U.S. ARMY MATERIEL COMMAND

Project Management in the Army Materiel Command, 1962 - 1987

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FOREWORD

This study is the first in a series begun under the guidance and direction of Dr. Robert Darius, the AMC historian, in 1986 to fill some of the gaps in AMC's history by focusing on some of the major issues faced by AMC after 1969. Other studies in this series will include a study of acquisition reform in 1970 entitled "Reforming the Acquisition Process in the Army Materiel Command: PROMAP-70."

This study by Dr. Herbert Leventhal, an introduction to the history of Program Management within AMC, selects one key thread in the Materiel Acquisition process, the role of the program management in managing major programs, and traces its evolution within the Army Materiel Command. Primary emphasis is placed upon two major aspects of the history of program management--the evolution of a PM career field and the relationship between PMs, the functional staff at AMC headquarters, and the Major Subordinate Commands. Also illustrated in this history is the impact of various AMC commanders and higher headquarters upon the evolution of program management.

The study should be of value to those interested in the history of materiel development in the Army. The study shows that program management tended to become more and more integrated into the normal command channels within AMC. This history will be of value to those interested in the evolution of program management as a field from its start as a collection of individuals selected on an ad hoc basis to the development of program management as an Army career field.

Special thanks are due to Mr. Thomas Mani, formerly of the AMC Historical Office, who meticulously edited this study, and to Ms. Diane Donovan, of the AMC historical office, who helped with the layout and publication of this study. Thanks are also due to Mrs. Sarah W. (Sally) Clements for reviewing the draft of this study and making valuable suggestions for its improvement. Prior to her retirement in 1981, Mrs. Clements had served as AMC's Assistant Chief of the Office of Project

Management and as the Deputy for Materiel Acquisition Management in the Office of the Assistant Secretary of the Army (Research, Development and Acquisition).

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EXECUTIVE SUMMARY

The concept of project management was neither originated by the Army Materiel Command (AMC), nor introduced into the Army by AMC. AMC, however, had been the primary user of project managers (PMs) within the Army from the early 1960s to the late 1980s. During that period AMC used PMs for the critical job of overseeing its development programs for major, and some not so major, weapon systems.

Prior to the 1962 establishment of AMC, project management had been used by industry, by the Navy to develop the Polaris Missile, by the Air Force to manage a variety of systems, and by the Army to construct the Jupiter missile. It was introduced into AMC by AMC's first commander, GEN Frank S. Besson, Jr. (1 Aug 1962-9 Mar 1969), who drew especially on the example of the Air Force's Special Projects Office in which individuals were given a substantial amount of authority over specific items of equipment. He chose to use this model for two reasons.

> One, I believe in giving a man a job and getting him the authority and responsibility to get it done. Also, I felt that there was a major opportunity for significant programs to fall through the cracks during the period of time that you were transferring from the old tech service controls into the Army Materiel Command. There were literally thousands of people in Washington that were going to be moved into different assignments and working under different command channel structures. . . . So I felt that it was important for two reasons to do this. One, because I believed in this management concept and secondly, because I felt that it was insurance. It had to be done on a pretty broad scale immediately in order to make sure that the major programs did not suffer from the disorganization that is inherent in a major structural change.

Under General Besson, the PMs were relatively independent. There was little control over them except for the close personal supervision of General Besson and, in some cases and to a varying extent, the supervision of the Commanding General of an AMC major subordinate

command (MSC). In this period, the 1960s, the number of project managed programs under General Besson grew from 30 to 68.

All of AMC's CG's who followed recognized a need to use PMs to manage major materiel development programs. However, much of the history of project management after General Besson consisted of efforts to normalize and control project management. With the exception of the administrations of GEN John R. Deane, Jr. (12 Feb 1975 - 31 Jan 1977) and LTG George R. Sammet, Jr. (1 Feb 1977-17 May 1977), the Commanding Generals of AMC who followed General Besson were concerned about the need to limit the use of PM programs and to integrate them into normal command channels. As originally established by General Besson, project management had been a discordant element within AMC. Since the PMs were largely independent of the headquarters AMC staff and in some cases of the MSC commanding generals, program management bypassed the traditionally bureaucratic structure of AMC. Given the relatively low rank of PMs, the authority and autonomy they were granted tended to violate the traditional rank structure within the Army. In addition, the resources required to staff PM offices for missions which were important but limited in scope were resources which were not available to AMC to perform the rest of its missions.

General Besson brought the number of PM programs to a high of 68, one being in the process of formation when he departed the Command. His successor, GEN Ferdinand J. Chesarek (10 Mar 1969-31 Oct 1970), took strong action to reduce the number of PM programs, and the number fell to 41 shortly after his tenure at AMC ended and remained in the low 40s until the administrations of General Deane and Lieutenant General Sammet again increased the number of PM programs to the mid-60s. Under GEN John R. Guthrie (18 May 1977-31 Aug 1981), however, the number of PM programs was again reduced, and under GEN Richard H. Thompson (29 Jun 1984-13 Apr 1987) AMC again developed a plan to control and curtail the number of PM programs, a plan which was cut short by the transfer of most PM programs out of AMC control.

In addition to efforts to reduce the number of PM programs, there were also strong efforts to reduce their autonomy. A trend developed in which the AMC commanders gradually subordinated the PMs to the control of the AMC headquarters staff and to the appropriate MSC commander and staff. This trend started under General Chesarek, who not only reduced the number of project managed programs but who

also strengthened the authority of the commodity command commanders over their PMs: "The commodity commander is the boss of his stable of project managers. . . ." In addition, he increased the role of the AMC headquarters staff in monitoring PM programs. This trend reached its culmination in the administration of General Thompson, who established a policy whereby the MSC Commander and the PM would jointly decide what personnel resources the PM program needed. General Thompson also expanded upon the application of the matrix management system to PM programs, with the result that PM offices had to rely heavily upon the personnel of HQ AMC or the MSCs to actually perform their missions.

This trend towards integrating the PM programs into AMC's normal command structure was abruptly reversed by the implementation of the Packard Commission report of 1986. Most PM programs moved completely out of AMC and into the Army Secretariat instead.

Another major trend throughout the history of the PM program was the effort to normalize the career paths of PMs. This trend started under General Besson, who made an unsuccessful effort to have a PM career development program established. Nevertheless, by the mid-1970s such a program was established. In addition, the informal methods by which PMs had been selected under General Besson were replaced by formal criteria, procedures, and selection boards.

The efforts to establish a formal career program were probably welcomed by PM personnel, while the efforts to integrate the PMs more closely into AMC's traditional command management channels met resistance from some PMs. Both, however, were part of the same steady transformation of the PM. The PMs began under General Besson as unconstrained managers, selected on an individual basis, who were part of AMC yet independent of its command structure except for their dependence upon General Besson himself. They ended up under General Thompson as the capstone product of a career development path, fully integrated into the AMC command structure.

INTRODUCTION

The concept of project management was neither originated by the Army Materiel Command (AMC) nor introduced into the Army by AMC. AMC, however, had been the primary user of project managers (PMs) within the Army from the early 1960s to the late 1980s. During that period AMC had used PMs for the critical job of overseeing its development programs for major, and some not so major, weapon systems. The description of project management given by GEN Frank S. Besson, Jr., the first commander of AMC and the person who made project management prominent among AMC's management techniques, has remained valid throughout AMC's experiences with project management.

> By vertical Project Management we mean the vesting in a single individual, group or organization of the sole line authority and responsibility for accomplishing the objectives of a program. We also mean that the individual or group is focused exclusively or primarily on accomplishment of this program objective and does not have its attention and effort divided among a host of tasks and programs.[1]

What has changed throughout the history of AMC has been the implementation of this concept. The implementation was influenced by a variety of factors, the two most important of which were management philosophies of the various AMC commanders and the public, congressional, Department of Defense (DOD), and Department of the Army (DA) impressions about the success or failure of the Army development and acquisition system, of which the PMs were an integral and key part.

The influence of the AMC Commander was frequently expressed in relatively subtle shifts in the relationship between the three management structures that were found within AMC. In addition to the vertical or stovepipe structure exemplified by the PM system, AMC was also organized along both functional and commodity lines. The functional organization was found in the AMC headquarters and in the headquarters of AMC's major subordinate commands (MSCs). For

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[1] AMC, *Oral History Program Former Commanders: Frank J. Besson, Jr., General U.S. Army, Commander 8 May 62-9 Mar 69* (USAMC, 1986), p. 15 (hereafter cited as *OHP, Frank J. Besson, Jr.*)

example, when AMC was first organized its headquarters had separate offices for such functions as the Comptroller, General Counsel, Information, Management Science, Procurement and Production, and Materiel Readiness.[2]

Organization by commodity was exemplified by many of AMC's MSCs, which were each responsible for certain specific types of commodities. Thus AMC's MSCs in 1962 included a Missile Command (MICOM), a Munitions Command (MUCOM), a Weapons Command (WECOM), a Mobility Command (MOCOM), and an Electronics Command (ECOM).[3] MOCOM, for example, had primary responsibility for tank development and production, but products of MUCOM, WECOM, and ECOM all had to be integrated into MOCOM's tanks. The role of the PM, to a great extent, was to insure that the development programs were managed so that primary attention was placed upon the final product rather than upon the specific commodity interests of MSCs or the specific functional interests of the various headquarters offices.

Besides cutting across the organizational principles upon which the rest of the command was based, the PM structure also had a tendency to come into conflict with the basic hierarchical principle upon which military organizations are based. The PMs were typically colonels but they were delegated certain plenipotentiary powers over the resources of MSCs commanded by Major Generals. Similar anomalous situations could arise with functional elements of the AMC headquarters staff headed by personnel who were senior to the PMs.

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[2] Historical Office, Headquarters, U.S. Army Materiel Command, *Arsenal For The Brave: A History of the United States Army Materiel Command, 1962-1968* (1969), chart opposite p. 16 (hereafter cited as *Arsenal for the Brave*).

[3] Marcel F. Coppola, *U.S. Army Materiel Command Organization, 1962-1987* (AMC Historical Office, 1987), chart XII.

THE PM PRIOR TO 1962

Although AMC had been identified since its inception with the project management mode of managing large projects, this management system had not been created by AMC. Various types of special management programs similar in concept to PM management had been used by all three services and by defense contractors prior to the 1962 establishment of AMC.

These various PM-type programs were all similar in that they had one person responsible for all aspects of a specific program, cutting across functional lines, but they differed in such key areas as the types and numbers of programs covered and in the authority granted to the PM.

The most prominent program of this nature in the Navy was the ballistic missile program which developed the Polaris missile. A "Special Projects Office" was created in November 1955 to develop the sea-going version of the 1,500-nautical mile intermediate range missile that the Army was tasked to beget. Its scope was expanded in December 1956 to encompass the entire Navy ballistic missile program. The office was headed by Rear Admiral William F. Raborn, who had been granted extraordinary authority by the Chief of Naval Operations. The Special Projects Office directed "the diverse aspects of the development program, including the effort of the Navy bureaus and offices, field activities, and private contractors." It reported directly to the Navy Ballistic Missiles Committee, which was chaired by the Secretary of the Navy. Its staff included about 400 personnel at the headquarters, 500 stationed at major contractors' plants, and another 500 at the Navy Weapons Annex in Charleston, South Carolina. They exercised control over approximately 450 prime contractors and thousands of subcontractors.

Admiral Raborn's management plan was highly praised and copied by other government agencies and by segments of industry. It permitted a relatively small staff to execute an integrated and balanced program. The plan provided a complete information system for program evaluation, forecasts, alternative decisions, and planning and programming. Furthermore, it provided a basis for presentations to higher echelons on the plans, status, and outlook for any selected aspect of the program, and gave the chief of each responsible agency

or office and each contractor an understanding of his specific assigned responsibilities in relation to the total program.[4]

Project management in the Air Force had also begun with the ballistic missile program. It had started in the 1950s as the Western Development Division (later renamed the Ballistic Missile Division) of the Air Research and Development Command. It developed by the 1960s to where the Air Force Systems Command had a systems office with a manager for each major weapon system.

> The managers used the Program Evaluation Review Technique and milestone markers, which was a checklist of events that had to occur before the weapon system was completed. On all priority projects, there was a "red line" running directly from the project officer to the Chief of Staff and the Secretary of the Air Force. After spotting trouble in the field, the project officer determined whether it was serious enough to be "red-lined." The Secretary of the Air Force made the final decisions on all such problems, and he often received guidance from the Secretary of Defense. The entire management system was designed to assure a standardized and coordinated approach among all members of the management team.[5]

There were also examples of project management within the Army prior to the formation of AMC. An early example in the 1940s was the Manhattan Project, which had developed the atomic bomb.[6] Closer to the formation of AMC, and similar to the experience of the other two Services, was the adoption of special management procedures for the Army ballistic missile program. The Army Ballistic Missile Agency (ABMA) was formed in 1955 to oversee the Jupiter missile program,

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[4] The Navy's Special Projects Office is discussed in Raymond J. Snodgrass, *The Concept of Project Management*, NO. 1, AMC HISTORICAL STUDIES (Washington, DC, 1964), pp. 44-52. In general, see this work for a detailed discussion of the PM concept prior to its adoption by AMC.

[5] Ibid., pp. 60-66.

[6] The Manhattan Project is discussed as a precursor of project management in ibid, pp. 37-44. For a more detailed study of the Manhattan Project, see Vincent C. Jones, *Manhattan: The Army and the Atomic Bomb* (Center for Military History, 1985).

begun as an Army-Navy effort to develop an intermediate-range (1,500 nautical miles) ballistic missile. Although under the jurisdiction of the Chief of Ordnance, the agency had unusual authority over personnel, funds, and the overall operations of the Army's ballistic missile program. Reporting initially to a Joint Army Navy Ballistic Missile Committee (JANBMC), after Navy's withdrawal to pursue a solid fuel missile with a shorter configuration ABMA Commander MG John B. Medaris reported to an Army Ballistic Missile Committee (ABMC) chaired by the Secretary of the Army. General Medaris' special delegated powers and direct access to the highest levels of the Army continued after the Army Ordnance Missile Command was established in 1958. Until 1960, General Medaris had authority to issue instructions to any Army agency when needed for the discharge of his responsibility, direct access to the Chief of Staff, the ability to issue contracts and appoint his own contracting officials, the authority to direct other Army installations to assist in the timely completion of contracts on a cost reimbursable basis, the authority to deviate from Army and Armed Services Procurement Regulations, and the authority to approve the award of contracts without regard to any monetary limit (but subject to the availability of funds).

General Medaris also organized his staff in an unusual manner. In order to expedite coordination, he brought experts from the various technical services and other Army agencies directly onto his staff. From a standing start, but building on a nucleus of 1,600 Ordnance personnel who comprised the Guided Missile Development Division (GMDD) at Redstone Arsenal, the ABMA grew to nearly 3,000 civilians and over 500 military personnel in little more than six months.[7]

In addition to the ballistic missile program, other examples of project management occurred within the Army's technical services prior to the 1962 creation of AMC, which melded the resources of the technical services as they related to materiel development, acquisition, supply, and sustainment. These examples of project management came about in 1961 within the Ordnance, Chemical, and Transportation

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[7] For the Army Ballistic Missile Agency and the Jupiter, see Snodgrass, *The Concept of Project Management*, pp. 52-60, and James M Grimwood and Frances Strowd, *History of the Jupiter Missile System* (U.S. Army Ordnance Missile Command, 27 July 1962).

Corps, the latter being headed by LTG Besson, the future first commander of AMC.[8]

This new stage in the development of project management within the Army was prompted by newly-appointed Secretary of Defense Robert S. McNamara. Department of the Army assigned project managers to nine programs: the HO-4 and HO-5 Light Observation Helicopters (a program which shortly thereafter was replaced on the project management list by the Mohawk Combat Surveillance Aircraft), the Universal Integrated Communications System (UNICOM), the ADVENT Communications Satellite, the AN-USD-5 Medium-Long Surveillance Drone System, the M60 Main Battle Tank and modification of the M48A1 Tank, the T-114 Command and Reconnaissance Vehicle, the Sheridan/Shillelagh Armored Combat Vehicle Weapon System, the M-14 rifle, and selected ammunition. The PMs for these programs, colonels, remained within the technical service responsible for the system, although the Secretary of Defense stated that he wanted to be kept informed of who the project managers were so that he could call them directly when he needed information. These project managers were

> responsible for planning, directing, and controlling the work and associated resources involved in providing a weapon system to combat units or to its intended operational destination. This included all phases of development, procurement, production, distribution, and support of a balanced program to insure that delivery and employment schedules were met. The manager's duties involved the exercising of continuing monitorship over all project funds related to RDT&E [Research, Development, Test and Evaluation], PEMA [Procurement of Equipment and Missiles, Army], and Army Stock Fund, military construction, and portions of O&MA [Operations and Maintenance, Army] funds. In addition to the usual responsibilities of evaluating progress and insuring that quality standards were met, the project manager in the technical services was the focal point for resolution of problems related to his project among the military departments. Within his delegated authority, he called upon the representatives from the DCSLOG [Deputy Chief of Staff for Logistics], DCSOPS [Deputy Chief of Staff for

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[8] See ibid, pp. 67-88.

> Operations], OCRD [the Office of the Chief of Research and Development], and CONARC [Continental Army Command], as well as from the other technical services for the actions required to meet effectively the established objectives for the weapon system, and he could request participation of other Department of Defense agencies as might be appropriate, through the Office of the Secretary of the Army.[9]

With this use of project management within DOD, and with the increased emphasis upon it by the Secretary of Defense, it was not surprising that AMC would utilize this concept. The likelihood of this was further strengthened by the fact that the Hoelscher Report, which led to the creation of AMC, had been favorable towards the introduction of project management, although it had not specifically required it.[10]

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[9] Ibid, pp. 89-95.

[10] For the Hoelscher Report and PM Management, see ibid, pp. 108-111. For a general discussion of the Hoelscher Report and the creation of AMC, see *Arsenal For The Brave*, pp. 10-11.

THE BESSON YEARS

(1 August 1962 - 9 March 1969)

Planning for how AMC would function after it was created was the responsibility of the U.S. Army Materiel Development and Logistics Command (MDLC) Planning Group chaired by General Besson. It developed a plan for the use of project management within AMC which was implemented with the founding of AMC.[11] General Besson described the process and thinking that had gone into his decision to use project management on a wide number of systems and to delegate a high degree of authority to each PM.

> But anyhow, when I was given the job of establishing the Army Materiel Command I made a point of going and visiting the top management of the Air Force, visiting Red Raborn and the Polaris, going down in to see how their Project Manager systems operated, and I decided that what I wanted to do in the Army Materiel Command was to establish the breadth of coverage of the Air Force SPO [Special Projects Office] System. They had quite a number of SPOs, but gave each of them a substantial measure of the line item responsibility that was vested in Red Raborn, who was the head of the Polaris program. I felt this was important for me to do for several reasons. One, I believe in giving a man a job and getting him the authority and responsibility to get it done. Also, I felt that there was a major opportunity for significant programs to fall through the cracks during the period of time that you were transferring from the old tech service controls into the Army Materiel Command. There were literally thousands of people in Washington that were going to be moved into different assignments and working under different command channel structures. . . . So I felt that it was important for two reasons to do this. One, because I believed in this management concept and secondly, because I felt that it was insurance. It had to be done on a pretty broad scale immediately in order to make sure that the major

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[11] *Arsenal For The Brave*, pp. 11-17. In general, see *Arsenal for the Brave* for a more detailed discussion of the PM program during the period when General Besson commanded AMC.

programs did not suffer from the disorganization that is inherent in a major structural change.[12]

When AMC was activated on 1 August 1962, 30 systems had been selected for project management (see Appendix 1). By December 1968 the number had grown to more than 60. Some project managers reported directly to General Besson while others reported to the Commanding General of a commodity command. Even in the latter case, however, the PMs were connected to General Besson through a "red-line" authorization to go directly to him without first going through channels. It was anticipated that this authority would be used sparingly. All the AMC project managers were appointed by the Commander of AMC, were authorized to speak for General Besson on the project they managed, and were authorized to deal directly with other elements of AMC and the Army. Although the project manager could utilize the support of the AMC staffs, he was not under the control of the staff. He was in control of the funding for his project, and once that money was given to him it could not be diverted away for other projects. Moreover, he could use those funds to purchase support from in-house laboratories, installations, and contractors.

Most PM programs were directed towards the research and development of complex new weapon systems, but AMC at times used the PM structure for different purposes. Thus Project Deseret was established with a PM structure for the triservice testing of chemical and biological weapon systems, Flat-Top was established to operate a Floating Aircraft Maintenance Facility (FAMF) in Southeast Asia, and the PM for Generators also served as the Project Office for Non-Tactical Generators for Southeast Asia.[13]

Although the PMs were not under the direct supervision of the HQ AMC functional staffs, they were under the personal supervision of General Besson. Each week they prepared a weekly significant action report for General Besson. LTG William B. Bunker, AMC's Deputy Commanding General from April 1964 to June 1969, noted that the "greatest value of project management to the Commander is that it is an effective way to know and control what is going on." He told the

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[12] AMC, *Oral History Program Former Commanders: Frank J. Besson, Jr., General U.S. Army, Commander 8 May 62 - 9 Mar 69* (USAMC, 1986), pp. 8-9.

[13] *Arsenal for the Brave*, pp. 55-65.

PMs that these weekly reports, which were generally one and only very rarely more than two pages in length, were the primary medium for keeping the Commander informed.

> They are read carefully and are regarded as personal communications to the Commanding General, Army Materiel Command. Each of you should bring to our attention through these reports, actual or potential problems, and/or actions, which are truly important to the success of your project.[14]

General Besson described how he used these weekly reports.

> As all Project Managers know, very infrequently did the report come back without some scribbling of mine on it wanting further information or raising questions. I felt that I had to make time to keep track of the progress on these things. Their reports were not staffed by my headquarters. They were furnished for information purposes and anyone could raise a question to me, but they couldn't raise a question to the Project Manager unless there's something in there where they could be helpful, they could work out with him. But they did not go through my people for direct staffing action back to the Project Manager.[15]

Although the PMs were not directly supervised or tasked by the HQ staff, they were not left with only the personal direction of General Besson for guidance. General Besson noted that he had instructed his staff not to "bury" the PMs with regulations. Nevertheless, the

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[14] Ltr, AMC Deputy Commanding General to ALL PROJECT/PRODUCT MANAGERS, subj: Weekly Significant Action Reports, 15 Nov 1968.

[15] AMC, *OHP, Frank J. Besson, Jr.*, p. 10. A description of how General Besson handled these weekly "flash" reports can also be found in an AMC interview with Mrs. Sarah W. Clements, who was the Office of Project Management's Assistant Chief from 1964 to 1975. See AMC, *Oral History Program: Sarah W. Clements., Assistant Chief, Office of Project Management, US Army Materiel Command (1964-1975), Deputy for Materiel Acquisition Management, Office of Assistant Secretary of the Army for Research, Development and Acquisition (1975-1981)* (USAMC, 1989), p. 12 (hereafter cited as *OHP, Sarah W. Clements*).

regulatory guidance for PMs, which had started as only "one thin sheet of paper," had developed by the end of General Besson's administration into what he described as a "staggering" number of regulations, including DOD Directive (DODD) 5010.14 (System/Project Management), AR 70-17 (Research and Development: System/Project Management), and the three-volume AMC Regulation 11-16 (Army Programs: Project Management).[16]

General Besson protested vigorously but with no success against a provision of AR 70-17 which required the Secretary of the Army to approve and sign PM charters.

> This puts the Army staff - you and General Lincoln - right in the middle of my project manager business. Why should you be? What is wrong with the way AMC is doing the job now?
>
> In my opinion DA should get into charters and other details of management of specific projects only when the authorities given the Project Manager extend beyond one major Army Subordinate Command.[17]

Another area in which General Besson was unsuccessful, but which foreshadowed the future evolution of the PM program, was his effort to establish a PM career field. He asked DCSPER (Deputy Chief of Staff for Personnel) to establish a career development program in 1962, but the Office of Personnel Operations "balked at a separate career program for the military, stating that we should select the required personnel from other existing programs." General Besson did, however, make some progress in this area. At Headquarters, Department of Army (HQDA) initiative, however, such a program was established for

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[16] *OHP, Frank J. Besson, Jr.,* pp. 24, 29.

[17] Ltr, GEN Besson to LTG William W. Dick, Jr., Chief Research and Development, 9 Aug 1965. After the requirement was implemented, AMC objected that the time it took to process a charter through the Office of the Secretary of the Army was excessive, and that this delay, together with the requirement that even emergency TDAs for PM Offices be processed through Army channels, hampered the operation of newly established PM offices. See Special Assistant for Project Management Annual Historical Summary for FY67 and ltr, AMC Deputy Commanding General to the Chief of Staff, US Army, subj: Interpretation of AR 70-17, System/Project Management, 2 Oct 1967.

civilian PM staff personnel in 1963, and by the mid-1960s approval was obtained for a Military Occupational Specialty (MOS) designator for uniformed PM personnel.[18]

In the absence of any formal career program, however, PM's were selected in a relatively informal manner. AMC's Office of the Special Assistant for Project Management would screen the files of outstanding Army officers, relying upon personnel of the Army's Office of Personnel Operations to guide them to the proper files. The final selection was made in the Command Section, and for much of this period it was made by AMC's Deputy Commanding General, Lieutenant General Bunker.[19]

A history of AMC under General Besson summed up AMC's experience with PMs during General Besson's administration.

> The basic direction and objective of AMC project management were clear. In effect, General Besson was the "project manager." The AMC concept brought management information and decision making close to top level. Even those who were somewhat skeptical of the concept agreed that it had, in many instances, succeeded in bringing problems to the attention of the Commanding General and his staff quickly and forcefully. Enthusiastic supporters claimed much for the concept.[20]

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[18] *OHP, Frank J. Besson, Jr.,* pp 25-26. For the establishment of the civilian career program, see Report Prepared by the Office of the Special Assistant for Project Management, 27 Nov 1968, part 2.

[19] *OHP, Sarah W. Clements.,* p. 7.

[20] *Arsenal for the Brave,* p 65.

RETRENCHMENT, CONTROL, AND PERSONNEL DEVELOPMENT PART I, 1969-1975

The two Commanding Generals who followed General Besson, GENs Ferdinand J. Chesarek and Henry A. Miley, Jr., displayed less fondness for PM management than had General Besson, and their administrations both followed the same approach towards the PM program. The period from 1969 to 1975 saw firm efforts to limit the extent to which project management was used within AMC and to standardize both the internal organization and the reporting procedures of the PM programs. It also saw increased influence over the PM programs by MSC commanders and the HQ AMC functional staffs. Still another major feature of this period was an effort to develop and regularize a PM personnel program.

GENERAL CHESAREK (10 March 1969 - 31 October 1970)

Although General Chesarek served as AMC Commander for only a relatively brief period, 10 March 1969 to 31 October 1970, his tenure saw some significant changes made to AMC's PM program. Driving these changes were General Chesarek's desire for a more orderly and sparing use of PMs in AMC and, perhaps even more important, a perception in DOD and Congress that the PM program and the DOD acquisition system in general needed to be reformed.

LTG Miley, as General Chesarek's Deputy Commanding General and his future successor as AMC's Commanding General, described the deterioration in the public perception of AMC's weapon system acquisition process:

> But then as 1968 wore on and TET [sic] came and went small dark clouds appeared in the Weapons System sky.
>
> The combustible cartridge case problem stacked up the Sheridans. We halted the M60A1E2 tank production and stacked them up. The 5-ton multi-fuel engine crisis developed. LANCE and Vulcan/Chaparral gave us cause for concern. I won't recite the whole history but by mid-winter 1969 we knew that we were in a peck of trouble.
>
> As we went to the Hill with the 1970 Budget we found Congress in a different and difficult mood. During the Spring two devastating things happened. Congressman Stratton's Subcommittee conducted their investigation into the Sheridan and

associated matters and we terminated the Cheyenne production contract.[21]

One of the comments in that subcommittee's final report had been that "the single project manager concept as presently employed should be eliminated."[22] It was in this context, the context of what General Chesarek called "this terrible period of public concern, even distrust, congressional anger, and again distrust," that the first major overhaul of AMC's PM system took place.[23]

General Chesarek began his overhaul of the PM system by reducing the numbers of PMs and by altering their reporting channels. The total number of PMs in AMC had steadily increased under General Besson.[24] It reached a high of 68 active PM programs a few weeks after the departure of General Besson, with the establishment of the Teletypewriters Product Management Office on 31 March 1969.[25]

Reflecting on this situation some 15 years later, General Chesarek overestimated the number of PMs that reported to the CG, AMC but undoubtedly accurately portrayed his reaction to it.

> There were over a hundred project managers, as I recall, at that time, which were established, each of which, at least theoretically, reporting to the commanding general. But by the nature of a project manager, it was important that he advise the commander basically on a weekly basis as to where his project was, what he was doing, and what he needed in order to accommodate a mission, and so forth. Well, this is incredible. You know there aren't enough hours in the day to do this if you're going to be serious about it; and I don't see any--or didn't see any--reason to have them if I weren't going to be

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[21] Address by LTG Miley to the PM Conference, 19 Feb 1970, in DLSIE [Defense Logistics Studies Information Exchange] microfiche: AMC PROMAP-Project/Product Managers Orientation, Part II, Presentations, etc., DLSIE microfiche LD 25546A.

[22] Ibid.

[23] Presentation by General Chesarek to the Procurement Class at ALMC, 28 Jul 1969, in AMC Archives, Speeches, Chesarek, Tab H.

[24] AMC Historical Summary, FY70, p. 55.

[25] Ibid, pp. 55-56.

> really serious about it. So, I changed that. I think we ended up with thirty or so, and most of the others were assigned to the various commodity commands, which is another element of this command.[26]

In fact, General Chesarek had been aware of concern over this issue by the Army's top management even before he actually took over as AMC Commander.

> Before I took command of AMC, the Secretary called me one day and said, ["]you know, I am under increasing query from Defense and others with respect to the methodology of project management in AMC.["] He said at that time, I think we had 68 project managers, and this seemed to the senior people to be excessive. I was the Assistant Vice Chief of Staff at the time, and he asked me to check into this and find out how the command and control apparatus was functioning. [W]ere all these people in truth reporting to General Besson and if so how in the world could he control not only these, but his commodity commanders, his depots, and everything else that he had in AMC.[27]

After assuming command of AMC, General Chesarek ordered a study and found that 191 people reported directly to the CG.[28]

General Chesarek responded to what he considered to be an unduly large span of control by taking steps to reduce the number of PM-managed programs. Three project management offices were terminated in the remaining months of FY69, and 23 were terminated in FY70, a year which for the first time in AMC's history saw no new PM program

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[26] AMC, *Oral History Program Former Commanders: Ferdinand J. Chesarek, General U.S. Army (Retired), Commander 10 Mar 69-31 Oct 70* (USAMC, 1986) pp. 1-2 (hereafter cited as *OHP, Ferdinand J. Chesarek*).

[27] Presentation by General Chesarek, CG, AMC, to the Procurement Class at ALMC, 28 Jul 1969, in AMC Archives, Speeches, Chesarek, Tab H.

[28] Ibid.

initiated.[29] AMC had a total of only 43 PM programs by the end of FY70 and by the close of FY71 the total was down to 41.[30]

Since this contraction of the PM program required that the mind set and normal mode of operations in AMC be changed, it required firm managerial control to be successful. LTC (later LTG) Robert L. Bergquist, then serving as Special Assistant for Project Management, in the course of an 11 September 1969 briefing recounted the progress of the PM scale-down. He noted that the initial review had recommended that 67 PM-managed programs be changed by consolidation and termination into a total of 49 PM-managed programs. When this recommendation was reviewed by the MSCs, they recommended that five of the ten programs slated for termination be retained. In addition, there were plans at the MSCs to create new PM programs by rolling several similar programs together so that they would meet the $100 million PEMA threshold for PM-managed programs. This would have resulted in some 75 to 80 PM-managed programs. When briefed on this, however, General Chesarek again directed that the number of PM-managed programs be reduced, rather than increased.[31]

As a result, the recommendation of the initial review to eliminate 18 PM programs was followed. Ten programs went from project management to direct management by the appropriate commodity commands, and another eight PM programs were consolidated with eight other, similar programs. The ten programs which were no longer project managed were Flat Top, M-113 Italy Co-Production, M107/M-110 Artillery, Amphibians and Watercraft, Mortar Ammunition, Multifuel Engines, Rifles, GOER Vehicles, Sergeant, and Artillery Ammunition. The consolidated programs were Mallard and Random Access Discrete Address (RADA); Special Warfare and Special Mission Operations; Manned Aerial Vehicle for Surveillance and Mohawk; Utility Tactical Transport Aircraft System (UTTAS) and Iroquois; Air Traffic Management and Position and Navigation Systems; Selected Priority Operations and TPQ-28; Air Defense Control and Coordination and Target Missile; and Army Area Communications

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[29] AMC Historical Summary, FY70, pp. 56-57.

[30] Ibid, FY71, pp. 47.

[31] Briefing by LTC Bergquist at WECOM, 11 Sep 69, in AMC, PROMAP-Project/Product Managers Orientation, Part II, Presentations, etc, DLSIE LD 25546A.

System (AACOMS), Tactical Automatic Switching (TAS), Teletypewriter and Communications Security (COMSEC).[32]

As General Chesarek noted in his interview, he was concerned not only about the absolute number of PMs but also about the number of PMs who reported to him. Accordingly, he decentralized the PM program by reassigning most of the PMs from headquarters AMC to his MSCs. While 20 PMs had reported directly to the AMC Commander at the end of 1968, by the end of FY70 only eight PM programs, those with joint, international, or multi-command relationships, reported directly to him. Those were the Main Battle Tank, Mallard, Mobile Electric Power, SATCOM, Special Mission Operations, SEA NITEOPS, STARCOM, and Chaparral/Vulcan.[33]

He also eliminated the "Thru-To" concept by which PMs assigned to commodity commands had reported through the commodity commander to General Besson. Instead they were to report directly to the Commodity Commanders, and those commanders were to be "fully responsible for the performance of Project Managers reporting to them."[34] General Chesarek also directed a change in the physical location of many PM Offices. The primary justification cited in support of this relocation was the placement of the PM near his supporting technical base.

> In the past, 23 PMs were located in the Washington area and reported direct to the CG, AMC. As such, they were over-identified with the program and funding aspects of their projects. In order to balance these with the technical aspects, all have been moved or are in the process of moving the physical site of their technical base.[35]

By mid-1971, after General Chesarek's reforms had taken effect and been continued by his successor, General Miley, AMC had reduced its

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[32] AMC Historical Summary, FY69, p. 72.

[33] AMC Project/Product Managers list, 31 Dec 1968 and AMC Historical Summary, FY70, p. 59.

[34] Ltr, Commander AMC to CG, US Army Aviation Systems Command, *et al.*, subj: AMC Project Manager Guidance, 27 Aug 1969.

[35] Memorandum for Deputy Commanding General for Materiel Acquisition, subj: Significant Accomplishments in Project Management - FY70, 17 Jul 1970.

number of PM programs from 68 to 41, had reduced the percentage of its research and procurement funds controlled by PMs from 55 percent to 30 percent, had reduced the number of PMs stationed in the Washington, DC area from 23 to four, and had reduced the number of PMs reporting to the CG AMC from all PMs to six.[36]

These organizational changes necessitated a series of policy statements to clarify both the continuing authority of PMs over their programs and the authority of the commodity command commanders over their PMs. The tone of these statements indicated that there had been confusion over, and probably dissatisfaction with, these changes. At a Project Manager Conference held on 20 February 1970, General Chesarek stated:

> Once and for all, I would like to clarify what the project manager and the commodity commander do with each other, to each other, and by each other. I'm sure this has been the subject of considerable debate, but, to me it's a very clean thing.
>
> This is not philosophy but directive. The project manager is the manager of the program. He has fund control; and he is responsible for cost performance and schedule.
>
> The commodity commander is the boss of his stable of project managers, and the things that he manages by other means also. He has assets: laboratories; technicians; lawyers.
>
> Now obviously, in an era of shrinking resources, I could not hope to staff each project manager fully nor would this be done in any event, because it's contrary to the theory of project management which draws on the functional expertise wherever it may be. So the commodity commanders' job is to provide assistance, as required, to assure appropriate responsiveness from other commodity commands supporting the program and to review periodically the work of his project managers.[37]

AMC's Deputy Commanding General for Materiel Acquisition, MG Paul A. Feyereisen, made similar points at that same PM conference,

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[36] Briefing charts, Trends in AMC Project Management for FY71, June 1971.

[37] General Chesarek, Project Manager Conference, 20 Feb 1970, in AMC, PROMAP-Project/Product Managers Orientation, Part II, Presentations, etc., DLSIE LD 25546A.

although he tied it more directly to specific policy statements and to the delegation of authority by the AMC CG. He noted that PMs, even those now reporting to commodity commands, still had the full authority of the CG, AMC, although it was delegated to them through the Commander of the Commodity Command. "It does not relieve the Commodity Commander of that full responsibility, but, in turn, that full responsibility and authority is passed by him to the Project Manager." He too indicated that there had been some problems in getting AMC accustomed to this mode of managing project managers. "These policies have been written for months, and if there is any problem in a Commodity Command then let's certainly get it cleared up during this conference."[38]

MG Feyereisen had made similar points about a month earlier when he told a class at the Defense Weapon Systems Management Center that "I must make it clear that, even though they report to a commodity commander, these project managers still carry the line authority of the Commanding General, Army Materiel Command, as redelegated to them by the CG of the Commodity Command. They can go any place and direct any action in the Army Materiel Command to accomplish their assigned and chartered missions."[39]

In general, MG Feyereisen argued that these changes actually enhanced project management within AMC.

> Recent adjustments in project management within AMC have precipitated some speculation that this management technique is being de-emphasized within the Army and AMC. Such speculation is unfounded. It is General Chesarek's intent to continue and, in fact, strengthen project management. For example, some of the manpower spaces which are being made available as a result of disestablishment or combination will be used within the commodity commands for project management offices or to strengthen elements of the commodity commands which support project managers. The CG AMC has indicated on numerous occasions his desire to perpetuate project management as a valuable career training vehicle. Those who

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[38] Major General Feyereisen, Project Manager Conference, 20 Feb 1970, in ibid.

[39] Major General Feyereisen, to DWSMC class 70-A, 15 Jan 1970, in ibid.

perform well in such an assignment will form a base for future commodity command and top logistic assignments.[40]

The redefinition of the authority of and over PMs in the new PM management structure mandated by General Chesarek also extended to the relationship of the PMs to the functional staffs. General Chesarek explained that the PMs were still to remain outside of the jurisdiction of the functional staffs at the Commodity Commands.

> Now, the Commodity Commander's functional chiefs are in a supporting role to the commodity commander. They have no authority of any kind over the project manger. In other words, I'm saying you have one boss. He is the commodity commander; except for those that are managed by me."[41]

Major General Feyereisen made the same point even more explicitly.

> About the relationship with staff functionals, to include a Chief of Staff of a Commodity Command, for example, there is no reporting by the PM to a Chief of Staff or functional director. I think it is clear that Commodity Commanders must make themselves easily available to the project manager. I think this is done universally, but I highlight it because it is very important to the proper execution of the PM concept. On the other hand, if the PMs don't use the functionals in the Commodity Commands--or wherever they exist--the PMs are their own worst enemy.[42]

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[40] Ltr, MG Feyereisen to CG AVSCOM, *et al*, subj: AMC Project Management Guidance, 25 Sep 1969, in AMC, PROMAP -- Project/Product Managers Orientation, Part I, Policy and Procedure, DLSIE LD 25546.

[41] General Chesarek, Project Manager Conference, 20 Feb 1970, in AMC, PROMAP-Project/Product Managers Orientation, Part II, Presentations, etc., DLSIE LD 25546A.

[42] Major General Feyereisen, Project Manager Conference, 20 Feb 1970, in ibid.

Although the PMs were still to be insulated from the staffs at the Commodity Commands, it was clear that General Chesarek considered the mission of the AMC staff to encompass PM-managed programs.

> I have functional directors too, the AMC staff. And they're principally concerned with the balance of the various project managed items as well as others. They have to be in a position to adjust money, staffs, and other assets as required by changing priorities. And priorities are constantly changing.[43]

> Integral to the decentralized concept is the need to keep Headquarters AMC elements fully informed. My Deputies and Directors are expected to become involved in all PM problems needing the support of or decision at this or higher levels.[44]

General Chesarek's reorganization of the HQ AMC staff also impacted the PM program, especially through the actions of General Feyereisen. In August 1969, General Feyereisen was appointed to the position of AMC's Deputy Commanding General for Materiel Acquisition, a position created by General Chesarek in July 1969 as part of a general reorganization of headquarters AMC. That position was responsible for the research, engineering, procurement, production, materiel requirements, logistics data management, and industrial base functions.[45] In that position, General Feyereisen noted that he shared with the Commanding General the responsibility for PM programs. He had, in fact, a strong background in the PM program, "having grown up with the concept." He had served on the study group which had envisioned project management as a significant part of the management of the reorganized army in 1962. While serving as both a Deputy and

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[43] General Chesarek, Project Manager Conference, 20 Feb 1970, in ibid.

[44] Ltr, AMC Commander to Commanding General, Aviation Systems Command, *et al.*, subj: AMC Project Manager Guidance, 27 Aug 1969. See also the DF from the Deputy Chief of Staff to Distribution A, subj: Administrative Procedures for Correspondence Relating to Project Management, 7 Nov 1969.

[45] AMC Historical Office Key Executive File and "Army Materiel Command Undergoing Reorganization," *Defense Industry Bulletin*, V (Aug 1969), 25.

Acting Chief of Staff in AMC he had seen the concept develop and he had himself served as a PM.[46]

In late September 1969 he notified the MSC Commanders and PMs that he would visit each PM office within the next three months, after first spending about a half day with the MSC's Commanding General. The purpose of these visits was to

> review, in depth, the capability of each PM to accomplish his mission. Professional qualifications of all key individuals, training programs (past year and future), management information systems and relationship with participating and supporting agencies will be primary subjects addressed.[47]

These visits became an annual affair under LTG Feyereisen. They resulted in a formal report to the project manager and the submission by the PM of a "get well" plan for areas in which he had been found to be weak.[48] Besides locating individual weak points, these visits also reviewed the main areas in which further efforts would be made to improve the PM program systematically during General Chesarek's command: qualifications, training, management information system, and relations with support activities. Before the specifics of these improvements can be discussed, however, mention must be made of PROMAP-70 (Program for Refinement of the Materiel Acquisition Process) because many of the improvements to the PM program were included within the PROMAP-70 umbrella program.

PROMAP-70 had originated in the dissatisfaction, noted earlier, of DOD officials in the way the military ran its acquisition and

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[46] Major General Feyereisen, to DWSMC class 70-A, 15 Jan 1970, in AMC, PROMAP-Project/Product Managers Orientation, Part II, Presentations, etc., DLSIE LD 25546A. He had served from 1967 to mid-1969 as the PM of the Mallard Project, an international and joint service tactical communications system. See AMC Historical Summary, FY67, pp. 246-48 and ibid, FY69, pp. 97-99.

[47] Ltr from MG Feyereisen to CG, Aviation Systems Command, *et al*, subj: AMC Project Management Guidance, 25 September 1969, AMC, PROMAP-Project/Product Managers Orientation, Part I, Policy and Procedure, DLSIE LD 25546.

[48] Ltr, Deputy Commanding General for Materiel Acquisition to the Deputy Chief of Research and Development, subj: Chief of Staff Decisions Concerning Project Management, 1 Feb 1971.

development programs. One of the most influential holders of this perception was Deputy Secretary of Defense David Packard. In an August 1971 speech he stated what his perception had been in 1969. "Two and a half years ago we had only a few programs that were going the way they should. Often I would go to a briefing on the status of a project and was completely disgusted with what I heard."[49] Among the actions he took to improve the situation was the issuance in July 1969 of a memorandum to the Service Secretaries which placed emphasis upon five aspects of weapon system acquisition:

1 Excessive optimism in cost estimates
2 Control of changes in ongoing programs
3 Comprehensive assessment of risk prior to system development
4 Use of competitive prototypes in development, and
5 Excessive concurrency in development, test, and production.

Following a reply by the Secretary of the Army that incorporated a 16-point Weapon System Acquisition Improvement Program, AMC was tasked with most of the proposed improvements. That task was given the name of PROMAP-70, and it came to incorporate various proposed improvements started prior to the formal initiation of PROMAP-70. Many of the problem areas, and the improvements made to them, were of major significance to the operations of PM programs. Obviously, changing the ways in which equipment was tested, priced, and competed had a major impact upon the day-to-day functioning of PM programs. The only PROMAP-70 topics discussed in this study, however, are those which directly impacted the structure and nature of the PM program itself, not those which instead impacted upon the techniques used by the PM programs.[50]

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[49] Quoted in James R. Patterson, Jr., "The Current Focus on Acquisition Management," Study Project Report, Individual Study Program, Defense System Management School, Program Management Course, Nov 1973, DLSIE LD 35061A.

[50] AMC, PROMAP-70 Final Report, Jan 1971, Introduction, p. 1, DLSIE LD 26039 and Address by General Chesarek to the Armed Forces Staff College, 27 Aug 1970, AMC Archives, Speeches, Chesarek, Tab AI. For more on PROMAP-70, see an AMC draft special study by Herbert Leventhal, "Reforming the Acquisition Process in the Army Materiel Command: PROMAP-70."

Two of the early moves made by General Chesarek were to upgrade the requirements for the selection of PMs and to stabilize the tours of duty of PMs. He initiated these actions on 19 June 1969 with a briefing to the Vice Chief of Staff of the Army (VCSA).[51] This resulted in a VCSA tasking to the Deputy Chief of Staff for Personnel (DCSPER) to study ways to upgrade the personnel being assigned to AMC as PMs. The study, which was completed in November 1969, found that high quality personnel were in fact being assigned to AMC to serve as PMs but it did turn up problems in several other areas concerning the assignment of PMs.

One significant problem was that the tenure of serving PMs was too short. From 1962 to 1969, only 32 PMs had served for three years or more, 29 had served for two years, and 69 had served for fewer than two years. Of the 98 who served fewer than three years, 30 had retired and 59 had been reassigned, including five who had been selected for attendance at senior service colleges and six who had been promoted to general office rank. The study recommended that more emphasis be put upon selecting PMs who had a high potential for completing a full three-year tour. Another problem noted by the DCSPER study was that the criteria used for the selection, assignment, and management of PMs had not been documented by the Office of Personnel Operations (OPO).

Following the study, DCSPER established a series of operating instructions to be used by OPO in selecting and assigning PMs to AMC. These included provisions that AMC was to exercise final selection authority over personnel nominated to be PMs and that "by name" requests from AMC were to be acted upon favorably. They also established criteria for selecting primary candidates for PM positions. The candidates were to:

* be college graduates, preferably with a degree in engineering, science, or mathematics
* have a graduate degree in business or a related technical field
* be a Senior Service College graduate
* have commanded a troop unit commensurate with their grade

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[51] Unless otherwise noted, information on these topics are taken from AMC, PROMAP-70 Final Report, pp 27-30, DLSIE LD 26039.

* possess a record of demonstrated outstanding performance and leadership and have a high potential for advancement to General Officer rank
* have a service obligation incurred as the result of some other personnel action
* not be within three years of mandatory retirement

Candidates with lesser qualifications were to be considered only if AMC requested them by name or if no other candidates were available. The operating instructions provided for personnel action to defer both attendance at Senior Staff College and involuntary retirement when requested by AMC. They also required full coordination with AMC (including the provision of an acceptable replacement) before any personnel action was taken to reassign a PM.

In December 1969, HQ AMC started sending forecasted PM requirements to OPO 18 months in advance of the date required. This afforded OPO time to identify candidates, nominate them to AMC for approval, and schedule them for any required training.

In the same month, AMC recommended to DCSPER a set of qualifications for the selection and assignment of field grade officers to PM staff positions. These recommendations were approved by DCSPER and given to OPO for implementation on 30 January 1970.

In order to establish a career path for junior officers to become PMs, DCSPER requested AMC in 1970 to survey its captain, major, and lieutenant colonel positions in order to identify those most suited for providing the types of experiences required to develop future project managers.[52] A list of 597 such positions was sent to DCSPER on 5 August 1970, and DCSPER replied that it was developing administrative procedures to "identify prospective PMs, assign them to developmental positions, maintain readily retrievable historical assignment data on such officers and schedule special training to fill education gaps."

Concurrently with this stress on properly trained personnel for PM staff positions, AMC, as part of PROMAP-70, made extensive additions and modifications to its existing courses for materiel acquisition personnel. Although not specifically limited to PM personnel, many of

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[52] That the tasking for this came from DCSPER is noted in AMC-R 614-3, Personnel--General: Development of Project Managers, 27 Jul 1971, para 3.

TABLE I--Prerequisites for PM Staff Officers and PMs, 1970

Prerequisites	Rank			
	MAJ	LTC	COL	PM
Civilian Education				
BS/BA (Preferably in Engineering, Science, or Math)	R	R	R	R
MS/MBA	D	D	D	D
Military Education				
Career Course	R	R	R	R
Cmd & General Staff College	D	R	R	R
Senior Service College	N/A	D	R	R
Military Experience				
Outstanding Performance Record	R	R	R	R
Potential to Become a GO	R	R	R	R
Materiel Acquisition Experience	D	D	R	R
Special Career Prog. Membership	D	D	R	R

Code: R = Required, D = Desired

Source: PROMAP-70 Final Report, Jan. 1971, p. 29.

these courses were undoubtedly taken by PM personnel and by the functional staff which supported PMs. Twelve new AMC courses were developed as part of PROMAP-70. The new courses at the Army Management Engineering Training Agency (AMETA) included Configuration Management (1 week), Managing with Contractor Performance Measurement Data (2 weeks), Systems Engineering Techniques (2 weeks), Numerical Control Part Programming (3 weeks), and Numerical Control Management Orientation (2.5 days). The new courses at the Army Logistics Management Center (ALMC) included Cost Estimating Techniques for Systems Acquisition (5 weeks), Life Cycle Cost Analysis of Weapons Systems (4 weeks), Risk Analysis (2 weeks), Should-Cost Seminar (1 week), Cost Estimating Workshop (1 week), and Maintenance Engineering Analysis for Integrated Logistics

Support (6 weeks). The Joint Military Packaging Training Center (JMPTC) added a one-week course on Preparing Industrial Plant Equipment for Shipment or Storage.[53]

In addition to these new AMC courses, DOD established a revised 20-week course on PM management at the new Defense Systems Management School at Fort Belvoir. This school opened on 3 August 1971 to replace the Defense Weapon System Management Center at Wright-Patterson Air Force Base.[54] Less formal, but still designed to educate the new PMs, AMC developed an elaborate orientation package for them. AMC also arranged for the new PM to meet key officials at all levels of DOD who were involved in the management of his project.[55]

A perennial problem facing PM management was how "to assure the integration of Project Management actions with those of the functional elements of AMC." As the PROMAP-70 Final Report noted, this issue had been addressed in the past at AMC, but the "AMC reorganization of Project Management in 1969 increased the need of a guide to re-define relationships under decentralized Project Management." Using as a starting point a 1965 Missile Command regulation setting forth the relationship on a function by function basis between the functional "doers" and the management responsibilities of the PMs, all the Commodity Commands revised their internal regulations governing "the division of responsibility between Project Managers and supporting functional directorates." Reported benefits of these guides included clarifying the role of each functional element; standardizing and facilitating the tasking of support from the functional elements; reducing overlapping functions, duplication of effort, and misapplication of resources; providing a basis for the resolution of disputes, and providing a boilerplate format for supplemental agreements.

In essence, these new regulations standardized the relationship between PMs and the functional staffs with each commodity command and to a degree from commodity command to commodity command.

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[53] Ibid, pp. 47-54.

[54] Winfield S. Scott III, "Educating a New Breed of Program Manager," *Defense Industry Bulletin*, VII (Fall 1971), 13-14.

[55] AMC, PROMAP-70 Final Report, pp 35-36, DLSIE LD 26039. The briefing package itself is extant as AMC, PROMAP-Project/Product Managers Orientation, Parts, I, II, and III, DLSIE LD 25546, 25546A, 25546B.

Routinely, however, a variety of supplementary agreements between PMs and the functional staff were needed "since not all Project Managers have identical requirements or capabilities." By the end of 1970 it had been determined that 39 PM programs located at seven MSCs and at HQ AMC required a total of 248 supplemental support agreements. Almost all of these had been completed by the end of the year, with the remainder scheduled to be completed by early February. The PROMAP-70 Final Report noted that the benefits of these supplemental agreements included "better response from supporting organizations, less wheel spinning, and better coordination of effort." Nevertheless, the report noted that there was still considerable variation in the way different Commands and PMs had handled support agreements, and that the "numbers game" was less important than the quality of the agreements.[56]

Less effective was another approach AMC took to improve the coordination of the PMs with AMC's other components. Arguing that to use all AMC components effectively the PMs must be aware of their capabilities, AMC tasked its Test and Evaluation Command (TECOM), the separate laboratories, and other AMC separate reporting activities each to publish a directive that would define their relationships with PMs and the procedures PMs should use in obtaining their support. Additionally, these directives were to provide supplemental information to amplify upon the official mission statement and provide the PMs with an understanding of any special or unique capabilities or skills within the organization that the PMs might wish to use.[57]

The PROMAP-70 Final Report, however, noted that although all activities published a regulation or other directive stating the type of support they could give PMs, only the Army Materials and Mechanics Research Center (AMMRC) "greeted the task with any enthusiasm. AMMRC has published an illustrated brochure and is actively seeking ways in which it can contribute to support PMs."[58]

The development of a new mode of reporting by PMs was initiated by General Chesarek in response both to his own dissatisfaction with

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[56] AMC, PROMAP-70 Final Report, pp. 31-35, DLSIE LD 26039.

[57] Ltr, MG Feyereisen to CG, AVSCOM, *et al.*, subj: PROMAP Task, Support of Project Managers, 26 May 1970, in AMC, PROMAP-Project/Product Managers Orientation, Part I, Policy and Procedure, DLSIE LD 25546.

[58] AMC, PROMAP-70 Final Report, pp. 32, 37, DLSIE LD 26039.

the weekly progress reports the PMs had sent to General Besson and to the desire of Deputy Secretary of Defense David Packard that a standardized PM information management system be established. In July 1969 General Chesarek reported upon a luncheon he and the joint logistics commanders had with Packard.

> We concluded the discussion with his charge to us to develop an information management system that would meet the needs of the project managers, standardize it to the degree possible with a broad spectrum of equipment such as we have in the Army. The project managers need different kinds of information, but nevertheless a considerable amount of it can be standardized. And then he said, I will see to it that this information is all the information that will be used in the defense structure. In other words, if its [sic] all that the Project Manager needs to manage, certainly that should be sufficient for the review authority to review.[59]

The end result was the Project Management Information System (PROMIS). By the end of 1970, phase I of PROMIS had been implemented. It consisted of a standardized manual reporting system by which the PMs provided the AMC Commander specific data relating to cost, schedule, and performance. The data was presented both graphically and numerically. "The graphic displays are for quick scanning and the numeric tables back up the graphics if a problem is evident." The PROMAP-70 final report noted that "when PROMIS I was first implemented, a certain amount of confusion and apprehension existed, however, to date PROMIS is in use and is generally accepted as an improvement over the previous methods." The report said that it had resulted in a reduction in PM reporting requirements and that it insured the availability of managerial data to provide "for quicker more positive response to PM problems" and give "greater visibility of PM operations."[60] Within AMC, the PROMIS reports were read not only by the command section but also by the staff directorates, who were expected to respond to problem areas surfaced in them.

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[59] Presentation by General Chesarek to the Procurement Class at ALMC, 28 Jul 1969, in AMC Archives, Speeches, Chesarek, Tab H.

[60] AMC, PROMAP-70 Final Report, pp. 55-56, DLSIE LD 26039.

"Aggressive assistance or corrective action by the Headquarters directorates is mandatory."[61]

The proposed second stage of PROMIS was still under development at the end of 1970. It was to consist of a library of decision/simulation models for use by PMs, including nine system planning technique models (reliability, dependability, system design, support, life-cycle cost, system effectiveness, effectiveness trade-off, system economy, and economy trade-off) and three assessment or control of progress models (Engineering Change Proposal Analysis, Risk Analysis, and the Integration Model). By the end of 1970 preliminary development and modification work on the models had begun, with some being available off-the-shelf while others would have to be developed in-house or by contractors.[62] In 1971 efforts continued to define the contractual work needed to complete PROMIS.[63]

In another area also related to reporting, PROMAP-70 saw an effort to improve upon the format of selected acquisition reports (SARs). SARs had their origin in a 1969 request by the Senate Armed Services Committee for information on 31 DOD systems, including five Army weapon systems--the Sheridan, Cheyenne, Shillelagh, Lance, and Safeguard.[64] By the end of 1970 this had expanded to include 13 Army systems--the Cheyenne, Lance, MBT-70, SAM-D, Sheridan/152mm Ammo, Shillelagh, Dragon, Gamma Goat, M60A1E2 tank, TACFIRE, TOW, Defense Satellite Communications System (SATCOM) Phase II, and Improved Hawk. The increase in the number of SAR reporting systems was due to the fact that

> since its inception, the SAR, because it is the only report which covers all of the significant facets of a system, has been subject to pressures from all levels to provide answers to technical as well as management questions. As a result, the SAR increased in size at one point to where it was so voluminous that it was

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[61] Memorandum from Deputy Commanding General for Materiel Acquisition to Director, Research, Development & Engineering, *et al.*, subj: PROMIS Reports - Processing at AMC Headquarters, 11 Nov 1970.

[62] AMC, PROMAP-70 Final Report, pp. 55-57, DLSIE LD 26039.

[63] Army Materiel Command Historical Summary, FY 1971, p. 34.

[64] "Congress to Get Progress Reports on Weapons Acquisition," *Defense Industry Bulletin*, 5 (Aug 1969), 23.

useless as a management tool. This led to the requirement for further revision of the DOD Instruction [on how to prepare the SAR] and departmental implementing instructions, which in turn increase the PROMAP-70 task [to upgrade the quality, completeness and timeliness of the SAR].[65]

A number of preliminary steps to improve the SAR had been taken in the last quarter of 1969. The quality of AMC's Cost and Economic Information Office SAR Division's staff was upgraded, and training programs for PM and headquarters personnel on the preparation of SARs was begun. Other actions taken included the establishment of schedules for the review and processing of the SARs through various headquarters and the establishment of task groups to review SARs. In addition, arrangements were made for AMC participation in DA staff reviews of SARs in order to allow AMC to provide early guidance to PMs on changes to the SARs.

In 1970 efforts to improve the SAR continued and resulted in an AMC recommendation to the Comptroller of the Army for improvements in the SAR. Most of these recommendations were incorporated in the revised Department of Defense Instruction (DODI) 7000.3, Selected Acquisition Reports (SAR), issued on 12 June 1970. In addition, it was mandated that the System Cost Status and Forecasting System be used by PM programs which were likely candidates for future SAR reporting. Provisions were also made for a one-time on-site training in SAR preparation in January 1970 and again, after the issuance of the revised DODI 7000.3, in June and July 1970. An effort was initiated to standardize the way unit costs of equipment were determined. Additionally, several formal courses were established to assist personnel in the preparation of SARs, including an AMETA course on "Managing with Contractor Performance Management Data," an ALMC course on "Cost Estimating Techniques for Systems Acquisition," and an Air Force Institute of Technology course on "Defense Weapons Systems Management."[66]

As a result of these actions, SARs showed substantial improvement in quality and effectiveness, an increase in pertinent managerial data, and a substantial reduction in the average number of pages for each SAR. Eleven SARs were reduced in size from 441 pages in April 1970

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[65] AMC, PROMAP-70 Final Report, p. 9, DLSIE LD 26039.

[66] Ibid., pp. 9-11.

to 155 pages in June 1970, a reduction of 65%, with the largest June SAR being considerably smaller than the smallest April SAR.[67]

Not all the proposed reforms of the PM system were successful even in the short run. A proposal, at one point strongly supported by General Chesarek and embodied in an AMC Regulation, to give commodity managers many of the characteristics of PMs was withdrawn a few months after it was broached.[68] The decision to eliminate almost all of the Project Management Staff Officers (PMSOs) (representatives at AMC HQ for PM programs not based at the headquarters) was reversed, at least in part, within a few months when it was decided to reestablish a similar position as the Army Materiel Systems Staff Officers (AMSSO). These AMSSOs were appointed by and were part of AMC directorates rather than being part of the PM's staff, but the AMSSO's function of providing "priority attention to the requests of the PM and his assigned personnel" was to "take precedence over other assigned duties."[69]

The Chesarek administration saw the first major reform of the PM program since its establishment in 1962. It was motivated both by General Chesarek's desire for a more structured and orderly management system and by problems in weapons system acquisition that came to a head in the late 1960s and which resulted in pressure from the DA staff, DOD, and Congress for improvements in the system. The resulting PM structure, as it emerged from General Chesarek's administration, was smaller, in much greater part delegated to the MSC Commanders for management, and was administratively tighter than it had been previously.

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[67] Ibid., pp. 11-13.

[68] Memo, General Chesarek, subj: Review of Project Management, 28 Apr 1969 and ltr, General Chesarek to distribution, subj: Review of Project Management, 10 June 1969. Both documents are in AMC, PROMAP-Project/Product Managers Orientation, Part I, Policy and Procedure, DLSIE LD 25546.

[69] Ltr, MG Feyereisen to Distribution, subj: Project/Product Management Principal Points of Contact, 22 Sep 1969, in AMC PROMAP--Project/Product Manager Orientation Part I, DLSIE LD 25546 and ltr, MG Feyereisen to distribution, subj: Army Materiel Systems Staff Officers (AMSSO), 11 Dec 1969.

GENERAL MILEY (1 November 1970 - 7 February 1975)

General Miley, who had served as General Chesarek's Deputy Commanding General from June 1969 to October 1970, was AMC's Commanding General from 1 November 1970 to 7 February 1975. His period of command saw a continuation of the trends begun under General Chesarek, with an emphasis on personnel development and standardized procedures. The overall status and organizational location of PMs remained largely unchanged from that established by General Chesarek, although there was a slight increase in the total number of PMs and in the number of PMs reporting directly to HQ AMC, from 43 and eight at the end of FY70 to 44 and 12 as of June 1975.[70] General Miley's support for General Chesarek's policy of reducing the number of PM-managed programs was indicated by a comment he made during an address at the Industrial College of the Armed Forces in early 1972:

> one of my predecessors [General Besson] decided that project managership was the "in thing" -- across the board -- so during the war years he projectized such standard items as wheeled tactical vehicles -- artillery ammunition -- mortar ammunition -- standard radios -- etc., etc. We have been quietly deprojectizing these during the past two or three years."[71]

Overall, General Miley was not a strong advocate of the PM system but he accepted it as a permanent part of the materiel development and acquisition structure and worked to improve it during his period as Commander of AMC.[72]

Much of the initial corrective action taken during General Miley's command was structured as a follow-up to the changes begun under General Chesarek. MG Feyereisen's visits to PM offices conducted under General Chesarek's administration, and visits by the PMs to HQ

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[70] DARCOM Annual Report of Major Activities for FY75, pp. 200-201.

[71] General Miley, Address to the Industrial College of the Armed Forces, 3 Apr 1972, AMC Archives, Speeches, Miley, Tab H.

[72] Unpublished interview with General Miley, 19 Nov 1984 and AMC, *Oral History Program Former Commanders, George R. Sammet, Jr., Lieutenant General U.S.Army (Retired)* (USAMC, 1986), p 25 (hereafer cited as *OHP, George R. Sammet*).

AMC for "tutelage," resulted in the PMs taking aggressive action throughout 1971 to correct deficiencies and to upgrade their performance. Although the PROMAP-70 final report had been issued in January 1971, after General Miley reviewed its results in March 1971 with the Assistant Secretary of Defense, Installations and Logistics, Barry J. Shillito, it became clear that much unfinished business remained. A few issues were to be selected for intensive follow-on action during FY71 in a program called FOLON 71 (Follow-On 71) that, in turn, evolved into IMPACT (Improved Management of Procurement and Contracting Techniques). Under IMPACT, quarterly reports were made on progress achieved in specific areas targeted for improvement.[73]

One of the target areas was developed by AMC after it received a tasking from the Deputy Chief of Staff, Personnel, to identify project manager development positions and to develop assignment patterns to insure progression of selected personnel through progressively more responsible positions. AMC, in response, published AMCR 614-3, Development of Project Managers, on 27 July 1971. The regulation established a system for counseling officers who served in research and development, procurement, and logistics positions; for motivating interest in career development in the field of project management; for assuring that volunteers for the field received appropriate training and assignments; and for maintaining the records of officers in the development program.[74]

Later in 1971, DCSPER and AMC gave the Army Chief of Staff a briefing on a variety of PM-related issues. Among the concerns was the situation in which an otherwise highly qualified candidate for a PM position might lack command experience. The Chief of Staff responded by redrawing the tradeoff between academic and practical experience to the extent of allowing graduation from the Command and General Staff College in lieu of commanding a unit. He disagreed with the suggestion that civilians be used as PMs, thus effectively killing that proposal. Another reason for not accepting the suggestions had to do

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[73] AMC Historical Summary, FY71, pp 42-43 and AMC, Improved Management of Procurement and Contracting Techniques, May 1973, DLSIE LD 32511C, Introduction.

[74] AMC Historical Summary, FY71, p 44 and AMC, Improved Management of Procurement and Contracting Techniques, Feb 72, p 34, DLSIE LD 32511A.

with dangers involved in channeling project managers into a narrow career field.

> One danger would be the use of project manager offices as sources for industry recruitment. Another is the possibility the project manager could lose his objectivity, becoming too much a proponent for his project. At the current time, subordinating some of the projects to the commodity commands serves to balance the latter possibility.[75]

The February 1972 IMPACT report, summarizing the progress of the PM career program during the first half of FY72 (1 July 1971-30 June 1972), affords a snapshot of the program in operation. In the first half of FY72 a total of 81 officers had volunteered to enter the PM development program--11 lieutenant colonels, 37 majors, and 23 captains. In the same period 63 officers attended various training courses, including the Defense Systems Management Course, the Army Integrated Materiel Systems Management Course, the Research and Development Management Course, the Army Test and Evaluation Management Seminar, the Should Cost Seminar, the Risk Analysis Course, and the Procurement Seminar for Project Managers. Included in a series of continuing AMC follow-on activities were:

a. Analyze qualifications of assigned officers against job requirements and assure that individual training needs are met.

b. Monitor assignment of officers via career counseling sessions to assure maximum development through rotation into other materiel acquisition positions.

c. Provide the DA Officer Personnel Directorate with the names of officers registering their interest in career development in project management.

d. Encourage maximum participation of assigned officers in the Officer Specialist Programs via periodic counseling by commanders and supervisors.

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[75] AMC Historical Summary, FY71, pp. 44-45 and Memorandum for Record, subj: Briefing for CofSA on Project Manager Program, 29 Sep 1970, 30 Sep 1970.

e. Encourage and assist officers in applying for civil schooling.

f. Monitor DA reassignment actions to assure adherence to policy on stabilized tours.[76]

The program continued as part of IMPACT into FY73, meeting easily the twin quarterly goals of 25 volunteers for the PM development program and 25 personnel undergoing training in project management related courses.[77]

The Army continued to take steps to improve the management of the PM career field. In February 1974 DCSPER directed the Commander of MILPERCEN (Military Personnel Center) to establish a Project Manager Development Office (PDMO) as part of a Project Manager Development Program (PMDP). The PMDP was to serve as a vehicle to identify and develop officers for future requirements for project managers and other senior level materiel acquisition positions. Initial development of the PMDP was started in March 1974, and continued development of the PMDP was approved in May 1974. In September 1974 MILPERCEN started selection of officers for participation in the PMDP. By the end of May 1975, 532 officers had applied or been nominated for inclusion into the program, and 324 had been chosen for membership. In addition, over 1,750 PMDP positions had been identified and approved for inclusion within the program, with about 1,500 of those positions being within AMC.[78]

Additional developments towards the maturation of the PM career field took place in response to the report of the Army Materiel Acquisition Review Committee (AMARC). AMARC had been established by the Secretary of the Army in 1973 in order to review the Army's entire materiel acquisition process. The origins of AMARC, similar to those of other shake-ups of the Army acquisition system,

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[76] AMC, Improved Management of Procurement and Contracting Techniques, Feb 72, pp. 34-35, DLSIE LD 32511A.

[77] Ibid, Feb 1973, pp. 14-14a, DLSIE LD 32511B and ibid, May 73, DLSIE LD 32511C pp. 12-12a.

[78] AMC Annual Historical Review, FY85, p 198. For a further discussion of the early implementation of the PMDP, see Robert G. Gard, Jr., "The Army Project Manager," *Program Managers Newsletter,* Vol. V (Mar 76), pp. 9-10, 26.

stemmed from dissatisfaction with the existing system. Problems with a variety of weapon systems (including the M16 rifle, the Cheyenne helicopter, and the main battle tank) had made the Secretary of Defense unhappy with the way things were being managed and eventually resulted in the establishment of the AMARC committee, with heavy representation from outside the Army.[79]

A contributory study to the AMARC review had looked at the PM career field and evaluated it according to four criteria. It looked at the tenure of PMs as a measure of management stability, and determined that "adequate tenure is no problem today," since the average tenure of PMs reassigned during the first half of 1973 had been 3.3 years, slightly bettering the stabilized tour requirement of three years which had been established during the Chesarek era. It used the criterion of previous experience in a PM office to judge the importance given by the Army to previous systems management experience. The study noted that some thought that equivalent experience could be obtained in other related activities, but argued "there is no substitute for experience within a project management office." The Army program did not rank well according to this criterion as only one of the nine general officer PMs and 7 of the 28 colonel PMs, totalling only 22 percent of the combined group, had previous experience in a PM office. The Navy and the Air Force had significantly better statistics, and the study concluded that "the Army is deficient in ensuring that its project managers have adequate prior experience in systems acquisition management."

One criterion for determining the importance a Service attributed to service as a PM was promotion of PMs to general officer rank. The study proved inconclusive on this issue, noting that different ways of viewing the promotion statistics gave different results. Another criterion for the importance attributed by a Service to its PMs was the existence of a PM career field. Here the study reviewed action which the Army was in the process of taking and, while noting some possible weaknesses, generally supported the approach the overall direction.[80]

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[79] See AMC Annual Report of Major Activities, FY72, pp. 103-104; DARCOM Annual Report of Major Activities, FY74, pp. 10-11; and draft, US Army Military History Institute Senior Officer Oral History Program, General Henry A. Miley, Jr. (1975).

[80] Logistics Management Institute, Studies in Support of the AMARC--The Project Manager, Task 74-14, pp. 5-8.

The AMARC final report was completed in April 1974 and released to the public on 15 August 1974, but action to implement some of its recommendations started before the final release of the report. Although most of the most dramatic recommendations of the committee were implemented under the next AMC Commander, GEN John R. Deane, Jr., many of those involving PM personnel matters were implemented by General Miley. The AMARC study had noted that the recent decision by the Army to centrally manage the PM career field was an improvement, but that more needed to be done.

> Also needed, as a matter of priority, is a solid basis for verifying the potential viability of the field, including its attractiveness as one of the "many paths to the top." The Army must identify by individual position all of the possible assignments in the Program Manager career field. Also, top level General Officer positions for which good PMs or others in the field would be eligible (DA staff and others) should be especially identified. These data will provide total "people" requirements by grade, experience, and education. From these data one can determine training and educational requirements and can judge the opportunity for advancement, and the general viability of the career field.[81]

Another recommendation of the AMARC study had been that PMs be selected by a central DA selection process. It noted that such centralized selection of district engineers, depot commanders, and troop commanders "has given Army wide attention to those important positions." In contrast, the fact that PMs were selected at the AMC level "seems to give the impression within the Army that only AMC need be concerned about project managers and their importance."[82]

As a result, such a DA selection board for project manager positions became operational in 1974.[83] A major figure in the early years of the selection board's operations was MG George Sammet, Jr.

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[81] Report of the Army Materiel Acquisition Review Committee (AMARC), Vol I: Precis, 1 Apr 1974, p. 4.

[82] Report of the Army Materiel Acquisition Review Committee (AMARC), Vol II: Committee Reports, 1 Apr 1974, p. II-23.

[83] William S. Chen, "Centralized Product Manager Selection," *Army RD&A Magazine,* vol 27 (Jul-Aug 1986), p. 22.

At this time he was serving as General Miley's Deputy Commanding General for Materiel Acquisition, a position he held from October 1973 to October 1975. Later, following General Deane's reorganization of AMC (see below), he was promoted to lieutenant general and served as General Deane's Deputy Commanding General for Materiel Development from October 1975 to January 1977. After General Deane's departure he briefly served as Commanding General of AMC from 1 February to 17 May 1977.[84]

General Sammet was a strong advocate of PM programs. "First of all, I'm a true believer in project management,--a true believer!"[85] He had by all accounts been a key player in AMC's management of the PM program. In his Deputy Commanding General positions he played a major role in establishing and supervising policy over PM operations. Under General Miley one of his missions was to "establish and supervise the execution of command policy in the area of project management, to include the organization of project management offices and professional qualifications of the project management staffs."[86] Under General Deane that mission had continued as a requirement to "exercise supervision over the development and management of the Army's project manager and product manager programs, and supervise the project managers' corporate-level, intensive management of the designated materiel development and acquisition programs."[87]

He also played a key role as permanent president of the DA-level PM selection board. He had been given the latter function by direction of Under Secretary of the Army, Herman R. Staudt, himself a former PM in industry, despite the "lukewarm" reaction of the Chief of Staff of the Army and the opposition of the Army's Deputy Chief of Staff for Personnel. The power and authority Lieutenant General Sammet had wielded as permanent head of the PM selection board, with access

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[84] AMC, *Oral History Program Former Commanders, George R. [sic] Sammet, Jr., Lieutenant General U.S. Army (Retired), Commander 1 Feb-17 May 77* (USAMC, 1986) pp. 42-45 (hereafter cited as *OHP, George Sammet, Jr.*

[85] Ibid., p. 25.

[86] AMCR 10-2, *Organization and Functions: Headquarters, AMC, Organization, Mission, and Functions Manual,* Nov 1974, para 2-4i.

[87] DARCOM Regulation 10-2, *Organization and Functions, Headquarters, DARCOM, Organization, Mission, and Functions Manual,* Apr 1976, para 2-2n.

to all Army officer files and the authority to name all the members of the board, did not fall to a successor when he retired from the Army. "When I left I know that DCSPER said, 'Never again will any president of the board have the authority that George Sammet had. Never.'"[88]

In addition to efforts to institutionalize a PM career field, the early 1970s also saw an effort by General Miley to standardize the organization and staffing patterns of PM offices. In September 1972 the AMC Comptroller presented to the AMC Commanding General a briefing on the organization, functions and staffing of PM offices. The review found that the functional statements for PM offices were of only limited value in revealing the tasks and functions that needed to be performed and that there existed wide variations in staffing patterns and in organizational structures. It contended that "the structural and functional variations in the organizations result more from the fact that different people in different places put them together without benefit of a common guide," than from having found "a better way of doing things."[89]

The review recommended that a model PM office organization, functions, and staffing be developed together with a staffing guideline and that a handbook be developed that incorporated the model and staffing guideline. The CG directed that such a guide be prepared on organization/mission/functions and briefed to him; however, he rejected another recommendation that additional captain and major authorizations be provided for PM offices. He stated that junior officers should work in functional areas in MSCs, laboratories, and arsenals rather than in PM offices.[90]

As a result of the review and the subsequent tasking, AMCR 11-16, Vol. 2, *Project Management Model Organization,* was published in April 1974. It established a standard organization and provided for a number of permissible variations. The standard structure consisted of the Office of the Project Manager, an administrative function within the PM office, a configuration management office, and separate program management, technical management, product assurance and test, procurement-production, and logistics management divisions.

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[88] *OHP, George Sammet, Jr.,* pp. 26-29.

[89] MFR, Command Management Review and Analysis (CAMERA) of Project Management Offices-Organization/Functions/Staffing (CAMERA Presentation No. 4-73), 18 Oct 1972.

[90] Ibid.

Permissible variations, depending upon workload, included:

* combining the procurement-production division with the logistics management division when one or another of those divisions lacked sufficient workload to justify a separate division

* making configuration management a clearly defined function within the office of the PM if there was not enough workload to justify making it a separate division, and

* making the administrative function a separate office if there was sufficient workload.

A number of functions that were normally included within one of the standard divisions could be split off into separate organizational elements if there was sufficient workload in that function to warrant it. Those functions included overall systems analysis, cost and economic analysis, decision risk analysis, and operations research, all of which were normally included in the program management division, and logistical analysis, which was normally included in the logistics management division. In addition, field offices could be established when necessary, usually to perform a coordination function with contractors, joint developers, using commands, or foreign countries. If the PM saw a need to use an organizational structure that significantly deviated from the standard pattern, he could request a waiver to do so.[91]

General Miley also instituted a new review process for PM-managed programs known as RECAP (Review and Command Assessment of Programs), while PROMIS apparently dropped out of use. Noting that "improved communications between the project managers and the AMC Command Group represented a fruitful area for improvement," General Miley in April 1971 formalized RECAP reviews of PM programs in order to surface and discuss issues and reach decisions on them before major problems developed. Depending upon the program, these reviews were held on a quarterly or semiannual basis. The briefings included charts and graphs covering such areas as program schedule, status of performance specifications, system reliability growth, system performance assessment, test status, program acquisition costs, RDTE (Research, Development, Test, and Evaluation) cost, procurement cost

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[91] AMC Annual Report of Major Activities, FY73, pp. 231-235.

schedule, contractor cost/schedule variance trends, design to unit production cost, delivery schedules, foreign sales status, a summary of project highlights, assistance required, and overall program metrics.[92]

[92] Ibid, p. 230 and DARCOM Annual Report of Major Activities, FY74, p. 204.

AMARC: AN INTERLUDE UNDER GENERALS DEANE AND SAMMET

(12 FEBRUARY 1975 - 17 MAY 1977)

The main events associated with the AMARC study and with General Deane's command of AMC were organizational in nature and of great scope, impacting all aspects of AMC. They included the redesignation of AMC as the U. S. Army Materiel Development and Readiness Command (DARCOM), the replacement of the single three-star deputy commanding general by the elevation of the previous two-star positions of deputy commanding generals for materiel readiness and materiel development to the three-star level, the splitting of the commodity commands into separate readiness and development commands, and the reduction of the headquarters staff to a relatively small "corporate" staff.[93] These all had an impact on the operation of the PM program, as did other AMARC-inspired changes more specifically related to PMs. Although the AMARC recommendation for an improved personnel system for PMs had been instituted during General Miley's command of AMC, most of the other PM-related AMARC changes, which are discussed below, were implemented during the short but eventful period when General Deane served as the Commander of AMC.

The AMARC study had found that the PM's were burdened by the need to present too many briefings.

> The need to "touch base" with each layer and each staff agency individually, as far as can be determined, has not changed. The project manager is still required to "sell" his system. The PM, Heavy Lift Helicopter, provided fourteen separate information briefings above the level of AMC in the span of nine weeks. . . . These 14 briefings in 31 work days included the Christmas-New Year week, and appear to have required at least five separate trips from St. Louis, MO, to the Washington, DC area. . . . None were decision briefings. It is clear that the profusion of these briefings take the PM away

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[93] For more on these changes, see a draft special study by Charles Johnson, "AMC Reorganizations/Realignments, 1969-84" and also Marcel Coppola, *U.S. Army Materiel Command Organization,* 1962-1987.

from his day to day job. Briefings other than for decisions must be eliminated.[94]

The AMARC study also noted that while the Army had a "fixation against the developer representing the user,"

> the Project Manager and developer (AMC) at all times seem to be tasked to defend the system need, quantity and configuration. This tendency to place total support of the requirement responsibility on the developer stems from the fact that no agency in the past has completely represented the user.[95]

The study recommended that the new Training and Doctrine Command (TRADOC) be given the responsibility for managing and justifying the requirement and that TRADOC also establish and maintain a user corporate memory.[96]

In response to these recommendations and to a follow-up Layering Study, GEN Walter T. Kerwin, Jr., VCSA, in September 1975 instituted several changes designed to reduce the diversion of the PM away from his primary mission. Specifically, the VCSA wanted to reduce and consolidate requirements for informational briefings and to encourage PMs to delegate the responsibility for these briefings whenever possible. He also directed that steps be taken to insulate the PM from challenges to the need for their project and to have the user representative participate in the justification of PM projects, especially at critical decision points and before Congress.[97]

AMC had already begun to act on these issues from its end. On 1 September 1975 it established a single briefing/reporting format to

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[94] Report of the Army Materiel Acquisition Review Committee (AMARC), Vol. II: Committee Reports, 1 Apr 1974, pp. II-12 to II-13.

[95] Ibid, p. II-21.

[96] Ibid, p. II-22. For a brief account of the establishment of TRADOC on 1 July 1973, see Department of the Army Historical Summary, Fiscal Year 1974, pp. 38-39.

[97] DARCOM Annual Historical Review, FY76/7T, p. 275 and ltr, VCSA to distribution, subj: Project Management, 29 September 1975. For AMC's implementation of the VCSA recommendations, see ltr, George Sammet, Jr., to distribution, subj: Project Management, 20 Oct 1975.

satisfy the requirements of both its own RECAP and the Department of Army Program Review (DAPR). In addition, these reports were linked to the information required for Selected Acquisition Reports. The new format was incorporated in DARCOM Regulation 1-34, which governed the RECAP program. The new format's advantages included a reduction in the number of status briefings that PM's had to give at HQ AMC and HQDA, a reduction in the number of charts required since the standardized briefing would not have to be separately tailored to each different group, experience for PMs who would have to initiate SAR reports at some time in the future, elimination of some information tracking problems, and a substantial reduction in the administrative workload of PMs.[98]

A significant change in the PM program was made in the Army regulation governing Project Management, AR 70-17. On 2 July 1975 proponency for this AR was shifted to AMC from HQDA's DCSRDA (Deputy Chief of Staff for Research, Development, and Acquisition). On 11 November 1976 a revised AR 70-17 was published. This revised AR established the three-level hierarchy of Program Manager (usually a General Officer), Project Manager, and Product Manager. The Program Manager and the Product Manager were essentially different hierarchical versions of the Project Manager.

The Product Manager had existed in the same form before the new regulation was promulgated. Unlike the Program and Project Managers who were chartered by the Secretary of the Army, the Product Manager was normally chartered by the CG, AMC. Product Managers managed programs which were not considered complex or important enough to merit management by Program or Project Managers but which did require some centralized management. The major new element in the regulation was the provision for Program Managers. Program Managers had existed in the previous regulation but only as something to be used under "exceptional" circumstances, and none fell under AMC's purview. Instead, Program Managers had reported directly to the Chief of Staff of the Army. Under the November version of AR 70-17, the use of Program Managers no longer required exceptional circumstances, and the Program Manager reported to the materiel developer, that is, in most cases, to AMC.

This new structure prepared the way for PMs to report to other PMs. That is, product managers could report to project managers and project managers could report to program managers rather than to

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[98] DARCOM Annual Historical Review, FY76/7T, p. 275.

MSC Commanders or to the AMC CG. A restriction placed upon this, however, was that there could never be more than two reporting levels within a PM program. This system thus provided for the supervision by one program manager of a number of distinct but closely related project managed systems. The progression from product to project to program manager afforded an opportunity to train officers as they progressed to the more complex and demanding positions. The system also provided for more visibility for individuals who had acted as assistant project managers in charge of a major subsystem within a project. Under the new structure, some of these subsystems could be designated as product or project management programs, giving the individual in charge credit for having served as a PM.[99]

Implementation of the new structure began with three system families. The Project Manager for the Army Tactical Data System (ARTADS) was redesignated as a Program Manager, with Project Managers for Tactical Fire Direction System (TACFIRE), Tactical Operations Systems (TOS), Air Defense Command and Control System (AN/TSQ-73), and the Joint Tactical Information Distribution Systems (JTIDS) reporting to him. The Program Manager for the Mechanized Infantry Combat Vehicle Systems (MICVS) was to oversee the Project Manager for the Bushmaster, the main weapon for the vehicle. In the third system family, the Project Manager for Cannon Artillery Weapons Systems (CAWS) was to supervise product managers for the 155mm XM-198 Howitzer, the XM-712 Cannon Launched Guided Projectile (Copperhead), and a product manager responsible for other developmental 155mm ammunition.[100]

The establishment at HQ DARCOM of two Deputy Commanding Generals, one for Materiel Development and one for Materiel Readiness, entailed the realignment of reporting channels for PMs. As of the end of September 1987, the chain of command for 36 PMs included the Deputy Commanding General for Materiel Development. The chain of command for the other 21 PMs included the Deputy Commanding General for Materiel Readiness. It was anticipated that at some time during their life cycle most if not all AMC project-

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[99] Ibid, p. 276.

[100] Ibid, pp. 276-277.

managed programs would transition from the materiel development to the materiel readiness side of the house.[101]

Most of the PM programs were still reporting first to a commodity command and then through the Deputy CGs, but the number reporting directly to HQ DARCOM had increased to 15 by FY76/7T (1 July 1975 to 30 September 1976). In addition, that fiscal year saw the number of PM programs increase by ten as 13 new offices were created and only three were deprojectized.[102] This upward trend in the number of PM-managed programs continued through 1978, and at the start of FY79 AMC had a total of 66 PM programs. This was close to the all time high reached just after General Besson left AMC of 68 PM programs and reflected, as the DARCOM FY79 Annual Historical Review noted, "the renaissance in the PM concept of management which began in FY 1975."[103]

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[101] Ibid, p. 277 and General Deane, Keynote Address to the AMC Project Manager Conference, 11 Nov 1975, in AMC Archives, Speeches, General Deane, Tab 12.

[102] DARCOM Annual Historical Review, FY76/7T, p. 278.

[103] Ibid, FY79, p. 135.

RETRENCHMENT, CONTROL, AND PERSONNEL DEVELOPMENT PART II - 1977-1987

The three AMC Commanders who followed Generals Deane and Sammet--Generals Guthrie, Keith, and Thompson--returned to the same issues about the PM program that had concerned Generals Chesarek and Miley. They worked on ways to improve the integration of the PM programs into the commodity command structure, to prevent overuse of the PM concept, and to improve reporting and management procedures.

GENERAL GUTHRIE (18 May 1977 - 31 August 1981)

During his first tour at AMC, GEN John R. Guthrie served briefly under General Besson and then under Generals Chesarek and Miley.[104] The concerns of the latter two Commanders--that excessive use of the PM management technique be avoided and that the CG maintain a manageable span of control--returned to DARCOM when General Guthrie assumed command. He made his position clear to the DARCOM PMs in a speech he made to the PM Conference just a few months after he assumed command.

> I'll start with my concern over what I call the proliferation of the span of control. I became concerned about this before I returned to DARCOM, and it has not gone away. I have been in AMC and DARCOM through the full swing of the pendulum. When I first joined AMC there were about 65 project managers. When I left four years ago we had, I think, 37. We now have 57, going towards 70 or 80 or 90, or whatever number you want to pick. I am somewhat concerned over that trend, and I think I should let you know that I will be doing my best to keep the pendulum from going all way over the top. Rightly or wrongly, my intuition and my instincts tell

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[104] In his previous tour at AMC, General Guthrie served as Deputy Director, Development & Engineering from Nov 1968 to Jul 1969 and as Director, Research, Development, & Engineering from Aug 1969 to Mar 1971. He then served as Deputy Commanding General for Materiel Acquisition from Apr 1971 to Oct 1973. See DARCOM Office of Public Affairs, Biographical Sketch of General John R. Guthrie, 18 May 1977.

> me that if we try intensively to manage everything we will end up managing nothing--and that is not the way to get from here to where we want to go.[105]

It was not easy to change the momentum quickly. At the following year's PM conference, General Guthrie noted ironically that at the previous year's conference he had stated that

> I was going to do my best to reduce the number of offices and people by combining or deprojectizing offices and carefully screening proposals for new PM offices. We have been so successful in the last twelve months that we have succeeded in reducing the number of project management offices from fifty-eight to sixty-six. We have, however succeeded in reducing the number of people by something less than two percent.[106]

During FY81, however, the trend had at least reversed as the end of that fiscal year saw AMC with 54 chartered PM programs.[107]

It was evident that not all PMs were happy with General Guthrie's approach to PM management. Although General Guthrie stated at the 1979 AMC PM conference that he thought the PM system was "alive and well," it was clear that he expected that some in the audience would hold a differing opinion. General Guthrie did note concern over the "inordinate number of retirements which we had in FY 78 and FY 79 -- retirements which were not mandatory," and indicated that some of the problems that caused it would be reviewed by the Chief of Staff of the Army.[108]

One way in which General Guthrie differed from several of his immediate predecessors was that he, as a matter of principle, refused to be involved in the sponsorship of specific individuals for promotion.

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[105] General Guthrie, Remarks to the Eighth Annual Project Managers Conference, 26 Oct 1977, AMC Archives, Speeches, General Guthrie, Item 77-15.

[106] General Guthrie, Remarks to the Project Managers Conference, 15 Nov 1978, AMC Archives, Speeches, Item 78-63.

[107] DARCOM Annual Historical Review, FY81, p. 189.

[108] General Guthrie, Opening Remarks to the Project Management Convention, 10 Oct 1979, in AMC Archives, Speeches, General Guthrie, Item 79-66.

When he informed the PMs of this in the October 1979 PM Conference, it was obvious from both the tone and the words of his speech that he was aware this would not sit well with some of his audience.[109] His attitude did in fact contrast sharply with that of the previous commanders of AMC. General Sammet, for example, had called the promotion, during General Deane's command, of six PMs to brigadier general "the biggest boost for the PM program we could have gotten."[110]

Under General Deane a significant reduction had been made in HQ staff as part of the process of converting to a "corporate" headquarters, cutting back extensively on functional expertise in the varied programs carried out by subordinate units.[111] General Guthrie took action to reverse that weakening of technical expertise in the headquarters. One such action closely impacted the PM program, although it did not actually go into effect until 15 October 1981, about a month and a half after GEN Donald R. Keith assumed command. That was the establishment of Weapon System Managers (WSMs), later known as Weapon System Staff Managers (WSSM), and Weapon System Directors. Under this program, every item of equipment managed by DARCOM was to have either the Director of Development, Engineering and Acquisition or the Director of Supply, Maintenance and Transportation as its weapon system director. These directors, in turn, were to appoint a WSM for each system. These WSMs were to serve as the HQ DARCOM single point of contact on the weapon system they were assigned to and additionally were to be the single Washington Operations Point for those systems. That is, the WSMs were to be the "focal point for all DARCOM field elements, e.g., commands and PMs, as well as the focal point for other agencies in the Washington area." Working with each WSM was a Weapon System Management Team (WSMaT or WSMAT). It was composed of

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[109] Ibid.

[110] OHP, George Sammet, Jr, p. 29. An unpublished interview with General Deane also indicates that he believed it important to further the Army careers of individuals selected to be PMs. For General Miley's overall appreciation of the importance of promoting PMs, and his concern that combat arms officers assigned as PMs were not receiving their fair share of promotions, see ltr, General Miley to GEN Creighton W. Abrams, CSA, 9 Aug 73.

[111] For more on this, see Johnson, "AMC Reorganizations/Realignments, 1969-84."

weapon system support officers (WSSO), who came from all the functional areas in HQ DARCOM that had responsibility for some aspect of that weapon system program. The WSSOs remained part of their functional areas, but were directly tasked by the WSM to support him in his coordination and management of the system. The WSSOs were responsible both for insuring that the support of their particular directorate was provided to the WSM and that the functional positions they gave the WSM represented the position of the chief of their directorate.[112]

The role of the WSMs was

> not to preempt the PMs but to strengthen their position and voice in the Washington area. In a broader sense, WSMs will serve as Washington area management liaisons who can be of immeasurable assistance to PMs.[113]

In general, WSMs served similar coordination and liaison functions between the Office of the PM and Washington as had the old Project Management Staff Officers and their successors, the Army Materiel Systems Staff Officers, which existed in the headquarter prior to the AMARC decentralization. The WSMs, however, as a liaison element were less within the control or influence of the PM than the earlier PMSOs, who were on the PM's TDA, or the AMSSOs, who were charged with reacting to the PMs needs as their principal duty. Establishing the function of weapon system director assured that.

> The [weapon system] director, acting through the designated system manager [WSM], shall be responsible for all staff activities related to an assigned system. The responsible weapon system director or designated WSM is the single authority below the command group to either give or approve the release of

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[112] Roy D. Greene and James H. Donnelly, "DARCOM Realignment Spawns Weapon System Manager Concept," *Army Research, Development & Acquisition Magazine*, vol. 22 (Nov-Dec 1981) p. 8; DARCOM Pamphlet 5-2, *Management: HQ, DARCOM Weapon Systems Staff Management Concept of Operations,* 19 Feb 82, para 4.

[113] Greene and Donnelly, "DARCOM Realignment Spawns Weapon System Manager Concept," pp. 8-9.

system-related direction and guidance to responsible PMs/MSCs and HQ directorates. . . .[114]

The same memorandum that provided for the WSM to give directions to the PM also stated that "a cooperative day-to-day working relationship between the PM and WSM is essential" and that "the PMs responsibilities are not changed in any way."[115] What obviously was changing, however, was the more direct HQ AMC staff involvement in PM-managed programs operating through the WSM and WSD.

GENERAL KEITH (31 August 1981 - 29 June 1984)

To a great extent General Keith's management of the PM program continued with the same issues that had concerned General Guthrie: preventing overuse of the PM concept and shortening the commander's span of control.[116] Although at the end of Keith's administration there continued to be approximately 50 chartered PM programs and some 16 provisionally chartered programs, with others under discussion, only four PM programs reported directly to HQ DARCOM: Advanced Attack Helicopter, Defense Communications System (Army), Nuclear Munitions, and Training Devices. The rest reported to MSCs.[117]

General Keith explained that the reason both he and General Guthrie had wanted to bring all the PM programs "back under the two star commodity command commanders was to force all of the necessary planning for the transition to production, fielding and follow-on logistics support." The result under General Keith was that the PM was still chartered by the Secretary of the Army and still had "the clout and authority to speak to anyone about his program. But, he also has a responsibility inside that commodity command to be sure that everything is ready when it comes time to field his system."[118]

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[114] DARCOM Pamphlet 5-2, Management: HQ, DARCOM Weapon Systems Staff Management Concept of Operations, 19 Feb 82, para 4d.

[115] Ibid., para 6b(6).

[116] AMC, *Oral History Program Former Commanders: Donald R. Keith, General U.S. Army (Retired), Commander 31 Aug 81-29 Jun 84* (USAMC, 1986), pp. 2, 9 (hereafter cited as *OHP, Donald R. Keith*).

[117] DARCOM Annual Historical Review, FY84, pp. 329-335.

[118] AMC, *OHP, Donald R. Keith,* p. 9.

The need to better manage the transition from development to fielding and follow-on logistics support was also a driving factor in the move to reverse the AMARC split of the commodity commands into separate research and development commands and readiness commands. General Keith's administration saw a considerable reshuffling of reporting channels for PMs as these separate readiness commands and research and development commands were merged back into unified commodity commands. This process had begun under General Guthrie with the merger of the Missile Command (MICOM) and the Missile Research and Development Command (MIRADCOM) back into one command as MICOM on 1 July 1977. It was completed under General Keith with the establishment, on 1 March 1984, of both the Troop Support Command (TROSCOM) from elements of the Troop Support and Aviation Materiel Readiness Command (TSARCOM) and the establishment of the Aviation Systems Command (AVSCOM) from the Aviation Research and Development Command (AVRADCOM) and elements of TSARCOM.[119]

Although the Weapon System Management Team concept had been developed under General Guthrie, its actual implementation took place under General Keith, who strongly supported it. He explained how he got the people involved in the teams to actually talk and work with each other across organizational lines.

> I have joked about having Weapon System Management Teams (WSMAT) questions come up, and instead of just getting one person in to see me, I would say, "Send the team" on about a two-minute notice; they'd come into my office and I would see how they were interrelating to solve problems. That word got around pretty fast, because I did it at the drop of a hat. Then I let it be known that was the way I was going to continue to do it. Well, people started talking to each other.[120]

He later noted that:

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[119] Charles Johnson, draft special study "AMC Reorganizations/Realignments, 1969-84" (work in progress) and Marcel Coppola, *U.S. Army Materiel Command Organization, 1962-1987.*

[120] *OHP, Donald R. Keith,* p. 4.

> The boss has got to make them believe that he's serious about these things and that it's for a very good reason. When you get a team in a room and begin addressing a problem that touches each of their responsibilities, and you have to make a quick decision, and that's your only way of communicating with them, they suddenly begin to understand. It's a matter of not only setting a policy, but allowing people to see how it works. It's very important that human beings see that what they're doing is important.[121]

It took some time to make the headquarters staff accept this approach, but eventually General Keith was successful in institutionalizing it. Some AMC historians noted that in interviews they conducted among the staff in 1983 they received "a lot of unenthusiastic comments about the WSMAT system" but that "a year later, we had no one saying it wasn't working well. Suddenly this great change took place."[122]

Another area in which General Keith followed General Guthrie's approach, but made major contributions of his own, was in the development of the Program Management and Control System (PMCS), whose forerunner had been General Guthrie's Project Cost Control System (PCCS). PCCS did not supplant the system of command reviews that had begun under General Miley as the RECAP program and continued and refined into the 1980's as an annual means of obtaining headquarters review of ongoing PM-managed systems, sometimes in the form of a pre-brief of reviews required by higher authority. What then was PCCS and PMCS? At the DARCOM Commanders Conference held on 1 and 2 December 1981, General Keith had described the PCCS as

> a way to discipline programs. We need to record a corporately approved acquisition strategy and establish a baseline from which all subsequent decisions must depart. It is a contract

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[121] Ibid.

[122] Ibid. For opposition in the MSCs and PM offices, see memo attached to msg, CDRDARCOM to distribution, 191655Z Aug 82, subj: Update - HQ DARCOM Realignment and the Weapon System Management (WSM) Concept, in CG's Historical Files, AMC Archives.

that records accountability from the PM through the CG to DA.[123]

As General Keith spoke, however, the PCCS was in the process of undergoing a review by the Army Cost Discipline Advisory Council (CDAC). The CDAC, consisting of government and industry representatives, was reviewing the actions taken by the Army to control cost growth.[124] The Committee's assessment of PCCS was at best lukewarm, perhaps in part because it viewed the PCCS primarily as a reporting system which would transmit information up the chain of command rather than as a control mechanism which would permit the chain of command to enforce accountability. It did note that AMC had developed the PCCS in order to implement a system for program and cost control that would eliminate deficiencies which had previously existed. Those deficiencies had included fragmented reporting systems which did not permit early identification of program decision alternatives and trends; numerous baselines from which the progress of the programs were tracked; and the absence of an effective system for bringing under control changes in the technical aspects of the program, integrated logistics support, quantity of equipment purchased or the program's schedule. The committee, however, noted the PCCS was complex and new, and that thus it would take some time to educate the Army acquisition community in its use. Moreover, although there was a need for an easier way to get real time data up through the organization, the data already existed and there were other ways to obtain it. The committee noted that "the major areas where the Program and Cost Control System is weak are: approval authority for changes is not spelled out clearly; reprogramming is relatively vague; and the requirement for revised documentation could be cumbersome, time consuming and tend to dampen a program manager's willingness to surface problems." The committee recommended that a further review of the PCCS be conducted to see if it could be modified to better meet the Army's needs.[125]

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[123] Enclosure to Ltr, AMC CS to Distribution, subj: Commanding General's Comments to DARCOM Commanders, 4 Jan 1982.

[124] Ibid and A Report to the Secretary of the Army by the U.S. Army Cost Discipline Advisory Committee, 16 Dec 81, p. iv-1.

[125] A Report to the Secretary of the Army by the U.S. Army Cost Discipline Advisory Committee, 16 Dec 81, p. iv-9 to iv-10. See also

When the Cost Discipline Advisory Committee made an implementation review about six months later it determined that DARCOM had taken appropriate corrective action on the PCCS and transformed it into the Program Management Control System (PMCS). It stated that DARCOM had

> implemented a systemic review of the system under the leadership of the Deputy Commanding General for Resources and Management. The results indicate that the system as revised is effective [and] that [it] will meet the needs of the decision making hierarchy. There is potential for the reduction in reporting and planning documents, and they have been identified. Other evolving changes to Program Management Control System have included fencing of funds for producibility engineering planning and integrated logistics support and consideration for program restructuring as a mid-range alternative.[126]

The transformation of the PCCS to the PMCS had not changed its basic purpose. General Keith described the PMCS in terms very similar to his previous description of the PCCS.

> In the simplest terms, PMCS is a contract between me and my Program Managers. It lays out the program to be executed in great detail and the resources available to the PM to do the job. It will be ratified by DA so that all levels of management are on the same sheet of music.[127]

At the end of 1982, General Keith stated that although at the start of the year the PMCS had been little more than an approved concept, it was now operational. The 37 systems which had been identified as candidates for PMCS accounted for about 65% of DARCOM's FY84 procurement budget, and the M1/M1E1 tank and the Multiple Launch Rocket System were the first two weapon systems that had been

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pp. 64-68.

[126] An Implementation Report on Recommendations of the Cost Discipline Advisory Committee, Jun 1982, p. 19.

[127] Ltr, AMC Chief of Staff to distribution, subj: 1982 DARCOM Commander's Assessment, 14 Dec 82.

approved for coverage under the PMCS by HQDA.[128] By the end of FY83 25 systems were operating under PMCS, with 12 additional systems approved for coverage by HQDA and another 12 systems in various stages of staffing.[129]

GENERAL THOMPSON (29 June 1984 - 13 April 1987)

GEN Richard H. Thompson served as Commanding General of AMC from 29 June 1984 to 13 April 1987. His period of command saw a continuation of the trends seen under Generals Guthrie and Keith. These trends included efforts to increase the integration of the PMs into the MSCs and to maintain effective HQ AMC control over the PM program through the use of WSOs, WSSMs, and management reviews. It also witnessed the start of another attempt to control the total number of PM programs. It ended, however, with a radical transformation of the relationship between AMC and the Army's PM programs.

The effort to control the number of PMs sought to develop a mechanism to ensure that PM programs were deprojectized when appropriate. In FY85 AMC developed a policy and program to terminate PMs after they were no longer needed. Stressing both the high cost of PM management and the need to limit it to high priority programs in order to prevent it from becoming the customary method of conducting business, General Thompson in an April 1985 letter set forth the guidelines for terminating PM control over a program. The sole criterion for deciding to do so and transfer control over the program to a commodity command was to be the "achievement of a system's initial operational capability (IOC)" for the system or systems controlled by that PM. This policy held for the transition of individual systems to commodity command control even if the PM office continued to exist to control other systems. In that situation, moreover, an annual review would be held to determine if the remaining systems were significant enough to warrant the continuance of the PM office. The achievement of IOC was to be determined by the status of fourteen indicators. After the system was successfully fielded to a unit those indicators were reviewed, and those "not satisfied

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[128] Ibid.

[129] General Keith, Presentation at Commanders' Conference, Oct 1983, p. 14.

will be addressed as quickly as possible to expedite the transition of the system/item." Then, following the approval by HQDA or HQ AMC, as appropriate, of the PM's transition plan, that PM Office would be terminated and its responsibilities, assets, and personnel redistributed to an MSC. This program was to be tested by the PM responsible for the AN/TPQ-36 Mortar Locating Radar (FIREFINDER) and the AN/TPQ-37 Artillery Locating Radar (REMBASS), which systems had reached IOC in the field in the third quarter of FY83 and the first quarter of FY81, respectively.[130] By the end of FY86, plans for the transition of 29 PM-managed systems away from PM control had been submitted by 12 PM offices.[131]

TABLE II--PM Termination Indicators

Acceptable Safety Record
Technical Data Package Verified as Complete
System Mission Capable Rate Meets DA Standards
DSARC/ASARC/IPR--No Major Opened Items from Last Review
Field Performance Requirements Met
Production Lines--No Major Problems--Smooth Production
Political Issues Satisfactorily Resolved
Life Cycle Plan in Place--Program Being Executed Well
Fielding Cycle Plan in Place--Major Fielding Completed
Training Equipment Certified and Working Well
TMDE Successfully Tested
Technical Risk Management at Lower Management Level
Quality Assurance Program Acceptable
Safety Cognizance

Source: Enclosure to Ltr., General Richard H. Thompson to Major General Robert D. Morgan, 23 Apr 85.

General Thompson also extended the matrix management concept to AMC PM offices. Matrix management had been described as a "compromise between organizing by function and organizing by project."

[130] Ltr, General Thompson to MG Robert Morgan, 23 Apr 85 and ltr, Office of PM to Distribution, subj: Project Management (PM) System/Item Termination Criteria and PM Office Termination Policy, 23 Jul 85.

[131] PM Office historical submission, FY86.

It required the project management office to use the functional expertise found in functionally aligned organizations rather than attempting to have such expertise within the project management office itself.[132]

AMC project management offices had of course always used the functional expertise within other AMC organizations to some extent, but General Thompson's stress upon it was an effort to insure that they made better use of it. This what not a new innovation in PM management. By the late 1970s a tendency towards matrix management was evident in the Air Force.[133] In addition, General Keith had stressed the use of matrix management within AMC, but he had been primarily concerned with its use by the headquarters staff and by the WSOs for their WSSM teams, not with its use by the PM offices themselves.[134]

In a sense the PM program in AMC had always been a variant of matrix management in that the majority of the resources used to accomplish the PM's mission had always reported to other organizations, usually MSCs and laboratories. General Thompson, however, attempted to bring renewed emphasis to this aspect of PM management and to sharply curtail what he saw as the tendency of PM's to incorporate functional experts directly into the PM organization rather than relying upon a common core of such experts in the MSCs.

Matrix management thus had implications for the constitution of the PM's staff. In order to facilitate the movement of personnel into and out of the PM offices, an aspect of the matrix approach, General Thompson directed that the Tables of Distribution and Allowances (TDAs) for PM Offices be canceled, and the spaces transferred to the MSCs. Personnel would then be provided to the PM by the MSC on either a full-time or as-required basis, as determined jointly by the PM and the MSC commander. Dedicated teams of personnel from the MSC's functional elements could be delegated to work on-site with the

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[132] Michael B. Petterson, "Matrix Management: Is it Right for Weapons Acquisition?," *Program Managers Newsletter,* vol. VII (Sep-Oct 78), p. 8.

[133] Ibid.

[134] Thomas Mani, "Reforging: Army and Armorer: The Keith Years at DARCOM" (unpublished AMC study), pp 13-16 and *OHP, Donald R. Keith,* pp. 3-4.

PM during surges. "This action coupled with the detailing of personnel and the use of term appointments, which would permit one high grade space to satisfy different skill requirements, would increase resource flexibility over the system's life cycle." Thus even the PM Office core of dedicated full-time on-site personnel was expected to change in composition over the course of time, with the core being at first heavy with design and producibility engineers and development test experts, while later in the developmental cycle the "core composition should shift towards configuration management, production engineering and quality assurance expertise." Some skills such as integrated logistics support, however, would be needed throughout the cycle.[135]

In FY85, first in August during an annual PM Conference and then in a September letter from General Thompson to PMs and MSC Commanders, the command initiated a policy of stressing the use of matrix management for PMs. General Thompson stressed that the role of the PM was not to execute the program but to integrate and manage the activities associated with the program. The actual accomplishment, the "doing" of the program was "accomplished by functional specialists external to the PMO [Project Manager Office], but over whom the PM has tasking authority." Items to be considered in structuring a PM program included whether there should be a dedicated cell of functional elements physically located with the PM or whether there should be designated personnel in the functional organizations who were to be responsible, by name, to the PM. Other considerations included the participation of the functional elements in the PM's review and analysis, and vice versa, and the PM's input into the performance appraisals of the personnel in the functional elements who were tasked by that PM.[136]

In a speech to the PM conference in September 1986, General Thompson reinforced the points he had made the previous year about organizing PM offices so that they consisted of core personnel who used the functional matrix management system and the expertise of AMC and its MSCs. Using phrases that made it clear that he had met resistance in his efforts to have the PM Offices adopt the matrix

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[135] Ltr, General Richard H. Thompson to Major General Fred Hissong, Jr., *et al*, subj: Project Management Policy, 11 Sep 85 and PM Office Annual Historical Review submission, FY85.

[136] Ltr, General Richard H. Thompson to Major General Fred Hissong, Jr., *et al*, subj: Project Management Policy, 11 Sep 85 and PM Office Annual Historical Review submission, FY85.

management approach, he warned that he was "not going to back off on this," it "can be done and done successfully." He acknowledged that the major stumbling block and one that would not go away was that the "PM way of doing" and the "functional way of doing" were "different management systems and different ways of using power to get [the] job done -- their chemistries are opposites," but that they must be made to work together.[137]

General Thompson, almost as soon as he took over at DARCOM, initiated an effort to establish a new review program for systems managed by PMs. This review, the Program, Project, Product Manager/Materiel Systems Assessment (PMSA), originated in a demand by General Thompson in late 1984 that a more effective and meaningful review technique be developed. By February 1985 the agenda, chart formats, and essential data requirements had been determined, and the first PMSA review was held before that month ended, with Mobile Subscriber Equipment/Army Tactical Communications System being its subject. On 1 April 1985 all the PMs were formally tasked to develop PMSA briefing packages on their systems. In addition, PMSA was also used for selected high visibility systems managed by the MSCs.[138] It was designed to be "an indepth review of PM managed systems and selected high visibility MSC managed systems" by either the AMC Commander, one of the Deputy Commanders, or by an MSC Commander, and was to function as a "proactive management technique that identifies potential system problem areas early enough in the life cycle process to initiate changes before they impact on fielding and sustainability."[139]

A typical PMSA review consisted of five parts: an agenda, a planning phase, the actual review, execution, and miscellaneous problems.

> An agenda is the road map that is followed to focus on the ability of the PM or item manager to field units. The planning phase attempts to capture those events which, if not done

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[137] General Thompson, Opening Remarks to the PM Conference, 16 Sep 86.

[138] David T. Morgan, "PM/Materiel Systems Assessment Program," *Army RD&A Magazine,* vol 27 (Mar-Apr 86), p. 18.

[139] Commander's Guidance Statement (CGS) No. 112, Subj: Assessment Strategy, 10 Jan 86.

correctly, will prevent system fielding or cause serious problems in the fielding process. The review is used to describe the system to include: Associated Items of Support Equipment, provide a historical perspective of where and how the system has evolved, and to outline the challenges facing the program or item manager. In the execution portion of the PMSA package, the actual fielding execution is examined in finite detail and reviews not only the production and inventory of the actual system being fielded, but also the tools, test equipment, spares and repair parts, publications, ammunition and petroleum/oil/lubricants. The final section of the PMSA package includes those elements which may not necessarily prevent fielding if a problem occurs but will cause severe difficulties.

The PMSA package has been designed with built-in checks and balances. Many relationships between charts are brought out in the methodology but become far more evident only after familiarization with the PMSA program. The relationships are used to determine the validity of the data being presented and as a double check of the data provided by different sources for different charts.[140]

Shortly thereafter, General Thompson initiated an effort to automate the preparation of the PMSA. The automation effort was designed both to eliminate the administrative burden involved in repetitive chart preparation and to permit the PMs to have access to pertinent information in a timely matter. Another aid to the preparation of the PMSA was a "PMSA Cookbook," an AMC pamphlet that provided guidance on the preparation and briefing of the PMSA. In order to improve the PMSA, General Thompson met with the HQ AMC functional staff experts in the areas covered by each chart in order to determine if the charts could be improved. The areas covered by PMSA included program planning, funding, design, testing, procurement, quality, production, distribution, supportability, and depot planning. Future editions of the PMSA cookbook were to address such issues as duplicative data and an inflexible format which prevented the PMs from voicing concerns. Also high on the list of proposed improvements to the PMSA was the scrub of existing reports to see

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[140]David T. Morgan, "PM/Materiel Systems Assessment Program," *Army RD&A Magazine,* vol 27 (Mar-Apr 86), p. 18.

which of them could be added without change to the PMSA, thus reducing the PM's administrative burden in preparing the PMSA.[141]

Two further personnel innovations occurred during Thompson's administration. In FY85, the first civilian PMs in AMC's history were selected as the Product Managers for Night Vision Devices and for Topographical Support Systems. In FY86, DA centralized board selection of PMs was extended to Product Managers, the lowest category of PM. The Product Managers were selected from among those personnel, military and civilian, who had enrolled in the Materiel Acquisition Management personnel program. This program, which complemented but did not replace the Project Managers Development Program, had been initiated for military personnel by then LTG Keith when he had been the Army's Deputy Chief of Staff for Research, Development, and Acquisition (DCSRDA) and then brought by him to AMC and expanded to include civilian personnel. Its goal was to train future managers of the Army's acquisition program.[142]

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[141] PM Office historical submission, FY86 and AMC Commander's Conference, 13 Nov 86, tab 12.

[142] PM Office Annual Historical Review submission for FY85; ibid, FY86; and the AMC Program/Project/Product Manager Roster as of 24 October 1985. For MAM, see Thomas Mani, "Reforging: Army and Armorer: The Keith Years at DARCOM" (unpublished AMC study), pp 25-26. For more details on the centralized selection of Product Managers, see William S. Chen, "Centralized Product Manager Selection," *Army RD&A Magazine*, vol. 27 (Jul-Aug 86), pp. 22-24.

THE PACKARD COMMISSION: A NEW ERA FOR PM MANAGEMENT IN THE ARMY

General Thompson's efforts to change the structure of the PM program and to knit it more closely into the existing commodity command structure were, however, to be overcome by events. Increasing public and congressional criticism of the DOD acquisition programs, led by widely publicized exposés of spare part pricing excesses, resulted in the 1985 establishment of the President's Blue Ribbon Commission on Defense Management. Commonly known as the Packard Commission from the name of its chairman, former Deputy Secretary of Defense David Packard, its mission was to review a number of major issues including, among other defense management issues, "the adequacy of the defense acquisition process."[143]

In its final report, dated June 1986, the committee identified a number of characteristics of successful commercial development programs. The first of these characteristics was clear command channels, with the program manager having clear responsibility for his program and a short and unambiguous chain of command. The second characteristic was stability, with a firm agreement between the program manager and the chief executive officer on the specifics of performance, stability, and cost. In addition, the decision for full-scale production was not taken unless the support of the board of directors included a willingness to fully fund it. The third characteristic was limited reporting requirements, typically only to the Chief Executive Officer and only on a management-by-exception basis. The fourth characteristic was a staff which was smaller than the standard project manager staff in DOD but which was hand-picked, of a high quality, and able to spend its time managing the program rather than defending it. The fifth characteristic was a continuing dialogue with users so that trade-offs were made with the users' concurrence, such as trade-offs in performance made to protect cost and schedule. The sixth characteristic singled out by the commission was that systems involving unproven technology were frequently given operational testing while in prototype, and that the project manager frequently established his

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[143] Executive Order 12526, 15 July 1985, printed in *A Quest for Excellence: Final Report by the President's Blue Ribbon Commission on Defense Management,* Jun 86, Appendix B.

For the impact of David Packard on the PM program some 15 years earlier as Deputy Secretary, see p. 25.

own red team or devil's advocate to seek out pitfalls that might arise as a result of either actual use or a competitor's response.[144]

The report then noted that

> "defense acquisition typically differs from this commercial model in almost every respect. Yet a number of successful DoD programs have incorporated some or all of these management features to a greater or lesser degree. We therefore concentrated our efforts on deriving a formula for action--steps by which defense acquisition can come to emulate this model to the maximum extent practical."[145]

Taking aim at the perceived deficiency in the chain of command, the Commission recommended that statutory provision be made for the establishment at the Under Secretary of Defense level for a Defense Acquisition Executive with supervisory and policy-making responsibilities over the entire DOD acquisition system, including the areas of research and development, procurement, logistics, and testing. In turn, the Army, Navy and Air Force would each establish a Service Acquisition Executive. They, in turn, would each

> appoint a number of Program Executive Officers (PEO) who, like group general managers in industry, should be responsible for a reasonable and defined number of acquisition programs. Program Managers for these programs should be responsible directly to their respective PEO and, on program matters, report *only* ["only" italicized in original] to him. In other words, each major program should be set up as a center of excellence and managed with modern techniques. The Defense Acquisition Executive should insure that no additional layers are inserted into this program chain of command.[146]

Action on this report came quickly, even before formal release of the final report. On 2 April 1986, the White House announced that the President had directed the implementation of almost all of the

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[144] *A Quest for Excellence: Final Report by the President's Blue Ribbon Commission on Defense Management,* Jun 86, pp. 49-51.

[145] Ibid, p. 51.

[146] Ibid, pp. 53-54.

recommendations of the Commission that did not require prior Congressional action. The President ordered DOD, in anticipation of legislative action, to create within 60 days the position of Under Secretary of Defense for Acquisition. Within the same 60 days the services were to establish Service Acquisition Executives who, acting for the Service Secretaries, would

> appoint Program Executive Officers (PEO) who will be responsible for a reasonable and defined number of acquisition programs. Thus, no program manager would have more than one level of supervision between himself and his Service Acquisition Executive, and no more than two levels between himself and the Department of Defense Acquisition Executive.[147]

Implementation within the Army followed quickly. By April and May 1987 it had been determined that the Under Secretary of the Army would serve as the Service Acquisition Authority, with PEOs reporting to him, and with PMs reporting to the PEOs. AMC was removed from the direct chain of command, but its MSCs continued to have the important responsibility of supporting through the matrix management technique the PEOs and PMs who were collocated with the MSCs.[148]

General Thompson retired during the process of converting to the new PEO concept, and was replaced on 13 April 1987 by GEN Louis C. Wagner, Jr. General Wagner, in his previous position as Army DCSRDA, had been involved in the Army staff development of

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[147] Ibid, Appendix, June 1986, Appendix C. The assumption of quick Congressional action to provide for the position of Under Secretary of Defense for Acquisition was justified. See the Goldwater-Nichols Department of Defense Reorganization Act of 1986, Public Law 90-433, 1 Oct 86, section 104.

[148] Memorandum from the Army Acquisition Executive to the CG, AMC, *et al*, subj: Implementation of the Program Executive Officer (PEO) Concept, 29 Apr 87.

On 13 May 1989 the Secretary of the Army directed that the Assistant Secretary of the Army (Research, Development, and Acquisition) replace the Under Secretary of the Army as the Army's Service Acquisition Executive. See the General Accounting Office Report to the Honorable William V. Roth, Jr., U.S. Senate: *Acquisition Reform: DOD's Efforts to Streamline Its Acquisition System and Reduce Personnel*, Nov. 1989.

the PEO concept and was supportive of its implementation, although as DCSRDA he as well as AMC had instead recommended implementation plans that would have dual-hatted the MSC Commanders as the PEOs.[149]

Actual implementation of the PEO structure, as far as AMC was concerned, took place on 1 May 1987 when all but 14 AMC-owned PM programs were transferred from AMC to HQDA. There they were integrated, along with other Army PM programs which dealt with such matters as medical support and financial systems, into the new PEO structure, a structure which was still in the process of evolving as FY87 ended (see Appendix B). The 14 remaining PMs, and the organizations they reported to, are listed below.

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[149] See "Wagner takes command of AMC," *AMC News,* vol. 15, no. 6 (Apr 87); General Wagner's biographical sketch, AMC archives, and AMC, *Oral History Program Former Commanders: General Louis C. Wagner, Jr., Commanding General U.S. Army, Commander 14 April 1987 - 26 September 1989* (USAMC, 1990), pp. 1-3 (hereafter cited as *OHP, Louis C. Wagner*).

TABLE III--AMC PM Programs as of 1 May 1987

Program	HQ the PM Reports to
Anti-Armor Support Platform/	
Armored Gun System	TACOM
Boresight Devices	AMCCOM
Light Armored Vehicles	TACOM
Saudi Arabian National Guard Modernization	
Modernization Program	USASAC
Training Devices (TRADE)	HQ AMC
Armored Training Devices	PM TRADE
Army Communications Systems	PM TRADE
Aviation Training Devices	PM TRADE
Ground Forces Training Devices	PM TRADE
Test, Measurement and Diagnostic Equipment	HQ AMC
Automatic Test Support Systems	PM TMDE
TMDE Modernization	PM TMDE
Test Program Sets	PM TMDE
Topographical Support Sets	TROSCOM

Source: Office of Project Management AHR Submission for FY87.

This, of course, was not the end of AMC's involvement with PM programs. Besides continuing to manage its own remaining PMs, AMC had to manage the support provided by its MSCs to the PEO-managed PMs. In addition, the HQ AMC Office of Project Management continued, at least for the time being, to provide some centralized administrative support to the Army PM program.[150]

There was no doubt, however, that AMC's relationship to the Army PM program had undergone a major change. AMC was no longer in direct charge of most materiel development PM programs. Although the trend under General Thompson of stressing small staffs and matrix management support of the PMs by the MSCs might well continue under the new system, clearly the policy of having the MSC commanders more and more in charge of the PM programs at their base had been reversed. The PMs would no longer carry the four stars of the AMC Commander on their shoulders as had been the case since

[150] AMC Annual Historical Review, FY87, pp. 176-177.

the creation of AMC under General Besson; they, or the PEOs above them, might now be carrying the even greater authority of the Army Acquisition Executive, but that was for the future to show.

CONCLUSION/LESSONS LEARNED

A review of the history of PM management in AMC indicates several clear lessons. The most important organization lesson, of course, was that project management itself, having one person responsible for tracking and coordinating the development of a major weapon system, was clearly needed. Although many AMC Commanders thought it necessary to limit the number of PM programs and/or reduce the amount of independence the PMs enjoyed within AMC, none of them advocated the elimination of program managers. Similarly, it must be concluded that the form under which project management exists or is managed does matter, as for example the several ways in which a Washington liaison for each PM was structured, eliminated, and restructured again.

With that said, it is clear that, with perhaps the exception of General Deane, the AMC commanders following General Besson thought it necessary to in some way rein in PM management. The history of PM programs within AMC shows steady efforts to control the numbers of PM programs and thus the personnel resources dedicated to it. It also shows a steady trend towards an increase in the authority of commodity commands and of the AMC staff over PMs. Another persistent and related trend was the constant effort to develop appropriate reporting mechanisms for PMs. In essence, these trends showed a steady tendency to assimilate PM management into the standard hierarchical command and staff operations within AMC. In this respect, the implementation of the PEO concept was a radical discontinuity in the evolution of the PM system within AMC, although perhaps a move back to reestablishing the independence they had had under General Besson.

Another long-term trend was the slow but steady evolution of a career field for PMs. Originally PMs were selected by AMC from a pool of officers from throughout the Army. In time it developed into a career field in which prospective PMs were brought along a career path and selected by a central DA selection board.

In contrast to the trend towards evolutionary development of the PM program, major changes in direction were frequently initiated from outside of AMC. This had been evident at the very inception of AMC when the Secretary of Defense's interest in the PM form of management helped assure that PMs would play a prominent role in AMC. It came into play again when the Secretary of the Army made it clear to General Chesarek that there was concern over the way AMC managed its PM programs. This factor surfaced again with the AMARC report and still again with the report of the Packard

Commission. Given the importance of the mission of equipping the Army with the wherewithal to fight and win, it is clear that whichever agency is charged with the primary responsibility will be subject to close scrutiny of its management and that dissatisfaction by higher authorities will remain the most potent force for radical change.

APPENDICES

APPENDIX A

SELECTED LISTS OF AMC PM PROGRAMS BY DATE

TABLE A-I--Original AMC PM Programs, 1962

Source: Chronological History of Project Manager Office Establishments/Terminations, ca. 1973, in AMC Archives.

AN/USD-5 Drone
Automatic Data Systems Army Field (ADSAF)
Aircraft Weaponization
BZ Weapon System
Caribou (CV7A)
Chinook
Combat Vehicles
Davy Crockett
Deseret
Forward Area Ballistic Missile Defense System (FABMDS)
General Purpose Vehicle (GPV)
Hawk
Hercules
Iroquois
Lance
MQM58A
*LOH
*M60 Tank
Mauler
Mohawk
Nike X
Pershing
RADA/TAS
M14 Rifle
SATCOM
Selected Ammunition
Selected Tactical Radios
Sergeant
Sheridan
STARCOM

* PM programs established in September 1962. The other programs listed were established 1 August 1962.

TABLE A-II--AMC PM Programs as of 31 December 1968

Aircraft Modernization
Air Defense Control & Coordination
Air Traffic Management System
Armored Reconnaissance Scout Vehicle
Army Area Communications System
Artillery Ammunition
Automatic Data Field Systems Command
Beach Discharge and Amphibious Lighters
Bombs and Related Components
Chaparral/Vulcan
Cheyenne
Chinook
Close Support Weapons System
Common Positioning & Navigation System
Communications Security
Deseret
Dragon
Flat-Top
General Purpose Vehicles
Goer Vehicle
Hawk
Heavy Lift Helicopters
Iroquois
Lance
Land Combat Support Systems
Light Observation Helicopter (Cayuse)
M60 Tank
M107/M110 Artillery
M113 Italy Co-Production
M561/XM705 Truck
Main Battle Tank
Mallard
Manned Aerial Vehicle for Surveillance
Mechanized Infantry Combat Vehicles
Mobile Electric Power
Mobile Floating Assault Bridge Ferry
Mohawk

Mortar Artillery
Multi-Fuel Engines
Multiple Artillery Rocket System
Night Vision
Nike-Hercules
Omnidirectional Mortar Locating Radar
Pershing
Random Access Discrete Address System & Tactical Automatic Switching System
Redeye
Rifles
2.75-inch Rocket
Satellite Communications System
Selected Ammunition
Selected Avionics Equipment for Army Aircraft
Selected Priority Operations
Selected Tactical Radios
Sentinel Munitions
Sergeant
Sheridan
Shillelagh
Southeast Asia Night Operations
Special Mission Operations
Special Warfare
Strategic Communications
Surface-to-Air Missile Development
Target Missiles
Teletypewriter
Tube-launched, Optically-sighted, Wire-guided missile
Turbine Aircraft Engines
Utility Tactical Transport Aircraft
Vehicle Rapid Fire Weapons System

Source: *Arsenal for the Brave*, pp. 66-67.

TABLE A-III--AMC PM Programs as of 1 February 1971

Advanced Aerial Weapons System
Air Defense Control & Targets
Armored Reconnaissance Scout Vehicle
Army Area Communications
Bombs & Related Components
Chaparral/Vulcan
Close Support Weapons System
Container Systems
Deseret
Dragon
Goer Vehicles
Hawk
Heavy Lift Transport Aviation System
Infrared Countermeasures
Lance
Land Combat Support System
Light Observation Helicopter
M-60 Tank Series
M561/XM705 trucks
Main Battle Tank
Mallard
Manned Aerial Surveillance and Target Acquisition System
Mechanized Infantry Combat Vehicle
Mobile Electric Power
Navigation Control
Night Vision
Pershing
Rifles
2.75 Rocket System
Safeguard Munitions
SAM-D
SATCOM
Selected Ammunition
Selected Avionics Equipment for Army Aircraft
Sensor Materiel Operations
Sheridan
Shillelagh
STARCOM

TOW
Utility Aircraft
Vehicle Rapid Fire Weapons Systems
US Army Small Arms Systems Agency

Source: Alphabetical Listing of AMC Project/Product Management Offices (PMO) and Army Materiel Systems Staff Offices (AMSSO) as of 1 February 1971.

TABLE A-IV--AMC PM Programs as of October 1975

Army Container Oriented Distribution System
Advanced Attack Helicopter
Advanced Scout Helicopter
Aircraft Survivability Equipment
Aircraft Systems Integration
Army Tactical Communication Systems
Army Tactical Data Systems
Cannon Artillery Weapons Systems
CH-47 Modernization Program
Chemical Demilitarization and Installation Restoration
COBRA
1-1/4 Tom Commercial Truck System
DCS (Army) Communications Systems
DRAGON
FAMECE and UET
HAWK
Heavy Equipment Transporter
Heavy Lift Helicopter
HELLFIRE
High Energy Laser System
Iranian Aircraft Program
Kuwait Missile System Program
LANCE
M-60 Tank Development
M-60 Tank Production
M110E2 8-Inch Howitzer
Mechanized Infantry Combat Vehicle
Mobile Electric Power
Mortar/Artillery Locating Radar
Multi-Service Comm Systems
Munitions Production Base Modernization & Expansion
Navigation Control (NAVCON)
PERSHING
Precision Laser Designator
2.75" Rocket System
Remotely Monitored Battlefield Sensor Systems
Safeguard Munitions
SAM-D

SATCOM
Saudi Arabian National Guard (SANG)
Selected Ammunitions
Single Channel Ground & Airborne Radio Subsystem
Stinger
Stinger
TOW
Training Devices
US Roland
Utility Tactical Transport Aircraft System
XM-1 Tank System

Source: DARCOM Annual Report of Major Activities, FY75, p. 466.

TABLE A-V--AMC PM Programs as of 1 September 1981

Beginning in 1976 a heirarchy of product, project, program managers was established. In the table below, PMs subordinate to another PM are shown indented under the PM (system) to which they reported.

Advanced Attack Helicopter
  (AAH) Target Acquisition Designation System/Pilot Night Vision System
  (AAH) 30mm Ammunition
Advanced Scout Helicopter
Air Defense Command and Control System
Aircraft Survivability Equipment
All Source Analysis System
Armored Combat Vehicle Technology
Army Tactical Communications System
Black Hawk
Cannon Artillery Weapons Systems
JPM Guided Projectiles
CH-47 Modernization Program
Chaparral/FAAR
Cobra
Commercial Construction Equipment and Selected Material Handling Equipment
Defense Communications Systems Division Air Defense Gun
Fighting Vehicle System
  (FVS) Fighting Vehicle Armament
Firefinder/Remotely Monitored Battlefield Sensor System
Hawk
Heavy Equipment Transporter
Hellfire/Ground Laser Designators
Improved TOW Vehicle
Joint Tactical Fusion Program (P)
M1 Abrams Tank System
  (M1) Tank Main Armament System
M9/Universal Engineer Tractor
M60 Tanks
M113/M113A1 Family of Vehicle Readiness
Mobile Electric Power
Modular Integrated Communication and Navigation System

Multiple Launch Rocket System
Multi-Service Communications Systems
Nuclear Munitions
Operations Tactical Data Systems
Patriot
Pershing
Position Locating Reporting System/Tactical Information Distribution Systems
Satellite Communications
Saudi Arabian National Guard Modernization Program
Single Channel Ground and Airborne Radio Subsystem
Smoke/Obscurants
Special Electronic Mission Aircraft
Stand-Off Target Acquisition System
Stinger
Tactical Airborne Remotely Piloted Vehicle/Drone System
Tactical Fire Direction System/Field Artillery Tactical Data Systems
Test, Measurement and Diagnostic System
Tube-Launched, Optically-Sighted, Wire-Guided (TOW) Missile
Training Devices
(TD) Armor Training Devices
US Roland
Viper

P = provisionally established

Source: Army Project Management List, 1 Sept 1981.

TABLE A-VI--AMC PM Programs as of 1 April 1987

Beginning in 1976 a heirarchy of product, project, program managers was established. In the table below, PMs subordinate to another PM are shown indented under the PM (system) to which they reported.

9mm Pistol Program
Advanced Attack Helicopter
  (AAH) Target Acquisition Designation System/Pilot Night Vision System
  (AAH) Apache Automatic
  Test Equipment
Advanced Manportable Weapon Systems (P)
Air Defense/Theater Missile
  Defense (P)
  (AD) Air Defense Command and Control System
  (AD) Chaparral/FAAR
  (AD) Hawk
  (AD) Line-of-Sight-Forward (Heavy)
  (AD) Patriot/Joint Theater Missile Defense
  (AD) Stinger
Aircraft Survivability Equipment
Ammunition Logistics
Amphibians and Watercraft
Anti-Armor Support Platform/Armored Gun System (P)
Army Command and Control Systems (P)
  (ACC) Field Artillery Tactical Data Systems
  (ACC) Mobile Subscriber Equipment
  (ACC) Multi-Service Communications Systems
  (ACC) Operations Tactical Data Systems
  (ACC) Position Location Reporting System/Tactical Information Distribution Systems
    (ACC-PLRS) Position Location Reporting System/Joint Tactical Information Distribution Systems Hybrid (P)
  (ACC) Single Channel Ground and Airborne Radio System
Army Helicopter Improvement Program
Army Information Systems
Army Tactical Missile System
Aviation Life Support Equipment

Black Hawk
Boresight Devices
Cannon Artillery Weapons Systems/JPM Guided Projectiles
CH-47 Modernization/Army V-22 Aircraft Programs
Chemical Munitions (Demil & Binary) (P)
  (CM) Chemical Demilitarization (P)
  (CM) Binary Munitions (P)
Clothing and Individual Equipment
Cobra
Combat Vehicles
  (CV) Bradley Fighting Vehicle Systems
  (CV) M1/M1A1 Abrams Tank
  (CV) M9 Armored Combat Earthmover
  (CV) M60 Tanks
  (CV) M113 Family of Vehicles
  (CV) Tank Main Armament Systems
Firefinder
Fuzes (P)
Hellfire/Ground Laser Designators
Identification Friend or Foe (P)
Light Armored Vehicles
Light Helicopter Family
Mines, Countermines and Demolitions
Mobile Electric Power
Mortar Systems
Multiple Launch Rocket System
Night Vision Devices
Nuclear Munitions
Pershing
Petroleum and Water Systems
Physical Security Equipment
Position Location Reporting System/Tactical Information Distribution System
Satellite Communications
Saudi Arabian National Guard Modernization Program
Smoke/Obscurants
Special Electronic Mission Aircraft
Tactical Airborne Remotely Piloted Vehicle/Drone System (RPV)
  Modular Integrated Communication and Navigation System
Tactical Intelligence/Electronic Warfare Systems
  (IEW) Quickfix (P)
  (IEW) REMBASS (P)

(IEW) Teampack (P)
(IEW) Trailblazer (P)
Tactical Vehicles
(TV) Commercial Construction Equipment and Selected Materials Handling Equipment
(TV) Heavy Tactical Vehicles
(TV) Light Tactical Vehicles
(TV) Medium Tactical Vehicles
Test, Measurement and Diagnostic Equipment
(TMDE) Automatic Test Support Systems
(TMDE) Test Program Sets
(TMDE) TMDE Modernization
Topographic Support Systems
Tube-Launched, Optically-Sighted, Wire-Guided (TOW) Missile
Training Devices
(TD) Armor Training Devices
(TD) Army Communicative Systems
(TD) Aviation Training Devices
(TD) Ground Forces Training Devices
UH-1 Aircraft (P)
Unmanned Aerial Vehicles (P)

Source: AMC Project Management List, 1 April 1987.

APPENDIX B--ARMY PEO STRUCTURE, OCTOBER 1987

PEO, Ammunition

PM, Ammunition Logistics
PM, Fuzes (Provisional)
PM, Mines, Countermines, and Demolitions
PM, Nuclear Munitions

PEO, Armaments

PM, Cannon Artillery Weapons Systems/JPM Guided Missiles
- PM, Howitzer Improvement Program (Provisional)
- PM, Seek and Destroy Armor (Formal Establishment Pending)

PM, Mortar Systems
PM, Small Arms (Formal Establishment Pending)
- PM, 9mm Pistol Program
- PM, 40mm MK19 MOD3 Grenade Machine Gun (Formal Establishment Pending)
- PM, 16A2 Rifle (Formal Establishment Pending)
- PM, Squad Automatic Weapon (Formal Establishment Pending)

PM, Tank Main Armament Systems

PEO, Chemical/Nuclear

PM, Binary Munitions (Provisional)
PM, NBC Defense Systems (Formal Establishment Pending)
PM, Smoke/Obscurants

PEO, Close Combat Missiles

PM, Advanced Antitank Weapon Systems (Provisional)
PM, HELLFIRE/Ground Laser Designators
PM, TOW Weapon System
- PM, TOW II Subsystem (Formal Establishment Pending)

PEO, Close Combat Vehicles

PM, Abrams Tank System
PM, Bradley Fighting Vehicle Systems

PM, M9 Armored Combat Earthmover
PM, M60 Tanks (Provisional)
PM, M113 Family of Vehicles
PM, M88A1 Armored Recovery Vehicle (Formal Establishment Pending)

PEO, Combat Aviation

PM, Advanced Attack Helicopter
PM, Apache Automatic Test Equipment
PM, Target Acquisition Designation System/Pilot Night Vision System
PM, Aircraft Survivability Equipment
PM, Army Helicopter Improvement Program
PM, Aviation Life Support Equipment
PM, Cobra
PM, Light Observation Helicopters (Formal Establishment Pending)

PEO, Combat Support

PM, Commercial Construction Equipment and Selected Materials Handling Equipment
PM, Heavy Tactical Vehicles
PM, Light Tactical Vehicles
PM, Medium Tactical Vehicles

PEO, Combat Support Aviation

PM, Black Hawk
PM, CH-47 Modernization/Army V-22 Program
PM, Special Electronic Mission Equipment/Fixed Wing
PM, Special Operation Forces Aircraft (Formal Establishment Pending)
PM, UH-1 Aircraft (Provisional)

PEO, Command and Control Systems

PM, All Source Analysis System (Formal Establishment Pending)
PM, Combat Service Support Control System (Formal Establishment Pending)

PM, Common Hardware Systems (Provisional)
PM, Field Artillery Tactical Data Systems
PM, Forward Area Air Defense Command and Control Systems (Formal Establishment Pending)
PM, Global Positioning Systems (Formal Establishment Pending)
PM, Operations Tactical Data Systems

PEO, Communication Systems

PM, Mobile Subscriber Equipment
PM, Multi-Service Communications Systems
PM, Position Location Reporting System/Tactical Information Distribution System
PM, Position Location Reporting System/Joint Tactical Information Distribution Systems Hybrid (Provisional)
PM, Regency Net
PM, Satellite Communications
PM, Single Channel Ground and Airborne Radio System
PM, Single Channel Objective Tactical Terminal (Formal Establishment Pending)

PEO, Engineer Programs

PM, Army Military Construction
PM, Water Resources
PM, Other Construction

PEO, Finance Management Information Systems

PM, Military Pay (Formal Establishment Pending)
PM, Standard Army Finance Systems (Redesigned) (Formal Establishment Pending)
PM, Standard Army Civilian Payroll Systems (Redesigned) (Formal Establishment Pending)

PEO, Fire Support

PM, Aquila Remotely Piloted Vehicle
PM, Modular Integrated Communication and Navigation System

PM, Army Tactical Missile System
PM, Multiple Launch Rocket System
PM, Pershing
    PM, Pershing II Erector Launcher (Formal Establishment Pending)
PM, Smart Munitions (Formal Establishment Pending)
PM, Unmanned Aerial Vehicles (Platform) (Provisional)

PEO, Forward Area Air Defense

PM, Air Defense Command Interoperability
    PM, Identification Friend-or-Foe (Provisional)
PM, Chaparral/Forward Area Alerting Radar
PM, Line-of-Sight-Forward (Heavy) (Provisional)
PM, Non-Line-of-Sight (Formal Establishment Pending)
PM, Stinger
    PM, Line-of-Sight-Rear (Formal Establishment Pending)

PEO, Health Care Systems

PM, Combat Medical Systems
    PM, Applied Medical Systems
    PM, Biological Systems
    PM, Pharmaceutical Systems
PM, Hospital Systems
    PM, Medical Care Support Equipment
    PM, Medical Care Materiel
    PM, Medical Facilities
PM, Deployable Medical Systems

PEO, High/Medium Air Defense

PM, Hawk
PM, Joint Theater Missile Defense (Formal Establishment Pending)
PM, Patriot
    PM, Patriot/ATM (Formal Establishment Pending)

PEO, Intelligence and Electronic Warfare

PM, Electronic Warfare/Reconnaissance Surveillance and

Target Acquisition (Formal Establishment Pending)
PM, Firefinder
PM, Guardrail (Formal Establishment Pending)
PM, REMBASS (Provisional)
PM, Stingray (Formal Establishment Pending)
PM, TEAMPACK (Provisional)
PM, Forward Area Air Defense Sensors (Formal Establishment Pending)
PM, JSTARS Ground Module Station (Formal Establishment Pending)
PM, Night Vision Electro Optics (Formal Establishment Pending)
PM, Night Vision Devices
PM, Signals Warfare (Formal Establishment Pending)
PM, Quickfix (Provisional)
PM, Tactical Jammer (Formal Establishment Pending)
PM, Trailblazer (Provisional)
PM, Unmanned Aerial Vehicles (Payload) (Formal Establishment Pending)

PEO, Management Information Systems

PM, Acquisition Information Management/DA Information Network (Formal Establishment Pending)
PM, Acquisition Information Management (Formal Establishment Pending)
PM, DA Information Network (Formal Establishment Pending)
PM, Corps of Engineers Automation Plan
PM, Housing Management System
PM, Integrated Training Management System (Formal Establishment Pending)
PM, Personnel Systems (Formal Establishment Pending)
PM, Army Civilian Personnel System
PM, Project 80X
PM, Standard Installation/Division Personnel System
PM, Standard Army Automated Contracting System (Formal Establishment Pending)
PM, Supercomputers
PM, Theater Army Medical Management Information System (Formal Establishment Pending)

PEO, Networks

PM, Defense Communications and Army Switched Systems
PM, Army Information Environment
PM, Army Small Computer Programs
PM, CONUS Telephone Modern Program
PM, Defense Data Network
PM, Inter-Service/Agency Automated Processing Exchange
PM, Joint Service Computer Programs
PM, Korean Telephone Upgrade
PM, Records Communication
PM, Defense Communications and Army Transmission Systems
PM, Air Traffic Control Systems
PM, CONUS and European Communications Systems Installations
PM, Defense Satellite Communications System Installations
PM, High Frequency and Special Communications Products
PM, Pacific and Southern Area Transmission Systems
PM, Technical Control Products and Transportables
PM, European Telephone Systems
PM, Theater Automated Command Information Management System
PM, Army WWMCCS Information System/Command and Control Systems
PM, USAREUR Tactical Army Command and Control Systems

PEO, Standard Army Management Information Systems

PM, Installation Support Module (Formal Establishment Pending)
PM, Retail Logistics Systems (Formal Establishment Pending)
PM, Standard Army Ammunition Systems (Formal Establishment Pending)
PM, Standard Army Maintenance Systems (Formal Establishment Pending)
PM, Standard Army Retail Supply System (Formal Establishment Pending)

PM, Standard Property Book System - Redesigned (Formal Establishment Pending)
PM, Unit Level Computer Logistics System (Formal Establishment Pending)
PM, Tactical Management Information System
PM, Corps/Theater ADP Service Center
PM, Devices
PM, Tactical Army SCS Computer System
PM, Unit Level Computer
PM, Wholesale Logistics Systems (Formal Establishment Pending)
PM, Computer-Aided Acquisition Logistics System
PM, Integrated Procurement System
PM, Standard Depot System - Redesigned

PEO, Strategic Defense

PM, Airborne Optical Adjunct
PM, Electromagnetic Launcher/Electrothermal
PM, Exatmospheric Reentry Vehicle Interceptor Subsystem
PM, Ground Based Laser
PM, High Endoatmospheric Defense Interceptor
PM, Terminal Imaging Radar

PEO, Troop Support

PM, Amphibians and Watercraft
PM, Clothing and Individual Equipment
PM, Mobile Electric Power
PM, Petroleum and Water Systems
PM, Physical Security Equipment

Direct Reporting AAE Program Managers

PM, Chemical Demilitarization
PM, Light Helicopter Family
PM, Reserve Component Automation System

Source: AMC, U.S. Army Program Executive Officers and Program/Project/Product Managers, October 1987

APPENDIX C
PROGRAM/PROJECT MANAGERS
BY PROGRAM, 1962-1987

This appendix, an alphabetical list of all the various project offices throughout the history of AMC, provides summary information about the organizational history of the PM offices and lists the PMs who headed the offices.

ABRAMS TANK SYSTEM (TACOM, AMC) (Formerly Main Battle Tank; deprojectized Jun 72. Redirected and redesignated XM1 Tank System. Combined with M1A1 Abrams Tank System and redesignated Abrams Tank System. Assigned to PEO, Close Combat Vehicles Mar 87, which was redesignated PEO, Heavy Force Modernization Jan 89.)

MG Welborn G. Dolvin, AR
08/63 - 08/66
MG Edwin H. Burba, EN
08/66 - 06/68
MG Bernard R. Luczak, OD
06/68 - 06/72
MG Robert J. Baer, AR
09/72 - 07/77
MG Donald M. Babers, OD
07/77 - 06/80
COL Herman J. Vetort (Acting)
06/80 - 07/80
MG Duard D. Ball, OD
07/80 - 06/83
COL William R. Sowers, AR (Acting)
06/83 - 06/83
MG Robert J. Sunell, AR
06/83 - 07/84
COL William R. Rittenhouse, AR
07/84 - 07/87

ADS-70. See PATRIOT.

ADVANCED AERIAL FIRE SUPPORT SYSTEM. See Advanced Attack Helicopter.

ADVANCED AERIAL WEAPONS SYSTEM. See Advanced Attack Helicopter.

ADVANCED ANTITANK WEAPON SYSTEM (AAWS) (MICOM, AMC) (Formerly Light Antitank Weapon; VIPER. Redirected and redesignated AMWS Dec 83 without change of PM [COL Walker]. Redesignated AAWS and assigned to PEO, Close Combat Missiles May 87, which was combined with PEO, Fire Support Aug 88.)

COL Hubert W. Lacquement, OD
12/75 - 08/77
COL Joseph O. Lax, Jr., OD
08/77 - 08/78
COL Church M. Matthews, OD
08-78 - 08/80
COL Aaron J. Larkins, OD
08/80 - 05/82
Mr. James Hughes, DAC (Acting)
06/82 - 06/82
COL Robert T. Walker, OD
06/82 - 12/85
COL James L. Higginbotham, AV
01/86 - 01/88

ADVANCED ATTACK HELICOPTER (AAH) (AVSCOM, AMC) (Formerly Advanced Aerial Weapons System; also known as Advanced Aerial Fire Support System and Cheyenne. New requirement for AAH established Jun 72 with no interruption to project or change in PM [COL Bolz]. Assigned to PEO, Combat Aviation May 87, which was redesignated PEO, Aviation Aug 88.)

COL Lewis W. Leeney, IN
06/63 - 10/66
Mr. Joseph R. Bracewell, DAC (Acting)
11/66 - 02/67
LTC Emil E. Kluever, TC
02/67 - 07/69
COL Robert Dillard, TC
07/69 - 11/70

COL Henry H. Bolz, Jr., TC
12/70 - 04/73
BG Samuel G. Cockerham, TC
04/73 - 06/76
MG Edward M. Browne, TC
06/76 - 11/82
MG Story C. Stevens (Acting)
12/82 - 01/83
BG(P) Charles F. Drenz, TC
01/83 - 05/86
Mr. John P. Clarke, DAC (Acting)
05/86 - 09/86
BG William S. Forster
09/86 - 05/87

ADVANCED SCOUT HELICOPTER. See Army Helicopter Improvement Program.

AERIAL SCOUT HELICOPTER. See Army Helicopter Improvement Program.

AIRBORNE OPTICAL ADJUNCT (AOA) (SDC) (Assigned PEO, Strategic Defense May 87.)

COL Martin G. Olson
06/84 - 05/87

AIR COMBAT TRAINING SYSTEMS (ACTS) (AMC) (Formerly AVD. Name changed without change of PM. Subordinate to PM, Trade.)

LTC James E. Jenks, Jr., FA
04/84 - 12/84
LTC Michael F. McGaugh, FA
12/84 - 10/87

AIRCRAFT ELECTRONIC WARFARE SELF-PROTECTION SYSTEM AND INFRARED COUNTERMEASURES. See Aircraft Survivability Equipment.

AIRCRAFT SURVIVABIITY EQUIPMENT (ASE) (AVSCOM, AMC) (Formerly known as Aircraft Electronic Warfare Self-Protection System and Infrared Countermeasures. Assigned to PEO, Combat Aviation May 87, which was combined with PEO, Combat Support Aviation Aug 88 to form PEO, Aviation.)

Mr. Edward Holloman, DAC (Acting)
09/70 - 06/71
COL Stewart Shirey, FA
06/71 - 08/74
COL Jack L. Keaton, FA
08/74 - 07/79
COL Daniel J. Delany, FA
07/79 - 11/80
Mr. Gary L. Smith, DAC (Acting)
11/80 - 04/81
COL Edward C. Robinson, TC
04/81 - 08/83
COL Curtis J. Herrick, IN
08/83 - 06/87

AIRCRAFT WEAPONIZATION (AMC) (Deprojectized Dec 69.)

COL Nelson L. Lindstrand, IN
08/62 - 06/67
COL Mose E. Lewis, III, AR
07/67 - 01/69
COL Richard J. Kennedy, TC
01/69 - 12/69

AIR DEFENSE COMMAND AND CONTROL SYSTEM (ADCCS) (MICOM, AMC) (Formerly Missile Minder/Air Defense Tactical Data Systems; Air Defense Command Interoperability. Assigned PEO, Forward Area Air Defense May 87; reassigned to PEO, Command and Control Systems Mar 88.)

COL Phillip H. Mason, AD (Acting)
04/77 - 08/78
COL Eugene Fox, AD
08/78 - 05/79

LTC Edgar R. Pevey (Acting)
05/79 - 07/79
COL David L. Wyatt, AD
07/79 - 11/83
COL John S. Ott, OD
11/83 - 09/85
COL Kenneth N. Brown, OD
09/85 - 04/88

AIR DEFENSE COMMAND INTEROPERABILITY. See Air Defense Command and Control System.

AIR DEFENSE CONTROL AND COORDINATING SYSTEM. See Air Defense Control and Targets.

AIR DEFENSE CONTROL AND TARGETS (MICOM, AMC) (Prior to merger with Target Missiles Jul 69, known as Air Defense Control and Coordinating System. Deprojectized Jun 71; assimilated by ARTADS; target missiles to MICOM functional management.)

LTC Stephen Dorchak, OD (Acting)
02/69 - 05/69
LTC Robert Loshbough, OD
05/69 - 10/71

AIR DEFENSE SYSTEMS/THEATER MISSILE DEFENSE (ADS/TMD) (MICOM, AMC) (Disestablished Apr 87.)

BG Donald R. Infante (Acting)
04/85 - 08/85
Mr. Raymond C. Hase, Jr., DAC (Acting)
08/85 - 12/85
BG William J. Fiorentino, OD
12/85 - 05/87

AIR TRAFFIC MANAGEMENT SYSTEMS (ECOM) (Deprojectized Oct 69.)

LTC Norman J. Hughes, SC (Acting)
10/68 - 06/69

LTC Chester McDowell, SC
06/69 - 10/69

ALL SOURCE ANALYSIS SYSTEM (ASAS) (LABCOM, AMC) (Dissolved into JTFP and reassigned to DCSOPS. Formerly known as Control and Analysis Centers. Reestablished as separate PM May 87 and assigned to PEO, Command and Control Systems. 7 Nov 89 Decision Memo designated JTFP as direct reporting PM, including ASAS.)

COL Terrence D. Sargent, SC
08/77 - 02/80
COL Kenneth M. Irish, Jr., SC
02/80 - 06/81
Mr. Howard Simons, DAC (Acting)
06/81 - 02/82
COL Joseph Ganino, MI
07/84 -

AMMUNITION LOGISTICS (AMMOLOG) (AMCCOM, AMC) (Assigned to PEO, Ammunition May 87. PEO disestablished Aug 88. Management responsibility transferred to AMCCOM.)

Mr. Gary Kent, DAC (Acting)
04/84 - 05/84
COL Paul L. Greenberg, OD
05/84 - 11/85
COL James D. Voss, OD
11/85 - 07/89

AMPHIBIANS AND WATERCRAFT (TROSCOM, AMC) (Formerly Beach Discharge and Amphibians Lighters and LARC; MICOM. Deprojectized Dec 69. Reestablished Feb 76, TSARCOM; deprojectized Sep 79. Reestablished Feb 84. Assigned PEO, Troop Support May 87.)

LTC John R. Leary, TC
05/65 - 04/68
Mr. Nicholas M. Kikus, DAC (Acting)
04/68 - 07/68

LTC Robert Jones, TC
07/68 - 10/69
LTC Walter V. Pope, EN
02/76 - 07/78
LTC John J. Vargo, Jr., TC
07/78 - 09/79
COL Franklin D. Barborak, TC
02/84 - 06/84
COL James D. Howard, TC
06/84 - 07/87

AMWS. See Advanced Antitank Weapon System.

AN/PRC-25. See Selected Tactical Radios.

ANTI-ARMOR SUPPORT PLATFORM/ARMORED GUN SYSTEM (TACOM, AMC) (Provisionally established Apr 87; withdrawn with mission assigned to USMC.)

Mr. Ralph Keith, DAC (Acting)
04/87 -

AN/TPQ-28. See Sensors.

AN/USD-2. See MQM-58A OVERSEER.

AN/USD-5. See Mobile Subscriber Equipment.

AN/VRC-12. See Selected Tactical Radios.

APACHE AUTOMATIC TEST EQUIPMENT (ATE) (AVSCOM, AMC) (Subordinate to AAH; assigned to PEO, Combat Aviation May 87, which was redesignated PEO, Aviation Aug 88.)

LTC David E. Sullivan, AV
06/84 - 01/86
MAJ Robert S. Mair (Acting)
01/86 - 02/87
LTC Gerald C. Green, AV
02/87 - 07/90

AR-15. See Rifles.

ARMORED COMBAT VEHICLE TECHNOLOGY. See Mobile Protected Gun System.

ARMORED RECONNAISSANCE SCOUT VEHICLE (TACOM, AMC) (Deprojectized Nov 74.)

LTC John M. Misch, AR
07/66 - 07/69
LTC Oscar C. Decker, OD
07/69 - 07/72
COL Elmer L. Birk, AR
07/72 - 11/74

ARMOR TRAINING DEVICES (AMC). See Close Combat Training Systems.

ARMY AREA COMMUNICATIONS SYSTEMS. See Mobile Subscriber Equipment.

ARMY COMMUNICATIVE SYSTEMS (ACS) (AMC) (Subordinate to PM, Trade. Deprojectized Jan 88.)

Ms. Laura Lotkowitz, DAC (Acting)
09/85 - 06/86
LTC(P) Carl E. Drewes, AR
06/86 - 01/88

ARMY CONTAINER ORIENTED DISTRIBUTION SYSTEM (DARCOM) (Formerly Container Systems Development, Surface Container-Supported Distribution System Development, reporting to MERADCOM Jul 75- Mar 76. Deprojectized Sep 79.)

COL Raymond Cramer, TC
10/70 - 05/74
COL John J. Morris, TC
05/74 - 07/75
Mr. Carroll Schipp, DAC (Acting)
07/75 - 12/75

COL William H. Danzeisen, TC
12/75 - 06/79
Mr. Carroll Schipp, DAC (Acting)
06/79 - 09/79

ARMY DATA DISTRIBUTION SYSTEM (CECOM, AMC) (Formerly Position Location Reporting System/Tactical Information Distribution Systems [PLRS/TIDS]. Redesignated April 89. Assigned PEO, Communication Systems May 87.)

COL(P) Robert D. Morgan, SC
06/77 - 05/81
Mr. Harold H. Bahr, DAC (Acting)
05/81 - 08/81
COL Richard G. Saunders, SC
08/81 - 09/83
Mr. Harold H. Bahr, DAC (Acting)
09/83 - 11/83
COL Henry L. Harris, SC
11/83 - 11/85
Mr. Harold H. Bahr, DAC (Acting)
11/85 - 02/86
COL Stanley M. Clough, SC
02/86 - 12/87

ARMY GUN AIR DEFENSE SYSTEM. See Sergeant York.

ARMY HELICOPTER IMPROVEMENT PROGRAM (AHIP) (AVSCOM, AMC) (Provisionally established Mar 74-Sep 75; established Sep 75; disestablished Oct 76. Formerly Aerial Scout Helicopter; reactivated as Advanced Scout Helicopter Mar 74. Assigned to PEO, Combat Aviation May 87, which was combined with PEO, Combat Support Aviation Aug 88 to form PEO, Aviation.)

COL Edward M. Browne, TC
09/75 - 06/76
Mr. Howard A. Kiehl, DAC (Acting)
06/76 - 08/76
COL Clarence A. Patnode, Jr., IN
08/76 - 10/79

COL Ivar W. Rundgren, Jr., TC
09/79 - 09/82
COL William H. Forster, AD
10/82 - 04/85
COL John N. Tragesser, AV
04/85 - 02/88

ARMY INFORMATION MANAGEMENT ENVIRONMENT (AIME) (ISC) (Assigned PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88. Subordinate to PM, DCASS.)

Mr. William Wickes, DAC
03/87 -

ARMY INFORMATION SYSTEMS (AIS) (ISC) (Formerly DCS Army, SCS; also STARCOM; UNICOM/STARCOM Project; DARCOM portion known as USA Augmentation Element Communications System Agency. Disestablished Apr 87 with establishment of PEO, Networks. Reestablished Aug 88 with disestablishment of PEO, Networks.)

COL Hugh F. Foster, Jr., SC
08/62 - 07/65
COL Kenneth Gonseth, SC
07/65 - 07/66
COL Blain O. Vogt, SC
07/66 - 07/67
BG Hugh F. Foster, SC
07/67 - 08/69
COL William Canfield, SC
08/69 - 07/70
BG Richard W. Swenson, SC
08/70 - 07/71
BG Dorward W. Ogden, Jr., SC
07/71 - 06/74
BG(P) Gerd S. Grombacher, SC
06/74 - 04/76
BG Emmett Paige, Jr., SC
04/76 - 06/79

BG(P) Donald R. Lasher, SC
06/79 - 10/80
MG V. O. Lang, SC
10/80 - 04/82
BG Thurman D. Rodgers, SC
04/82 - 10/83
BG Bruce R. Harris, SC
10/83 - 10/84
BG Alonzo E. Short, SC
10/84 - 07/86
Mr. Feliciano Giordano, DAC
07/86 - 03/90

ARMY SMALL COMPUTER PROGRAMS (ACSP) (ISC) (Assigned PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88. Subordinate to PM, DCASS.)

LTC Charles Giasson, SC
05/83 - 10/88

ARMY TACTICAL COMMUNICATIONS SYSTEMS. See Mobile Subscriber Equipment.

ARMY TACTICAL DATA SYSTEMS (ARTADS) (CECOM, AMC) (Deprojectized Mar 81.)

MG Albert B. Crawford, Jr., SC
04/71 - 05/75
BG William J. Hilsman, SC
05/75 - 09/77
BG Donald R. Lasher, SC
09/77 - 06/79
Vacant
06/79 - 03/81

ARMY TACTICAL MISSILE SYSTEM (ATACMS) (MICOM, AMC) (Assigned to PEO, Fire Support May 87.)

COL James B. Lincoln, FA
03/83 - 04/84

COL William J. Fiorentino, OD
04/84 - 11/84
Dr. Billy D. Tidwell, DAC (Acting)
11/84 - 03/85
COL Thomas J. Kunhart, OD
03/85 - 04/90

ARMY TACTICAL MISSILE SYSTEM BLOCK II (ATACMS-BII) (MICOM, AMC) (Subordinate to PM, ATACMS. Assigned to PEO, Fire Support May 87.)

LTC Gerrard P. Barrett, FA
06/85 -

ARTILLERY AMMUNITION (MUCOM) (Deprojectized Dec 69.)

MAJ Hubert W. Lacquement, OD (Acting)
01/67 - 05/67
LTC James R. Gober, OD
05/67 - 07/69
LC Donald F. Garvais, OD
07/69 - 12/69

ASAS/ENSCE INTERFACE MODULE (AIM) (LABCOM, AMC) (Subordinate to PM, ASAS. Assigned PEO, Command and Control Systems May 87. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including ASAS/ENSCE AIM.)

LTC(P) Ronald Darone, OD
08/83 - 08/89

AUTOMATIC DATA FIELD SYSTEMS COMMAND (AMC/CDC) (Formerly CCIS-70. Deprojectized Apr 69; resources transferred to DA as U.S. Army Computer Systems Cmd.)

COL Anderson Q. Smith, SC
08/62 - 06/64
COL Gerald P. Lerner, SC
06/64 - 06/65
MG Roger M. Lilly, AT
06/65 - 11/77

BG Wilson R. Reed, AT
11/67 - 04/69

AUTOMATIC TEST SUPPORT EQUIPMENT (ATSS) (CECOM, AMC) (Subordinate to PM, TMDE. Formerly Test, Measurement and Diagnostic Systems; Automatic Test Support Systems.)

LTC Walter J. Gabrysiak, FA
07/76 - 08/78
LTC Robert H. Ammerman, SC
08/78 - 05/80
LTC Joseph C. Maragola, AD
05/80 - 10/82
LTC John R. Power, Jr., SC
11/82 - 05/84
LTC William G. Flynn, SC (Acting)
05/84 - 01/85
LTC James Kriebel, FA
01/85 - 07/87

AUTOMATIC TEST SUPPORT SYSTEMS. See Automatic Test Support Equipment.

AVD. See Air Combat Training Systems.

AVIATION LIFE SUPPORT EQUIPMENT (ALSE) (AVSCOM, AMC) (Assigned to PEO, Combat Aviation May 87, which was combined with PEO, Combat Support Aviation in Aug 88 to form PEO, Aviation. Subordinate to PM, ASE.)

LTC Karl R. Griffin (Acting)
04/85 - 03/87
Mr. Richard Bee, DAC (Acting)
03/87 - 07/87

AVIATION SYSTEMS INTEGRATION (AVSCOM, AMC) (Deprojectized Jan 76.)

LTC John J. Top, FA
06/75 - 01/76

AVIATION TRAINING DEVICES (AVD) (AMC). See Air Combat Training Systems.

BEACH DISCHARGE AND AMPHIBIANS LIGHTERS. See Amphibians and Watercraft.

BINARY MUNITIONS (AMCCOM, AMC) (Assigned to PEO, Chemical/ Nuclear May 87. PEO disestablished Jan 89. Management responsibility transferred to AMCCOM [CRDEC].)

COL(P) Robert D. Orton, CM
09/86 - 08/88

BLACK HAWK (AVSCOM, AMC) (Formerly UTTAS. Combined with IROQUOIS and redesignated Utility Aircraft in 1969; redesignated UTTAS 1971; redesignated BLACK HAWK in 1977. Transitioned from AVRADCOM to TSARCOM Oct 81. Assigned to PEO, Combat Support Aviation May 87, which was combined with PEO, Combat Aviation Aug 88 to form PEO, Aviation.)

MAJ Rudolph D. Descoteau, TC (Acting)
08/66 - 03/67
COL Eduardo M. Soler, AT
03/67 - 08/68
Mr. Conrad L. Busse, DAC (Acting)
08/68 - 09/68
LTC Edward P. Lukert, Jr., IN
09/68 - 07/69
COL John W. Lauterbach, IN
10/69 - 07/71
BG Leo D. Turner, IN
08/71 - 08/74
Mr. Conrad L. Busse, DAC (Acting)
08/74 - 09/74
BG Jerry M. Lauer, IN
09/74 - 09/76
COL Robert P. St. Louis, FA (Acting)
09/76 - 10/76
COL Richard D. Kenyon, TC
10/76 - 07/79

COL Charles F. Drenz, TC
07/79 - 09/80
COL Ronald K. Andreson, TC
09/80 - 11/83
COL Ralph H. Lauder, TC
11/83 - 07/86
COL William E. Turner, AV
07/86 - 07/90

BOMBS AND EXPLOSIVES (MUCOM) (Formerly Bombs and Related Components. Deprojectized Jun 73.)

COL Raymond C. Costabile, OD
06/66 - 12/70
COL Charles R. Blaha, Jr., OD
01/71 - 06/73

BOMBS AND RELATED COMPONENTS. See Bombs and Explosives.

BORESIGHT DEVICES (AMCCOM, AMC) (Deprojectized Jul 88.)

Mr. Thomas Jackson, DAC
02/86 - 07/88

BRADLEY FIGHTING VEHICLE ARMAMENT (BFVA) (TACOM, DARCOM) (Formerly BUSHMASTER. Deprojectized Jan 84.)

COL Rodney W. Spotts, AR
03/77 - 08/78
COL William R. Sowers, AR
08/78 - 06/81
COL Thomas K. Seybold, IN
06/81 - 01/84

BRADLEY FIGHTING VEHICLE SYSTEMS (BFVS) (TACOM, AMC) (Formerly MICV; VRFWS assigned to PM, MICV Jul 76; FVS Mar 77. Assigned to PEO, Close Combat Vehicles May 87, which was redesignated PEO, Heavy Force Modernization Jan 89.)

LTC Richard H. Sawyer, OD
07/68 - 12/68
LTC Peter B. Kenyon, OD
01/69 - 07/73
COL James F. McCluskey, OD
07/73 - 07/75
BG Stan R. Sheridan, AR
07/75 - 11/78
Mr. Charles F. Salter, DAC (Acting)
11/78 - 01/79
BG Philip L. Bolte, AR
01/79 - 07/80
BG Donald P. Whalen, FA
07/80 - 09/83
BG Claude B. Donovan, OD
09/83 - 07/85
COL William O. Coomer, AR
07/85 - 08/89

BUSHMASTER. See Bradley Fighting Vehicle Armament.

BZ WEAPONS SYSTEMS (Deprojectized Oct 63.)

COL Allan C. Hamilton, CM
08/62 - 10/63

CANNON ARTILLERY WEAPONS SYSTEM (CAWS) (AMCCOM, AMC) (Formerly Close Support Weapon System, 155mm Howitzer. Assigned to PEO, Armaments May 87. Disestablished Apr 89 in accordance with 25 Jan 89 AAE Decision Memo.)

LTC John B. Hanby, Jr., OD
02/67 - 03/68
COL James K. Hoey, OD
03/68 - 12/69
COL Sterling T. Post, Jr., OD
01/70 - 06/75
COL Frank P. Ragano, OD
06/75 - 03/76
Mr. Raymond Roley, DAC (Acting)
03/76 - 04/76

COL Ronald E. Philipp, OD
04/76 - 07/80
COL(P) Robert W. Pointer, OD
07/80 - 06/81
Mr. Fred H. Menke, DAC (Acting)
06/81 - 08/81
COL John Kronkaitis, OD
08/81 - 03/85
LTC James R. McGinnis (Acting)
03/85 - 12/85
COL Joseph R. Cote, OD
12/85 - 04/89

CARIBOU (CV-2 and CV-7A. CV-2 deprojectized Feb 63.)

COL Karl H. Zornig, TC
08/62 - 09/63

CAYUSE. See Light Observation Helicopter.

CCIS-70. See Automatic Data Field Systems Command.

CH-47 MODERNIZATION (AVSCOM, AMC) (Formerly CHINOOK. Assigned to PEO, Combat Support Aviation May 87, which was combined with PEO, Combat Aviation Aug 88 to form PEO, Aviation.)

LTC Frederick W. Myers, Jr., TC
08/62 - 02/64
COL Edward B. Bissell, IN
02/64 - 02/67
COL Robert J. Dillard, TC (Acting)
02/67 - 07/67
COL Benjamin S. Silver, Jr., IN
07/67 - 10/69
COL James M. Hesson, TC
01/75 - 11/79
COL Terry L. Gordy, TC
11/79 - 06/81
Mr. John P. Clarke, DAC (Acting)
06/81 - 07/81

COL Dewitt T. Irby, Jr., TC
07/81 - 07/83
COL Norbert I. Patla, TC
07/83 - 05/86
COL Michael B. Howe, AV
05/86 - 08/87

CHAPARRAL/FORWARD AREA ALERTING RADAR (CHAPARRAL/FAAR) (MICOM, AMC) (Assigned to PEO, Forward Area Air Defense May 87, which was combined with PEO, High/Medium Air Defense Aug 88 to form PEO, Air Defense. Management responsibility transferred to Cdr, MICOM Oct 89 with no change in PM.)

COL Howard C. Whittaker, OD
03/76 - 09/77
Mr. George E. Woodward, DAC (Acting)
09/77 - 11/77
COL Harold E. Stubbs, OD
11/77 - 10/82
COL William S. Chen, OD
10/82 - 11/84
COL Hezekiah Richardson, OD
11/84 - 01/88

CHAPARRAL/VULCAN (MICOM, AMC) (Formerly VULCAN/CHAPARRAL and Interim Air Defense System. Deprojectized Mar 73.)

COL Erwin M. Graham, OD
12/63 - 06/64
COL Elmer P. Curtis, AT
07/64 - 01/65
LTC Arthur S. Wenborne, OD
01/65 - 08/65
LTC John T. Peterson, OD
08/65 - 05/66
COL Robert C. Daly, IN
05/66 - 06/69
COL William J. Arnold, Jr., OD
06/69 - 12/72

Mr. Harold Croskery, DAC (Acting)
12/72 - 03/73

CHEMICAL DEMILITARIZATION (AMC) See also NBC Defense. (Formerly Chemical Munitions. Redesignated May 87 as direct reporting PM to AAE. Reassigned to ASA(I&L) Aug 88.)

BG David A. Nydam, CM
05/86 - 12/89

CHEMICAL DEMILITARIZATION AND INSTALLATION RESTORATION (DARCOM) (Deprojectized Oct 78.)

BG Sampson H. Bass, Jr., CM
08/75 - 06/76
COL Frank A. Jones, CM
06/76 - 10/78

CHEMICAL MUNITIONS. See Chemical Demilitarization.

CHEYENNE. See Advanced Attack Helicopter.

CHINOOK. See CH-47 Modernization.

CLOSE COMBAT TRAINING SYSTEMS (CCTS) (AMC) (Subordinate to PM, Trade. Name change without change in PM.)

LTC James K. Cooksey, AR
02/78 - 03/80
LTC Harry Neeth, III, EN
03/80 - 06/82
LTC John E. Longhouser, AR
07/82 - 06/84
LTC Gary L. Uliano (Acting)
06/84 - 07/85
LTC John C. Gale, AR
07/85 - 07/88

CLOSE SUPPORT WEAPON SYSTEM, 155mm HOWITZER. See Cannon Artillery Weapons System.

CLOTHING AND INDIVIDUAL EQUIPMENT (CIE) (TROSCOM, AMC) (Assigned to PEO, Troop Support May 87.)

Ms. Vivian McKenzie, DAC (Acting)
11/84 - 12/85
COL Robert R. Sarratt, QM
01/86 - 01/90

COBRA (AVSCOM, AMC) (Assigned to PEO, Combat Aviation May 87, which was combined with PEO, Combat Support Aviation Aug 88 to form PEO, Aviation.)

COL Orlando E. Gonzales, TC
03/72 - 12/74
COL Charles F. Drenz, TC
12/74 - 07/77
COL Robert P. St. Louis, FA
07/77 - 11/78
COL Jay W. Pershing, TC
11/78 - 05/80
Mr. Marlyn K. Buffington, DAC (Acting)
05/80 - 07/80
COL Donald R. Williamson, TC
07/80 - 12/84
Mr. William H. Barthel, DAC (Acting)
12/84 - 04/85
COL John N. Bertelkamp, AV
04/85 - 08/88

COMBAT SERVICE SUPPORT CONTROL CENTER (CSSCS) (CECOM, AMC) (Originally subordinate to PM, TACMIS. Assigned to PEO, Command and Control Systems May 87 as separate PM.)

LTC(P) Richard Johnson, AG
10/86 -

COMBAT SUPPORT TRAINING SYSTEMS (CSTS) (AMC) (Formerly GFD. Name changed without change in PM. Subordinate to PM, Trade.)

LTC John E. Martin, FA
04/84 - 03/85
LTC Daniel E. Adams, FA
03/85 - 04/88

COMBAT TERRAIN INFORMATION SYSTEM (CTIS) (LABCOM, AMC) (Subordinate to PM, JTFP. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including CTIS.)

Mr. Frank Capece, DAC
05/82 - 10/88

COMBAT VEHICLES (WECOM) (Deprojectized Mar 68; subsequently assimilated by CSWS.)

COL Jerome S. Jeffords, OD
06/62 - 09/64
COL Thomas W. Davis, III, SC
09/64 - 08/67
LTC James K. Hoey, OD
08/67 - 03/68

COMMERCIAL CONSTRUCTION EQUIPMENT AND SPECIAL MATERIEL HANDLING EQUIPMENT (CCE/SMHE) (TACOM, AMC) (Assigned to PEO, Combat Support May 87. Management responsibility transferred to CG, TACOM Feb 89.)

LTC Peter P. Strzok, EN
07/77 - 08/78
LTC Raymond F. Vachon, EN
08/78 - 06/81
Mr. Leroy J. Schnurbusch, DAC (Acting)
06/81 - 08/81
LTC Edward M. Lee, Jr., EN
08/81 - 06/82
LTC Leroy W. Paul, EN
06/82 - 05/85
LTC Joseph B. Evans, EN
05/85 - 08/87

COMMON POSITION NAVIGATION SYSTEM (PANS) (ECOM) (Deprojectized Jul 69; combined with Air Traffic Management to form NAVCON.)

LTC Shelley Watson, SC (Acting)
03/68 - 07/68
LTC Frank L. Treece, SC
07/68 - 10/69

COMMUNICATIONS PROCESSING AND INTERFACE (CPI) MODULE (LABCOM, AMC) (Subordinate to PM, ASAS. Assigned PEO, Command and Control Systems May 87. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including CPI.)

LTC Phillip W. Enix, SC (Acting)
03/84 - 05/89

COMMUNICATIONS SECURITY (ECOM) (Deprojectized Jul 69.)

LTC Myron F. Woolsey, SC (Acting)
09/68 - 01/69
LTC Payton R. McDonald, Jr., SC
01/69 - 07/69

COMPUTER-AIDED ACQUISITION LOGISTICS SYSTEM (CALS) (ISC) (Assigned PEO, Standard Army Management Information Systems May 87.)

Mr. James Tomlinson, DAC
07/83 - 08/88

CONTAINER SYSTEMS DEVELOPMENT. See Army Container Oriented Distribution System.

CONTROL AND ANALYSIS CENTER (CAC) (LABCOM, AMC) (Subordinate to PM, JTFP. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including CAC.)

Mr. Carl Klele, DAC
07/82 - 06/89

CONTROL AND ANALYSIS CENTERS. See All Source Analysis System.

CONUS AND EUROPEAN COMMUNICATION SYSTEMS INSTALLATION. See European Communication Systems Installation.

COPPERHEAD (ARRADCOM) (Subordinate to PM, CAWS. Deprojectized Mar 80. Management responsibility retained by PM, CAWS.)

LTC Robert A. Nulk, OD
03/77 - 06/79
LTC Frederick T. Mullens, OD
07/79 - 03/80

CORPS/THEATER ADP SERVICE CENTER (CTACS) (ISC) (Assigned PEO, Standard Army Management Information Systems May 87. Subordinate to PM, TACMIS.)

LTC Francis Marr
/81 - 7/83
LTC John Reavis
09/83 - 09/86
LTC(P) John E. Caldwell, FA
09/86 - 09/88

CV-7A (Deprojectized Jan 67.)

COL Karl H. Zornig, TC
09/63 - 02/64
COL Harry L. Bush, AR
02/64 - 07/64
COL Vistor J. Layton, TC
07/64 - 01/67

DAVY CROCKETT (MICOM, AMC) (Deprojectized Aug 63.)

LTC Otis H. Rodgers, OD
08/62 - 08/63

DCS ARMY, SCS. See Army Information Systems.

DEFENSE COMMUNICATIONS AND ARMY SWITCHED SYSTEMS (DCASS) (ISC) (Assigned to PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88.)

COL John Ladd
08/81 - 08/84
COL David Richards
08/84 - 06/86
COL Roy G. Lawrence, Jr., SC
06/86 - 04/89

DEFENSE COMMUNICATIONS AND ARMY TRANSMISSIONS SYSTEMS (DCATS) (ISC) (Assigned PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88.)

COL Curtis Dickinson
10/85 - 06/86
COL Curtis Washburn, SC
06/86 - 06/89

DEFENSE MESSAGE SYSTEM (DMS) (DCA) (AAE approved establishment 1 Nov 89. Dropped from Major Program List 9 Feb 90.)

COL Thomas M. Herrick, QM
03/87 -

DEFENSE SATELLITE COMMUNICATIONS SYSTEM INSTALLATIONS (DSCSI) (ISC). (Formerly Pacific and Southern Area Transmission Systems. Assigned PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88. Subordinate to PM, DCATS. Program redirected and renamed without change in PM.)

LTC(P) Byron Baldwin, SC
12/86 - 09/88

DEPARTMENT OF THE ARMY MOVEMENT MANAGEMENT SYSTEM (DAMMS) (ISC) (Subordinate to PM, ARLS. Assigned PEO, Standard Army Management Information Systems May 87.)

MAJ(P) Bernard M. Booth, QM (Acting)
07/86 - 06/89

DESERET (AMC) (Deprojectized Jul 73; reestablished as CLASS II Army Activity under TECOM.)

BG Lloyd E. Fellenz, CM
08/62 - 10/63
BG James A. Hebbeler, CM
11/63 - 05/66
COL Bentley Harris, USAF (Acting)
05/66 - 07/66
BG John J. Hays, CM
07/66 - 11/66
BG John G. Appel, CM
11/66 - 06/69
COL Robert Muldrow, USAF (Interim PM)
06/69 - 07/70
BG Max Etkin, CM
07/70 - 07/72
CPT Walter L. Alt, USAF (Interim PM)
07/72 - 09/72
COL Robert A. Shade, CM
09/72 - 07/73

DEVICES (ISC) (Assigned PEO, Standard Army Management Information Systems May 87. Subordinate to PM, TACMIS.)

LTC James Case
08/83 - 06/86
LTC David L. Priddy, OD
06/86 - 05/89

DIGITAL TOPOGRAPHIC SUPPORT SYSTEM (DTSS) (LABCOM, AMC) (Subordinate to PM, JTFP. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including DTSS.)

Mr. Richard Marth, DAC
05/83 - 10/88

DIVAD GUN SYSTEM. See Sergeant York.

DIVISION AIR DEFENSE (DIVAD) GUN SYSTEM. See Sergeant York.

DRAGON (MICOM, AMC) (TOW combined with DRAGON Sep 77; new name TOW-Dragon; DRAGON deprojectized Jul 80.)

LTC John H. Boyes, OD
10/64 - 09/67
COL Kenneth G. Van Auken, OD
09/67 - 07/69
LTC Robert Funke, OD
07/69 - 08/71
Mr. Robert P. Whitley, DAC (Acting)
08/71 - 07/72
COL John M. Shea, AR
07/72 - 12/74
COL Arthur L. Goodall, OD
12/74 - 08/78

ELECTROMAGNETIC LAUNCHER. See Hypervelocity (HVL) Launcher.

ENHANCED POSITION LOCATION REPORTING SYSTEM (EPLRS) (CECOM, AMC) (Provisionally established Aug 86. Formerly Position Location Reporting System/Joint Tactical Information Distribution Systems Hybrid. Assigned PEO, Communication Systems May 87.)

LTC Franklin G. Bridges, SC
08/86 - 06/88

EUROPEAN TELEPHONE SYSTEMS (ETS) (ISC) (Assigned PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88. Disestablished 27 Jun 90.)

COL John F. Bashore, SC
08/84 -05/89

EUROPEAN TROPISPHERIC-SCATTER (ET-A) (ECOM)
(Deprojectized Mar 67.)

COL Hugh F. Foster, SC
03/65 - 07/65
LTC D. R. Decamera, SC (Acting)
07/65 - 09/65
COL Erling J. Foss, SC
09/65 - 08/66
LTC Bernard J. Pankowski, SC
09/66 - 07/67

EXATMOSPHERIC REENTRY VEHICLE INTERCEPTOR SUBSYSTEM (ERIS) (SDC). See Ground Based Interceptor.

FAMILY OF MILITARY ENGINEERING CONSTRUCTION EQUIPMENT. See M9 Armored Combat Earthmover.

FIELD ARMY BALLISTIC MISSILE DEFENSE SYSTEM. See Special Warfare.

FIELD ARTILLERY TACTICAL DATA SYSTEMS (FATDS) (CECOM, AMC) (Formerly known as Tactical Fire Direction System/Field Artillery Tactical Data Systems. Assigned to PEO, Command and Control Systems May 87. Dropped from Major Program List Feb 90 to ADAP.)

COL Jerry M. Bunyard, FA
08/77 - 07/79
Mr. Phillip K. Lloyd, DAC (Acting)
07/79 - 08/83
COL Harold E. Luck, FA
08/79 - 04/83
Mr. Phillip K. Lloyd, DAC (Acting)
04/83 - 06/83
COL Paul T. Wickliffe, FA
06/83 - 12/86

Mr. Frank Murphy, DAC (Acting)
12/86 - 02/87
COL Bruce A. Jensen
02/87 - 06/88

FIREFINDER (CECOM, AMC) (Formerly Mortar/Artillery Locating Radars: changed to FIREFINDER/Remotely Monitored Battlefield Sensor System [REMBASS]. Redesignated FIREFINDER in Oct 76; REMBASS broken out as separate PM. Assigned PEO, Intelligence and Electronic Warfare May 87. Program downgraded Jul 87. Subordinate to PM, RADAR.)

COL William J. Harrison, FA
07/72 - 05/77
COL Thomas F. Cameron, FA
06/77 - 01/80
COL John S. Chesbro, FA
01/80 - 07/84
COL Ronald C. Baldwin, FA
07/84 - 07/87

FIREFINDER/REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEM. See FIREFINDER.

FIRE SUPPORT TEAM VEHICLE (TACOM, AMC) (Formerly Fire Support Team Vehicle/Improved TOW Vehicle. Deprojectized Jul 83 with transfer of functions to M113.)

COL Charles C. Adsit, OD
03/76 - 08/79
COL James A. Chernault, IN
08/79 - 06/83

FIRE SUPPORT TEAM VEHICLE/IMPROVED TOW VEHICLE. See Fire Support Team Vehicle.

FLATTOP (AMC) (Deprojectized Oct 69.)

COL John F. Sullivan, TC
06/64 - 05/67

COL Morgan G. Light, TC
05/67 - 09/69

FLYING CRANES. See Heavy Lift Helicopter.

FORWARD AREA AIR DEFENSE SENSORS/TARGET IDENTIFICATION (FAAD SEN/ID) (MICOM, AMC) (Formerly Identification Friend-or-Foe. Assigned to PEO, Forward Area Air Defense May 87.)

LTC Thomas V. Rosner, OD
12/86 - 11/87

FORWARD SENSOR INTERFACE CONTROL (FSIC) (LABCOM, AMC) (Subordinate to PM, ASAS. Assigned PEO, Command and Control Systems May 87. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including FSIC.)

LTC(P) Richard Peyton, MI (Acting)
10/83 - 06/89

FUZES (AMCCOM, AMC) (Provisionally established Jul 86. Assigned to PEO, Ammunition May 87. PEO disestablished Aug 88. Management responsibility transferred to AMCCOM.)

MAJ Richard O. Bailer (Acting)
07/86 - 03/87
LTC Thomas J. Sinclair, FA
03/87 -

GAMA GOAT. See 1 1/4 Ton Commercial Truck Systems.

GENERAL PURPOSE VEHICLE (TACOM, AMC) (Deprojectized Oct 69.)

COL Frank J. Havel, OD
08/62 - 01/65
COL Aubrey P. Nathan, IN (Acting)
02/65 - 08/65
COL Morton M. Jones, Jr., OD
08/65 - 07/67

GENERAL SUPPORT ROCKET SYSTEM. See Multiple Launch Rocket System.

GENERATORS. See Mobile Electric Power.

GFD. See Combat Support Training Systems.

GOER VEHICLES (TACOM, AMC) (Deprojectized May 72.)

LTC Keith G. Constock, OD
06/66 - 09/68
MAJ Charles E. Rose, OD (Interim PM)
10/68 - 07/69
LTC Gilbert P. Wright, OD
07/69 - 07/70
COL Jere W. Sharp, OD
07/70 - 12/71
Mr. Robert Carion, DAC (Acting)
12/71 - 05/72

GROUND BASED INTERCEPTOR (GBI) (SDC) (Name changed without change in PM. Assigned PEO, SDC May 87.)

Mr. Jame C. Katechis, DAC
12/84 -

GROUND BASED LASER (GBL) (SDC) (Assigned PEO, Strategic Defense May 87.)

COL James D. McNulty, AV
07/86 - 08/88

GROUND BASED RADAR (GBR) (SDC) (Formerly Terminal Imaging Radar. Assigned PEO, Strategic Defense May 87.)

COL Gilbert J. Stieglitz, AD
06/85 - 08/88

GROUND FORCES TRAINING DEVICES (GFD) (AMC). See Combat Support Training Systems.

GROUND LASER DESIGNATORS (MICOM, AMC) (Formerly Precision Laser Designators. Deprojectized Jul 79. Combined with HELLFIRE Jul 79.)

MAJ Phillip W. Williams, SC (Acting)
04/74 - 08/74
COL John H. Reeve, AD
08/74 - 07/77
COL Benjamin J. Pellegrini, AD
07/77 - 07/79

HAWK (MICOM, AMC) (Assigned to PEO, High/Medium Air Defense May 87, which was combined with PEO, Forward Area Air Defense in Aug 88 to form PEO, Air Defense. Management responsibility transferred to Cdr, MICOM Oct 89 with no change in PM.)

COL Harry M. Murray, OD
08/62 - 05/63
COL Charles R. Graham, OD
06/63 - 07/64
COL George H. McBride, OD
08/64 - 01/67
COL John G. Redmon, OD
02/67 - 07/67
COL John R. M. Covert, AR
08/67 - 12/70
COL Harry Buzzett, FA
12/70 - 06/73
COL Ernest W. Deadwyler, OD
06/73 - 07/76
COL Patrick M. Roddy, OD
07/76 - 08/77
COL Howard C. Whittaker, OD
09/77 - 08/80
COL(P) Lynn H. Stevens, OD
08/80 - 05/81
Mr. John A. Robins, DAC (Acting)
05/81 - 06/81

COL John S. Drosdeck, OD
06/81 - 08/84
COL Samual N. Liberatore, AD
08/84 - 07/87

HEAVY EQUIPMENT TRANSPORTER SYSTEMS. See Heavy Tactical Vehicles.

HEAVY LIFT HELICOPTER (AVSCOM, AMC) (Formerly Heavy Lift Transport Aviation System; merger of Heavy Lift Helicopter System and CHINOOK; also known as "Flying Cranes." Deprojectized Mar 76; residual functions transferred to CH-47.)

LTC John F. Denhart, TC
08/65 - 01/67
COL Robert A. Filby, TC
03/67 - 04/70
COL William McKeown, TC
04/70 - 02/73
BG(P) Jerry B. Lauer, IN
02/73 - 09/74
Mr. Howard Kiehl, DAC (Acting)
09/74 - 12/74
COL Richard D. Kenyon, TC
12/74 - 11/75

HEAVY LIFT TRANSPORT AVIATION SYSTEM. See Heavy Lift Helicopter.

HEAVY TACTICAL VEHICLES (HTV) (TACOM, AMC) (Formerly known as Heavy Equipment Transporter Systems. Upgraded to "Project" and redesignated Heavy Tactical Vehicles in Dec 83. Assigned to PEO, Combat Support May 87.)

Mr. John L. Terry, DAC (Acting)
05/73 - 07/73
COL James H. Brill, OD
07/73 - 07/75
COL John R. Brinton, OD
07/75 - 06/76

Mr. John L. Terry, DAC (Acting)
06/76 - 02/77
COL Robert W. Pointer, OD
02/77 - 07/78
COL James M. Durham, OD
08/78 - 08/80
LTC Ronald J. Charbonneau, OD
08/80 - 11/81
Mr. Joseph Ochab, DAC (Acting)
11/81 - 01/82
COL Howard W. Roth, OD
01/82 - 08/84
Mr. Joseph Ochab, DAC (Acting)
08/84 - 10/84
LTC James W. Stryker, FA (Acting)
10/84 - 02/86
COL Walter B. Heggie, Jr., OD
02/86 - 04/89

HELIBORNE LASER FIRE AND FORGET (HELLFIRE) MISSILE SYSTEM/GROUND LASER DESIGNATOR (GLD) (MICOM, AMC) (Assigned PEO, Close Combat Missiles May 87, which was combined with PEO, Fire Support in Aug 88.)

COL John B. Hanby, Jr., OD
01/73 - 07/75
COL Frank J. Palermo, Jr., FA
07/75 - 06/76
COL Robert J. Feist, AD
07/76 - 06/79
COL Benjamin J. Pellegrini, AD
06/79 - 11/79
Mr. Robert P. Whitley, DAC (Acting)
11/79 - 12/79
COL Stanley D. Cass, FA
12/79 - 07/84
COL William J. Schumacher, OD
07/84 - 08/87

HIGH ENDOATMOSPHERIC DEFENSE INTERCEPTOR (HEDI) (SDC) (Assigned PEO, Strategic Defense May 87.)

Mr. Alan D. Sherer, DAC
12/84 -

HIGH ENERGY LASER SYSTEMS (MICOM, AMC) (Deprojectized Dec 79.)

COL Robert C. Morrison, FA
02/75 - 07/76
COL Vincent P. DeFatta, OD
07/76 - 09/77
Mr. W. Buford Jennings, DAC (Acting)
09/77 - 10/77
COL Dirk H. Lueders, FA
10/77 - 12/79

HYPERVELOCITY (HVL) LAUNCHER (SDC) (Formerly Electromagnetic Launcher. Assigned PEO, Strategic Defense May 87.)

MAJ Noble T. Johnson, AR (Acting)
12/85 - 11/88

IDENTIFICATION FRIEND-OR-FOE. See Forward Area Air Defense Sensors/Target Identification.

INTERIM AIR DEFENSE SYSTEM. See CHAPARRAL/VULCAN.

IRANIAN AIRCRAFT PROGRAM (TSARCOM) (Deprojectized Sep 79.)

LTC William C. Rudd, TC
03/73 - 08/75
COL Edwin M. Aguanno, TC
08/75 - 07/78
COL John D. O'Donohue, TC
07/78 - 06/79
Mr. James F. Matthews, DAC (Acting)
06/79 - 09/79

IROQUOIS (AVSCOM, AMC) (Combined with UTTAS; deprojectized Oct 69.)

COL John D. Crowley, TC
08/62 - 07/63
LTC William S. Contole, AT (Acting)
07/63 - 10/63
COL Michael J. Krisman, AT
10/63 - 06/66
COL Robert R. Corey, AT
07/66 - 08/68
COL John W. Lauterbach, Jr., IN
08/68 - 10/69

JOINT TACTICAL FUSION PROGRAM (JTFP) (DCSOPS) (Management responsibility originally with AMC; transferred to DCSOPS Mar 83. AAE Decision Memo 7 Nov 89 designated as direct reporting PM.)

Dr. Phil Dickinson, DAC (Acting)
12/80 - 02/81
COL Thomas P. Kehoe, IN
02/81 - 03/83
Vacant
03/83 - 08/83
BG Alan B. SaliDrsbury
08/83 - 11/84
BG William E. Harmon
11/84 -

JOINT VERTICAL LIFT AIRCRAFT (JVX) (AVRADCOM) (Army withdrew from program May 83; assigned as additional function to PM, CH-47.)

COL James A. Creech (USMC)
04/82 - 04/82
LTC Jack Kempster (Acting)
05/82 - 05/83

KUWAIT/JORDAN (MIRCOM) (Deprojectized and merged with HAWK Missile System Mar 79.)

COL Martin J. Small, AD
07/75 - 12/77
Mr. William A. Fondren, DAC (Acting)
12/77 - 07/78
COL Monte J. Hatchett, OD
07/78 - 03/79

LANCE (MICOM, AMC) (Formerly Missile B; deprojectized Mar 80.)

COL William W. Holmes, OD
08/62 - 03/64
COL Walter E. Mehlinger, OD
03/64 - 06/67
COL Arthur F. Pottle, Jr., OD
06/67 - 08/70
COL Samuel C. Skemp, OD
08/70 - 12/70
COL Rutledge P. Hazzard, FA
12/70 - 06/71
BG Robert J. Proudfoot, OD
06/71 - 03/73
BG George E. Turnmeyer, OD
03/73 - 08/74
BG Grayson D. Tate, Jr., FA
08/74 - 10/75
COL Donald P. Whalen, FA
10/75 - 08/78
COL Howard C. Jelinek, FA
08/78 - 03/80

LAND COMBAT SUPPORT SYSTEMS (MICOM, AMC) (Deprojectized Mar 72.)

COL Frank A. Matthews, OD
07/68 - 03/72

LARC. See Amphibians and Watercraft.

LIGHT ANTITANK WEAPON. See Advanced Antitank Weapon System.

LIGHT ARMORED VEHICLES (TACOM, AMC)

COL Joseph J. O'Brien, USMC
11/81 - 06/83
COL Billy L. McClain, USMC
06/83 - 12/85
COL Kurt J. Chandler, USMC
12/85 - 07/88

LIGHT HELICOPTER FAMILY (LHX) (AVSCOM, AMC) (Assigned as direct reporting AAE Program Manager May 87.)

Mr. George T. Singley, III, DAC (Acting)
12/83 - 01/84
COL William A. Howard, FA
01/84 - 08/84
MG Ronald K. Andreson, AV
08/84 -

LIGHT OBSERVATION HELICOPTER (LOH) (AVSCOM, AMC) (Formerly CAYUSE; deprojectized Mar 73. Reestablished May 87 and assigned to PEO, Combat Aviation, which was combined with PEO, Combat Support Aviation Aug 88 to form PEO, Aviation. Management responsibility transferred to CG, AVSCOM Sep 88.)

LTC Cyril D. Stapleton
09/62 - 10/63
COL Joseph L. Gude, IN
10/63 - 04/67
LTC Joseph P. Smith, TC
04/67 - 07/69
LTC Edward M. Browne, TC
07/69 - 06/71
COL John Baker, FA
06/71 - 01/73
Mr. James F. Matthews, DAC (Acting)
01/73 - 03/73

LIGHT TACTICAL VEHICLES (LTV) (TACOM, AMC) (Assigned PEO, Combat Support May 87.)

LTC James E. Stryker, FA
12/83 - 06/84
COL Joseph A. Petrolino, Jr., OD
06/84 - 07/88

LINE OF SIGHT-FORWARD (HEAVY) (LOS-F[H]) (MICOM, AMC) (Assigned to PEO, Forward Area Air Defense May 87, which was combined with PEO, High/Medium Air Defense in Aug 88 to form PEO, Air Defense.)

LTC James A. Patterson, AD (Acting)
11/86 - 01/87
COL John M. Gamino, OD
01/87 -

M1 ABRAMS TANK SYSTEM. See Abrams Tank System.

M1A1 TANKS (TACOM, AMC) (Assigned PEO, Close Combat Vehicles May 87, which was redesignated PEO, Heavy Force Modernization Jan 89. Merged with M1 Abrams Jun 87.)

COL Joseph Raffiani, Jr., OD
09/83 - 06/87

M9 ARMORED COMBAT EARTHMOVER (ACE) (TACOM, AMC) (Formerly Family of Military Engineering Construction Equipment [FAMECE] and Universal Engineering Tractor [UET], MERADCOM; transferred to TACOM Sep 82. Assigned PEO, Close Combat Vehicles May 87, which was redesignated PEO, Heavy Force Modernization Jan 89.)

COL George R. Relyea, CE
01/72 - 08/73
Mr. Allen O. Elkins, DAC (Acting)
08/73 - 02/74
COL Max B. Scheider, EN
02/74 - 08/78

COL Richard H. Benfer, EN
08/78 - 10/82
LTC Robert H. Huttner, OD
10/82 - 06/85
LTC Joseph G. Papapietro, AV
06/85 - 07/88

M60 TANK DEVELOPMENT (TARCOM) (Formerly M60 Tanks; attached to M60 Production Aug 78; combined Oct 78.)

COL Samuel M. Burney, OD
09/62 - 08/63
COL William L. Drennan, OD
08/63 - 01/67
COL Thomas J. Agnor, Jr., OD
01/67 - 11/68
LTC Paul A. Simpson, OD
11/68 - 02/71
COL Stan R. Sheridan, AR
02/71 - 11/74
BG Dan H. Williamson, Jr., AR
11/74 - 06/76
COL Robert E. Butler, AR
06/76 - 08/78

M60 TANK PRODUCTION (TARCOM) See also M60 Tanks.

BG Donald M. Babers, OD
01/75 - 08/75
COL Richard H. Sawyer, OD
08/75 - 10/78

M60 TANKS (TACOM, AMC) (Formerly M60 Tank Development and M60 Tank Production; combined Oct 78; downgraded to "Product" Oct 86. Assigned to PEO, Close Combat Vehicles May 87, which was redesignated PEO, Heavy Force Modernization Jan 89. Management responsibility transferred to CG, TACOM Feb 89. Disestablished Apr 89.)

COL Richard H. Sawyer, OD
10/78 - 08/79

COL Paul C. Bayruns, OD
08/79 - 08/81
COL Claude B. Donovan, OD
08/81 - 09/83
COL James A. Logan, AR (Acting)
10/83 - 07/84
COL William M. Kearney, AR
07/84 - 11/86
Dr. Fred Pradko, DAC (Acting)
11/86 - 06/87

M107/M110 ARTILLERY SYSTEMS (AMC) (Deprojectized Jul 69; merged with CSWS.)

LTC William P. Gojsza, OD
09/66 - 07/69

M110E2 8 INCH HOWITZER (ARRCOM) (Deprojectized Sep 79.)

LTC Benjamin A. Huggin, OD
06/75 - 07/77
Mr. Jack R. Turkeltaub, DAC (Acting)
07/77 - 08/78
LTC Nicholas R. Hurst, OD
08/78 - 04/79
Mr. Jack R. Turkeltaub, DAC (Acting)
04/79 - 09/79

M113 FAMILY OF VEHICLES (FOV) (TACOM, AMC) (Assigned PEO, Close Combat Vehicles May 87, which was redesignated PEO, Heavy Force Modernization Jan 89. Management responsibility transferred to CG, TACOM Feb 89.)

LTC Roy A. Cunniff, OD
07/76 - 07/77
COL Fred Hissong, Jr., OD
07/77 - 08/78
COL Robert E. Butler, AR
08/78 - 03/79
Mr. Joseph E. Loisel, DAC (Acting)
03/79 - 10/79

LTC James A. Logan, AR
10/79 - 10/83
Mr. Joseph E. Loisel, DAC (Acting)
10/83 - 01/84
LTC Thomas Abercrombie, IN (Acting)
01/84 - 09/84
LTC Lawrence J. Becker, III, AR
09/84 - 09/85
Mr. Edward F. Young, DAC (Acting)
09/85 - 06/86
LTC Dennis C. Deming, AR
06/86 - 08/88

M113 ITALY COPRODUCTION (AMC) (Deprojectized Jun 69.)

COL Francis E. Abring, OD
12/62 - 09/68
LTC Arthur L. Goodall, OD
09/68 - 06/69

M561/XM705 TRUCKS. See 1 1/4 Ton Commercial Truck System.

MAIN BATTLE TANK. See Abrams Tank System.

MALLARD (AMC) (Renamed TRITAC and established under DOD; deprojectized Jun 71.)

MG Paul A. Feyereisen, SC
06/66 - 06/69
BG Harold L. Rice, SC
06/69 - 06/71

MANNED AERIAL VEHICLE FOR SURVEILLANCE (AMC) (Formerly Surveillance and Target Acquisition; deprojectized Mar 73.)

COL Lloyd L. Leech, AT
07/65 - 09/66
Mr. Francis P. McCabe, DAC (Acting)
09/66 - 06/67

COL Raymond P. Campbell, Jr., AR
06/67 - 09/67
Mr. Francis P. McCabe, DAC (Acting)
09/67 - 11/67
COL Earl J. Gobey, SC
11/67 - 09/69
COL John A. Love, TC
09/69 - 03/73

MAULER (AMC) (Deprojectized Nov 65.)

COL Norman T. Dennis, OD
08/62 - 02/64
COL Bernard R. Luczak, OD
02/64 - 11/65

MEDIUM TACTICAL VEHICLES (MTV) (TACOM, AMC) (Assigned PEO, Combat Support May 87.)

Mr. Dennis E. Mazurek, DAC (Acting)
12/83 - 08/84
COL Richard A. Diehl, IN
08/84 - 10/86
COL Donald W. Derrah, AR
10/86 - 01/89

MICV. See Bradley Fighting Vehicle Systems.

MILITARY ENGINEERING CONSTRUCTION EQUIPMENT, FAMILY OF. See M9 Armored Combat Earthmover.

MINES, COUNTERMINE, DEMOLITION (MCD) (AMCCOM, AMC) (Assigned PEO, Ammunition May 87, which was disestablished Aug 88. Management responsibility transferred to CG, AMCCOM.)

COL James C. Fields, OD
10/84 - 07/87

MISSILE B. See LANCE.

MISSILE MINDER/AIR DEFENSE TACTICAL DATA SYSTEMS.
See Air Defense Command and Control System.

MOBILE ELECTRIC POWER (MEP) (TROSCOM, AMC)
(Formerly Generators; transferred to TROSCOM Oct 83. Assigned to PEO, Troop Support May 87.)

COL Edgar B. Warner, Jr., CE
03/6? - 08/65
COL Robert J. Giesen, CE
08/65 - 07/67
COL Joseph H. Rockefort, Jr., CE
07/67 - 06/73
COL Carroll D. Strider, CE
06/73 - 07/74
Mr. James E. Griffin, DAC (Acting)
07/74 - 08/74
COL Ralph H. Sievers, Jr., EN
08/74 - 07/77
COL Alvin G. Rowe, EN
07/77 - 06/81
Mr. Glynn Burchette, DAC (Acting)
06/81 - 08/81
COL Michael S. Higgins, EN
08/81 - 08/84
COL Charles S. Green, Jr., EN
08/84 - 02/87
COL Larry J. Bramlette, OD
02/87 -

MOBILE FLOATING ASSAULT BRIDGE FERRY SYSTEMS (MOFABS) (MECOM, AMC) (Deprojectized Dec 70.)

LTC Edward P. Wyruchowski, CE
03/67 - 08/67
Mr. James D. Lee, DAC (Acting)
08/67 - 10/67
LTC Frank M. Pender, CE
10/67 - 09/70
Dr. Julius Hein, DAC (Acting)
09/70 - 12/70

MOBILE PROTECTED GUN (MPG) (MICOM, AMC) (Formerly Armored Combat Vehicle Technology; disestablished Mar 86.)

LTC Robert L. Catron, AR
07/77 - 01/79
COL James B. Welsh, OD
01/79 - 03/86

MOBILE SUBSCRIBER EQUIPMENT (MSE) (CECOM, AMC) (Formerly AN/USD-5; deprojectized Dec 62; redesignated Army Area Communications Systems [AACOMS] 19 Sep 66 with no change in PM [COL Reeves]. Redesignated Army Tactical Communications Systems Oct 71; redesignated MSE Jun 85. Assigned PEO, Communication Systems May 87.

COL Charles W. Reeves, AT
08/62 - 08/64
LTC Harold W. Runft, SC
09/64 - 06/65
LTC James M. Templeman, SC
06/65 - 06/67
LTC George Stronghilos, SC (Acting)
06/67 - 09/67
COL Dana S. Prescott, SC
09/67 - 09/70
COL John P. Dobbins, SC
10/70 - 07/76
LTC William R. Green, SC (Acting)
07/76 - 12/76
COL William V. Paul, Jr., SC
12/76 - 02/79
Mr. John Montgomery, DAC (Acting)
02/79 - 04/79
COL Glen L. Rhoades, SC
04/79 - 12/83
COL James A. Frick, SC
12/83 - 01/86 COL John R. Power, SC
01/86 - 05/90

MODIFIED FIST DMD/FED/DCT (FIST/DMD) (CECOM, AMC). See Forward Entry Device.

MODULAR INTEGRATED COMMUNICATION AND NAVIGATION SYSTEM (MICNS) (MICOM, AMC) (Formerly assigned CECOM; reassigned as subordinate to PM, RPV at MICOM Oct 85. Assigned to PEO, Fire Support May 87; deprojectized Nov 88.)

LTC James A. Love, FA
06/81 - 08/84
Mr. Frank Carbon, DAC (Acting)
08/84 - 10/84
LTC David R. Gust, SC
10/84 - 03/88

MOHAWK (AMC) (Merged with Manned Aerial Vehicle for Surveillance; deprojectized Oct 69.)

COL John W. Koletty, TC
08/62 - 06/63
COL Howard F. Schultz, TC
06/63 - 04/64
LTC Vincent L. Ulery, TC (Acting)
04/64 - 10/65
COL Edward L. Nielson, SC
10/65 - 12/68
LTC John A. Love, TC
12/68 - 09/69

MORTAR AMMUNITION (MUCOM) (Deprojectized Oct 69.)

COL James E. Davidoff, OD
01/67 - 08/68
COL William C. Hall, OD
08/68 - 09/69

MORTAR/ARTILLERY LOCATING RADARS. See FIREFINDER.

MORTAR SYSTEMS (AMCCOM, AMC) (Assigned PEO, Armaments May 87. Management responsibility transferred to CG, AMCCOM.)

MAJ Robert Leon, Jr. (Acting)
08/85 - 07/86
LTC Robert D. Danforth, OD
07/86 - 12/89

MQM-58A OVERSEER (Formerly AN/USD-2; deprojectized Apr 66.)

COL Daniel P. Gallagher, IN
08/62 - 07/65
COL Raymond I. McFadden, SC
07/65 - 12/65

MULTIFUEL ENGINES (TCOM, AMC) (Deprojectized Oct 69.)

COL Clarence W. Kingsbury, OD
07/68 - 01/69
Mr. Thomas W. Barnes, DAC (Acting)
01/69 - 10/69

MULTIPLE ARTILLERY ROCKET SYSTEM-MRARS II. See Multiple Rail Rocket Systems.

MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) (MICOM, AMC) (Formerly General Support Rocket System; renamed Dec 79. Assigned PEO, Fire Support May 87.)

COL Kenneth S. Heitzke, FA (Acting)
05/76 - 04/77
COL Barrie P. Masters, FA
04/77 - 05/79
COL Carl R. Steimle, OD
05/79 - 01/80
COL Monte J. Hatchett, OD
01/80 - 07/82
Mr. Lawrence R. Seggel, DAC (Acting)
07/82 - 08/82
COL August M. Cianciolo, FA
08/82 - 10/83

Mr. Lawrence R. Seggel, DAC (Acting)
10/83 - 12/83
COL Malcolm R. O'Neill, OD
12/83 - 01/85
COL Nicholas R. Hurst, OD
01/85 - 09/87

MULTIPLE RAIL ROCKET SYSTEMS (MICOM, AMC) (Formerly Multiple Artillery Rocket System-MRARS II; deprojectized Mar 70.)

LTC Wayne B. Miller, Jr., OD
01/69 - 03/70

MULTI-SERVICE COMMUNICATIONS SYSTEM (MSCS) (CECOM, AMC) (Assigned to PEO, Communication Systems May 87.)

COL John P. Dobbins, SC (Acting)
03/74 - 06/74
Mr. T. A. Pfeiffer, DAC (Acting)
06/74 - 09/74
COL Robert B. Craig, SC
09/74 - 12/76
COL Donald R. Lasher, SC
12/76 - 08/77
COL Anthony J. Albright, SC
08/77 - 06/79
COL Donald J. Callahan, SC
06/79 - 01/84
COL Joseph P. Fitzgerald, SC
01/84 - 03/88

MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION (DARCOM) (Deprojectized Oct 79; redesignated as an Agency Nov 79.)

COL William D. Wary, OD
08/72 - 06/73
MG Robert J. Malley, EN
06/73 - 09/76

BG John S. Egbert, EN
09/76 - 08/78
COL Harry V. Dutchyshyn, EN
08/78 - 10/79

NAVIGATIONAL CONTROL (ERADCOM) (Merger of Common Position Navigation System [PANS] and Air Traffic Management System; deprojectized Jun 81; reorganization as AVRADA.)

COL Chester W. McDowell, SC
10/69 - 06/75
COL Chesley B. Maddox, Jr., SC
06/75 - 09/76
COL LeRoy White, SC
09/76 - 06/81

NBC DEFENSE (AMCCOM, AMC) (Formerly Chemical Demilitarization. Redesignated May 87 and assigned to PEO, Chemical/Nuclear. PEO disestablished Jan 89. Management responsibility transferred to AMCCOM [CDREC] Jan 89.)

COL Jan A. VanProoyan, CM
07/86 - 06/88

NIGHT VISION (AMC) (Deprojectized Jan 72.)

COL John E. Schremp, CE
02/65 - 10/67
LTC Alan H. Chenevert, CE (Acting)
10/67 - 03/68
COL Arthur T. Surkamp, CE
03/68 - 01/72

NIGHT VISION DEVICES (CECOM, AMC) (Assigned PEO, Intelligence and Electronic Warfare May 87; disestablished Jan 89 with assignment of PM, VNEO.)

Mr. Kenneth N. Solinsky, DAC
05/84 - 01/86
MAJ Carl Messinger (Acting)
01/86 - 04/87

Mr. John Gresham, DAC
04/87 - 01/89

NIKE HERCULES (MICOM, AMC) (Deprojectized Apr 70.)

LTC J. C. Baer
08/62 - 02/63
COL Bernard R. Luczak, OD
02/63 - 02/64
Mr. E. L. Smock, DAC (Acting)
02/64 - 05/64
COL Rawlins M. Colquitt, AT
05/64 - 09/66
Mr. E. L. Smock, DAC (Acting)
09/66 - 09/67
COL Morris W. Pettit, AT
09/67 - 04/70

NIKE-X (MICOM, AMC) (Formerly Zeus; redesignated as SENTINEL and transferred from AMC to OCSA.)

BG Ivey O. Drewry, Jr., OD
08/62 - 11/67

9mm PISTOL PROGRAM (AMCCOM, AMC) (Assigned PEO, Armaments May 87.)

LTC Michael A. Roddy, OD
06/83 - 07/85
LTC Richard C. Williams, IN
07/85 - 08/89

NUCLEAR, BIOLOGICAL, AND CHEMICAL (Deprojectized Feb 65.)

LTC Joseph C. Heitt, CM
11/62 - 02/65

NUCLEAR MUNITIONS (AMC) (Assigned PEO, Ammunition May 87, which was disestablished Aug 88. Management responsibility transferred to HQ, AMC.)

COL James H. Sloan, FA
09/75 - 05/79
COL William P. Farmer, FA
05/79 - 09/84
COL Nicholas Barron, AD
09/84 - 08/88

OMNIDIRECTIONAL MORTAR LOCATING RADAR (ECOM) (Deprojectized Oct 69; combined with Selected Priority Operations to become Sensors.)

COL Bernard D. Dean, SC (Acting)
03/68 - 07/68
LTC George R. Davis, SC
07/68 - 10/69

1 1/4 TON COMMERCIAL TRUCK SYSTEMS (TACOM, AMC) (Formerly GAMA GOAT; M561/XM705 Trucks; deprojectized Jun 73. Redirected and redesignated 1 1/4 Ton Commercial Truck Systems; deprojectized Jul 77.)

MAJ Robert L. Berquist, OD
07/64 - 07/67
LTC James A. Check, OD
07/67 - 07/70
LTC Donald M. Babers, OD
07/70 - 03/73
Mr. Melvin Allshouse, DAC (Acting)
03/73 - 07/73
COL Joseph O. Lax, Jr., OD
07/73 - 08/75
LTC Leonard S. Marrella, OD
08/75 - 07/76
COL Fred Hissong, OD
07/76 - 07/77

OPERATIONS TACTICAL DATA SYSTEMS (OPTADS) (CECOM, AMC) (Formerly Tactical Operations Systems/Operations and Intelligence Tactical Data Systems. Assigned PEO, Command and Control May 87.)

COL Edward D. Bjorn, EN
06/77 - 08/78
LTC(P) Alan B. Salisbury, SC (Acting)
09/78 - 04/79
COL Alan B. Salisbury, SC
07/79 - 07/82
COL Philip S. Threefoot, FA
07/82 - 05/87

PACIFIC AND SOUTHERN AREA TRANSMISSION SYSTEMS (PSATS) (ISC) See Defense Satellite Communication Systems Installation.

PATRIOT (MICOM, AMC) (Formerly SAM-D; ADS-70. JTMD mission assigned Sep 86. Assigned to PEO, High/Medium Air Defense May 87, which was combined with PEO, Forward Area Air Defense in Aug 88 to form PEO, Air Defense. JTMD mission reassigned to PM, JTMD May 87.)

COL Bernard R. Luczak, OD
08/65 - 01/66
COL Edward M. Dooley, OD
01/66 - 10/67
Mr. Charles A. Cockrell, DAC (Acting)
10/67 - 12/67
COL James C. Miller, Jr., OD
12/67 - 06/71
BG Joseph C. Fimiani, AD
06/71 - 08/73
Mr. Charles A. Cockrell, DC (Acting)
08/73 - 09/73
MG Charles E. Means, AD
09/73 - 07/77
MG Oliver D. Street, III, AD
07/77 - 11/80
MG Jerry M. Bunyard, FA
11/80 - 07/83
Mr. Raymond C. Hase, Jr., DAC (Acting)
07/83 - 11/83

BG Donald R. Infante, AD
11/83 - 06/85
COL Larry R. Capps, OD
06/85 - 02/87
COL Bruce M. Garnett, OD
02/87 -

PERSHING (MICOM, AMC) (Assigned PEO, Fire Support May 87. Management responsibility transferred to CG, MICOM Mar 89.)

COL Oliver M. Hirsch, OD
08/62 - 10/63
COL Edwin I. Donley, OD
10/63 - 06/66
LTC Edwin A. Rudd, OD
06/66 - 06/69
COL Rutledge P. Hazzard, FA
06/69 - 12/70
COL Samuel C. Skemp, Jr., OD
12/70 - 08/76
COL Larry A. Hunt, FA
08/76 - 05/79
COL William J. Fiorentino, OD
05/79 - 04/84
COL Robert A. Brown, FA
04/84 - 03/86
COL Thomas M. Brown, OD
03/86 - 03/89

PETROLEUM AND WATER SYSTEMS (TROSCOM, AMC)
(Assigned PEO, Troop Support May 87.)

LTC Andrew Foster, FA (Acting)
08/84 - 01/86
COL Ted R. Maddry, QM
01/86 - 12/89

PHYSICAL SECURITY EQUIPMENT (PSE) (TROSCOM, AMC)
(Assigned PEO, Troop Support May 87.)

COL Robert K. Cornell, MP
10/81 - 01/84
COL Harry V. Daniels, MP
01/84 - 12/85
LTC Paul G. Neal, FA (Acting)
12/85 - 07/87

POL DISTRIBUTION SYSTEM (Deprojectized Mar 68.)

COL Frederick E. Johnson, QM
09/65 - 08/67
COL Howard N. Darling, QM
08/67 - 03/68

PORTABLE ASAS/ENSCE WORK STATION (PAWS) (LABCOM, AMC) (Subordinate to PM, ASAS. Assigned PEO, Command and Control Systems May 87. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including PAWS.)

LTC Glen Porter, SC
08/84 - 07/90

POSITION LOCATION REPORTING SYSTEM/JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEMS HYBRID. See Enhanced Position Location Reporting System.

POSITION LOCATION REPORTING SYSTEM/TACTICAL INFORMATION DISTRIBUTION SYSTEMS. See Army Data Distribution System.

PRECISION LASER DESIGNATORS. See Ground Laser Designators.

QUICKFIX (CECOM, AMC) (Assigned PEO, Intelligence and Electronic Warfare May 87. Subordinate to PM, SIG WAR.)

LTC(P) Mendel Solomon, AV (Acting)
02/87 - 05/87

QUICK RESPONSE MULTICOLOR PRINTER (QRMP) (LABCOM, AMC) (Subordinate to PM, JTFP. 7 Nov 89 AAE Decision Memo designated PM, JTFP as direct reporting PM, including QRMP.)

Mr. William Clark, DAC
05/83 - 12/89

RANDOM ACCESS, DISCREET ADDRESS SYSTEM/TACTICAL AUTOMATIC SWITCHING SYSTEM (Deprojectized Jul 69; RADA merged with MALLARD and TAS with AACOMS.)

COL John B. Corbly, Jr., SC
08/62 - 07/64
COL David R. Guy, SC
07/64 - 07/67
COL Bryan M. Cowan, SC
07/67 - 11/68
LTC Alexander F. Key, SC (Acting)
11/68 - 02/69
LTC John W. Collins, SC
02/69 - 07/69

REDEYE (MICOM, AMC) See also Stinger. (Deprojectized Jan 71.)

Mr. E. K. Carlton, DAC (Acting)
04/64 - 07/64
COL Arthur W. Reed, AT
07/64 - 06/67
COL John R. Covert, AT
06/67 - 07/69
LTC William L. Rehm, OD
07/69 - 04/70

REGENCY NET (CECOM, AMC) (Originally assigned to ISC. Assigned PEO, Communication Systems May 87.)

COL James E. Fields, SC
04/86 -

REMBASS. See Remotely Monitored Battlefield Sensor System.

REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEM (REMBASS) (CECOM, AMC) (Formerly Sensor Materiel Operations; Special Mission Operations. Merged with FIREFINDER Jul 79; redesignated as separate Product Manager Oct 86. Assigned to PEO, Intelligence and Electronic Warfare May 87. Subordinate to PM, EW/RSTA. Disestablished Jul 89.)

COL Joseph I. Gurfien, CE
06/67 - 06/67
BG William A. Becker, AT
06/67 - 09/67
COL David C. Clymer, CE
09/67 - 08/68
COL David U. Armstrong, OD
08/68 - 06/72
COL Robert J. Cottey, IN
06/72 - 07/75
COL Louis C. Friedersdorff, FA
07/75 - 06/79
Mr. John M. Bialo, DAC (Acting)
06/79 - 07/79
LTC James L. Mitchell, FA
09/86 - 06/89

RIFLES (ARMCOM, AMC) (Formerly AR-15; deprojectized Jun 71.)

COL Harold W. Yount, OD
06/63 - 06/67
COL Alvin C. Isaacs, OD
06/67 - 11/69
LTC Rex D. Wing, OD
11/69 - 07/71

SAFEGUARD MUNITIONS (ARMCOM) (Formerly Sentinel Munitions; deprojectized Dec 76.)

COL Frank C. Healy, OD
07/68 - 02/72

COL Alan A. Nord, CM
02/72 - 08/74
COL James M. Turner, Jr., CM
08/74 - 08/75
Mr. Moe M. Goldy, DAC (Acting)
08/75 - 12/76

SAM-D. See PATRIOT.

SATELLITE COMMUNICATIONS (SATCOM) (CECOM, AMC)
(Assigned PEO, Communication Systems May 87.)

BG Joseph W. Johnson, SC
08/62 - 09/65
COL Mitchel Goldenthal, SC
10/65 - 11/67
COL George E. Rippey, SC
11/67 - 12/69
COL Leland D. Wamstead, SC
12/69 - 02/75
COL Fred M. Knipp, SC
02/75 - 03/78
COL Charles F. Lindberg, SC
03/78 - 08/84
COL Gene A. Venzke, SC
08/84 - 03/87
COL James L. Henry
03/87 -

SAUDI ARABIAN NATIONAL GUARD (SANG) MODERNIZATION PROGRAM (USASAC, AMC)

COL Thomas A. Mort, OD
05/73 - 05/75
BG Richard D. Lawrence, AR
05/75 - 04/77
BG John W. Hudacheck, AR
04/77 - 06/79
BG Gerald T. Bartlett, AR
06/79 - 06/81

BG John J. Yeosock, AR
06/81 - 06/83
BG Joseph L. Ecoppi, FA
06/83 - 09/83
BG Paul R. Schwartz, AR
01/84 - 05/86
BG William H. Riley, Jr.
05/86 - 08/88

SEANITOPS (AMC) (Merged with Night Vision; deprojectized Dec 70.)

LTC Charles R. Lehner, AR
08/67 - 12/70

SELECTED AMMUNITION (ARRADCOM) (Deprojectized Sep 79.)

COL John A. Ulrich, OD
08/62 - 06/64
COL Raymond S. Crossman, OD
07/64 - 11/65
Mr. Charles S. Asmann, DAC (Acting)
11/65 - 07/66
COL Sterling E. Prunell, OD
07/66 - 04/70
Mr. Charles S. Asmann, DAC (Acting)
04/70 - 05/70
COL Kilbert E. Lockwood, OD
05/70 - 07/75
COL Ralph J. Cook, Jr., OD
07/75 - 08/78
COL Clifford Jones, Jr., FA
08/78 - 09/79

SELECTED AVIONICS/EQUIPMENT FOR ARMY AIRCRAFT (ECOM) (Formerly Selected Lightweight Avionics Equipment; deprojectized Jun 71; combined with ARTADS Jun 71.)

MAJ William B. Corley, SC
01/69 - 04/69

LTC Chesley B. Maddox, SC
04/69 - 06/71
Mr. Anthony E. Filippo, DAC (Acting)
06/71 - 06/71

SELECTED LIGHTWEIGHT AVIONICS EQUIPMENT. See Selected Avionics/Equipment for Army Aircraft.

SELECTED PRIORITY OPERATIONS. See Sensors.

SELECTED TACTICAL RADIOS (ECOM) (Formerly AN/PRC-25 and AN/VRC-12; deprojectized DEC 69.)

COL James H. Schofield, SC
08/62 - 09/65
COL Roger E. Lawless, SC
09/65 - 06/67
LTC Bernard J. Pankowski, SC
06/67 - 04/69
LTC George R. Davis, SC
04/69 - 12/69

SELECTED TURBINE AIRCRAFT ENGINES (AMC) (Formerly T53/T55 Turbine Aircraft Engines; deprojectized Dec 69.)

MG John J. Hays, CM
01/67 - 12/67
Mr. Robert M. Larue, DAC (Acting)
12/67 - 02/68
COL Clarence H. Ellis, TC
02/68 - 07/68
COL Robert J. Dillard, TC
07/68 - 02/69
Mr. Robert M. Larue, DAC (Acting)
02/69 - 07/69
COL William L. McKeown, TC
07/69 - 12/69

SENSOR MATERIEL OPERATIONS. See Remotely Monitored Battlefield Sensor System.

SENSORS (Combination of Selected Priority Operations and AN/TPQ-28 without change of PM; later combined with Special Mission Operations and redesignated Sensor Materiel Operations.)

LTC Robert J. LaFlamm, SC
05/69 - 12/70

SENTINEL. See NIKE-X.

SENTINEL MUNITIONS. See Safeguard Munitions.

SERGEANT (MICOM, AMC) (Deprojectized Oct 69.)

COL John E. Aber, OD
08/62 - 02/65
COL J. Mort Loomis, AT
03/65 - 12/65
MAJ William A. Cole, AT (Acting)
12/65 - 08/66
Mr. J. F. Hand, DAC (Acting)
08/66 - 09/66
LTC Arthur G. Lange, Jr., OD
09/66 - 10/69

SERGEANT YORK (Formerly Army Gun Air Defense System; Division Air Defense [DIVAD] Gun System; redesignated Sergeant York Oct 84; deprojectized Mar 86.)

COL Russell W. Parker, AD
07/76 - 07/77
COL Leonard S. Marrella, OD
07/77 - 08/79
Mr. Scott W. Spaulding, DAC (Acting)
08/79 - 09/79
COL(P) Charles C. Adsit, OD
09/79 - 11/84
COL William S. Chen
11/84 - 03/86

SHERIDAN-SHILLELAGH. See Sheridan Weapons.

SHERIDAN WEAPONS (WECOM) (Formerly Sheridan-Shillelagh; deprojectized Aug 71.)

COL Wayne G. Higgins, OD
08/62 - 09/64
Mr. I. S. MacFarland, DAC (Acting)
09/64 - 12/64
COL Paul A. Simpson, OD
12/64 - 06/67
COL John R. Mathias, OD
06/67 - 07/70
COL Robert W. Noce, AR
07/70 - 08/71

SHILLELAGH (MICOM, AMC) (Deprojectized Jun 71.)

LTC Robert M. Pearce, AT
09/64 - 08/65
COL Spencer R. Bean, AT
08/65 - 05/68
COL Robert J. Proudfoot, OD
05/68 - 06/71

SHORADS. See U.S. ROLAND.

SIGNAL INTELLIGENCE/ELECTRONIC WARFARE (CECOM, AMC) (Deprojectized Dec 78.)

COL William D. Clingempeel, SC
02/76 - 10/78
Mr. Frank Gimpel, DAC (Acting)
10/78 - 12/78

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SUBSYSTEM (SINCGARS) (CECOM, AMC) (Assigned PEO, Communication System May 87.)

BG William D. Lewis, SC
04/75 - 07/75
COL James E. Wyatt, SC
07/75 - 06/79

COL Aaron E. Wilkins, II, SC
06/79 - 04/81
COL Edward R. Baldwin, Jr., SC
04/81 - 08/86
COL Domenic F. Basile, III, SC
08/86 -

SMOKE/OBSCURANTS (AMCCOM, AMC) (Assigned PEO, Chemical/Nuclear May 87, which was disestablished Jan 89. Management responsibility transferred to AMCCOM [CRDEC] Jan 89.)

COL Henry R. Shelton, IN
06/76 - 06/79
COL Samuel L. Eure, CM
06/79 - 07/83
COL Morton S. Brisker, CM
07/83 - 08/86
COL Francis M. Durell, II, CM
08/86 - 07/88

SPECIAL ELECTRONIC MISSION. See Special Electronic Mission Communication Intelligence/Electronic Warfare Aircraft.

SPECIAL ELECTRONIC MISSION COMMUNICATION INTELLIGENCE/ELECTRONIC WARFARE AIRCRAFT (SEMA COMINT/EW) (AVSCOM, AMC) (Formerly Special Electronic Mission [SEMA]. Assigned PEO, Combat Support Aviation and upgraded to "Project" May 87, which was combined with PEO, Combat Aviation and redesignated PEO, Aviation Aug 88. Management responsibility transferred to CG, AVSCOM Sep 88. Downgraded to "Product" Jan 89. Formally established Aug 89.)

COL John J. Top, FA
02/76 - 09/78
COL William B. Crowell, TC
09/78 - 08/79
COL Sylvester C. Berdux, Jr., FA
08/79 - 09/81
COL William D. Taylor, IN
09/81 - 01/86

LTC Larry D. Holcomb, AV
01/86 - 03/87
LTC(P) Ted Orvold, AV
03/87 - 01/89

SPECIAL MANAGEMENT OFFICE (SMO) (MICOM, AMC)
(Assigned PEO, Fire Support May 87. Elevated to "Project" Jan 89.)

LTC Bernard Verdier (Acting)
05/85 - 11/86
LTC Stephen C. Rinehart, OD
11/86 -

SPECIAL MISSION OPERATIONS. See Remotely Monitored Battlefield Sensor System.

SPECIAL OPERATIONS AIRCRAFT (SOA) (AVSCOM, AMC)
(Assigned PEO, Combat Support Aviation May 87, which was combined with PEO, Combat Aviation Aug 88 to form PEO, Aviation.)

LTC William L. McCabe, AV
01/86 - 07/89

SPECIAL PROJECT OFFICE (SPO) (MICOM, AMC) (Assigned PEO, Fire Support May 87. Elevated to "Project" Jan 89.)

LTC Earl W. Finley, FA
10/86 - 02/88

SPECIAL PROJECT OFFICE - A129 (AVSCOM, AMC)
(Deprojectized.)

LTC Barry L. Lippencott, AV
02/86 - 04/89

SPECIAL PROJECT OFFICE - A132 (AVSCOM, AMC)

David B. Arronson, AV
02/86 - 04/87

SPECIAL PROJECT OFFICE - A133 (AVSCOM, AMC)
(Disestablished 27 Jun 90.)

LTC John F. Sheehan, AV
02/86 - 12/87

SPECIAL SYSTEM OFFICE. See Tacit Rainbow.

SPECIAL WARFARE (AMC) (Formerly Field Army Ballistic Missile Defense System; deprojectized Mar 67. Redesignated Special Warfare with change in PM [COL Lutz]. Deprojectized Jun 69; combined with Special Mission Operations.)

COL Robert R. Lutz, OD
08/62 - 06/66
Mr. John Groundwater, DAC (Acting)
06/66 - 01/67
LTC Kyle W. Bowie, IN
01/67 - 07/67
Mr. John Groundwater, DAC (Acting)
07/67 - 07/68
COL James M. Vail, IN
07/68 - 06/69

STANDARD ARMY MAINTENANCE SYSTEM (SAMS) (ISC)
(Subordinate to PM, ARLS. Assigned PEO, Standard Army Management Information Systems May 87.)

CPT(P) Bennis Townes, QM (Acting)
04/86 - 01/89

STANDARD ARMY RETAIL SUPPLY SYSTEM (SARSS) (ISC)
(Subordinate to PM, ARLS. Assigned PEO, Standard Army Management Information Systems May 87.)

MAJ(P) Patrick Garren, QM (Acting)
09/86 - 05/89

STAND-OFF TARGET ACQUISITION SYSEM (ERADCOM)

Mr. William Kenneally, DAC (Acting)
02/77 - 06/77
COL August M. Cianciolo, FA
06/77 - 09/79
COL Wayne B. Davis, EN
09/79 - 04/81
LTC William H. Shelton (Acting)
04/81 - 05/81
COL William R. Crawford, SC
05/81 - 12/81

STARCOM. See Army Information Systems.

STINGER (MICOM, AMC) (Formerly Redeye. Assigned to PEO, Forward Area Air Defense May 87, which was combined with PEO, High/Medium Air Defense Aug 88 to form PEO, Air Defense.)

COL David H. Souser, AD
01/72 - 06/75
COL David E. Green, OD
06/75 - 08/77
COL Vincent P. DeFatta, OD
08/77 - 03/79
Mr. Adrian O. Watson, DAC (Acting)
03/79 - 09/79
COL Philip H. Mason, AD
09/79 - 06/80
COL James E. Rambo, AD
06/80 - 06/82
Mr. William J. Harris, DAC (Acting)
06/82 - 08/82
COL Richard C. Dean, AD
08/82 - 12/85
COL Robert A. Drolet, AD
01/86 - 09/88

STINGRAY (CECOM, AMC) (Assigned PEO, IEW May 87. Subordinate to PM, EW/RSTA. TEAMPACK transitioned to CECOM.)

MAJ(P) Kerry N. Goodier, SC
02/87 - 03/90

SUPERCOMPUTERS (ISC) (Assigned PEO, Management Information Systems May 87. Management responsibility transferred to PEO, STAMIS Jul 89, with disestablishment of PEO, MIS. Disestablished 9 Feb 90 IAW 25 Jan 89 AAE Decision Memo.)

COL Thomas Johnson, SC
07/85 -06/88

SURFACE CONTAINER-SUPPORTED DISTRIBUTION SYSTEM DEVELOPMENT. See Army Container Oriented Distribution System.

SURVEILLANCE AND TARGET ACQUISITION. See Manned Aerial Vehicle for Surveillance.

T53/T55 TURBINE AIRCRAFT ENGINES. See Selected Turbine Aircraft Engines.

TACIT RAINBOW (MICOM, AMC) (Formerly Special System Office. Assigned PEO, Fire Support May 87. Elevated to "Project" Jan 89.)

LTC Richard H. Sorrell, IN
02/85 -12/89

TACTICAL AIRBORNE REMOTELY PILOTED VEHICLE/DRONE SYSTEM (RPV) (MICOM, AMC) (Formerly assigned to AVSCOM; transferred to MICOM Aug 85. Assigned PEO, Fire Support May 87; disestablished and combined with Unmanned Aeriel Vehicles Dec 87.)

LTC George W. Keiffer, SC (Acting)
08/78 - 08/79
COL George G. Christensen, TC
08/79 - 06/81
COL Robert D. Evans, FA
06/81 - 03/84

Mr. Robert V. Hutson, DAC (Acting)
03/84 - 05/85
COL Robert S. Fairweather, FA
05/84 - 08/85
COL David W. Keating, AV
08/85 - 09/87

TACTICAL ARMY CSC COMPUTER SYSTEM (TACCS) (ISC) (Assigned PEO, Standard Army Management Information Systems May 87. Subordinate to PM, TACMIS.)

MAJ John Caldwell
07/82 - 02/86
LTC John B. Horn
02/86 - 07/86

TACTICAL FIRE DIRECTION SYSTEM/FIELD ARTILLERY TACTICAL DATA SYSTEMS. See Field Artillery Tactical Data Systems.

TACTICAL INTELLIGENCE/ELECTRONIC WARFARE (TAC INTEL/EW) (CECOM, AMC) (Designated PEO, Intelligence and Electronic Warfare May 87.)

MG Emmett Paige, Jr., SC
12/83 - 06/84
MG James C. Cercy
06/84 - 10/85
COL Alex Johnson, FA
10/85 - 05/87

TACTICAL MANAGEMENT INFORMATION SYSTEM (TACMIS) (ISC) (Assigned PEO, Standard Army Management Information Systems May 87.)

COL Anthony Jezior
02/77 - 05/79
COL Henry Schumacher
06/79 - 01/80
COL John Gantt
01/80 - 10/84

COL Roy Busdieker
10/84 - 11/86
COL Neal Senkus, SC
11/86 - 11/89

TACTICAL OPERATIONS SYSTEMS/OPERATIONS AND INTELLIGENCE TACTICAL DATA SYSTEMS. See Operations Tactical Data Systems.

TACTICAL VEHICLES (TACOM, AMC) (Elevated to PEO, Combat Support May 87.)

COL James M. Durham, OD
12/83 - 05/86
Mr. Melvin E. Burcz, DAC (Acting)
05/86 - 08/86
BG James W. Ball, OD
08/86 - 05/87

TANK MAIN ARMAMENT SYSTEMS (TMAS) (AMCCOM, AMC) (Transitioned from TACOM Apr 87. Assigned PEO, Armaments May 87.)

COL Peter B. Kenyon, OD
04/79 - 11/79
COL David A. Appling, OD
11/79 - 01/83
Mr. Howard S. Krosser, DAC (Acting)
01/83 - 09/83
COL Donald R. Kenney, OD
09/83 - 08/87

TANK SYSTEMS (TACOM, AMC) (Redesignated Combat Vehicles; disestabished May 87.)

MG Robert J. Sunell, AR
01/84 - 01/86
BG Peter G. McVey, AR
01/86 - 05/87

TARGET ACQUISITION DESIGNATION SYSTEM/PILOT NIGHT VISION SYSTEM (TADS/PNVS) (AVSCOM, AMC) (Formerly subordinate to PM, AAH; assigned to PEO, Combat Aviation May 87, which was combined with PEO, Combat Support Aviation Aug 88 to form PEO, Aviation. LONGBOW designated Major Feb 90.)

COL Clarence A. Patnode, Jr., IN
03/77 - 07/80
COL Donald P. Wray, TC
07/80 - 04/84
Mr. Harold A. Kiehl, DAC (Acting)
04/84 - 05/84
COL David L. Funk, AAR
05/84 - 11/85
Mr. Harold A. Kiehl, DCA (Acting)
11/85 - 01/86
COL David E. Sullivan, AV
01/86 - 07/89

TARGET MISSILES (MICOM, AMC) (Deprojectized Jul 69; merged with Air Defense Control and Coordinating System to become Air Defense Control and Targets.)

COL Robert W. VanWert, OD (Acting)
Mr. James W. Donald, DAC (Acting)
LTC William L. Rehm, OD
03/69 - 07/69

TEAMPACK/STINGRAY (CECOM, AMC). See Stingray.

TELETYPEWRITER (ECOM) (Combined with AACOMS; deprojectized Jul 69.)

COL Richard M. Lyman, SC (Acting)
COL James D. Donnelly, SC
03/69 - 07/69

TERMINAL IMAGING RADAR. See Ground Based Radar.

TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE) (CECOM, AMC)

COL Walter J. Gabrysiak, FA
04/82 - 09/83
Mr. Neil W. Atkinson, DAC (Acting)
09/83 - 04/84
COL Douglas H. Barclay, OD
04/84 - 01/87
COL Donald L. Bullock, OD
02/87 - 06/89

TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT MODERNIZATION (TEMOD) (CECOM, AMC) (Subordinate to PM, TMDE.)

LTC Robert C. White, FA
01/83 - 09/85
LTC Bruce D. Sweeny, SC
09/85 - 06/88

TEST, MEASUREMENT AND DIAGNOSTIC SYSTEMS. See Automatic Test Support Equipment.

TEST PROGRAM SETS (TPS) (CECOM, AMC) (Subordinate to PM, TMDE.)

LTC Steven W. Butcher, FA (Acting)
12/84 - 05/88
LTC Donald L. Glover, SC
05/88 - 06/89

30mm AMMUNITION (DARCOM) (Subordinate to AAH. Deprojectized Mar 82.)

LTC Daniel J. Delany, FA
12/76 - 07/79
Mr. Angelo Ciancosi, DAC (Acting)
07/79 - 11/79
LTC David W. Logan, IN
11/79 - 03/82

TOPOGRAPHIC SUPPORT SYSTEMS (TSS) (TROSCOM, AMC) (Deprojectized Aug 87.)

Mr. Jerry L. Wilson, DAC
11/84 - 12/86
Mr. Wilber E. Allgood, DAC (Acting)
12/86 - 08/87

TOW. See Tube Launched, Optically Tracked, Wire Guided Missile.

TOW-DRAGON. See Dragon.

TRAINING DEVICES (TRADE) (AMC)

LTC Fred O. Bartlett, Jr., AR (Acting)
04/74 - 09/74
COL Leland A. Wilson, FA
09/74 - 03/77
LTC(P) William L. Webster (Acting)
03/77 - 07/77
COL Joseph H. Leszczynski, FA
07/77 - 08/78
COL Boris Pogoloff, FA
08/78 - 08/80
COL Donald M. Campbell, AR
08/80 - 11/82
Mr. William Marroletti, DAC (Acting)
11/82 - 06/83
COL James W. Ball, OD
06/83 - 08/86
COL Richard J. Lunsford, Jr., EN
08/86 - 07/90

TRAILBLAZER (CECOM, AMC) (Assigned PEO, Intelligence and Electronic Warfare May 87. Subordinate to PM, SIG WAR.)

LTC Charles I. Canella, Jr., SC
02/87 - 02/90

TRANSITION NETWORK CONTROL PRODUCTS AND TRANSPORTABLES (TNCP&T) (ISC). See Western Hemisphere Transmission Systems.

TRANSPORTATION OPERATIONAL PERSONAL PROPERTY STANDARD (TOPS) (MTMC) (Established Apr 87.)

LTC William L. Anderson, TC
04/87 - 10/88

TRITAC. See Mallard.

TUBE LAUNCHED, OPTICALLY TRACKED, WIRE GUIDED MISSILE (TOW) (MICOM, AMC) (Assigned PEO, Fire Support May 87.)

LTC Ballard B. Small, OD
10/64 - 07/66
COL James N. Nothrop, Jr., OD
07/66 - 05/68
COL Robert W. Huntzinger, FA
05/68 - 10/76
Mr. Robert G. Taylor, DAC (Acting)
10/76 - 01/77
COL James H. Brill, OD
01/77 - 06/77
COL Arthur L. Goodall, OD
06/77 - 09/78
COL Neil S. Williamson, III, OD
09/78 - 06/81
COL Byron L. Powers, OD
06/81 - 04/84
COL James B. Lincoln, FA
04/84 - 06/87

2.75 INCH ROCKET SYSTEM (MICOM, AMC) (Deprojectized Sep 79.)

COL Raymond S. Crossman, OD
11/65 - 04/66

COL Paul D. Hickman, OD
04/66 - 07/68
COL Winfield S. Scott, OD
07/68 - 03/71
COL Lloyd J. Faul, OD
03/71 - 07/72
COL Elwood J. Hein, OD (Acting)
07/72 - 10/72
COL Frank P. Ragano, OD
10/72 - 07/75
COL James L. Tow, IN
07/75 - 08/78
Mr. John J. Harrity, DAC (Acting)
08/78 - 09/79

UH-1 (AVSCOM, AMC) (Assigned PEO, Combat Support Aviation May 87, which was combined with PEO, Combat Aviation to form PEO, Aviation Aug 88. Management responsibility transferred to AVSCOM Sep 88.)

LTC Donald A. Foster
09/86 - 01/87
LTC Vaden Francisco, AV (Acting)
02/87 -

UNICOM/STARCOM PROJECT. See Army Information Systems.

UNIVERSAL ENGINEERING TRACTOR. See M9 Armored Combat Earthmover.

UNMANNED AERIAL VEHICLES (UAV) (MICOM, AMC) (Assigned PEO, Fire Support May 87; reassigned to Navy AAE Aug 88 reporting to PEO, Cruise Missiles and UAVs.)

Mr. James E. Shepard, DAC (Acting)
05/86 - 02/87
COL Ward A. Lutz, IN
12/86 - 12/87

USA AUGMENTATION ELEMENT COMMUNICATIONS SYSTEM AGENCY. See Army Information Systems.

USAEUR TACTICAL ARMY COMMAND AND CONTROL SYSTEM (UTACCS) (ISC) (Assigned PEO, Networks May 87. Management responsibility transferred to PEO, Strategic Information Systems Aug 88. Subordinate to PM, AWIS.)

MAJ(P) William Mundi, SC (Acting)
10/85 - 04/86

U.S. ROLAND (MICOM, AMC) (Formerly SHORADS; deprojectized Mar 86.)

COL Henry F. MacGill, OD
12/73 - 03/76
BG Frank P. Ragano, OD
03/76 - 08/78
BG Joseph O. Lax, Jr., OD
08/78 - 08/80
Mr. H. Hoyt Harris, DAC (Acting)
08/80 - 05/81
BG Lynn H. Stevens, OD
05/81 - 04/82
Mr. John A. Robins, DAC (Acting)
04/82 - 12/84
COL John F. Ferrick
01/85 - 03/85
Mr. James E. Shepard, DAC (Acting)
03/85 - 03/86

UTILITY AIRCRAFT. See BLACK HAWK.

UTTAS. See BLACK HAWK.

VEHICLE RAPID FIRE WEAPONS SYSTEM (ARCOM) (Combined with MICV.)

LTC Patrick H. Lynch, AR
10/66 - 09/69
LTC Thomas H. Brain, OD
09/69 - 07/70

COL Robert W. Noce, AR
07/70 - 06/74
COL John P. Haumersen, AR
06/74 - 07/75

VIPER. See Advanced Antitank Weapon System.

VULCAN/CHAPARRAL. See CHAPARRAL/VULCAN.

WESTERN HEMISPHERE TRANSMISSION SYSTEMS (WHTS) (ISC) (Subordinate to PM, DCATS. Assigned PEO, Networks May 87. Management responsibility transferred to PM, AIS Aug 88. Program redirected and renamed Jul 89 without change of PM.)

LTC Roger Kouchi, SC (Acting)
08/86 - 08/88

XM1 TANK SYSTEM. See Abrams Tank System.

ZEUS. See NIKE-X.

Source: PM LIST Maintained by the Army Acquisition Executive Support Agency, the successor to the AMC Office of Project Management. A copy of the PM LIST through 1990 is in the AMC Historical Office Archives.

APPENDIX D
AMC PROJECT MANAGEMENT OFFICE
1962-1987

PROJECT MANAGEMENT OFFICE, AMC (Renamed Project Management Division, DRCDE, on 15 Oct 81; on 1 Dec 83, went back to original structure [reporting to DCGRDAS]; on 1 Oct 88 combined with DCGRDA and renamed as above.)

COL John M. Christensen, Jr.
08/62 - 08/63
COL James L. Lewis, CE
08/63 - 12/66
COL James H. Schofield, SC
12/66 - 12/67
Ms. Sarah Clements, DAC (Acting)
12/67 - 08/68
COL Clarence H. Ellis, Jr., TC
08/68 - 07/69
LTC Robert L. Bergquist, OD
07/69 - 07/70
COL Robert M. Smith, OD
07/70 - 08/71
COL Charles E. Miles, Jr., TC
08/71 - 06/72
COL John P. Haumersen, AR
06/72 - 06/74
COL Lauris M. Eek, Jr., AR
06/74 - 06/80
Mr. Robert L. Michellon, DAC (Acting)
06/80 - 09/80
COL Warren J. Walton, AR
09/80 - 03/83
Mr. Robert L. Michellon, DAC (Acting)
03/83 - 06/83
COL Charles J. Sollohub, EN
06/83 - 09/83
Mr. Robert L. Michellon, DAC (Acting)
09/83 - 01/84

COL John J. Vargo, Jr., TC
01/85 - 03/85
Mr. Robert L. Michellon, DAC (Acting)
03/85 - 06/85
COL William J. Holmes, OD
06/85 - 12/85
LTC(P) David T. Morgan, OD
12/85 - 08/86
COL William P. Merritt, AD
08/86 - 07/87

Source: PM LIST Maintained by the Army Acquisition Executive Support Agency, the successor to the AMC Office of Project Management. A copy of the PM LIST through 1990 is in the AMC Historical Office Archives.

GLOSSARY

A

AACOMS	Army Area Communications System
ALMC	Army Logistics Management Center
AMARC	Army Materiel Acquisition Review Committee
AMC	Army Materiel Command
AMCCOM	Armament, Munitions, and Chemical Command
AMCR	AMC Regulation
AMETA	Army Management Engineering Training Agency
AMMRC	Army Materials and Mechanics Research Center
AMSSO	Army Materiel Systems Staff Officers
AR	Army Regulation
AVRADCOM	Aviation Research and Development Command
AVSCOM	Aviation Systems Command

C

CDAC	Army Cost Discipline Advisory Council
CG	Commanding General
COMSEC	Communications Security
CONARC	Continental Army Command
CSA	Chief of Staff of the Army

D

DA	Department of the Army
DAPR	Department of Army Program Review
DARCOM	U. S. Army Materiel Development and Readiness Command
DCSLOG	Deputy Chief of Staff for Logistics
DCSOPS	Deputy Chief of Staff for Operations
DCSPER	Deputy Chief of Staff for Personnel
DCSRDA	Deputy Chief of Staff for Research, Development, and Acquisition
DoD	Department of Defense
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction

E

ECOM	Electronics Command

F

FOLON 71	Follow-On 71

G

GEN	General

H

HQ	Headquarters
HQDA	Headquarters Department of the Army

I

IMPACT	Improved Management of Procurement and Contracting Techniques
IOC	Initial Operational Capability

J

JMPTC	Joint Military Packaging Training Center

L

LTC	Lieutenant Colonel
LTG	Lieutenant General

M

MDLC	Army Materiel Development and Logistics Command
MICOM	Missile Command
MILPERCEN	Military Personnel Center
MIRADCOM	Missile Research and Development Command
MOCOM	Mobility Command

MOS	Military Occupational Specialty
MSC	Major Subordinate Command
MUCOM	Munitions Command

O

O&MA	Operations and Maintenance, Army
OCRD	Office of the Chief of Research and Development

P

PCCS	Project Cost Control System
PDMO	Project Manager Development Office
PEMA	Procurement of Equipment and Missiles, Army
PEO	Program Executive Officers
PM	Project Management
PM	Project Manager/Product Manager/Program Manager
PMCS	Program Management and Control System
PMDP	Project Manager Development Program
PMO	Project Manager Office
PROMAP-70	Program for Refinement of the Materiel Acquisition Process
PROMIS	Project Management Information System
PMSA	Program, Project, Product Manager/Materiel Systems Assesment
PMSO	Project Management Staff Officers

R

RADA	Random Access Discrete Address
RDT&E	Research, Development, Test and Evaluation
RECAP	Review and Command Assessment of Programs

S

SAR	Selected Acquisition Reports
SPO	Special Projects Office

T

TACOM	Tank-Automotive Command
TDA	Table of Distribution and Allowances
TECOM	Test and Evaluation Command
TMDE	Test, Measurement, and Diagnostic Equipment
TRADE	Training Devices
TRADOC	Training and Doctrine Command
TROSCOM	Troop Support Command
TSARCOM	Troop Support and Aviation Materiel Readiness Command

U

USASAC	United States Army Security Assistance Command

V

VCSA	Vice Chief of Staff of the Army

W

WECOM	Weapons Command
WSM	Weapon System Managers
WSMAT	Weapon System Management Team
WSMaT	Weapon System Management Team
WSSM	Weapon System Staff Managers
WSSO	Weapon System Support Officers

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