(1)

DEFENSE SYSTEMS MANAGEMENT COLLEGE

PROGRAM MANAGEMENT COURSE
INDIVIDUAL STUDY PROGRAM

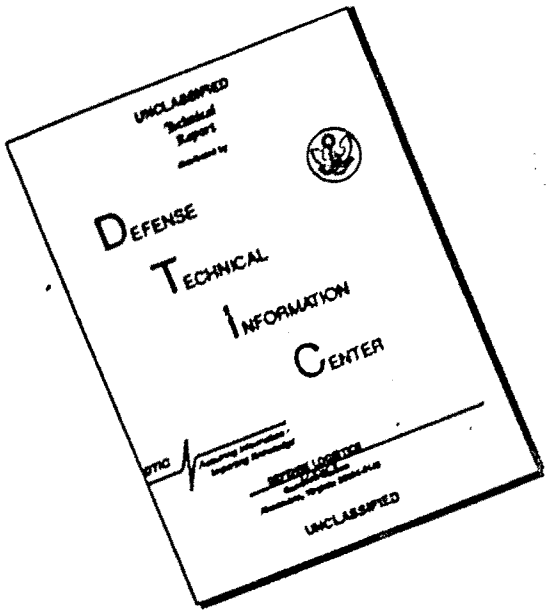
WHY NOT CIVILIANS AS DOD PROGRAM MANAGERS

STUDY PROJECT REPORT
PMC 77-1

Hoyte E. Johnson
GS-13 DAC

FORT BELVOIR, VIRGINIA 22060

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

WHY NOT CIVILIANS AS DOD PROGRAM MANAGERS

Individual Study Program

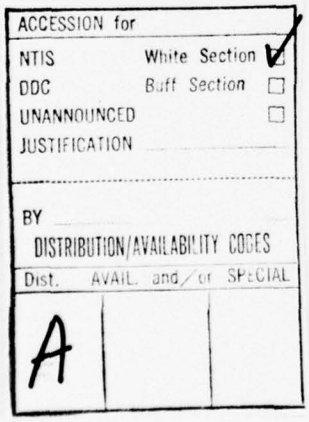
Study Project Report

Prepared as a Formal Report

Defense Systems Management College

Program Management Course

Class 77-1



by

Hoyte E. Johnson
GS-13 DAC

May 1977

Study Project Advisor
Mr. T. F. Keegan

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER / 2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) WHY NOT CIVILIANS AS DOD PROGRAM MANAGERS	5. TYPE OF REPORT & PERIOD COVERED Student Project Report 77-1 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) HOYTE E. JOHNSON	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS DEFENSE SYSTEMS MANAGEMENT COLLEGE FT. BELVOIR, VA 22060	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS DEFENSE SYSTEMS MANAGEMENT COLLEGE FT. BELVOIR, VA 22060	12. REPORT DATE 77-1 13. NUMBER OF PAGES 52
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

UNLIMITED

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

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)

SEE ATTACHED SHEET

DD FORM 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE: WHY NOT CIVILIANS AS DOD PROGRAM MANAGERS?

STUDY PROJECT GOALS:

(1) To identify and describe the attributes of an effective and efficient Program Manager in DOD.
(2) To determine the present situation in OSD and the three services concerning civilians as DOD Program Managers.
(3) To identify and evaluate the advantages and disadvantages of a civilian as a DOD Program Manager.

STUDY REPORT ABSTRACT:

This report discusses the present situation as it exists today in OSD and the three Services concerning the use of civilians as DOD Program Managers. Today in the Army and Navy all Project Managers (PM's) are Military while in the Air Force the PM's for Major Programs are Military; however, some of the small programs utilize civilians as PM's.

The roles and the requirements for a PM were identified and evaluated along with a review of the advantages and disadvantages of using a civilian as a DOD PM. Civilians could meet all the requirements except in the area of operational experience and the political aspect of not being accepted because he doesn't wear a green, blue or navy blue suit. Those deficiencies could be overcome by using a military deputy PM and the civilian PM. through empathy and understanding could earn the respect of the using community.

Key Words: Civilian Program/Project Manager
Civilian DOD Program Manager
DOD Program Manager Requirements
Role of the DOD Program Manager

NAME, RANK, SERVICE
Hoyte E. Johnson, GS-13, DAC

CLASS
PMC 77-1

DATE
May 1977

EXECUTIVE SUMMARY

The purpose of this report was to determine why civilians are not used as DOD Program Managers. An investigation of the situation that exists today in the OSD and the Military Departments was made to see if civilians were formally excluded. No evidence was found that precluded the use of civilians as DOD Program Managers. There seems to be an unwritten rule or code among the Military Departments that only military will be designated as Program Managers for major programs and therefore civilians are to be excluded.

The roles and requirements for a Program Manager (PM) were also investigated. Civilians could meet all the requirements except in two areas. The operational and political aspects (the civilian does not wear a green, blue or navy blue suit) of the acquisition process. The operational deficiency could be overcome by utilization of a military deputy PM. The military deputy PM could provide the required interface between the user and the material developer and thus reduce the political problem and help alleviate some of the apprehensions the user seems to have concerning civilians. Additional advantages would be gained since the military requires rotation for career development purposes, the military deputy PM could be "fresh" from the using community, a civilian PM would mean the "boss" and his management techniques would not be constantly changing and could remain the same throughout the program life cycle.

A review of often quoted disadvantages revealed that most of them do not really exist. The primary advantages of using civilians as DOD

Program Managers would be program continuity, transfer of lessons learned and better working relationships with the functional directorates and laboratories because of the reduced changing of PM's.

Today civilian careers stop at the deputy PM level even though directives and regulations do not preclude their designation as DOD Program Managers. If OSD and the Services desire to use this valuable reserve of talent, it will require a concentrated effort from the top down. The effect of the change in administration is unknown at this time and only time will tell what changes will be made in the material acquisition process, if any.

TABLE OF CONTENTS

SECTION I

INTRODUCTION

Successful management of major defense systems during the acquisition cycle is primarily dependent upon experienced and competent individuals who have been given authority commensurate with their responsibility and accountability for a given program. (1:1, 2)* In other words, major weapon system acquisition will be directed by responsible managers utilizing the concept of program management. As today's weapon systems increase in complexity, the demand for highly qualified personnel increases more rapidly than the supply of resources. One method of meeting this increased demand would be to use civilians as DOD Program Managers providing they can meet the requirements and fit the profile of a DOD PM.

Today all Department of Defense (DOD) major weapon systems are managed by designated Military PM's. However as far back as July 1970 in a Blue Ribbon Panel Report it was set forth, "there had been serious recommendations that the Armed Services develop a cadre of civilian program managers particularly for the highly technical phase of a program." (2:29) In 1974 the then Secretary of Defense Elliot Richardson stated that it was DOD policy that civilians should be utilized in all positions which do not require a military background for successful performance of the duties involved. (3:105) The Army set forth the following policy in AR570-4:

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

> "National policy provides that the use of military personnel be limited to positions which clearly require military incumbents. The use of civilian employees affords abilities not otherwise available, assures continuity of administration and operation, and provides a nucleus of trained personnel necessary for expansion in any emergency." (4:5-2)

It thus appears that the emphasis from the top down is that civilians should be utilized to the maximum extent possible throughout the Department of Defense. Why then are civilians not being utilized as DOD Program Managers? By a review of documentation from DOD Directives to the military service material developer regulations, the author hopes to establish the situation that now exists. By research, review and analysis of previously conducted survey-studies of DOD Program Managers and their civilian deputies from the three services and review of current DOD Directives, Service Regulations and literature, one should be able to establish the role and requirements of a DOD PM. From those previously conducted surveys of PM/deputy PM's who are there where the action is, one should be able to develop the requirements a successful PM should meet. Often quoted advantages and disadvantages of civilians as PM's shall be reviewed. Informal interviews of PMC-77-1 students and an Army Project Office personnel shall be used to determine if these previously cited advantages/disadvantages are still current.

Civilian employees of the DOD presently serve in many positions in a Weapon System Project/Program office from the deputy Program Manager to civilian Division Chiefs to working level engineers, analysts,

operations researchers, etc. Even the Military Project Manager's counterpart in the military-industrial complex, his prime contractor, is a civilian. Then why not a civilian as a DOD Program Manager.

Throughout this report the author will use Project Manager or Program Manager interchangably. By his definition, the Project/Program Manager is the individual assigned the full line authority for the centralized management of a specified development/acquisition program and is usually chartered by the service secretary. Also, by the use of the term DOD Program Manager, the author means Program Manager of major systems acquisitions that require DSARC Review at specified milestones in the weapon system development cycle.

SECTION II

PRESENT SITUATION

In April of 1976 the Office of Management and Budget set forth the following guidance for acquisition of major systems to the Heads of the Executive Departments and establishments in Circular Number A-109.

> A program manager will be designated for each of the agency's major system acquisition programs. This designation should be made when a decision is made to fulfill a mission need by pursuing alternatives system design concepts. It is essential that the program manager have an understanding of user needs and constraints, familiarity with development principles and requisite management skills and experiences. Ideally, management would include: Research and Development, Operations Engineering, Construction, Testing, Contracting, Prototyping, and fabrication of complex systems, Production, Business, Budgeting, Finance. With satisfactory performance, the tenure of the program manager should be long enough to provide continuity and personal accountability (5-8d).
>
> Upon designation the program manager should be given budget guidance and a written charter of his authority, responsibility, and accountability for accomplishing program objectives. (6-8e).

It is apparent from the guidance by OMB to the Executive Departments and agencies that someone has recognized that with the introduction of large scale, complex military and civilian projects that there was a need for a highly centralized organizational concept that could move horizontally across the functional or traditional bureaucratic organization of the federal government. Extraordinary management is necessary if all facets of the program are to be developed and integrated expeditiously. The author is not criticizing the organization of the federal government since according to Max Weber the only form of organization that can provide the structural characteristics and norms for an organization that must endure is a bureaucracy. However, the bureaucratic organization with its long vertical lines has not proven satisfactory for dynamic, rapidly advancing systems that are pushing the state of the art in technology and science. Program Management, where complete authority and responsibility for system development is vested in one individual, the PM does provide a management technique that can accomplish such a task. The PM does not accomplish this task singlehandedly but through his guidance and natural and acquired characteristics he accomplishes the required tasks through people.

Department of Defense (DOD)

Today the largest user of the Program Management concept and thus Program Managers is the DOD. Major programs by military services are as set forth below:

Department	Quantity of Major Programs
Army	56
Navy	57
Air Force	57

Table I

It should be remembered that the DOD material acquisition process is dynamic and as such the number and quantity of major as well as minor programs are constantly changing. Therefore the above numbers are typical levels of programs. The minor or smaller programs number in the hundreds and should provide the training arena for future major or DOD Program Managers.

By reviewing Major Charles T. Morris's "A Manager's Bibliography of Official Defense Systems Acquisition Documents", the author was able to bring together the official documents that trace the Program Management major policies, organizational requirements and personnel career development through DOD and through the Services. These are set forth in Table II and in Appendix A. The Table and Appendix have been updated where additional Directives/Regulations have been found and especially in the area of civilian career development.

ACQUISITION MANAGEMENT

Office of Manpower and Budget

Major Policy	Cir A-109

Department of Defense

Program Management	D5000.1
Major Policies	D7000.1
Career Development	D5000.1 D5000.23 D5160.55 * DI1430.5 * DI1430.10

Military Departments

	Army	Navy	Air Force
Program Mgmt	AR70-17 AR1000.1 AR 70-79 AMCR 1-35	SNI 5000.1 NMI 5000.20 NMI 5000.25	AFR 80-1 AFR 800-2 SCR 800-2 SCP 800-3 SCR 800-9 SCR 800-16
Major Policies	AR 70-1 AMCR 11-16 AMCR 11-16-1 AMCR 70-59	SNI 5000.1	AFR 800-4 AFR 800-10 SCR 800-2
Organization	AR 70-1 AR 70-17 AMCR 11-16-2		SCP 800-3 SCP 800-9
Career Development	CPR 950-1* CPR 950-2* DAP 600-3*	BYPI 1040.2A NMI 5000.25 NMI 5000.20	

Table II (7)

* Denotes addition to Major Morris's effort

From a review of the applicable DOD Directives, the author was able to determine why DOD needs Program Managers, when the Program Manager should be selected and who should be selected. As set forth in the quotations from DOD Directives, DOD components are the Military Services, Army, Navy and Air Force and the DOD Component Heads are the service secretarys.

Because of the ever changing threat to our National Security,

> DOD components are responsible for a continuing analysis of mission areas to identify mission needs and to define, develop, produce and deploy systems to satisfy those needs. Mission needs shall be stated in terms of the operational task to be accomplished and not in terms of performance or characteristics of systems to accomplish the mission (8:2).

The new DOD Directive 5000.1 should completely change the Service's way of doing business. It elevates the mission need to the DOD level for decision making.

> At such time as the Secretary of Defense requests or a DOD Component Head perceives a mission need to exist and determines that a new capability is to be acquired to meet the need, the DOD Component Head shall submit a statement of the mission need to the Secretary of Defense and request approval to identify and explore alternative solutions to the mission need. (9:3).

> When a mission is determined to be essential and reconciled with other DOD capabilities, resources, and priorities, the Secretary of Defense will approve the mission need and direct one or more DOD components to systematically and progressively explore and develop alternative system concepts to satisfy the approved need. (10:3)

The new requirement is set forth as Milestone 0, Program Initiation. Prior to this Directive the Services did not go to the DOD until DSARC-1, prior to the Validation Phase. The services usually had gone through the concept phase and had determined a concept to meet the need or operational capability. The Decision Coordinating Paper (DCP) set forth the various alternatives considered and the risks involved and advantages/disadvantages of each to meet the threat or operational deficiency. The Services also included a recommendation to pursue one of the alternatives and the strategy to procure develop and produce the required system. The DCP was briefed at DSARC 1. The impact of the introduction of Milestone 0 prior to the Concept Phase has yet to be evaluated and with the change in DOD Secretaries could be reversed, stay the same, or change to another requirement.

According to DOD Directive 5000.1 the Program Managers shall be assigned when:

> ...the Secretary of Defense approves program initiation at Milestone 0, the DOD Component shall assign the program manager for a major acquisition system.... He shall be given a charter approved by the DOD Component

Head stating the program manager's responsibility, authority, and accountability for program objectives." (11:3)

"A change in Program Managers shall not be made prior to Milestone I or during full-scale engineering development prior to Milestone III except by specific action of the Component Head or his designee" (12:5)

Now that one knows when the Program Manager shall be assigned, the next thing to identify is who will or will not be designated as a Program Manager. As set forth in DOD Directive 5000.23.

Personnel should be selected on the basis of skills and experience needed to prosecute successfully a program or program phase regardless of military or civilian status. (13:4)

Colonels/Captains or civilian equivalents should not be considered for assignments as Program Managers unless they have had program management or system acquisition experience to include one or more assignments to a program office. (14:4)

General or flag rank officers or civilian equivalents (GS-16 to 18, PL-313) normally should be considered for assignments as Program Managers only if they have had substantial prior experience in program management or system acquisition, to

include demonstrated performance as a military 0-5, 0-6, or equivalent civilian program management experience (15:4).

All major systems Program Manager candidates should have professional education at the Defense Systems Management School's Program Management Course (PMC) or Executive Refresher Course (ERC) either before or shortly following assignment to a major program office (16:3).

In summary, the basic policy of the DOD is that the acquisition of major weapon systems will be directed by responsible managers under the concept of program management. (17:2) As set forth above, the DOD does not specifically set forth that Program Managers shall be military. It appears that their directives permit either qualified civilian or military personnel to be assigned as PM's. However, in a letter to the service secretaries, Sec Def Clements sets forth that although DOD Directive 5000.23 includes the possibility of including civilians as PM's the thrust that directive was to develop within the services a cadre of Military PM's. In the unusual circumstance that a civilian were to be assigned as a PM it would be as a term employment or as a limited executive appointment. (18) Dep Sec Def Clements has left office and to date there has been no indications on the part of the new administration as to its position on the existing directives and their new policies.

Department of the Army (DA)

The policy of DA is that project management will be used for all major programs and others so designated by the Secretary of the Army, except in exceptional cases which will impact on the fundamental national interests or will redirect national policy for an extended future period, then Secretary of the Army may then direct the establishment of a special Program Management Office headed by a general officer or civilian equivalent designated the Program Management Officer. Further, the DA has permitted the material developer to designate other programs to use the project management technique by establishing sub project managers called Product Managers who will report to a Project Manager. (19:1-2) It should be noted that DA has not updated its regulations since DOD Directive 5000.1 was revised and released 18 January 1977.

Upon approval of a Letter of Agreement (LOA) by Headquarters, Department of the Army (HQDA) or the issuance of a Required Operational Capability (ROC) by HQDA the Deputy Chief of Staff for Research Development and Acquisition (DCSRDA) will instruct the appropriate material developer to establish a Project Manager position and prepare his charter for submission to DCSRDA, for Army Staff Coordination and submission to the Secretary of the Army for approval. The material developer may recommend additional programs for chartering by the Secretary of the Army. (20:2-0, 2-1) Whenever possible tours of military Project Managers will be extended to terminate at the completion of the current development phase of their project. (21:2-1)

For major projects and programs the Project/Program Manager shall be a Colonel or General officer (or equivalent civilian grade) respectively. Project Managers in the grade of Colonel shall be selected by HQDA selection board. The Project Manager will have a high degree of technical and administrative competence. Project Managers without material acquisition experience will be provided ample time and resources to assure competence. The Project Management Development Program (PMDP) will be fully utilized to provide future Project Managers. Project Manager qualifications will be established by the responsible material developer. (22:2.1)

Department of the Navy (DN)

Within the DN, the Project Management concept is designed to provide the singleness of purpose required to achieve project goals expeditiously for major weapon or defense systems. For systems that do not qualify for the major system category, Acquisition Management (program/project management concept) is required to ensure the application of major acquisition principles to all programs. The Navy it appears, as with the Army, has a ready made training ground for future Project Managers. The wide variety of acquisition programs in the Navy necessitates flexibility in the management of such programs to meet the specific goals and needs of each. (23:Enc 3, page 1)

The Chief of Naval Operations (CNO) and the Commandant of the Marine Corps (CMC) are responsible for identifying operational needs. The Chief of Naval Material under the CNO is assigned the responsibility for the establishment, application and execution of project management within

the Department of the Navy. The CMC is authorized to execute project management responsibilities with respect to systems developed or procured by Headquarters, Marine Corps (HQMC).

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 recodnized program objectives. For other than major systems the Navy uses acquisition managers who are responsible for development production and initial support of hardware items. Decision responsibility for their project/ acquisition rests with the project/acquisition manager. (24:2, 3)

PM's are designated when a specific project is chartered. The CNM executes project management within the Department of the Navy which the CMC does likewise for the Marine Corps for major systems. Designated PM's shall report directly to their chartering authority and the reporting relationship shall be set forth in each charter. Implementation instructions for designated PM's shall be signed by CNM or a Systems Commander. The CNO shall determine the chartering level - first preference Systems Command (SYSCOM). PM 's will normally hold the rank of Captain/Colonel or comparable civilian grade or in exceptional cases, a Flag Rank. Acquisition Managers within the SYSCOM or Bureau operate within approved work task statements, project directives, specified tasks, schedules and financial ceilings. (25:3ENC3, 1-4)

Department of the Air Force (DAF)

The basic management structure of the DAF is functional. However DAF policy is that decentralized management principles will be used for

program management and the single manager concept will be employed to the maximum extent practicable. Headquarters U.S. Air Force (HQUSAF) will establish and verify requirements and issue Program Management Directives (PMD's). The PMD and command supplements represent the AFSC Charter with the PM and will define any limitations of the responsibility and the authority of the PM. Hq USAF does not designate the P.M. The designation responsibility is delegated to the implementing command (AFSC, OAR). The PMD designates the implementing command for programs, defines the task and delegates the program management task to that command. The Implementing Command is responsible for the PMD defined program task, supplements PMD for specific command guidance and requirements as necessary and appoints the PM. The DAF has for their PM's a direct channel of communications called the Blue Line. It provides direct access to the Secretary of the Air Force by the PM. (26:2,3,20-4, A2-2)

The Program Office is established in one of three ways by HqUSAF issuance of a PMD, by direction of the AFSC Commander or Vice Commander, or by the direction of the Commander ASD, ESD, SAMSO or ADTC (Products Division). (27:20-1)

Regulations do not set forth when the PM will be appointed but it would probably be safe to assume that he is appointed when the Program Office is established. Further guidance is provided in AFSC regulations which set forth that Commander of Field Commands and Laboratories will recommend to the Commander AFSC personnel for appointment as PM's for Major Programs and the Field Commander and Laboratories Commanders shall appoint PM's for other than major programs. (28:A-4).

SECTION III

THE ROLE OF THE PROGRAM MANAGER

Program management is a concept which provides concentrated and centralized management authority over all technical and business aspects of a program. It is a management technique designed for fast moving, one time programs in which it is necessary to move horizontally across functional or traditionally structured organizations. The role of the PM in this environment is to pull together widely scattered resources and bind them together, to manage and direct the development of the weapon system balancing system performance, schedule and cost objectives. The role of the PM in essence is to be the agent of his service in the management of the system acquisition process and to bring about the focus of authority and responsibility of the service for conducting the program. He must be the prime mover in pushing the system through to its completion. (29:2,3)

Another role though controversial the P.M. must assume is the advocate or marketeer for his program.

> The program manager's main job is to make the program look good. I don't mean to fake it, I mean to be on top of the program, to anticipate what the boss expects, what the budget people expect, what OSD expects, and even what Congress expects. The image of an energetic, capable, program manager is a great asset in recruiting the people you want in the program office and in obtaining the right kind of support from functional organizations.

The morale and success of the program office staff
are largely a reflection of that image. (30:44-45)

The PM must be an organizer. A primary enhancement factor that can contribute much to the success of a program is the members of the staff especially the division chiefs. According to a Boston College report a PM should insist on the right to select the key members of his staff in so doing he will establish from the onset an esprit de corps and unity because these hand selected personnel will have the feeling they are wanted because of their personal selection. These members should be selected for their proven track record of past accomplishments in their fields of expertise. From the initiation of the program the PM should develop a commitment and a sense of mission in his staff and he should actively solicit their assistance in decision making and problem solving. (31:13, 16, 27) The PM should welcome disagreement at times if it is factual, honest and sincere because these "hand picked" people are his experts. A good PM, who wants to be successful, does not want to be surrounded by "yes men".

When moving into an already established Project Office, the PM must be able to identify the informal group and its leader quickly, to recognize the group needs and to integrate them into the project objectives. He must be careful not to drive the group underground. He should solicit the aid of the informal group leader without destroying his position which requires careful balancing.

Planning by the PM is of the utmost necessity. When establishing and defining the goals and objectives, the PM should consider the needs of the formal and informal groups. It takes a very skillful leader and

manager to blend the needs of the organization, groups and individuals into a harmonious smoothly running balanced program. The PM must also be aware of the level of asperations of his people, their experience and cultural backgrounds and off the job activities to be better able to understand them. (32:249, 275-6, 282)

The PM must be a director. He must not be caught up in "doing the work". He sees to it that what he wants is done through people. His hand picked staff with properly delegated authority and responsibility are the doers. His role requires reliance on others to do the work. There is a tendency especially among military program managers, because of their previous command experience, to be dictatorial especially in the dynamic program environment, in an effort to decrease decision making time. This works sometimes in the short run but in the long run to be a successful PM he must develop a participative management posture. (33:14)

In the continually changing world of the PM, he must have feedback regardless of the difficulty in attaining it, if he is to control his program instead of his program controlling him. The ideal system would be closed loop. Unfortunately the real world does not allow this since people are involved and this automatically creates an unfavorable open loop system. Outside conditions and forces over which the PM has no control affect the feedback and often times distorts it. However, when he discovers deviations to his plans, objectives and goals or he anticipates problems he must apply corrective action.

Another important role or function of the Program Manager is to provide a healthy climate for his people. It is essential that assessment and reassessment of the climate be performed periodically.

The Program Manager must continually analyze and evaluate the external environment for changes in political, social and economic pressures as well as the internal environment of his own organization. These assessments are mandatory because the people he has placed in positions must be the type individual for whom the environment will be congenial. (34:12-17)

The Program Manager must encourage his people to communicate with each other so that all may achieve a common understanding of the mission, program goals and objectives. An atmosphere and environment conducive to a harmonic relationship must be provided. There must be established a candor of frankness and openness among members of project staff and the PM so that all will feel and believe they are part of the same organization.

Today the PM finds himself at the center of an ever expanding problem. He is required to exercise extraordinary managerial judgment and flexibility in all aspects of the program. There is no "school solution". The PM must decide which managerial methods and techniques that he will use and above all he must feel comfortable with them. Experience and training are a necessity before a PM can effectively exercise judgment and flexibility in the best interest of the program.

The PM's charter, although the primary source of his control, must not be used as a crutch. The PM must establish a harmonious working relationship with the "functional barons" as well as the staffers at higher services headquarters and he must not forget the staffers at OSD. In other words he must be a part time politician. Formal reports are a fair control and feedback mechanism but the good PM will soon learn if he is to survive that his primary source of feedback is the flow of informal information that he, as well as his staff, must establish with their

contractor counterparts. The PM and his staff must establish a harmonious working relationship which should start with a face to face contact with their contractor counterparts as well as their support from the Service Laboratories and local functional Directorates and especially the User. The daily contact of the PM and his staff with these people should establish an air of openness and frankness and above all trust because this technique reduces the PM's feedback to real time instead of days after a problem occurs.

The PM and his staff must learn to anticipate rather than be "repair men" or "firemen". The dynamic fast moving environment, in which the PM and his staff live, is probably the primary reason for the insistence by the Deputy Secretary of Defense that a PM candidate should have the necessary training and experience before being designated a PM.

SECTION IV

REQUIREMENTS FOR A DOD PROGRAM MANAGER

The DOD policy for standards and criteria as set forth in DOD Directive 5000.23 are relegated to the services for their implementation. The services are to define the qualifications for selection of PM's to include but not limited to performance, experience, and formal education. DOD sets forth that individuals not having proven performance in acquisition management should be in a conditional status until performance is a matter of record. Concerning civilians specifically, DOD policy sets forth that maximum assignment flexibility be established within existing Civil Service Regulations including mobility agreements. For civilians, rotational assignments should be considered for development. Further, DOD Directives set forth that permanent civilian employees may be placed in project management positions on a permanent type of reassignment/promotion but with the understanding that they may later be placed in a position of equivalent grade and pay in a functional organization of DOD. The Services are to provide for release from the acquisition career field on the basis of management initiative if the results of periodic reviews of performance indicate that such action is appropriate. DOD Directives also set forth that all major system PM's should have professional education at the Defense Systems Management College in the Program Management Course (PMC) or Executive Refresher Course (ERC) and personnel selected for PM's should be selected on basis of skills and experience required to prosecute successfully a program or phase of a program regardless of military or civilian status. Prior experience in program management or system

acquisition experience to include one or more assignments to a program office is a mandatory requirement. (35:2-4)

DOD policy can best be summarized as follows:

> .....career fields must be developed and maintained to provide line and staff careers within the field of System Acquisition Management. Career opportunities shall be established to attract, develop, retain and reward outstanding military officers and civilian employees required as Program Managers..... (36:2)

Experience

Deputy Secretary of Defense William P. Clements, Jr., in a speech given at the Defense Systems Management College in March 1974 provides some excellent guidance in this area:

> Those who manage major programs are at the very heart of this acquisition process..... Competent Program Managers are needed now more than ever. The Services must watch their qualifying criteria. The successful commander of a battalion, ship or an aviation squadron does not necessarily insure success as a Program Manager. Management experience is essential, and a proven track record in management would be my primary consideration in selecting managers for major programs. Also, volunteers who truly enjoy Project Management will normally have the best track records. They're the best motivated. (37:2)

In a second address that same year Deputy Secretary Clements at a Change-of-Command Ceremony at DSMC provided additional guidance in this area, "We believe senior project officers should have served in project offices and as managers of smaller projects". (38:2) As set forth in DOD Directive 5000.23, military or civilians should not be considered for PM's unless they have had program management or systems acquisition experience to include one or more assignments in a program office. (39:4)

The Department of the Army Pamphlet 600-3 sets forth the experience requirements for an Army Project/Program Manager as follows: Served as a staff officer at HQDA level or at Hq DARCOM, and have experience in two or more of the following areas: research and development, engineering, procurement or general logistics. (40:30-1) In Draft Army Operating Instruction Nr 70-17 it is set forth that PM selectees should have experience in project offices as a field grade officer and should have background experience, ability, and potential to fill the highest positions in the Army. (41:7) Department of the Army CPR950-2 which sets forth career development in systems acquisition management for civilians does not set forth specific experience requirements and in addition does not set forth requirements for PM's, only deputy PM's. However, it does set forth several requirements that indirectly would require several years experience in Program Management. They should definitely be considered as requirements for either civilian or military. These are general knowledge of all functional elements of a Project Management Office (PMO), comprehensive understanding of the PMO concept processes and programming/budgeting requirements and comprehensive understanding of interrelationships involving major program elements

such as program analysis and control, engineering and scientific functions, procurement and logistics. (42:12)

The Navy sets forth the following requirements for experience in selecting Major PM's: 7-8 years of experience in the following areas: project management staff, asst P.M. for logistics, Hardware Sponsors organizations, DDR&E, RDT&E, financial management, Defense Nuclear Agency, Naval Plant Rep Officer, Test Centers, Labs, Naval Air Repair Facilities or shipyards, new construction or Fleet/Force, Material Support. (43:Encl 2) The Navy has a program for their military called Weapon System Acquisition Management Program (WSAM). In December 1975 a Civilian Personnel Data Collection System for Performance Evaluation and WSAM Career Appraisal Data was established by the Navy as a first step of bringing civilians under the WSAM program. This system will enable the Navy to have a track record of its civilians' experience in the weapon system acquisition arena. Thus the Navy hopes in time this procedure will enable it to institute a positive program to get the right people in the most critical job. (44:6)

The Air Force information concerning its PM experience requirements was practically non existent in current regulations. The only guidance that could be found was that when selecting PM's special consideration should be given to ensure that the most qualified people available are selected. Further, that the provisions of Civil Service Regulations for time limited appointments of civilian specialists should be used when appropriate. (45:A-4) No other guidance was located.

A study was conducted by Major George N. Giacoppe, USA, utilizing a survey of 154 PM's and Deputy PM's. Those surveyed expressed a strong

desire for structure and clarity in the acquisition career area. They considered program management experience a preferred preparation for becoming a Program Manager. In addition they felt that there should be an identification of key executive (line) and functional (staff) assignments in the material acquisition process as career steps for those opting for a career in program management. (46) Another study by Major Richard J. Hern, USA, indicated of the randomly selected PM's 45% of the Army PM's, and 100% of each of the Air Force and Navy PM's had prior weapon system acquisition experience prior to becoming PM's. The Army PM's major functional area of experience was Headquarters Duty while the Air Force and Navy PM's had Engineering as their major functional area. (47)

Education

Dep Sec Def Clements sets forth the following requirement:

> When all of our Senior PM's are graduates of the Defense System Management School and have been selected and promoted based on demonstrated material acquisition management DOD will have made a quantum jump. (48:2)

As set forth in DOD Directive 5000.23, "all major system Program Manager candidates should have professional education at the Defense Systems Management College's Program Manager Course or Executive Refresher Course.

The Army's educational requirements are set forth in DA Pamphlet 600-3. The Project Manager should possess a baccalaureate degree, preferably in engineering, a basic science or mathematics and an advanced

degree in business (management) or a technical field. He should also be a graduate of DSMC, a graduate of the Command and General Staff College (or equivalent) and a graduate of a Senior Service College. (49:30-1) Attendance at the Industrial College of the Armed Forces is highly desirable. (50:6)

The Navy's educational requirements arranged in order of preference are: Technical - Bachelor Degree and Masters Degree in Engineering, Physical Sciences, Math, Quantitative Analysis or Computer Science; Test Pilot School or Nuclear Power School; Management - Civilian Education - Masters level degree in either Business Administration, Financial Management, Industrial Management, Material Management or System Acquisition Management; Management - Military - graduate of DSMC and ICAF. (51)

The Air Force educational requirements were not specified in current regulations.

The survey by Major Giacoppe indicated the PM's feel that education such as given by DSMC was beneficial. From Major Hern's survey it was learned that 90% of the Army PM's, 100% of the Navy's PM's, 78% of the Air Force PM's had technical and/or management degrees; also 18% of the Army PM's, 14% of the Navy PM 's and 33% of the Air Force PM's had attended the DSMC Executive Refresher Course. (52)

Management & Technical Expertise

As evidenced by the educational and experience requirements the Army, Navy, and Air Force have set forth as criteria for selecting PM's, there are strong requirements for both technical and managerial expertise. Program Management requires a strong combination of technical and

managerial experience. Since PM's must be in a position to challenge the validity of requirements, they should have sufficient operational and technical expertise so they can be in a position to recommend cancellation of the Program to the decision makers if in their judgment the program will not satisfy the users stated requirements.

CPR 950-2 pretty well summarizes the managerial expertise requirements of Program Managers. They should have:

> Exceptional executive managerial skills to include the proven abilities to plan and coordinate extremely complex program objectives and the administrative mechanisms to assure they are met; delegate authority; develop a highly competent and efficient staff; maintain comprehensive control over complex system elements; establish effective relationships with external agencies and activities; overcome obstacles. (53:12)

As evidenced by research and attendance at DSMC, the primary weakness of PM's today appears to be in the managerial or business end of the program rather than their technical ability. Thus it appears that on the whole today's PM's have sufficient technical expertise but need more business managerial expertise.

From Major Hern's study it was evidenced that there were many and varied management philosophies as there were PM's. Different PM's thought emphasis should be placed on different aspects of the acquisition process and thus their management style reflected this. However, the majority of their management philosophies could be accomplished by Henri Fayol's

basic management techniques of planning, organizing directing, coordinating and controlling. (54)

In summary, a successful PM should strive to strike a balance between managerial and technical expertise, remembering that too much of either is not good.

Personal Characteristics

There is no universal list of the traits or personal characteristics that are necessary for a successful PM. "Different situations require different executive performance which in turn requires different skills and characteristics." (55:27) One logical place to obtain such characteristics or abilities would be active PM's. From Major Giacoppe's Study, the author was able to determine what PM's and deputy PM's considered as the abilities that a successful Program Manager should have. Ranked in the degree of importance they are:

1. Ability to identify problems.
2. Overall high communication skills abilities.
3. Ability to think imaginatively.
4. Ability to think in very wide ranges.
5. High ability in interpersonal relations.
6. Ability to interface with high ranking officers/officials.
7. High persuasive abilities. (56)

Different managerial authors cite a large number of personality traits and characteristics but Colonel Kilbert Lockwood has narrowed this quantity down by selecting only those traits which would be most important in achieving DOD goals. On this basis a proposed list would be (1) integrity (2) intelligence (3) emotional stability (4) drive and

motivation (5) basic managerial apptitude. (57:7, 8)

Of all the personal characteristics the author feels that the most important of those set forth is integrity because without it the remaining are irrelevant. This idea is best expressed by Peter Drucker.

> The final proof of sincerity and seriousness of management is uncompromising emphasis on integrity of character. Character exercises leadership and character sets the example and is imitated. The men with whom a man works and especially his subordinates know in a few weeks whether he has integrity or not. They may forgive a man a great deal: incompetence, ignorance, insecurity, or bad manners. But they will not forgive his lack of integrity. (58:462, 513)

SECTION V

ADVANTAGES AND DISADVANTAGES OF A CIVILIAN AS A DOD PROGRAM MANAGER

A review was conducted of previous surveys conducted by DSMC students over the time frame 1973-76 to determine what they found as the advantages and disadvantages of a civilian as a Program Manager. The disadvantages seemed to be the same for the surveys conducted. They were (1) you can't fire a civilian (civil service type), (2) civilians are not mobile, (3) civilians do not have user (operational) experience and (4) civilians don't have the background. During informal discussion with classmates of 77-1 both military and civilian and personnel in an Army project office both civilian and military, the above disadvantages were revalidated as being most common. The author will address each of these disadvantages and then discuss the advantages.

Disadvantages

Civilians cannot be Fired

This expression is probably the most often used by the military when questioned on civilians as PM's. It is agreed that it is difficult to fire a civil service employee per se, but so is it to "fire" a military type. By definition, to fire an employee in the private sector means, out of the firm, out on the street for him. He must find a new place of employment. To "fire" a military Project Manager means to transfer him to another job probably a staff position or early "voluntary" retirement. So a better term would be "relieve from duty",not "fired from the job". In a recent situation the author is knowledgable of a military PM being

fired and the result was he was transferred to another job in the same command. His rank and pay remained the same. Another case was a civilian of high grade (GS-15), Office Chief, was fired on Friday morning and left before noon for another job, same grade and pay. So either military or civilians can be "fired" (relieved from duty, and reassigned). In both cases, their careers as managers for all practical purposes are finished. If Program Managers, either civilian or military, are failing to perform their job or are highly inefficient they should be relieved from duty. However, since the position is chartered or designated, the chartering or designating authority should be the one that relieves the Project Manager. There doesn't really seem to be any differences between civilians and military in this respect so this does not appear to be a true disadvantage.

As set forth in DOD Directive 5000.23 the Services should provide for a release from the career field (System Acquisition) both on a voluntary basis and on the basis of management initiative. Therefore this would be a condition of acceptance for a PM whether civilian or military.

Civilians are not mobile

Military personnel accept mobility as a way of life. There is no reason that this could not be true for civilians. A look at the aerospace industry reveals that civilians in the private sector not only move within the same company but from company to company as prime Government contracts are won or lost. In the private sector managers are expected to move as advancement opportunities open in the hierarchy of the corporation, failure to do so finishes your career as far as advancement is concerned.

In the case of civilian PM's movement would only be necessary if his talents or expertise could be more advantageously utilized at higher headquarters or because of poor performance. Program continuity would thus be lengthened, possibly from conception through production. Thus corporate memory would be preserved longer and transferred to the next project/program. To further preclude this disadvantage, mobility would be a condition of acceptance. DOD encourages maximum assignment flexibility for civil servants including mobility agreements. Again it looks like a stand off rather than a true disadvantage.

Civilians do not have user (operational) experience.

Of the disadvantages, this appears to be the most valid of those we have discussed so far. Naturally a civil service employee, unless retired military, could not have user experience, at least not very current experience. Many times with military PM's from the technical services it is questionable how much user or operational experience they have, at least current experience. Often times, the military PM's user or operational experience was gained as a junior officer in a combat arm which occurred many years earlier and their senior level experience was gained in the support arena. However, the military PM does have a political advantage since the user feels that he is one of them. The user seems to have stereotyped civilians as non responsive, non empathetic and having no understanding of operational requirements. However, the use of a military deputy PM would satisfy most of these interface deficiencies. If the civilian met the same qualifications as the military except for operational experience, it is

illogical since he is a professional manager that he would be unresponsive or lack empathy for the user's requirements. Again there doesn't seem to be any insurmountable problem.

Civilians don't have the background.

There are basically three areas one should address concerning background. They are managerial, developmental and operational experience of the individual being considered for PM. In two of the areas civilians have a definite edge and the third the military have a definite edge. The military have a definite advantage in the operational arena because of their previous experiences as part of the using organization, but two or three years away from the operational side of the house the validity of this experience is questionable. Civilians do have the edge however in the developmental and managerial areas. They usually stay in the material development arena, the field and the laboratories while the military must move in and out of these areas because of their military career requirements. The civilian should therefore be better equipped to handle the technical problems during the development phases. Civilians from the non-technical areas such as the Comptroller or Program Control areas have a definite edge over the military in the cost and business side of the house. With the establishment of career fields for the military in system acquisition management, the military will be able eventually to acquire the experience necessary to manage a program adequately; however in so doing they will probably become stereotyped by the user as civilians in uniform because of their non combatant positions.

Advantages

The main advantage of using a civilian as a PM is the continuity in the program that would be provided. Military PM's in the past have come and gone because of military career requirements, many times at a very crucial point in the program. Civilians could provide a continuing corporate memory because they could stay with a program from conception to transfer of the program to the logistics or readiness side of the house. They could then transfer the lessons learned on the previous program to their next program. DOD could then build up a cadre of professional managers. One group specializing in the development phase and a second group specializing in the production phase.

The author believes that civilians could thus provide professional management which the acquisition process so desperately needs. Since there would be no political ties to the user, civilian PM's would not be as hesitant to voice their disagreement to higher headquarters or recommend program cancellation when conditions warranted it. In other words, they could be more objective.

The use of a deputy Military PM would provide user interface and help alleviate the political or user distrust of civilians. It would permit the military to move in and out as required to meet career requirements with the minimum amount of distuption to the program. Because the Program Management Office reflects the personality and management style of the PM when the military PM changes the whole PMO must change. In addition the working relationships between the functional directorates and the laboratories must adjust to the methods

and techniques of the new Military PM. An additional advantage of a military deputy PM would be that he could bring to the program the latest operational concepts. If the Military PM stays for an extended time period in the Program office he loses some of his green, blue, and Navy blue suit identity and becomes part of the material developer and not part of the combat arms, the user.

The final advantage would be since the Civilian PM would be career oriented it would be more advantageous to train the civilian to perfection since he by choice is a career manager and thus the services could develop a cadre of truly professional managers.

SECTION VI

SUMMARY AND OBSERVATIONS

In summary, in this report the author has reviewed the directives and regulations from OMB to DOD to the three military Services and then tried to establish the present situation as to why the need for DOD PM's, who should be selected and when they should be selected. Presently directives and regulations set forth either a civilian or military can be selected for PM. The present situation reveals a somewhat different picture. The Army and Navy seem to have an unwritten policy concerning the selection of civilians - none, even though the directives and regulations do not preclude selecting civilians. The Air Force on the other hand uses civilians as Program Managers for minor or small programs. However, Deputy Secretary of Defense Clements placed things in perspective in a letter to the Military Departments when he set forth that his primary emphasis in DOD Directive 5000.1 was in building a cadre of military Program Managers and if by some chance a civilian was picked he should be placed on a limited executive appointment or term employment. It was interesting to see how the three Military Departments could take the DOD Directive and interpret and implement them so differently. It will be interesting to see how the Military Departments handle Milstone 0. No one seems to know what the new administration will do, what will be its goals, objectives and policies and if it will leave the present DOD Directives as they are or revise them.

The roles the DOD PM must play are many. He is everything from a marketeer or advocate of the system to the intertwining thread that holds

the Project Office together, always remembering that he must accomplish his program goals and objectives through people. The Project Office is the Program Manager and as such reflects or radiates his image and managerial style. Therefore the PM must be comfortable in his management style and exhibit only one for all seasons to minimize personnel conflict that comes from a continually changing management style. The Program Manager must be forever sensitive to the political and economic. environment especially since the phase down of the Vietnam conflict. As democracies always do after hostilities, it is time to continue business as usual and domestic problems take top priority even at the expense of our national defense; our motto -- dismantle our war machinery and pound our swords into plowshares. Therefore the PM must be attuned to the ever changing political environment and must not lose touch with it. He must establish a competent staff, hand picked by himself, and utilize the staff to the utmost. Above all he must be a director and leader, not a "doer", "doing" is for his subordinates. The PM should provide a healthy environment; for his people must be congenial with that environment. Civilians should be able to handle all of the roles of the PM except the interface with the user. The political implication that he is not one of us because he doesn't wear a green, blue, or navy blue suit could be the civilian's weak area unless he can gain the confidence and earn the respect of the user. This could be accomplished with the proper support. The use of a deputy military PM would go a long way toward alleviating this weakness and would also provide a valuable interface with the user.

The selection requirements for a DOD PM as such do not exist because DOD has delegated this responsibility to the services. The Army and Navy

are very detailed and explicit concerning their selection requirements and process. They set forth specific requirements in the area of experience, education, managerial ability and personal qualifications. The Air Force on the other hand tends to be very vague and general. In fact, the Army and Navy have more stringent requirements for PM's than they do for their line Commanders. The Air Force appears to have an informal career program in lieu of a formalized career program in material acquisition management. The Army and Navy have developed more formalized programs for the military. However, in the civilian arena, the Air Force has no formal career program; the Army has a more formalized program but provides no way the civilian can ever rise to PM, only deputy PM; and the Navy is initiating a program for civilians as part of its WSAM Program. Review of the requirements as set forth by the Army and Navy (Air Force requirements could not be determined) presents no insurmountable barriers. There is a problem area in that Command and Staff College and Senior Service Colleges are requirements today. However there have been suggestions to designate DSMC as an equivalent of the Command and Staff College requirement. Since civilians can attend DSMC this would alleviate this problem. The Army and Navy both suggest completion of ICAF as desirable, and civilians are eligible for attendance at ICAF. Further, most of the service schools and ICAF are available by correspondence if this requirement remains mandatory and civilians are generally eligible to pursue these areas of study.

The final area this report addresses is the advantages and disadvantages of a civilian Program Manager. The often heard disadvantages when examined more closely seem to disappear or could be overcome with a

little planning and action. A civilian PM can be fired just as a military PM can be fired which is really not firing per se but relief and transfer to another job of equal pay and grade. The mobility aspect could be taken care of with mobility agreements and centralization of all DOD PM's at DOD level or at the Military Departmental level. Most civilians lack operational experience, at least current operational experience. There are some management experts who argue that you do not have to be brought up or reared in an industry to be able to manage a plant in that industry. If this is true, then the operational experience is not as critical as the military seem to advocate. The civilian PM would probably have a better background in development and managerial training than his military counterpart. The civilian PM could bring to the Program his major advantage of program continuity and providing the corporate memory for the program. Lessons learned in one program could be transferred to another program and thus our continuing mistakes could be reduced.

Why not a civilian as a DOD Program Manager? The answer to this question seems to be another question, why not? There do not appear to be any requirements that could not be met with proper planning and push from the top if DOD and the Military Departments want to utilize all their resources to fullest and civilian manpower is a resource.

It appears also with the initiation of the Milestone 0 decision at the OSD level that OSD may have taken the first step toward elevating the major system acquisition process to the OSD level. The next step could be the management of the career development field of material acquisition and then the PM selection process. This could lead to the establishment of a DOD System Acquisition Department independent of the Services.

The services would then forward their Mission Element Need Statement (MENS) to OSD which would determine which service could optimize that mission need and provide the weapon system to the service. This may be too much centralization of decision making. In these days of ever reducing DOD budgets, the rising costs of future weapon systems and the erosion of the services laboratory systems, centralization provides a viable solution. A topic for a future ISP could be: Why not a DOD Material Acquisition Department supported by a DOD Laboratory System?

NOTES

(1) Department of Defense Directive 5000.23 System Acquisition Management Careers, 26 Nov 74.

(2) Blue Ribbon Panel Report, July 1970 - Study and Report to the President and Secretary of Defense on the Major Weapon Systems Acquisition Process in the Department of Defense.

(3) Richardson, Elliot L., Secretary of Defense, Statement Before The House Armed Services Committee on the FY1974 Defense Budget and FY1974-1978 Program, 10 April 1973.

(4) Army Regulation 570-4 Manpower Management, 15 April 1973.

(5) Office of Management and Budget Circular A-109, To the Heads of the Executive Departments and Establishments, Major Systems Acquisition, 5 April 1976.

(6) Ibid

(7) Morris, Charles T., Major, USA, A Manager's Bibliography of Official Defense Systems Acquisition Documents, Study Project, Report, PMC 76-2, DSMC, Ft Belvoir, Va., 1976.

(8) DOD Directive 5000.1, Acquisition of Major Defense Systems, 18 January 1977.

(9) Ibid

(10) Ibid

(11) Ibid

(12) Ibid

(13) DOD Directive 5000.23, op cit

(14) Ibid

(15) Ibid

(16) Ibid

(17) Logistics Management Institute, Introduction to Military Program Management, LMI Task 69-28, March 1974.

(18) Clements, William P. Jr., Deputy Secretary of Defense, Letter to Service Secretaries, Subject: System Acquisition Management Careers, dated 6 December 1974.

(19) Department of the Army Regulation 70-17, Research and Development Project Management, 16 June 1975.

(20) Ibid

(21) Ibid

(22) Ibid

(23) Department of the Navy, SECNAV Instruction 5000.1, System Acquisition in the Department of the Navy, 13 March 1972.

(24) Ibid

(25) Ibid

(26) Department of the Air Force Regulation 800.2, Acquisition Management Program Management, 16 March 1972 and AFSC Supplement, 18 October 1974.

(27) Department of the Air Force, AFSC Pamphlet 800.3, Acquisition Management, A Guide for Program Management, 9 April 1976.

(28) DAFR 800.2, op cit.

(29) Logistics Management Institute, op cit.

(30) Ibid

(31) David, Charles Murphy, Bruce N. Baker, Dulman Fisher, Determinants of Project Success, Boston College School of Management, Management Institute, Grant Nr NGR-22-003-028 for NASA, 1974.

(32) Kast, Fremont E. and James F.Rosenzvieg, Organization and Management - A Systems Approach, McGraw Hill Book Co., 1970.

(33) Logistics Management Institute, op cit.

(34) Irwin, Randal R., "Matching Manager and Job: an Executive Search Consultant's Approach", Management Review, Vol 64, Nr 12, Dec 1975.

(35) DOD Directive 5000.23, op cit.

(36) Ibid

(37) Chapman, Gerald, Jr., Major, USA, The Development of the Professional Army Project Manager, Study Project Report, PMC 74-2 DSMS, Ft Belvoir, Va., 1974.

(38) Ibid.

(39) DOD Directive 5000.23 op cit.

(40) Department of the Army Pamphlet 600-3, Officer Professional Development and Utilization, March 1974.

(41) U.S. Army Personnel Center, Draft Operating Instructions Nr 70-17, Systems Acquisition/Project Management, undated.

(42) Department of the Army CPR950-2 Civilian Staffing and Career Development in Systems Acquisition Management (Program Management Officer), January 1976.

(43) Chief of Naval Material Letter To Chief Naval Personnel, Subject: Major Project Manager Information, dated 26 Oct 1973.

(44) "Civilian WSAM Career Management: A New Corporate Initiative", by Admiral Frederick H. Michaelis, Chief of Naval Material, DSMC Program Managers Newsletter, Summer 1976.

(45) DAF Regulation 800-2 op cit.

(46) Giacoppe, George N., Major, USA, The DOD Program Manager Profile, Study Report, PMC 73-1, DSMS, Ft Belvoir, Va., 1973.

(47) Hern, Richard J., Major USA, Project Manager Techniques, A Survey Study Report, PMC 73-2, DSMS, Ft Belvoir, Va., 1973.

(48) Chapman, Gerald Jr., op cit.

(49) DA Pamphlet 600-3, op cit.

(50) Draft Operating Instruction Nr 70-17, op cit.

(51) Chief of Naval Material Letter, op cit.

(52) Giacoppe, George N., Major USA, op cit.

(53) DA CPR 950-2, op cit.

(54) Hern, Richard J., Major USA, op cit.

(55) Bellows, Roger, Thomas Gibson, and George Odiorne, Executive Skills - Their Dynamic and Development, Englewood Cliffs, N.J., Prentice Hall, Inc., 1962.

(56) Giacoppe, George N., Major USA, op cit.

(57) Lockwood, Kilbert E., Colonel, Ordnance Corps, A Proposed Method For The Selecting and Training of Future Project Managers, US Army War College, Carlisle Barracks, Pennsylvania, Oct 1973.

(58) Drucker, Peter F., Management Tools, Responsibilities and Practice, Harper and Dow Publisher, New York, 1973.

BIBLIOGRAPHY

OMB Directive

Office of Management and Budget Circular A-109 to the Head of the Executive Departments and Establishments, Major System Acquisition, 5 April 1976.

DOD Directives

Department of Defense Directive 5000.1, Acquisition of Major Defense Systems, 18 January 1977.

Department of Defense Directive 500.23, System Acquisition Management Careers, 26 Nov 74.

Richardson, Elliot L., Secretary of Defense, Statement Before The House Armed Services Committee on the FY1974 Defense Budget and FY1974-1978 Program, 10 April 1973.

Clements, William P. Jr., Deputy Secretary of Defense, Letter to Service Secretaries System Acquisition Management Careers, 6 October 1974.

Army

Department of the Army Regulation 70-17, Research and Development Project Management, 16 June 1975.

Department of the Army Regulation 570-4, Manpower Management, 15 April 1973.

Department of the Army CPR 950-2, Civilian Staffing and Career Development in Systems Acquisition Management (Program Management Offices), January 1976.

Department of the Army Pamphlet 600-3, Officer Professional Development and Utilization, March 1974.

U.S. Army Personnel Center Operating Instructions 70-17 (draft) System Acquisition/Project Management, undated.

Navy

Department of the Navy, SECNAV Instruction 5000.1, System Acquisition in the Department of the Navy, 13 March 1972.

Chief of Naval Material to Chief of Naval Personnel, letter, Major Project Manager Information, dated 26 October 1973.

Air Force

Department of the Air Force Regulation 800.2, Acquisition Management Program Management, 16 March 1972 and AFSC Supplement, 18 October 1974.

Department of the Air Force AFSC Pamphlet 800.3, Acquisition Management, A Guide for Program Management, 9 April 1976.

LMI

Logistics Management Institute, Introduction to Military Program Management, LMI Task 69-28, March 1974.

DSMC

Chapman, Gerald Jr., Major USA, The Development of the Professional Army Project Manager, Study Project Report, PMC 74-2, DSMC, Ft Belvoir, Va., 1974.

Giacoppe, George N., Major USA, The DOD Program Manager Profile, Study Report, PMC 73-1, DSMS, Ft Belvoir, Va., 1973

Hern, Richard J., Major USA, Project Manager Techniques, A Survey Study Report, PMC 73-2, DSMS, Ft Belvoir, Va., 1973.

Morris, Charles T., Major USA, A Manager's Bibliography of Official Defense Systems Acquisition Documents, Study Project Report, PMC 76-2, Defense Systems Management College, Ft Belvoir, Va., 1976.

Michaelis, Admiral, Chief of Naval Material Management, Civilian WSAM Career: A New Corporate Initiative, DSMC Program Management Newsletter, Summer, 1976

Blue Ribbon Panel Report

Blue Ribbon Panel Report, July 1970 - Study and Report to the President and the Secretary of Defense on the Major Weapon Systems Acquisition Process in the Department of Defense.

U. S. Army War College

Lockwood, Kilbert E., Colonel, Ordnance Corps, A Proposed Method for the Selecting and Training of Future Project Managers, U. S. Army War College, Carlisle Barracks, Penn., October 1973.

NASA

David, Charles Murphy, Bruce N. Baker, Dalmar Fisher, Determinants of Project Success, Boston College School of Management, Management Institute, Grant Nr. NGR-22-003-028 for NASA, 1974.

Periodicals

Irwin, Randal R., "Matching Manager and Job: An Executive Search Consultants Approach", Management Review, Vol 64, Nr 12, Dec 1975.

Books

Bellows, Roger, Thomas Gibson, George Odiorne, Executive Skills - Their Dynamics and Development, Englewood Cliffs, N.J., Prentice Hall Inc., 1962.

Drucker, Peter F., Management Tasks, Responsibilities and Practices, Harper and Row Publishers, New York, 1973.

Kast, Fremont E., and James F. Rosenzvieg, Organization and Management - A Systems Approach, McGraw Hill Book Co., 1970.

APPENDIX A

A Bibliography of Official Defense Systems Acquisition Management Documents - Program Management*

OFFICE OF BUDGET AND MANPOWER

Cir A-109		5 Apr 76

Department of Defense

D5000.1	Acquisition of Major Defense Systems	18 Jan 77
D7000.1	DOD Resource Management Systems	22 Aug 66
D5000.23	System Acquisition Management Careers	26 Nov 74
D5160.55	Defense Systems Management School	4 Mar 75
*DI1430.5	Civilian Employee Training Policies and Standards	28 Sep 71
*DI1430.10	DOD Wide Civilian Career Programs	2 Mar 70

Department of Army

AR70-1	Army Research Development and Acquisition	1 May 75
AR70-17	Research and Development Project Management	16 Jun 75
AR1000.1	Basic Policies for Systems Acquisition by the Department of the Army	Nov 74
AMCR1-35	Orientation of Newly Assigned Project Manager	20 May 74
AMCR11-16	Army Programs/Project Management	Apr 74
AMCR11-16-1	Project Management Concepts and Policies	21 Feb 66
AMCR11-16-2	Project Management Model Organization	2 Apr 74
AMCR70-59	Management of Multi Service Program	4 Sep 73
AMCR614-3	Assignments, Details, and Transfer: Development of Project Managers	5 Jul 72
CPR950-1	Army Civilian Career Management Basic Policies and Requirements	Mar 71
CPR950-2	Army Civilian Positions in Systems Acquisition (Project Management)	7 Jan 76
DA Pamphlet No 600-3	Officer Professional Development and Utilization	Mar 74

Department of Navy

SNI5000.1	Systems Acquisition in the Department of the Navy	13 Mar 72
NMI5000.20	Selection of Students for DSMS	10 May 74
NMI5000.25	Relief of Program Managers	20 Oct 75
BYPI1040.2A	Officer Weapon Systems Acquisition Management (SWAM) Program	5 Apr 76

Department of Air Force

AFR80-1	Air Force Research and Development	24 Jun 70
AFR800-2	Program Management	16 Mar 72
AFR800-4	Transfer of Program Management Responsibilities	10 Mar 75
AFR800-10	Management of Multi-Service Projects	12 Sep 73
SCR800-2	Management of Multi-Service Projects	4 Sep 73
SCR800-2	AFSC Supplement to AFR 800-2 Same Title	18 Oct 74
SCAP800-3	A Guide for Program Management	9 Apr 76
SCAP800-9	Program Office/AFPRO Cadre	10 Aug 71
SCR800-16	AFSC Support to AFSC Acquisition Programs	1 Mar 76

*Morris, Charles T., Major USA, A Manager's Bibliography of official Defense Systems Acquisition Documents, Study Project Report, PMC 76-2, Defense Systems Management College, 1976.