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DEFENSE SYSTEMS MANAGEMENT COLLEGE

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INDIVIDUAL STUDY PROGRAM

JOINT SERVICE WEAPON ACQUISITION
PROGRAM ENVIRONMENT

STUDY PROJECT REPORT
PMC 77-1

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FORT BELVOIR, VIRGINIA 22060

JOINT SERVICE WEAPON ACQUISITION PROGRAM ENVIRONMENT

Individual Study Program

Study Project Report

Prepared as a Formal Report

Defense Systems Management College

Program Management Course

Class 77-1

by

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GS-12 DNC

May 1977

Study Project Advisor
Mr. William H. Cullin

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DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE:

Joint Service Weapon Acquisition Program Environment

STUDY PROJECT GOALS:

To assess recent developments in joint service weapon acquisitions, to compare management philosophies and to determine the climate for joint service programs in DOD.

STUDY REPORT ABSTRACT:

This study addresses the management approaches and the trends in joint service programs. Emphasis has been devoted to addressing problem areas and to the effectiveness of management approaches in both major and less than major programs.

The study focuses on the program management approaches, trends and problem areas encountered, and methods used to resolve these problem areas.

The study revealed that there is a major consensus of opinion that the days of the service unique requirements are limited. There seems to be concern which goes beyond the commonality of the services and that is the commonality of the United States with its NATO allies.

The report concludes that joint service programs are a viable alternative to shrinking budgets. Recommendations are made to the Navy to establish an independent command who would speak for the user during the period of requirements generation. There is a further recommendation made to include the Army on the Joint Requirements and Development Committee.

KEY WORDS: Joint Service Programs/Activities

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EXECUTIVE SUMMARY

In the early 1960's several factors combined to encourage the United States military services to form a joint management nucleus consisting of the Joint Logistics Commanders. This trend has continued and is prevalent today. With a present peace-time environment, the Congress will review and scrutinize more thoroughly the Department of Defense budget requirements which will force the services to undertake more joint service programs.

As these joint service programs for the national defense receive more emphasis, cooperation among the services in a work environment becomes increasingly important.

The purpose of this study is to assess recent developments in the joint service weapon acquisition process. The primary objective is to assess management approaches, trends, and problems to determine if joint service programs are a viable alternative in weapon acquisition in the face of shrinking budgets.

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

The single most important determinant of the success and efficiency of joint service programs is the harmony between program manager and senior participating service representatives.

In the opinion of the author, the Navy should establish a user command to allow the services to coordinate during the period of generation of requirements. Programs which are established for the development of service use items should be so identified.

Under this arrangement, nonlead services would be concerned with requirements satisfaction but would not be active on other aspects of the program.

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SECTION I

INTRODUCTION

Historical examination readily reveals that the services have developed numerous weapons systems to satisfy many specific requirements. This has occurred on many occasions without appreciable consideration for potential applications or requirements in other services for a similar system. Evidence of this approach may be found throughout current service inventories and in current development programs. With the onset of the McNamara era this tendency was somewhat reversed by the introduction on a large scale basis of standardization and joint service activities.

Service standardization of weapons systems and components, as was indicated by Mr. Sullivan in his address to the AFMA/NSIA Symposium in 1972, offers significant potential for cost reduction. With the increased emphasis in the early 1960's by Congress of the Department of Defense's (DOD) acquisition programs, and as the Office of the Secretary of Defense (OSD) centralized more and more of the decision making over the services acquisition matters, the Commanders of the Acquisition Commands felt it necessary to adopt methods to stem the centralization tide. They proposed to do this by adopting policies which would prevent duplication among the services and conform to uniform policies and standardization on material and logistics concepts.

Faced with these developments, the services are finding it more and more beneficial to enter into the realm of joint service programs.

The purpose of this study is to examine a selected number of joint services programs, to assess the recent developments and to observe the lessons learned in the management of these programs. An attempt was also made to determine the importance OSD places on these types of programs, and the trends toward joint programs.

The scope of this study was not limited to major programs which fall under the Defense Systems Acquisition Review Council (DSARC) purview. Rather, an attempt was made to get representative cross sections of management approaches by including both major programs and programs which are less than major programs. The programs selected for review were in various phases of development.

The study was conducted by surveying directives and literature which address joint service acquisition programs and primarily by interviewing personnel engaged in such activities. Interviews and/or comments were obtained from 18 persons from various program offices, action officers, and DDR&E program monitors. All interviews were conducted in a non-attribution environment. As a result, there are no individual references or quotes in the study. The writer took precautions to accurately analyze and present the data herein.

Of necessity, due to time and resource limitations, it was possible only to interview personnel in the metropolitan Washington D. C. area.

This report is organized into seven major sections. Section II is a brief discussion of the programs selected for review.

Section III presents a discussion of the management approaches and the program office structures used by the services for joint service programs.

Section IV contains the methodology used for selecting the executive service and an insight into some of the problem areas encountered and the methods used for resolution of problems.

Section V presents the climate in DOD for the continuation of joint programs.

Section VI presents the conclusions of this study project.

Finally, recommendations have been proposed in Section VII to assure a more unified and smoothly functioning joint service program.

SECTION II

STRUCTURING THE JOINT SERVICE PROGRAM

It should be pointed out at the onset that material presented in this study could be construed as biased because the majority of the programs investigated were Navy lead joint programs. This was of necessity because only Navy program offices are located in the Washington metropolitan area. Care was exercised, however, to present both lead service and participating service views by interviewing personnel from both services or from all three services in some instances. Both major programs and less than major programs were investigated in order to get a true picture of the joint service climate and management techniques.

Data was collected by interviewing program personnel and researching program files on the following programs.

SIDEWINDER AIM-9L AIR-TO-AIR MISSILE: This program is a joint Navy/Air Force project for the development/production of an improved infrared guided missile to supplement and replace the earlier version of the Sidewinder air-to-air missiles.

CRUISE MISSILE: The Cruise Missile is a long-range terrain following missile which will be capable of being launched from the surface subsurface or the air.

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.

AGM-88 (HARM) MISSILE PROGRAM: The HARM missile is an air-to-ground anti-radiation homing missile which will provide a lethal countermeasure to present and future enemy radar threats. The missile is being jointly developed by Navy and Air Force.

FUEL-AIR-EXPLOSIVE WEAPON (FAE II) BLU 95/BLU 96: The fuel-air explosive weapon is a blast-producing device with minimum fragmentation and incendiary capability. FAE II is a second generation weapon being developed for employment against a broad spectrum of targets in the Navy and Air Force mission roles.

GATOR MINE SYSTEM: Gator is a surface look-alike mine system being designed for 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.

BIGEYE-BLU-80/B WEAPON SYSTEM: BIGEYE is a first generation binary chemical bomb. The development of BIGEYE will allow the Navy and the Air Force to employ a chemical weapon whose components are inert until they are mixed just before the bomb is released from the aircraft.

XM 714 FAMILY OF FUZES: The XM 714 family of fuzes is a class of nose mounted fuzes for use on 20-40- MM automatic cannon ammunition. The object of the XM 714 fuze development is to develop a family of

fuzes which will be common or very nearly common between the calibers specified.

Table I gives a summary view of the above programs.

JOINT SERVICE WEAPON SYSTEMS PROGRAMS

Program	Development Status	Executive Service	Procurement Interest
Sidewinder Aim-9L	Production	Navy	Navy/Air Force
Sparrow III	Production	Navy	Navy/Air Force
Cruise Missile	Development	Navy	Navy/Air Force/Army
HARM AGM-88	Development	Navy	Navy/Air Force
Fuel-Air-Explosive (FAE II)	Development	Navy	Navy/Air Force/Army
Gator Mine System	Development	Air Force	Navy/Air Force/Army
BIGEYE-BLU-80	Development	Navy	Navy/Air Force
XM-714 Fuze	Development	Army	Navy/Air Force/Army

Table 1

SECTION III

MANAGEMENT APPROACHES

BACKGROUND

In the early 1960's, several factors combined to encourage the services to form a joint management nucleus. To stem the tide in increased OSD decision of military material matters, the Logistics Commanders of the three services saw a need to promote efficiency within their functional areas. The Commanders realized that many of the decisions emanating from OSD could and should have effectively been made or proposed for adoption at the major command level.

As a result of these and other shortcomings, the Commanders of the major Acquisitions Commands began to hold meetings to discuss weapon development and acquisition. These meetings proved very effective for the Commanders and in June, 1966, a Memorandum of Agreement on Joint AMC/NMC/AFLC/AFSC Commanders' Meeting was published. This memorandum established two broad objectives to direct its operation:

1. Prevent duplication among the services by joint utilization, intelligence, facilities, equipment, supplies and services in all cases where military effectiveness and economy of resources will thereby be increased.

2. Conform to uniform policies and standardization on material and logistics concepts, system design, forms, terminology and criteria for the procurement, requisition, storage, transportation, distribution, issue and maintenance of weapon systems,

supplies and equipment consistent with the specialized needs essential to effective functioning of each command. (1)

While the joint agreements have no legal authority, the panel has the authority to assign specific tasks to their internal organizations as mutually agreed upon. The management concepts are recognized by the services and DOD and have been informally endorsed.

The program management approach to weapon acquisition is a distinct departure from the services' traditional method of establishing functionally oriented organization to carry out well-defined, repetitive or continuous, long-term tasks. This approach requires the program manager to establish management arrangements among his functional organizations, other military organizations, and various contractors in order to coordinate their efforts efficiently and thus accomplish program objectives. (2)

The basic management policy for the acquisition of major systems in the Department of Defense is directed by the Secretary of Defense (OSD). The policy states in essence that the development and production of major defense systems will be accomplished by a single individual who has the management responsibility for the program, the Program Manager (PM).

The directive goes on to state that the PM shall have a charter which provides sufficient authority to accomplish program objectives. There is also reference made to joint service programs in the directive. Specifically, it says that 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. (3)

There also is further guidance for the conduct of joint service acquisition programs. This guidance is contained in a joint Army/Navy/Air Force regulation for the management of multi-service systems programs/projects. (4) This regulation forms the management principles for conducting multi-service programs. The memorandum of agreement goes on to state that the procedural guidance of the designated command (executive agent) program manager will be followed to the greatest extent possible and detailed implementing documents for management will be minimized.

The current policy for joint service programs is to have one of the services designated as executive agent. The service designated as the executive agent shall have authority to manage the program/project under the policies and procedures used by that service. This in turn may require the participating services to accept certain deviations from their policies and procedures so as to accomodate the assumption of full program/project responsibilities by the executive service.

The agreement identifies the responsibilities and the required documentation for the management of multi-service programs.

The executive service is responsibile for assigning a Program Manager, establishing an official manning document, and staffing the program management office. The responsibilities of the participating service include assigning personnel to the program office and identifying the senior representative who will be assigned to a key position in the program/project management office. This

individual will report directly to, or have direct access to the Program Manager, and he will speak for his parent service in all matters, subject to the limitations prescribed by his service.

The management for multi-service programs will be documented by a multi-service Program Manager charter.

The agreement states:

> "The charter will describe and assign responsibility for satisfying peculiar management requirements of participating services which are to be met in the program project, and will be jointly approved for headquarters of each involved service by persons officially appointed to approve such charters."

A program/project master plan and a joint operating procedure will also be issued by the Program Manager. Where participating services are affected, action will not be taken unilaterally by the Program Manager without first consulting with the participating services.

Joint Operating Procedures (JOP's) will be developed and negotiated by the program/project manager and the senior representative from the participating service. JOP's will identify and describe detailed procedures and interactions necessary to carry out significant aspects of the program. Subjects for JOP's may include Systems Engineering, Production, T & E, Logistics Support, the ilities, and Procurement and Deployment.

There are a wide variety of program management organizations. The services, however, use only three basic types of program offices to accomplish the acquisition of systems. These organization types are generally referred to as the Functional Management Organization, Program Management Organization, and the matrix organization(5).

The Functional Management Organization is organized and structured to allow it to operate by itself independently of the standard functional organization for technical and management support. The matrix organization, on the other hand, depends almost entirely on the support of the functional organization for the performance of these functions.

In large part, the Air Force acquisition programs are in self-sufficient organizations for large programs. The Air Force uses the matrix organization for those programs not designated as major programs. The Navy programs all utilize matrix organizations. The Army programs utilize a program structure which is between the self sufficient and matrix organization.

To contrast the management approaches and the management tools used by the services, this report will focus now on some of the key elements on ongoing joint service programs.

SECTION IV

EXECUTIVE SERVICE SELECTION AND PROBLEM RESOLUTION METHODOLOGIES

Determination of the Lead Service

Until recently there was no mechanism or organization responsibile for selecting the lead service. The procedure was that the service staffing the Requirement Objective (R/O) document through the system would become the lead service if it so desired. The other criteria for selecting the lead service was to identify the service which had the better technology base in the particular area and then assign that service as the executive service.

As a result of these shortcomings, the Air Force and Navy agreed that there are substantial mutual benefits to be derived from closer cooperation in the air-to-air and in air-to-ground weapons programs. Thus these two services have formed a Joint Requirements and Development Committee (JRDC) which performs the following functions. (5)

(1) Reviews the concept of operations and requirements with the goal of increasing mutual understanding. Early identification of potential areas for cooperative development programs and joint support of service unique requirements is the objective.

(2) Reviews system development programs with the goal of maximum practical joint service procurement.

(3) Reviews technology programs and coordinates individual service requirements in the early stages of development with the objective being to insure the suitable joint utility of production items.

(4) Recommends Executive Service Assignment for those programs for which multi-service application is appropriate.

For those programs of less than major program status the OSD has established the Department of Defense Air Munition Requirements and Development Committee (AMRAD) 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 insuring, where practical, joint use qualitative requirements and design standardization of air and related munitions to fill the needs of more than one service. (6) The scope of the committees' mission includes all non-nuclear air launched munitions stores and those multi-purpose air weapons used in ground-to-ground and/or ground-to-air roles.

In determining the lead service for less than major programs the precedent has been established that the service staffing the Requirements Objective (R/O) document through the system to the AMRAD Committee would become the lead service if it so desired. The AMRAD policy states that an R/O should be prepared about a year before initiating engineering development. The prerequisites for entering engineering development are not defined beyond the general statement that "feasibility must have been demonstrated," a statement that is subject to a great deal of interpretation by the services. Such a demonstration can be accomplished in many ways, ranging from a convincing engineering analysis to a functioning prototype device. A judgment must be made as to whether the feasibility demonstration indicates acceptable risk in proceeding

with the next phase of development. Whether a risk is acceptable or not is influenced by previous accomplishments, general competence of those performing the task, the desirability of the item, and other factors difficult to quantify.

The AMRAD Committee transmits the R/O document to the other services requesting comments and recommendations. The AMRAD reviews the service comments and promulgates their determination and findings to the service submitting the R/O. If there is other service interest in a particular development the AMRAD will:

- Designate the development as a joint requirement.
- Require the generation of a Joint Service Operational Requirement (JSOR) within 60 days.

Once the JSOR is submitted to and approved by the AMRAD they will promulgate a Standardization/Recommendation that will:

- Reaffirm the joint requirement (joint development and procurement implied).
- Designate the lead service.
- Require a Joint Development Plan (JDP) to be prepared.

Documentation for the Control of Joint Service Programs:

Upon the determination of the lead service, the proper management tools must be prepared for managing the programs. In the case of major programs these include the multi-service project manager charter, a program/project master plan, joint operating procedures, and the decision coordinating paper.

For the less than major programs, the management tool used is the Joint Development Plan (JDP). The JDP is usually viewed

necessarily as being an all encompassing document. In this document, every conceivable factor has been considered, planned, debated, negotiated, and included. The following sections are those required to be addressed in the JDP:

- Project Summary/Authorization
- Intelligence/Threat
- Operations
- Program Management
- Funding and Schedules
- Systems Engineering
- Test and Evaluation
- Facilities
- Logistics
- Human Factors Engineering/Personnel
- Training/Support
- Security
- Applicable Military Standards/Specifications
- Environmental Impact

It was the opinion of many of the program personnel interviewed that one of the problems with the JDP is that by necessity it is an all inclusive document. Thus there are many problems encountered in its development. It was felt by many PM's that when such a plan is attempted, each specialty group prefers that a complete document be prepared, firmly specifying every conceivable detail. The indications are that preparation of such a document would be more meaningful if many of the specialty areas to be planned are touched

upon lightly in order to indicate recognition of importance and to identify the time frame when a complete plan would be generated.

In the case of major programs, the overriding opinion seemed to be that although the JOP's are very thorough and cover all aspects of the joint program activities and are probably necessary to establish a joint program office, they have little use once the personnel are in place.

The single most important determinant of the success, the work climate, and the efficiency of a joint program appears to be harmony between the personalities of the Program Manager and the senior participating service representatives.

In those cases in which the styles of the senior service representative were not closely compatible with the Program Manager, the joint management was diminished regardless of what the controlling document contained. In the cases in which harmony was established, there did not seem to be any need of a controlling document other than the program management charter.

Resolution of Issues:

There are procedures established in the memorandum of agreement, in the case of the major programs and the JDP, in the less than major programs of ways of resolving these differences. The procedure, simply stated, is to refer through the services channels all matters not resolvable at the PMO to service headquarters or to OSD for resolution.

In general, there is an ad hoc group which advises the Program Manager on matters of differences for less than major

programs. This group is called the Joint Development Review Panel. The panel consists of equal numbers of representatives from the involved services, generally from the major acquisition commands, and is chaired by the senior lead service representative. The group is convened upon formal request by either service. A unanimous decision by the panel allows the Program Manager to act accordingly. Nonconcurrence, after deliberation, calls for resolution by a higher authority through the existing chain of command.

Both major and less than major programs employ technical review panels who monitor the interface control management and who report directly to the Program Manager any areas of disagreement or potential disagreement.

Funding:

Funding for joint development programs will be on a case by case basis; however, certain guidelines apply. In almost all programs reviewed, the lead service is expected to provide the total funds for the joint development program with the exception that the participating services will fund those portions of the joint development associated with that particular services' peculiar requirements and support.

The area of funding received much attention from the individuals interviewed. There was no consensus of opinion of how best to accomplish this task. Comments varied from: Since the services have entered into a joint pursuit of a program and a lead service has been established there should be no reason to have service peculiar funding requirements--to: Since both services theoretically

have the same interest in a given program, both should fund for the development on a 50%-50% basis. The consensus seemed to be that it is very difficult to identify service peculiar requirements.

SECTION V

DOD OUTLOOK ON JOINT SERVICE PROGRAMS

Discussions with DOD personnel indicated that there is a tremendous emphasis on joint service programs. This emphasis stems from the benefit derived by shared R & D and other costs due to elimination of duplication of efforts which ultimately reduce the funds required to acquire weapon systems. There is also a desire by OSD to standardize as many items as practical to reduce losistics requirements which ultimately also serve to reduce the final cost of these systems.

To further amplify their desires, DOD has been attempting over the past several years to establish funding restrictions for joint service programs. These restrictions would entail fencing the funds for these programs. The impact, on the services, resulting from this action would be to limit their prerogative of setting their own priorities. It would also force the services to take a closer look at the requirements and make full committments to these programs from the onset.

Discussions with persons from DOD also indicated that there is some thought being given to a "purple suit" style joint service acquisition plan. This would be tailored on the same style as the existing nuclear warhead acquisition plan. In this instance, a Program Manager would be assigned for a period of time, usually from two to three years. This individual in turn would be relieved by an individual from another service upon completion of his tenure.

Another approach which seems to be gaining support is the approach of establishing an OSD acquisition function. In this approach, all major programs would fall into a new category which would be the Defense Material Agency. This organization would be responsibile for the development and procurement of all new weapon systems, upon the validation of the requirement. This organization would transfer the item to the individual services upon introduction for service use.

SECTION VI

CONCLUSIONS

The discussions for this report identified several key elements with which everyone from the PM office to DOD seems to be concerned. These are that, joint service programs are a way of life and standing guidelines should be established to introduce an item into the inventory at the earliest possible time at the most economical price.

The problems of commonality were brought up again and again. The consensus of opinion is that the days of unique service requirements are limited and rightfully so. It was also pointed out that the commonality problem is much larger than just the interservice commonality. There is great concern about commonality with our NATO allies. Historically, there was no concern with NATO over commonality because most of the weapons used by our allies were United States manufactured. In the last several years, however, the Europeans have been developing more and more of their weapon systems. A lot of these systems seem to be interchangeable between the European countries. However, there are more and more unique developments by all NATO members. The concern that arises is that if NATO should get into a confrontation in Europe our allies would not be able to maintain the logistics requirement for a sustained war due to their limited production capability. As a result, we might find ourselves fighting without the benefit of our allies.

Another concern that was often voiced is that there are several stumbling blocks in performing joint service programs. These include the basic problems of inter-service competition, both between the uniform and laboratory personnel (the "not invented here" syndrome). The requirements are often not harmonized between the services.

All services have alternative objectives and the feeling is that unless an item is developed for those specific objectives, the item will not meet the desired requirements. There seems to be a feeling that harmonization dilutes the end product.

One of the key areas of concern was the assignment of participating service personnel to program offices. Since program management is working with people through people, prime consideration should be given by the participating service when assigning personnel to the program office. It was pointed out that when the personality conflicts are resolved, 75% of the problem areas in any given program are also resolved.

There does not seem to be any major problems with funding, especially for the major programs. Once the funding posture has been identified in the DCP, the PM is fairly confident that his money will be available when needed. In the less than major programs, the prognosis was not quite as promising. Considerable concern was voiced that in many instances the lead service goes ahead and reprograms funds from these joint programs. This action invariably cause the program to stretch out and costs more in the long run. This action tends to slow the momentum of the program

and consequently causes the participating service to reevaluate their commitment to the program. A large portion of this problem seems to stem from the constant changes in the requirements. This ultimately tends to prolong the program; therefore, the lead service gets the feeling that this is a soft program and ultimately uses some of the funds to shore-up service unique programs.

The program personnel interviewed for this report all favored joint service programs. Most conceded that there are still some problems which need resolution; however, given an atmosphere of open exchange between program personnel, there is no reason to believe that these programs cannot work. Most of the individuals were quite enthusiastic about their particular programs and believed that DOD was getting a better product because of their efforts.

SECTION VII

RECOMMENDATION

A joint service development is often interpreted as a development of an item by two or more services, each of which has significant influence on all aspects of the development. Such an interpretation allows dialogue not only on the basic requirement but on other areas such as determination of the best approach to the job, the materials, contractor selection, and contract monitoring. Such a dialogure can be beneficial but usually causes endless arguments on minor matters that lead to schedule slippage and higher costs. In those cases where joint use is authorized, it is necessary to designate a lead service; it is to these cases that the following recommendations apply.

1. Identify the project as a development for joint service use and not a joint service development. Under this arrangement, nonlead services would be concerned with requirement satisfaction (including costs as well as performance and schedules), but would not be active on other factors. Exceptions to this would occur in cases where the nonlead service was requested to assist because of a special competency. In other words, the lead service would be told the requirements, but not how to accomplish them.

2. Establish a simple agreement relating to issue resolution between services on joint programs. The following might be a good start:

a. All issues deviating from agreed-upon plans and requirements must be jointly resolved.

b. All other issues can be unilaterally resolved.

Obviously, any inputs from the nonlead service should be welcomed. The degree of attention to be devoted to these inputs should be determined by the lead service.

3. Give considerable attention to the selection of the individual to represent the nonlead service. Confidence, competence, and respect of working peers would be high on the list of desired attributes. Perhaps the project manager should have some say in the selection process.

4. Consider such elements as the size of the project and the personalities involved before assigning a full-time deputy at the project office. Such full-time co-location may not be warranted.

5. Incorporate in the requirements objectives document a statement of the assumed prerequisites to engineering development to assist in risk assessment.

It is imperative that the services get together and resolve their differences during the period of generation of requirements. This, however, creates some problems. Some of the problems stem from the fact that there is no unified command in the Navy who speaks for the user, besides the Chief of Navy Operations (CNO). Both the Army with Test and Evaluation Command (TECOM) and the Air Force with Tactical Air Command establish requirements early, before they are staffed through headquarters. The Navy, on the other hand, uses headquarters personnel to accomplish the requirements. There should be an independent command established in the Navy to speak for the user. Meaningful dialogue could then be established

at a parallel level between the services to identify their shortcomings and needs which could be more closely analyzed in an attempt to identify a joint requirement. With the establishment of the JRDC, some of these problems have been resolved; however, the JRDC has limited capability and staff. In order for the JRDC to address all items in weapon development, it is necessary to also include the Army on this panel.

The recommendations proposed in this report are in response to the concerns voiced time and time again by personnel from within and outside the program offices. The greatest issue that compromises the program objectives is that of service peculiar requirements, and the constant change in these requirements. These changes of requirements have the effect of delayed programs, missed milestones, and a loss of interest in the programs by the services. A further effect of the requirement changes is tremendous costs growth and finally the compromise of systems performance. The solution most often voiced, for these problems, is the co-location of executive and participating service personnel, and the dedication to the program by these personnel.

INTERVIEWEES

Many people were interviewed, on a non-attribution basis, to determine the true environment in joint service programs. The following list is a compilation of the personnel interviewed.

Captain Charles R. Bowling, USN, OPNAV Tactical Air Launched Wpns. SEC/ARM

Captain Paul D. Stevenson, USN, OPNAV Head Strike Warfare Development Office

Major Martin J. Lenzinie, USMC, ONAV, Assistant for Close Air Support Weapons Systems Development

Captain Kenneth W. Westall, USN, NAVAIR, Armament Division Director, Program Manager for FAE II and the BIGEYE Weapon Systems

Captain Don V. Wells, USN, NAVAIR, Project Manager, Sparrow III Project Office

Commander Bruce F. Avery, USN, NAVAIR, Deputy Program Manager for Business Administration, Cruise Missile Project Office

Lieutenant Commander Roger E. McInnis, USN, NAVAIR, Deputy Program Manager for Business Administration, Anti-Radiation Missiles Project Office

Lieutenant Colonel Robert T. Slater, USAF, Air Force Deputy Program Manager, Anti-Radiation Missiles Project Office

Lieutenant Colonel Albert C. Reichert, USAF, Armament System Division, Directorate of Operational Requirements

Mr. Charles E. Myers, OSD, Asst. Director (Air Warfare) Office of the DDR&E

Mr. William E. Stoney, OSD, Deputy Director (Tactical Warfare Programs) DDR&E

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