD(I&L). The chairman reports to the Office of the Director, DDR&E. Figure V-1 depicts the Air Munitions Requirements Documentation cycle. The AMRAD has been very effective in harmonizing services' requirements for air munitions, but there is no counterpart to this committee for weapons systems outside the air munitions area. It was reported, however, that a committee was being formed to cover the avionics area.

It was generally agreed that DDR&E's role in reducing duplicative efforts, outside the AMRAD committee's purview, and for less than major programs, is not very effective because of a lack of their early involvement in R&D programs. Also the lack of joint service program directives, and in some cases a lack of implementing existing directives, limits the role of DDR&E.

AIR MUNITIONS REQUIREMENTS DOCUMENTATION CYCLE



1/ If AMRAD determines the requirement/objective is not a candidate for joint development or does not have joint application then an SR will be forwarded to the proponent Service. Further staffing through other Services will not be required.

2/ This evaluation is designed to reveal potential joint Service use and is not intended for one Service to pass judgement on the validity of another Service's requirement.

3/ If the standardization category is determined to be Joint Requirement or Joint Service Useable a D&R will be sent to the Services outlining the requirement for a JSOR. If other than standardization category described above, a JSOR is not required and a SR will be forwarded to the Services.

Figure V-1

SECTION IV

THE ROLE OF THE JOINT LOGISTICS COMMANDERS IN JOINT SERVICE PROGRAMS

Not many people outside the military even know the Joint Logistics Commanders (JLC) organization exists. Though the commanders of the Army Materiel Command, Navy Materiel Command, Air Force Systems Command and Air Force Logistics Command have been getting together since 1966, they operate without any formal Pentagon charter or congressional legislation (7:19). The 1966 founding of the JLC organization was for the purpose of facilitating joint action on major issues. The JLCs then, as an organizational entity, are not now engaged in weapons system R&D activities. However, each commander is individually very active with developments in his command.

The JLCs are very active though in joint service systems support and joint service improvement of operational systems. They are also looking very hard at technology programs. One JLC subgroup, the Joint Service Actions Task Group, has recommended that more than one hundred technology programs that are currently single service should be considered for joint service activity (8:17). Through joint service program efforts, the JLCs have reported cost savings, primarily through cost avoidance, of hundreds of millions (7:20,30). With this proven record of effective management on a joint service program basis, it seems that there is a place for an expanded

role of the JLCs in the area of systems acquisition on a joint service basis.

The JLCs have also recognized the need for official policy and guidance on the management of joint service programs. As such; they published a joint Memorandum of Agreement for the management of multi-service systems/ programs/projects. The memorandum was subsequently implemented by a regulation for compliance by all activities when managing or participating in programs/projects involving two or more services (2:1).

SECTION VII

SUMMARY

In today's political and economic environment, the trend toward more joint service programs is a reality. An effective and efficient method for program management within the DOD of joint service programs is not. There are a number of completed and ongoing joint service programs that are successful, and have resulted in appreciable dollar savings. There are also many cases of unsuccessful programs undertaken on a joint service basis. In both cases there seems to be little evidence of the lessons learned -- success and failure-- being utilized in management of subsequent joint program efforts. There is a high potential payoff in this area and it behooves the program manager involved in joint program endeavors to recognize this fact early in his program life cycle.

The basic management principles and management approaches for the selected programs reviewed in this study do not show any measurable trend in one approach being more or less effective than another. However, the attitude and personalities of the services' program personnel during the course of the program has a profound impact on success and failure of joint service efforts. Probably the single issue that compromises the program objectives is that of service peculiar requirements, and the frequent changing of requirements by the services. This has the effect of delaying critical program

milestone decisions, loss of program interest and support from the services, and ultimately extended schedule delays and cost growth along with compromise of system performance. Comments from program personnel on joint service programs ranged from "almost impossible" to "there is tremendous payoff in joint programs and there should be more." There is general consensus that personnel from the executive and participating services should be co-located in the program office. The day-to-day management and resolution of issues are accomplished much more effectively in this environment. The need for a more active leadership and policy role by DDR&E was often expressed by program personnel. This is especially true for the less than major programs.

The services can also make a major contribution toward the success of joint service programs by selecting personnel for the program office who have experience and understand the intricacies of a joint program environment, and who have demonstrated their compatibility of personalities and management style to demanding situations.

INTERVIEWEES

During this study the writer discussed joint service acquisition programs with many personnel, in and out of program offices. The following key personnel related their experience and knowledge in this area on a non-attribution basis.

Colonel Luke H. Boykin, Jr., USAF, Special Assistant to the Commander for Joint Service Activities, AFSC.

Colonel Tom Birge, USAF, DDR&E/T&E.

Colonel H. E. Sexton, USMC, AMRAD Member.

Colonel D. E. Waddell, USAF, AMRAD Member.

Commander S. Mikitarian, USN, AMRAD Member.

Lieutenant Colonel Roger Engebreston, USAF, Deputy Program Manager, AIM-7F.

Lieutenant Colonel Bob Slater, USAF, Deputy Program Manager, AGM-45/78/88 Program Office.

Lieutenant Colonel B. Sodoma, USAF, GATOR Program Monitor, AFSC.

Major Bob Buchta, USAF, XM174 Fuze Program Monitor, AFSC.

Major John Cook, USAF, Deputy Program Manager, AIM-9L Program.

Captain V. Broomall, USAF, FAE Program Manager, AFSC.

Mr. John Kidwell, DAFC, Alternate Member of JLC Joint Secretariat.

Mr. Roger Hartmeyer, DAFC, Joint Service Program Coordinator.

Mr. Bill Baptiste, DAFC, HAST Program Monitor.

Mr. Jim Pfeifer, DAFC, AIR Program Monitor.

BIBLIOGRAPHY

1. Acquisition of Major Defense Systems, DOD Directive 5000.1, Dec 22, 1975.
2. Acquisition Management, Management of Multi-Service Systems, Programs, and Projects, Sep 4, 1973.
3. Organization for Program Management, GAO Report, March 18, 1971.
4. Charter for the SPARROW III MISSILE SYSTEM Project, Jul 6, 1976.
5. Joint Development Plan for the XM714 Family of Fuzes, Jul 1976.
6. Harmonization of Service Qualitative Requirements and Characteristics for Air and Related Munitions, Oct 22, 1974.
7. Government Executive, April 1976, Vol. 8, No. 4.
8. Thompson, Harold E. Jr., Joint Service Activities: Trends and Implications, Study Report PMC 76-1, Defense Systems Management School, Fort Belvoir, Virginia.