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The Evolution of a Navy Project Office

Defense Systems Management School

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DEFENSE SYSTEMS MANAGEMENT SCHOOL

PROGRAM MANAGEMENT COURSE
INDIVIDUAL STUDY PROGRAM

THE EVOLUTION OF A
NAVY PROJECT OFFICE

STUDY PROJECT REPORT
PMC 75-1

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DEFENSE SYSTEMS MANAGEMENT SCHOOL

STUDY TITLE:

THE EVOLUTION OF A NAVY PROJECT OFFICE

STUDY PROJECT GOALS: To examine and better understand management philosophy by following the changes in a Navy Project Office over the past twenty-five years.

STUDY REPORT ABSTRACT

By the study of a Navy Project Office, the primary reasons for change in any organization were explored. The most striking reasons for organizational changes found were: Advancement in Technology; Centralization, and Urgency. The study outlines the project since its inception in 1951 and follows the various organizational changes thru 1975. Major areas of change are described and management concepts obtained and compared to recognized writers in the Field of Management.

KEY WORDS

ORGANIZATION ANALYSIS PROCUREMENT ELECTRONIC EQUIPMENT

PROJECT MANAGEMENT

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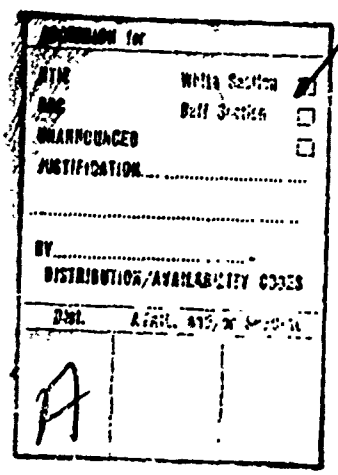

THE EVOLUTION OF A NAVY PROJECT OFFICE

Study Project Report

Individual Study Program

Defense Systems Management School

Program Management Course

Class 75-1

by

Charles O. Johnson
CDR USN

May 1975

Study Project Advisor
Dr. Andrew P. Mosier

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EXECUTIVE SUMMARY

The purpose of this study paper was to increase the author's knowledge of management and organizational philosophies. In order to accomplish this, three specific methods were chosen. These were: (1) to better understand the basic cultural models of management and organization taught at the Defense System Management School by supplemental reading and study (2, 18, 10,15, 6 and 10), (2) to evaluate how and when these functional models are or have been used in the Navy's system acquisition endeavors, and; (3) to accomplish the first two goals by researching the evolution of a Navy Project Office since its inception in the early 50's until today, a period of about twenty-two years of multifarious changes in people, organizational structures, goals and technology.

While this approach does not necessarily provide one with an instantaneous understanding of either management or organizational changes and advancement, it does provide a background of information on why effective management organizations are so important in todays weapon system acquisition environment.

In tracing the history of the Navy's Undersea Surveillance Project, all the ingredients for management and organizational changes were present. This history of the project was reconstructed primarily through interviews with the people involved; both active duty and retired military, at all levels in the project, and contractor personnel who have been involved with Undersea Surveillance during the entire period.

This study paper should be useful as a supplement to future Defense System Management School students in their study of management and organization

ACKNOWLEDGEMENTS

The assistance of the many people in Project CAESAR, past and present, is deeply appreciated. In particular, I wish to thank CAPTAIN Joseph P. Kelly, USNR (RET), who in spite of a very busy schedule found the time to open his extensive files to me and provide the rationale for actions taken during his long association with the Project. Just being able to draw from his vast experience in Project Management has made this study paper worthwhile.

Also to my wife, Nora, who put up with it all as I put pen to paper and exceeded my own "threshold of pain."

LIST OF FIGURES

SECTION I

INTRODUCTION

"It must not be forgotten that defeat of the submarine carries with it the sovereignty of all the oceans of the world" Winston Churchill - 1939 (6:12)

In the latter part of World War II, a method using the little known field of underwater acoustics was developed and utilized effectively in locating downed airmen in the vast ocean reaches. This development called SOFAR (Sound Fixing and Ranging) relied on the principal that small amounts of energy released in the water by explosive charges could be detected thousands of miles away by means of strategically placed sensors or hydrophones, on the ocean floor. Crossfixing was obtained from two or more of these sensor stations as the flyer continued to drop hand grenades from his life raft.

The Navy's concern over the potential threat of submarine activity in all ocean areas and its own advances in submarine warfare led to the formation in 1950, of a high level military - industry committee to investigate the principles of SOFAR and underwater acoustics in establishing a submarine locating network.

This committee was composed of high level personnel from the National Research Council (NRC), the Office of the Chief of Naval Operations, the Office of Naval Research, Bell Telephone Laboratories (BTL), and the Massachusetts Institute of Technology. It included Dr. G.P. Harnwell, NRC; Admiral L.B. Momsen, Assistant CNO for Underseas Warfare; Dr. M.J. Kelly, President of BTL and Professor J.A. Stratton, Provost of MIT and met for

the first time in Boston on 27 February 1950. As a result of this conference, a study project was authorized and funded by the Office of Naval Research to investigate the long range detection aspects of antisubmarine warfare with Professor J.R. Zacharias of M.I.T. as Project Leader.

The study group consisted of leaders in the fields of radio, radar, acoustics, and oceanographics. During its brief history, it numbered as many as fifty members and called upon the expertise of the nations sciencific community in completing its task.

From the group study and from experiments conducted by the Navy during the late spring of 1950, the HARTWELL REPORT was issued in September 1950 by the Chief of Naval Operations (CNO) (5:2) (During the many interviews leading to this study project, several persons related that this report takes its name from a local restaurant in Boston where the study drafters often met - this could not be confirmed nor could a HARTWELL be located in the study group. It was interesting that, the origin of the name of the report on which so much importance was placed has been lost and could possibly be named after a "BEAN HOUSE in BOSTON").

The HARTWELL REPORT concluded that the SOFAR phenomena and the noise generated by submerged submarines offered a means of detection at great distances.

About this same time a Naval Reserve Lieutenant had been recalled to active duty from his post at Westinghouse Corp. to assist in Harbor Defense studies. His term of active duty was scheduled to be 18 months with the Navys Bureau of Ships (BUSHIPS) in Washington. This young Lieutenant, soon to be promoted to Lieutenant Commander, was picked to be the Project Officer for a CNO designated Project named CAESAR. (a follow-on to the Hartwell

Report). His actual tour of active duty spanned the next twenty-one years and saw him rise to the rank of Captain as he carried out the tasks outlined by CNO in establishing an Undersea Surveillance network.

This work grew from a small project office of three people, all experts in their fields, (1 & 4) to its present size of sixty-six and covers twenty-five years of Naval history.

This paper then, is the study of Project CAESAR from an organizational and management standpoint during the period 1951 to 1975. Its purpose is to follow the evolution of its organization and to better understand project management concepts and methods by answering the following questions:

1. How did the organization change over time?
2. How did the goal or goals change?
3. Can any points or consistency in methods of management be singled out? and what are they?

SECTION II

BEGINNING ORGANIZATION (1950-1960)

"Management, which is the organ of society specifically charged with making resources productive...reflects the basic spirit of the modern age" Peter Drucker (2:6,7)

The organization of the U.S. Navy in the late forties and early fifties had continued to follow the classical organization model of MAX WEBER (18:328). It had, however, discovered the art of management and in particular, the art of management by project. Designated Project Officers were beginning to appear in organizational charts of the Bureau of Ships (BUSHIPS) and Bureau of Aeronautics (BUAIR).

One of the earliest designated projects was that of CAESAR, located in BUSHIPS and charged, by CNO letter to BUSHIPS dated 6 June 1952, to set up a Project Office within its SONAR Division, under the nickname of CAESAR, charged with the responsibility to study, formulate, procure and install six Sound Search Stations. A later CNO letter, dated 25 September 1952 increased this number from six to nine. Project CAESAR was underway - at least in a paper framework.

Figure 1 shows the organizational lines employed by BUSHIPS to implement the CNO directive. Project CAESAR was located in the Code 800 Division, Sea Electronics, directly under the Code 810 Branch, SONAR.

Project CAESAR, BUSHIPS Code 849, in early June 1952 contained three authorized and allocated billets (See Figure 2) and approximately $1,600,000 in RDT&E funds. The organization, because of its small size and the large task at hand, was already "expanding its matrix" to include direct liaison with the Office of Naval Research, Oceanographer of the Navy, the functional

organizations of BUSHIPS, such as engineering, fiscal and contracting (BUSHIPS Code 700, 2700 and 1700, respectively). Figure 3 shows the interrelations between these various organizations, CAESAR Project Office and the prime contractors, Western Electric Company (WECO). (Of interest to Washington residents, the first Oceanographer assigned to the project was the present Channel 9, Washington's WTOP TV Weatherman, Mr. Louie Allen who resigned from the project because he was unable to continue making the local weather forecast and fulfill the tasks assigned by the Project Officer.) (9)

The Project Office was small, but under the CNO Project Designation System, carried the third highest project designation in the Navy, and therefore could call upon any branch to assist in meeting the assigned goals.

In reviewing the tasks and goals as assigned by CNO to the Project Officer, it appeared to be a rather straightforward task. Design, produce and install six (later nine) Surveillance Stations. However, underlying this seemingly straightforward assignment, and the normal expected problems of any new system (i.e., training, manning, logistical support, military construction, base rights), were two problem areas that must have appeared almost unreal to a LCDR Project Officer. These were:

1. The systems to be installed required approximately 670 nautical miles of undersea cable (then called Quaded Sea Cable) and no plant facilities were available to produce the cable in the United States to the specifications outlined by WECO.

2. To install the system, a ship outfitted as a seagoing cable layer was required. Not a single ship meeting the requirements could be found found in the U.S. Navy's inventory.

Under the direct control of the Project Officer, two ships were obtained, outfitted and manned. This task required direct liaison and management control with the Bureau of Yards and Docks, the U.S. Army Corps of Engineers and additional contracts with the Western Gear Company for cable handling deck equipment and the British Cable Company for the use of cable ship "ALERT" for short experimental studies in cable laying techniques.

Also under the direction of the Project Officer and the Western Electric Company, the machinery design for the cable production facility were finalized. This production equipment was an achievement in itself. Through a contract with Simplex Wire and Cable Company, the government machinery was installed in a new facility designed specifically for the project and in late 1953, the first CAESAR cable was being produced. (9)

The first operational station was delivered in September 1954. That station is still operational today, after twenty-one years of continuous service.

The overall organization of the CAESAR Project changed somewhat because of the large task during the period 1953-58 as added personnel were brought aboard, primarily in the fields of Engineering, Business Management and Oceanography. During an interview with the Project Officer (9), he pointed out that in early 1953 he acquired the services of a GS-13 from another Project Office and made him his Deputy and Business Manager. The work of this man was truly outstanding and this writer had the pleasure to review his efforts from 1953 to 1970 when he retired from the Navy. His records are the history of the Project itself, kept in government record books. In long hand they show where every mile of cable was stowed, its cost, every budget line item with projected actual costs, and the day-to-day

business of the Project Office in note form. This change put a Deputy Project Manager in the project for the first time.

In reviewing these records, it became clear that the motivation of the personnel in the Project Office was one of the keys to the projects success. While the motivation principles of HERZBERG, MYERS CLELLAND and others were just coming to the forefront in management techniques, the employment of these techniques was present in the CAESAR Project Office. Achievement, recognition and advancement can be followed in the majority of the personnel assigned. The Project Office became a Captain, the business manager was advanced to GS-16 rating, the lead Engineer advanced from GS-10 to GS-15.

The Project Officer was also able to pick and choose his own personnel utilizing the influence of the Chief, Bureau of Ships in the assignment of new personnel to the office. It was apparent from the interviews with the Project Officer and from his records that he truly believed that "Man, not men, is the most important consideration" (Napoleon - 1831)

The Project Officer also enjoyed high visibility in the Department of the Navy and gained a reputation for doing things quick and right. (1,7 & 14) This reputation added to the prestige of the project personnel and just being a part of the CAESAR Project was considered an achievement in itself.

The flow of funds also emphasized the important position this project held in the Navy. Figure 4 shows the typical flow of funds to the Project Office during the period 1950 - 1960. In the R&D fields half the dollars required to do a job was supplied by the Office of Naval Research to the contractor designated by the CAESAR Project Office. Normally the Project Office did not control R&D funding. Figure 5 outlines the R&D funding effort up until FY73 and shows the layers of Naval approval over the

Project Officer. The authority layers have expanded as the Navy has expanded and breaks down as follows:

FY52-59; two layers, CNO - BUSHIPS

60-66; three layers; SECNAV - CNO - BUSHIPS

67-69; four layers; SECNAV - CNO - NAVMAT, PM-4

70-73; five layers; SECNAV - CNO - NAVMAT, PM-4, PME-124

From 1952 to 1970, the CAESAR Project Office was recognized by many as one of the most successful projects ever undertaken by the U.S. Navy. (7, 14) Twenty-three systems were installed throughout the world, with nearly 20,000 miles of ocean cable being laid by four dedicated cable ships (ARC MYER, NEPTUNE, AEOLUS and THOR) and surveyed by two dedicated Ocean Survey Ships (KINGSPORT and FLYER). These six ships became known throughout the Navy as the CAESAR Fleet and were funded, maintained and improved by the Project Office, working through Fleet Commanders.

Also during this period, cable technology increased rapidly and equipment updates at Simplex were made to keep abreast of cable production improvements. These advancements changed the entire outlook of underseas cable laying in that earlier cable, weighing 18 tons per nautical mile and measuring 2 3/4 inches in diameter on the average, progressed to the coaxial cable of today, measuring only 1/2 inch in diameter and approximately 1/5 the weight of Quaded Cable per nautical mile. The Project Office continued to take advantage of this type development and in many cases provided the funds necessary to ensure its success. (4, 9 & 14)

The fields of deep ocean charting. and navigation also came under the direct development of the Project Office and again direction and funding was applied when and where required. (9 & 14)

Toward the end of the sixties the Project Office was organized along the lines shown in Figure 6 and through direct liaison worked through and with the following organizations: (Navy and civilian) (a partial listing)

CNO (OP32)

BUSHIPS (later NAVMAT)

PM-4 (ASW Project Office - to be discussed in next section)

NAVOCEANO (deep/shallow detailed surveys)

OCEANSYSLANT/PAC (Commands set up by CAESAR Project Office to run operational stations)

CINCLANT/PACFLT (PM directed scheduling of cable ships under CINCOPCON)

MSTS (PM directed scheduling of ships and charter of civilian ships)

COMOPTEVFOR (PM directed T&E for stations and training developments)

ASW School (PM maintained control of course studies and provided direction for course content)

Supply Depots (PM directed handling, storage and loading of CAESAR material)

NRL (Continued R&E in deep ocean techniques as approved by PM)

WECO (direct services contract for development and engineering)

BTL (Sub-contractor to WECO)

SIMPLEX (PM directed cable management and production)

BUREAU OF SHIPS-1953

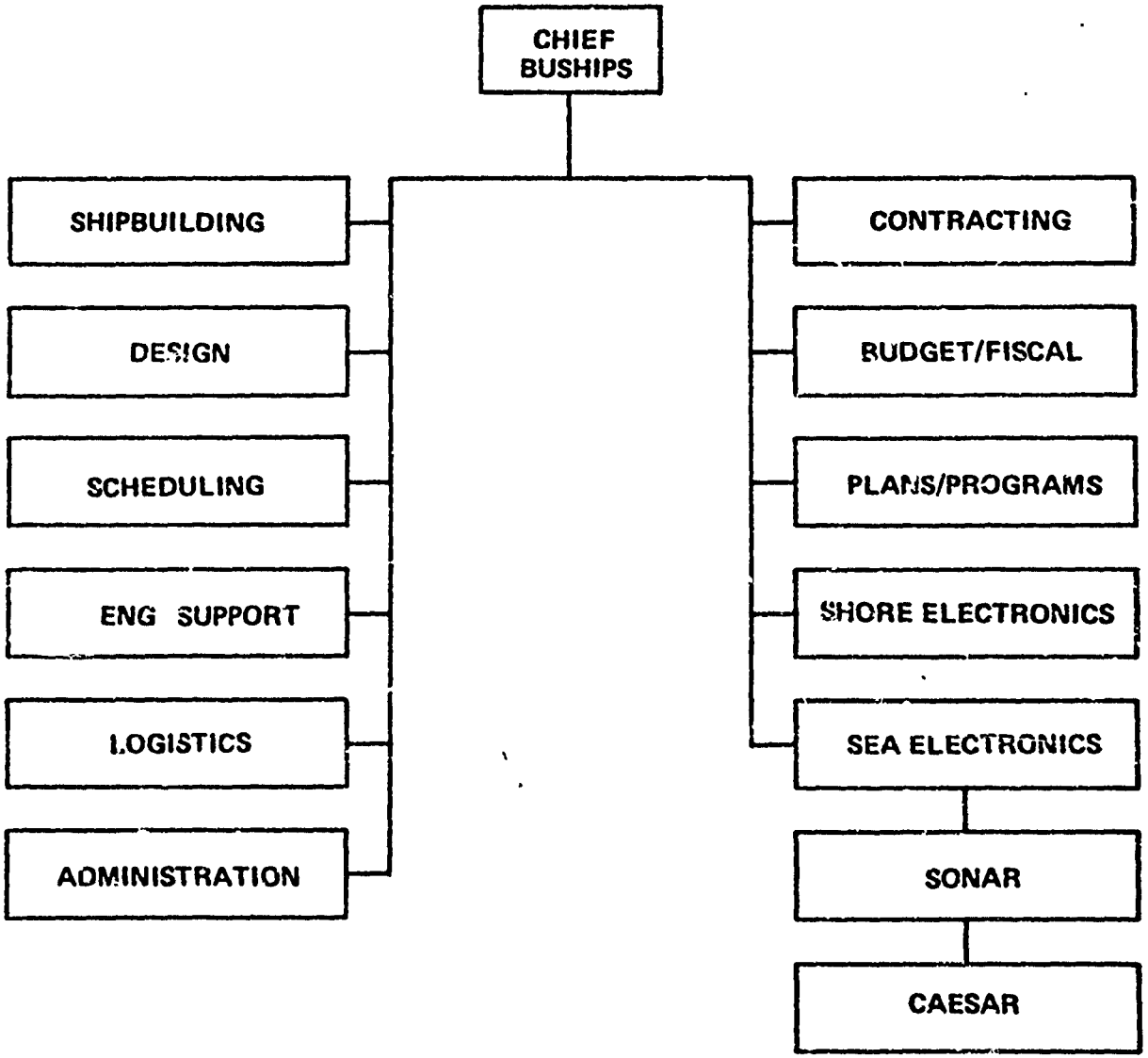


FIGURE 1

BUSHIPS ELECTRONICS DIVISION 1953

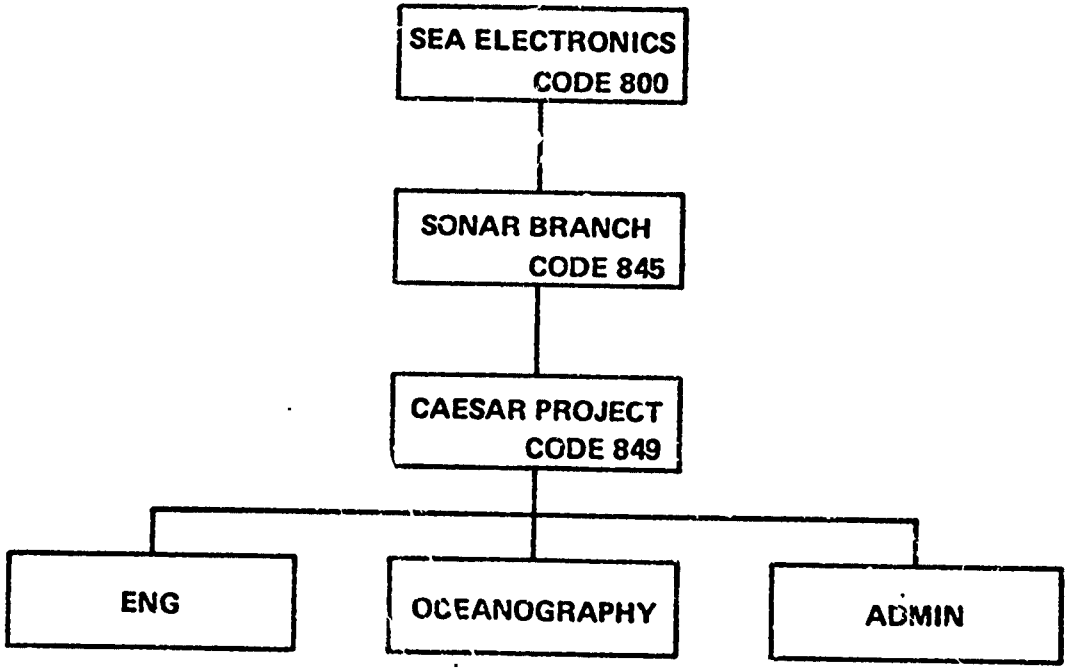


FIGURE 2

AUTHORITY LAYERS, 1952

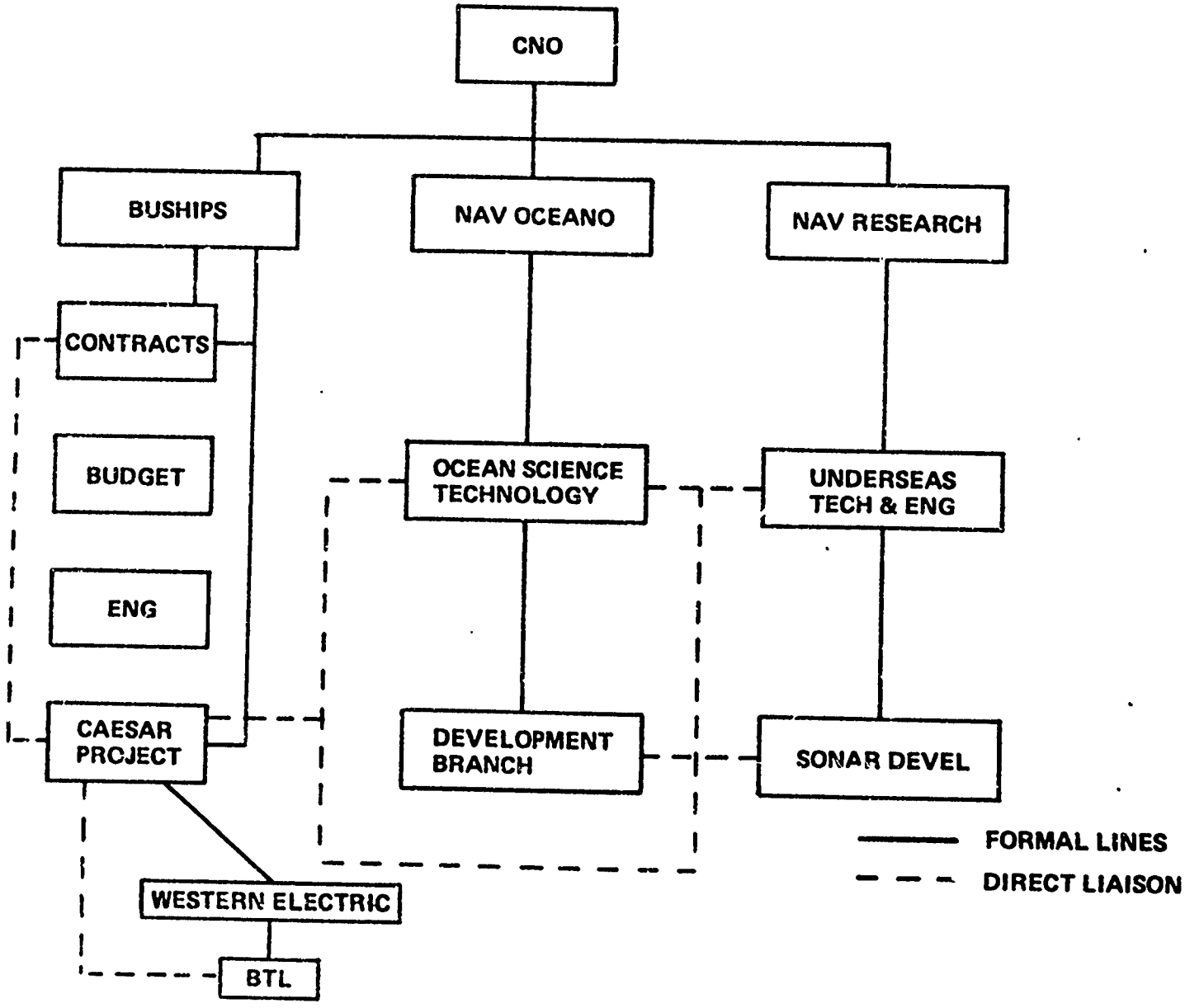


FIGURE 3

FUNDS FLOW (1950-60)

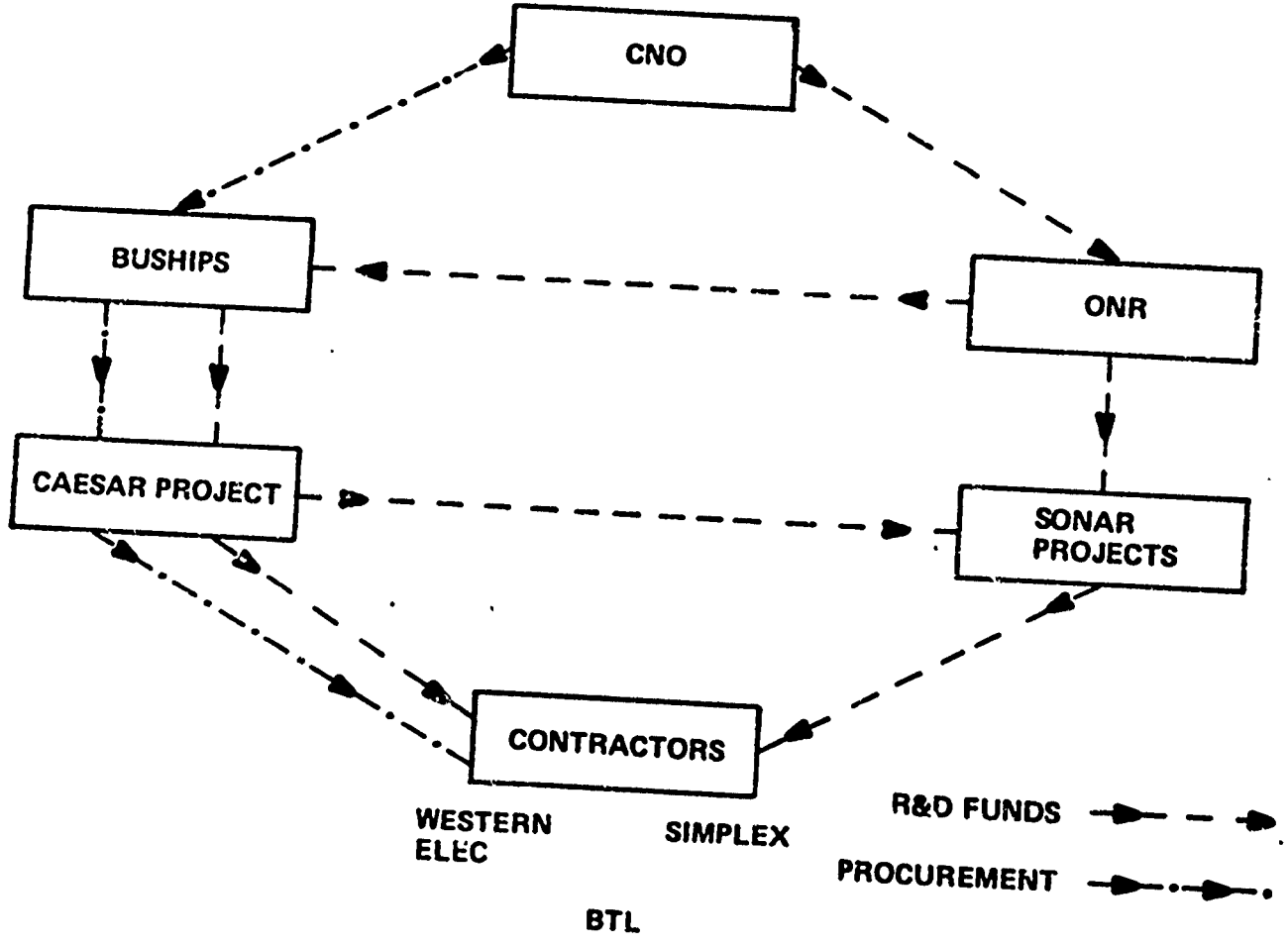


FIGURE 4

PROJECT CAESAR

R&D FUNDING

(000)

FISCAL YEAR	AMOUNT	LAYERS OF NAVY APPROVAL
52	1,600	2
53	2,250	2
54	1,804	2
55	1,350	2
56	3,472	2
57	2,265	2
58	2,860	2
59	5,463	2
60	6,600	3
61	6,000	3
62	9,441	3
63	4,260	3
64	7,214	3
65	5,972	3
66	6,003	4
67	11,800	4
68	12,215	4
69	14,780	4
70	22,300	5
71	17,400	5
72	24,700	5
73	29,000	5

FIGURE 5

CAESAR ORGANIZATION, 1966

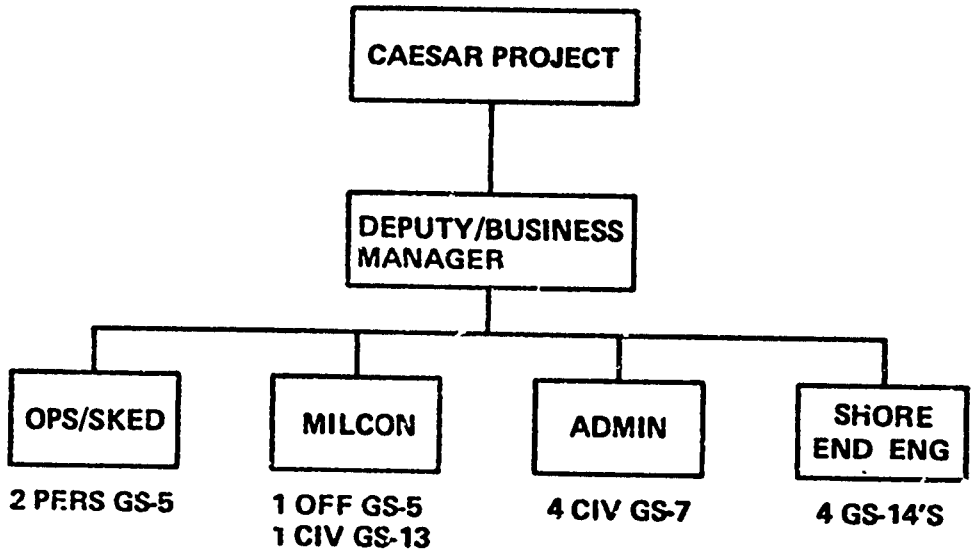


FIGURE 6

SECTION III

INTERMEDIATE ORGANIZATION (1960-1970)

"The Navy isn't what it used to be------and never was." (An old Service saying)

Although Section II of this study paper alludes that the Project Office remained relatively unchanged from an organizational standpoint through the sixties, this was not really the case. The Project Office, like the Navy itself, was involved in a mass reorganization which saw the end of the Bureau of Ships and the beginning of the Naval Material Command; and taking a page from the U.S. Air Force, the appearance of the Navy's System Commands, Air, Ships, Ordnance, Electronics, Facilities and Supply. The study of this reorganization is fertile ground for the Management and Behavioral Theorists, but will not be explored further by this writer.

An additional examination of Figure 5 shows that commencing in the mid-sixties, the layers of approval authority over the CAESAR Project increased. The old BUSHIPS Code 800, Sea Electronics disappeared along with all other related Electronic Branches in BUSHIPS and became part and parcel of the new Naval Electronic Systems Command, which in another congressional attempt to relocate service components from Washington, D.C., moved quietly across the river and set up shop at Baileys Crossroads in Virginia in 1966. CAESAR Project Office was now NAVELEX Code EPO-3 and a new day in the history of its work was beginning. One area that could not be pursued in this study was the profound effect massive reorganizations such as this have on the fragile lines of communications external to a Project Office. Points of contact disappear, job titles change, vacuums appear and remain until someone (usually the Project Office) takes them over or convinces

functional organization that the job is really theirs and needs to be done. (1, 4, 7 & 9)

During the same period, the overall management of the Navy's ASW effort was under study by CNO. It concluded that there was little, if any, coordination of the entire spectrum of ASW development. Using the Naval Material Command as a base, the Program Management Concept of DOD was re-affirmed and the Program Management Office for ASW (PM-4) was established. Up until this time, the CAESAR Project was relatively free of checks on its operations. Reviews of its plans and programs had been conducted at the SECNAV level as presented by the Chief, BUSHIPS. For CAESAR this had been a routine evaluation which provided program approval without regard for the interrelations with other ASW activities. PM-4 was chartered (11-1) to coordinate all activities and components in the Navy involved in surveillance, detection, classification, localization, data processing and display, fire control, integration devices, ASW weapons, launchers, ASW weapons handling and stowage, ASW countermeasures, ASW communications, ASW command and control, and ASW supporting and training equipment. Except in the areas of ASW weapons, all other ASW components had been directed in varying degrees by the CAESAR Project for their own program which, in many ways, was an ASW system within an ASW system.

Figures 7 and 8 show the new lines of organization which occurred during this period.

Under the direction of PM-4 and the CNO office of OP-95 a Defense Concept Paper (DCP) was written for the first time in the early 70's. This paper, along with the ASW Master List, which was the responsibility of PM-4 for the first time put the CAESAR Project in proper perspective

with the ASW concepts of the Navy. Reviews of program objectives became routine functions at the PM-4 level, and funds flow also proceeded through the PM-4 office down to the CAESAR Project.

Of perhaps the greatest impact was the emergence of new theory's on how could the long range detection of submarines be done easier, faster and at less cost,and how could ocean areas which were not favorable to CAESAR operations be covered. To answer these questions, and to continue the on-going CAESAR Program, a new Project Office was established within NAVELEX. PME-124 was chartered to be responsible for the management and technical control of the total Undersea Surveillance Program (12:4). In spite of this new PM organization, EPO-3 (Old CAESAR ORG) maintained control of its own funding and contracting. Funds designated by CNO for CAESAR could not be removed by PME-124. This was an area where more detailed understandings and policies between CNO (OP-95), PM-4 and PME-124 had to be formulated if PME-124 was to function properly. Figure 9 shows this new organization, while Figure 10 shows the new CAESAR organization which resulted. Also NAVELEX was taking on its final form and is shown in Figure 11.

From the eyes of the CAESAR Project Officer (that Reserve Lieutenant who was recalled for 18 months active duty, 21 years ago) this latest layer of authority over his program was the last straw and he retired from the Navy and returned to Westinghouse Corp. where his old job awaited him. That he accomplished his goals and was a successful Project Manager is a matter of record. It is also to his credit that he know exactly when his "brand of project management" was no longer required.

NAVAL MATERIAL COMMAND, 1966

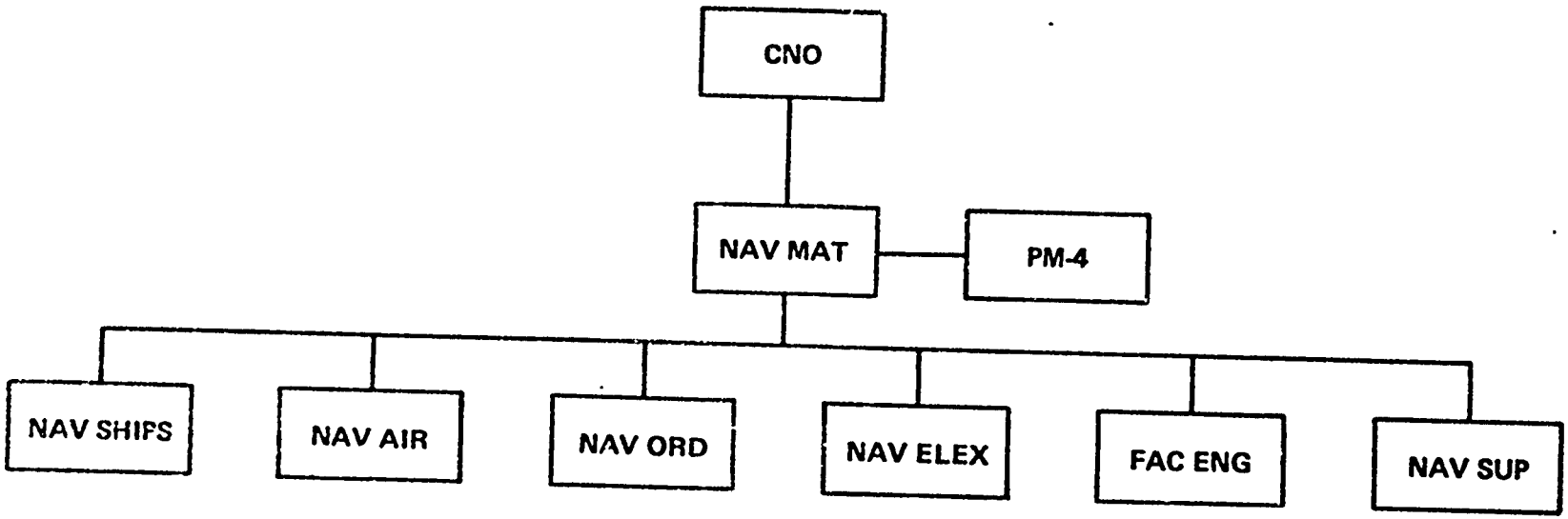


FIGURE 7

PROJECT CAESAR, 1966

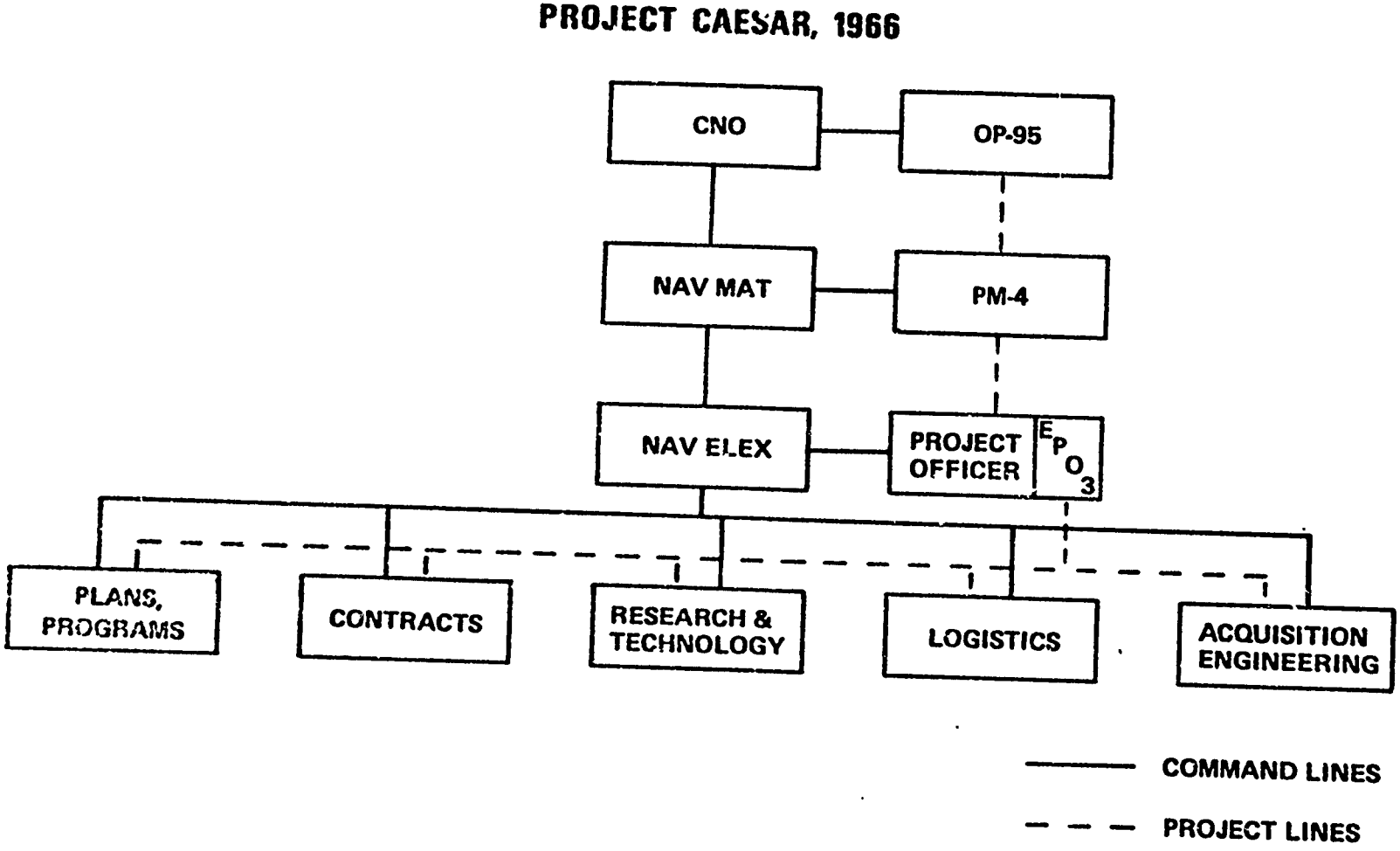


FIGURE 8

PME-124 ORGANIZATION, 1972

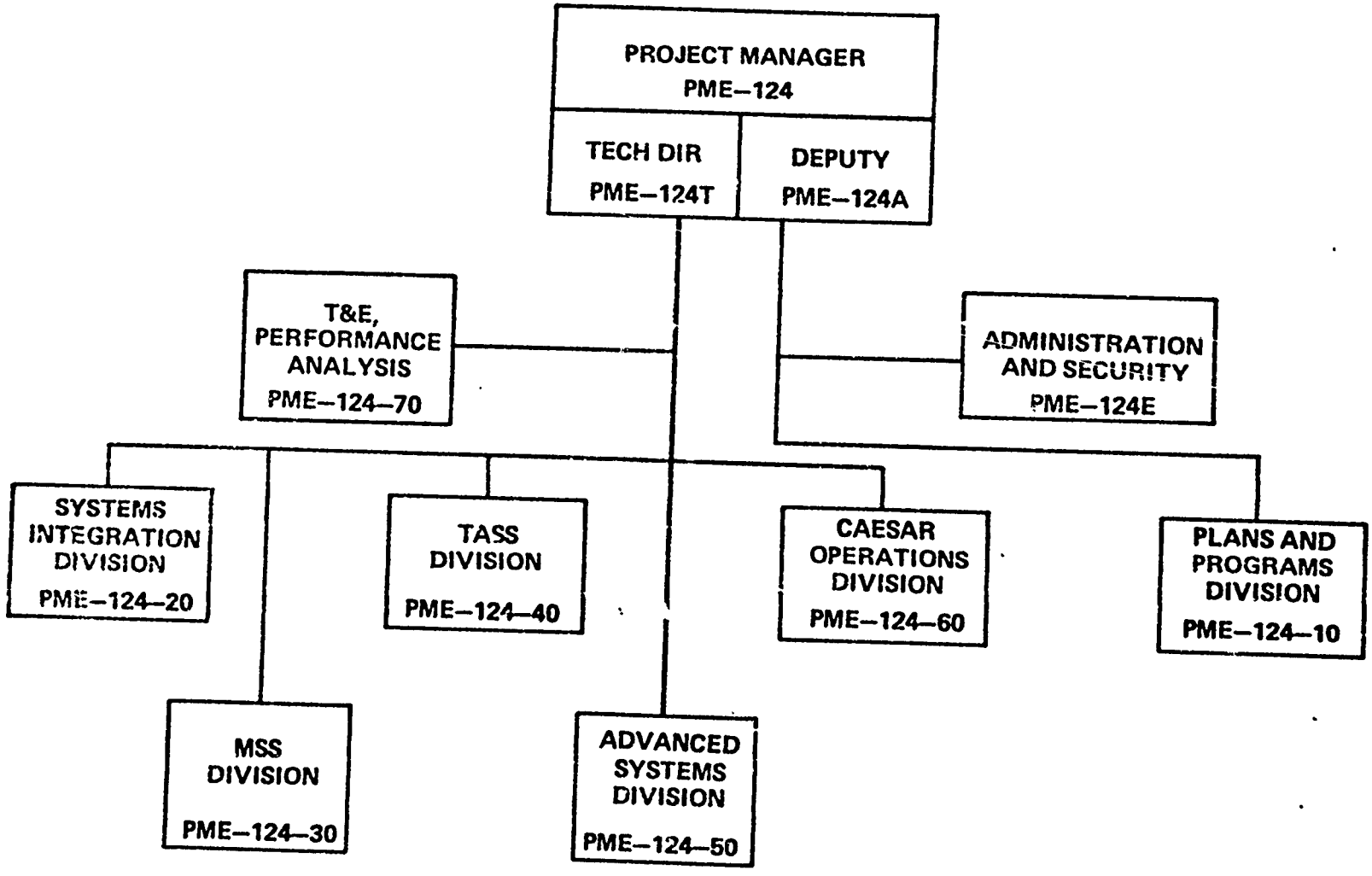
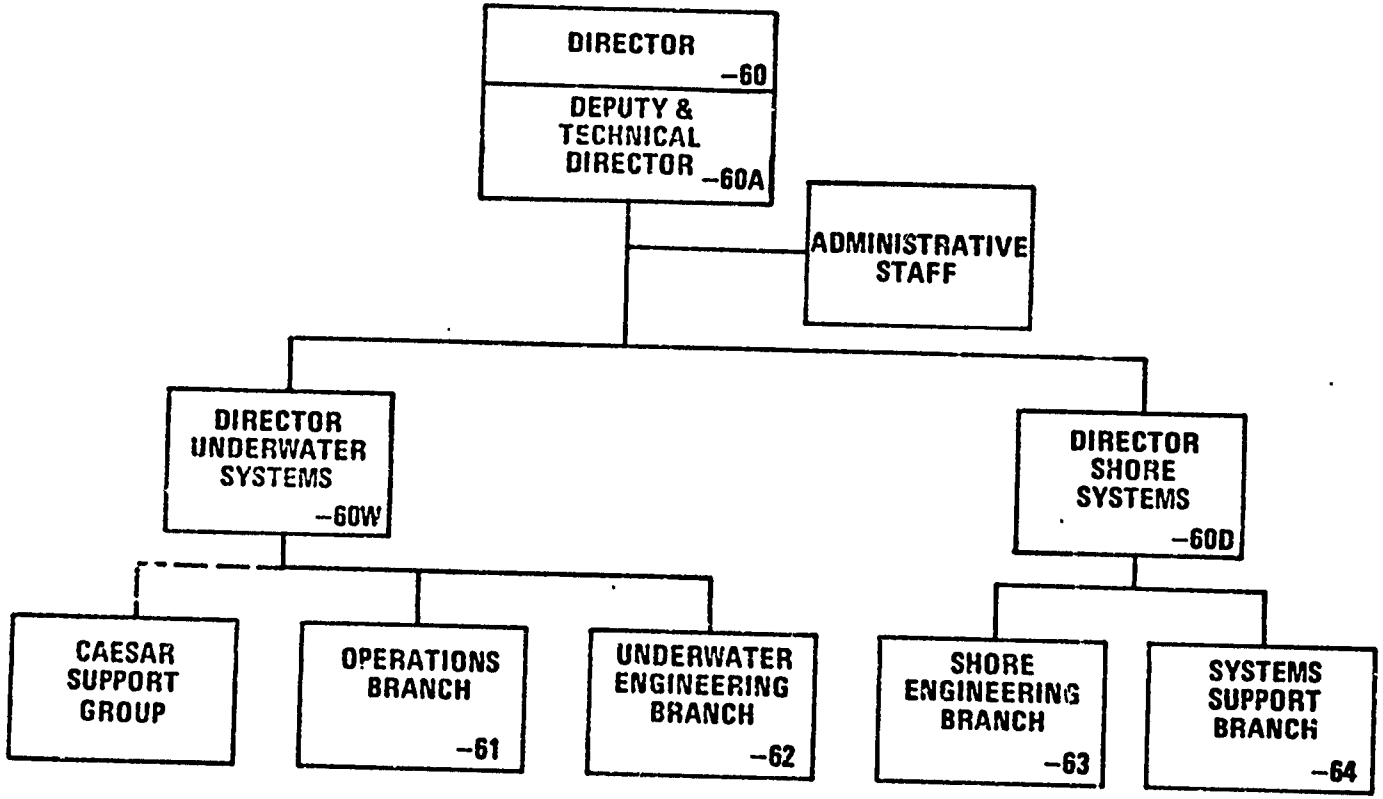


FIGURE 9

CAESAR DIVISION
PME 124--60



PROPOSED ORGANIZATION

FIGURE 10

HEADQUARTERS
NAVAL ELECTRONIC SYSTEMS COMMAND

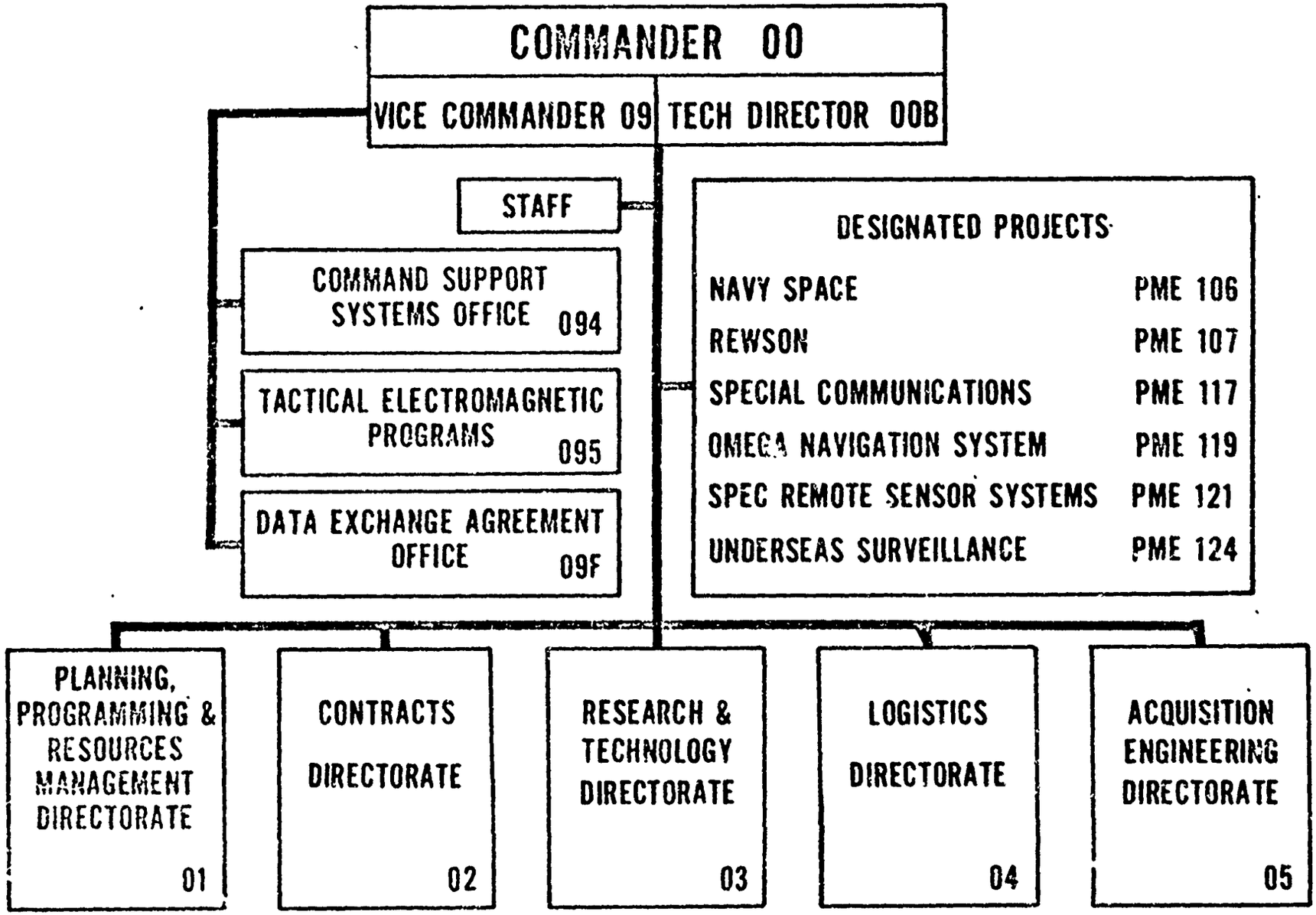


FIGURE 11

SECTION IV

PRESENT PROJECT ORGANIZATION (1970-1975)

In January 1974 a new Project Manager was assigned as PME 124. His background was such, having served in both PM-4 and OP-95, between sea tours, that he was well versed in project goals, methods, personalities and organizations involved in the Undersea Surveillance Project. His first task, as he saw it, was to ensure the objectives of the DCP-78 (latest revision approved in 1972) were met. (7)

With the advances in underwater technology and the corresponding advances in shore station processing, the need to backfit earler installations was pointed out in DCP-78. This task had not been planned to the degree required to guarantee the systematic and complete update of the entire surveillance system. Nor was the organization of PME 124 set up to accomplish the task, (See Figure 9).

After much study by a team composed of personnel from the Project Office, a new organization was approved by COMNAVELEX in early 1974, and implemented by PME 124. This new organization is shown in Figure 12. It follows closely the strong matrix organization within NAVELEX and the division components that comprise the main task as outlined in the DCP-78.

The following is a functional breakdown of the present PME 124 divisions:

PME 124-10 PLANS AND PROGRAMS

PME 124-10 is charged with the responsibility of advising the Project Manager on all aspects of the program relating to budgeting, funding, contracting, program execution, logistic support, data management, configuration management, program planning and scheduling. He maintains overall financial

control of the resources allocated to the project and develops budgetary documents and related justifications in coordination with various other program managers. He provides financial management policy and direction, and acts as the focal point for all contracting matters. He coordinates, provides guidance and consolidates action on all short and long range plans, 's, DCP's, POM's, and FYDP.

The main change that occurred during the reorginization was the final removal from PME 124-60 (old EPO-3) all financial and contracting responsibilities.

Figure 13 shows the new PME 124-10 Division organization.

PME 124-20 SURVEILLANCE SYSTEMS ENGINEERING

PME 124-20 manages and provides technical direction to all PME 124 divisions for advance development, engineering development, operational system development, production and fleet support on all undersea surveillance shore subsystems and facilities. He manages and directs shore facility engineering, support and shore system improvement (backfit) programs and acts as the NAVELEX Contracting Officer's technical representative on undersea surveillance matters. This division conducts conceptual studies, deployment option studies, system/subsystem trade off studies, cost effectiveness and risk assessments on all undersea surveillance shore processing subsystems and facilities.

All shore systems responsibilities of the old EPO-3 (CAESAR) organization were transferred to the PME 124-20 division. The division was further tasked to provide communications interface technical definition between MSS and TASS.

Figure 14 shows the PME 124-20 division organization.

PME 124-30 MOORED SURVEILLANCE SYSTEMS (MSS)

This division did not change from an organizational standpoint. PME 124-30 remains charged with responsibility for the MSS Program through implementation and deployment. Only in the area of communication interface did the division responsibilities change. This function of communication interface was assigned to the 20 Division.

Figure 15 shows the present organization of the PME 124-30 Division.

PME 124-40 TOWED ARRAY SURVEILLANCE SYSTEMS (TASS)

The Towed Array Division remains charged with the technical direction of all aspects of the TASS program. The only real change occurred in its liaison with the new 124-20 Division, and the 40 Division must ensure the integration of TASS by meeting the interfaces defined, established and maintained by the 20 Division.

Figure 16 shows the PME 124-40 organization.

PME 124-60 SOSUS PROGRAM DIVISION

The SOSUS Program Division (old EPO-3) retained its overall responsibilities for the "Underwater Systems" of Project CAESAR. In addition, it gained part of the PME 124-50 Division responsibilities for the advance development of the Regional Evaluation Centers and Main Evaluation Centers (REC/MEC). The majority of the REC/MEC concepts fall in the Engineering Systems Division (PME 124-20) where the main effort for surveillance backfit is underway. PME 124-60 continues to design, develop, maintain and repair the fixed SOSUS systems. It maintains liaison with Fleet units for the repair and installation of systems and is charged with scheduling and maintaining the ships of the CAESAR Fleet (now referred to as the Undersea Surveillance Fleet).

The organization of PME 124-60 is shown in Figure 17.

In the new organization, the 50 Division and 70 Division were disestablished (see Figure 9) and their functions transferred to the 20 Division (except as already noted).

The overall impact of this reorginization is to put the entire undersea surveillance effort more under the control and direction of the Project Manager (PME 124) in carrying out the tasks assigned in the DCP-78. Budgeting and funding have consolidated into one division for the first time since the inception of the PME 124 Program Office. In addition, the System Engineering Divison was set up to provide a true interface between the various elements and systems in the Program Office.

Of secondary importance and certainly of some consequence was the manner in which personnel assignments were made to the new divisions. The newer and younger civilian members were assigned predominantly to the Systems Engineering Division where advancement, recognition and rewards could be more easily accomplished. In fact, the employment of this "Young Turk" (7) approach was almost as important to the new Project Manager as the need to meet the DCP requirements.

PME 124 ORGANIZATION, 1974

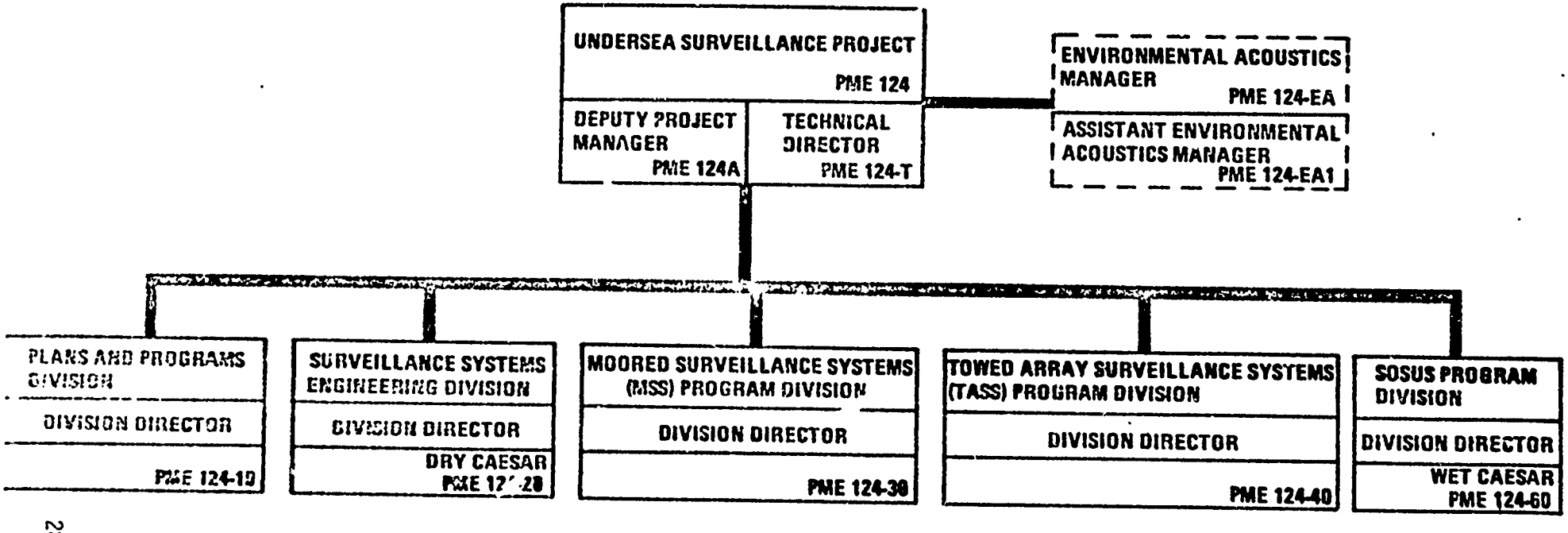


FIGURE 12

PLANS AND PROGRAMS DIVISION, 1974

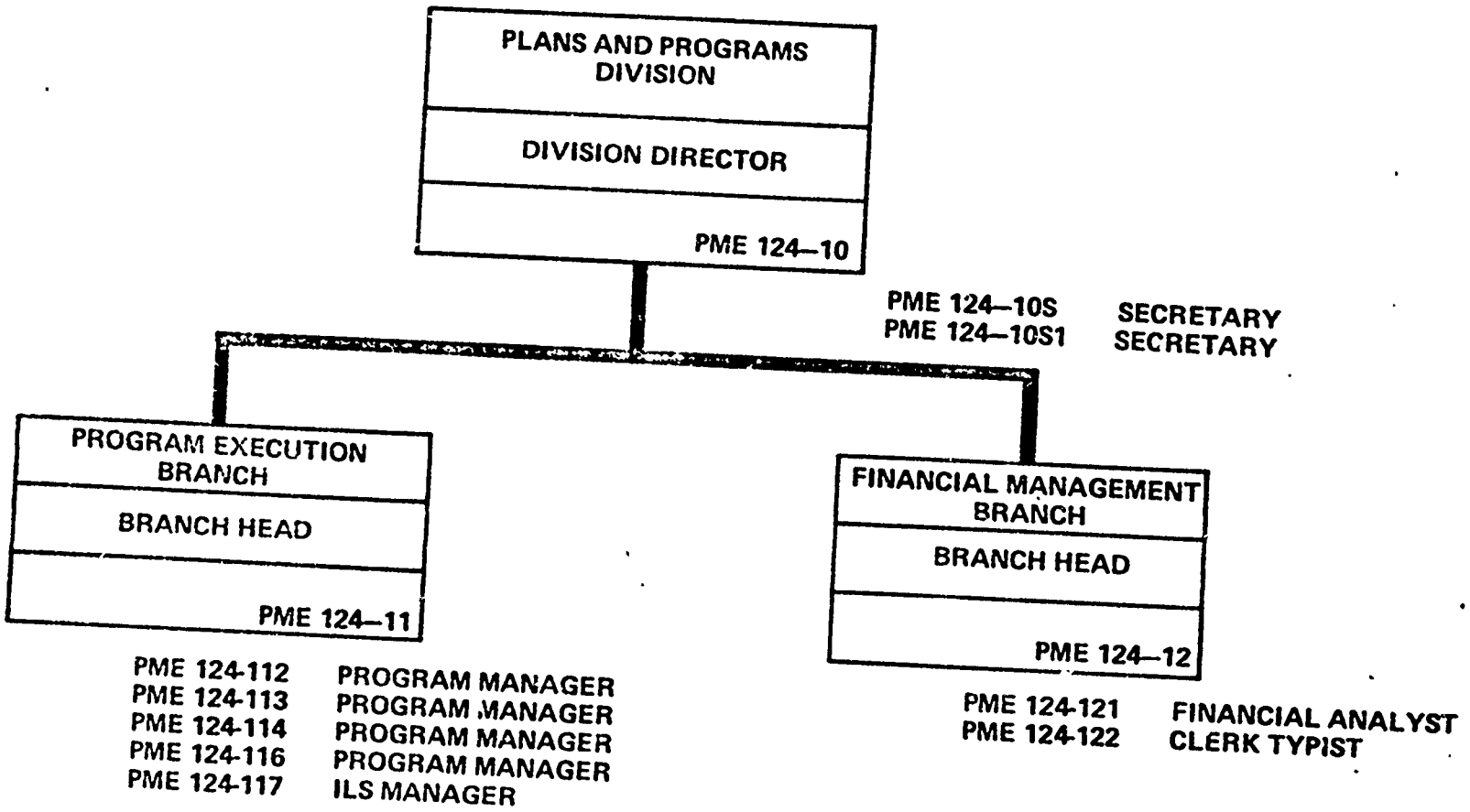


FIGURE 13

SURVEILLANCE SYSTEMS ENGINEERING DIVISION, 1974

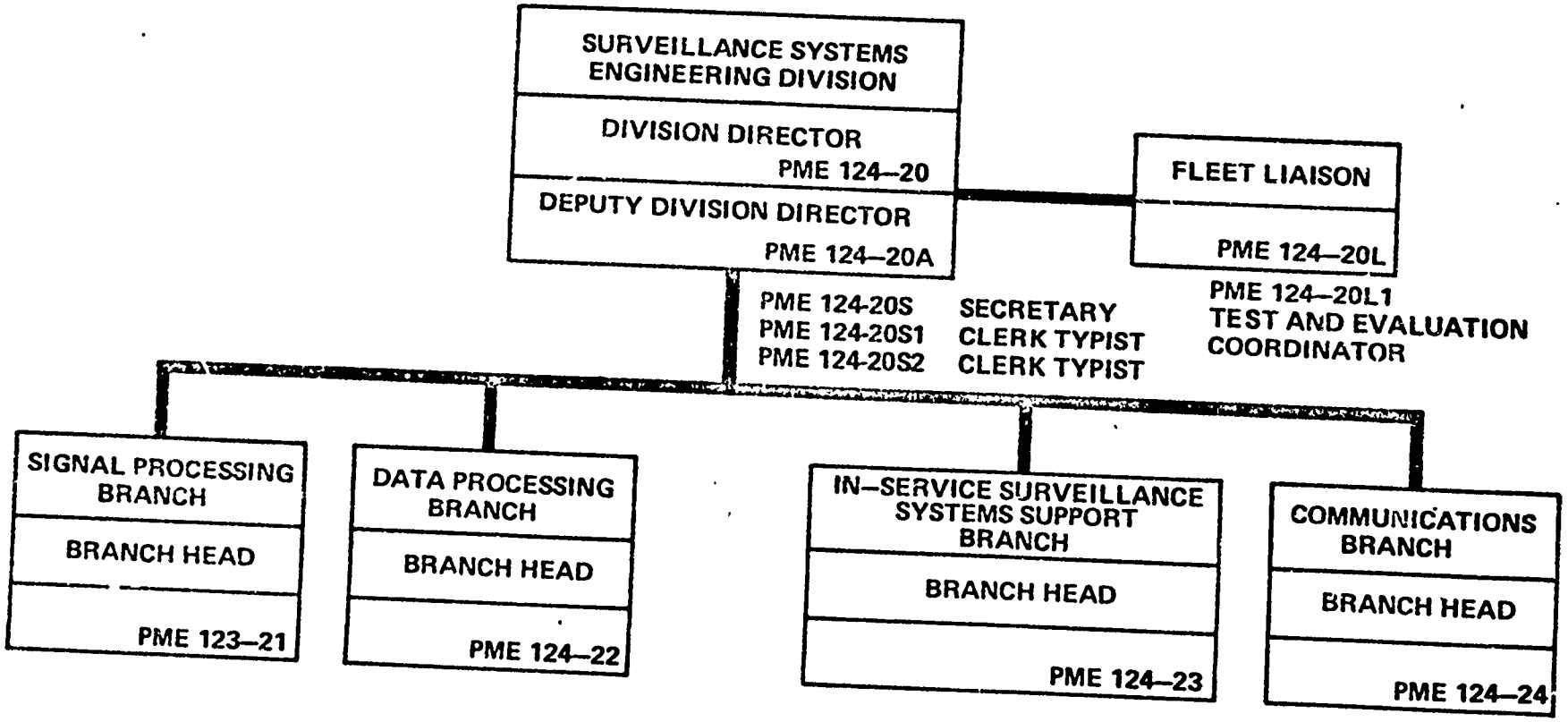
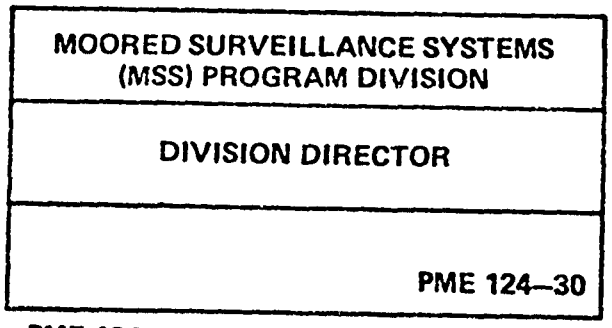


FIGURE 14

MOORED SURVEILLANCE SYSTEMS (MSS)
PROGRAM DIVISION, 1974



PME 124–31	DEPUTY DIVISION DIRECTOR/ LEAD PROJECT ENGINEER
PME 124–311	PROJECT ENGINEER
PME 124–312	PROJECT ENGINEER
PME 124–313	PROJECT ENGINEER
PME 124–314	PROJECT ENGINEER
PME 124–30S	SECRETARY
PME 124–30S1	CLERK TYPIST

FIGURE 15

SOSUS PROGRAM DIVISION, 1974

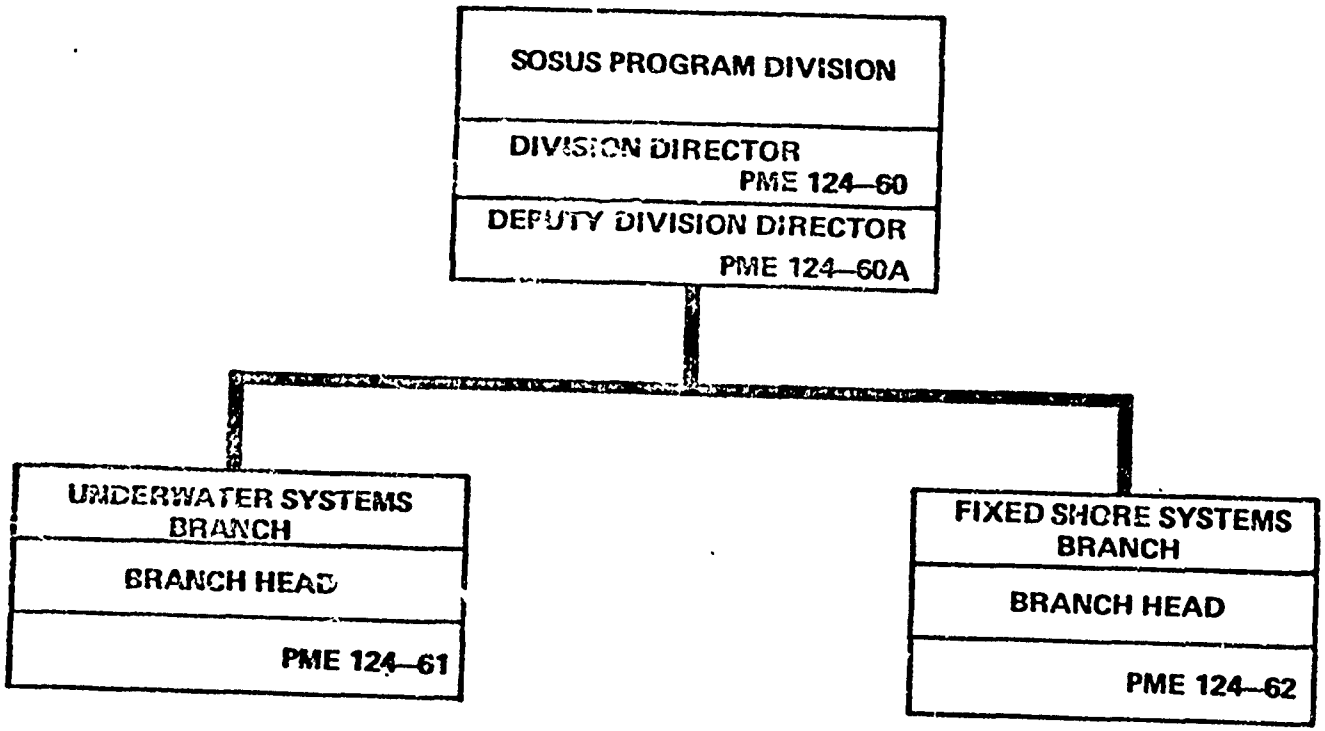


FIGURE 17

TOWED ARRAY SURVEILLANCE SYSTEMS (TASS) PROGRAM DIVISION, 1974

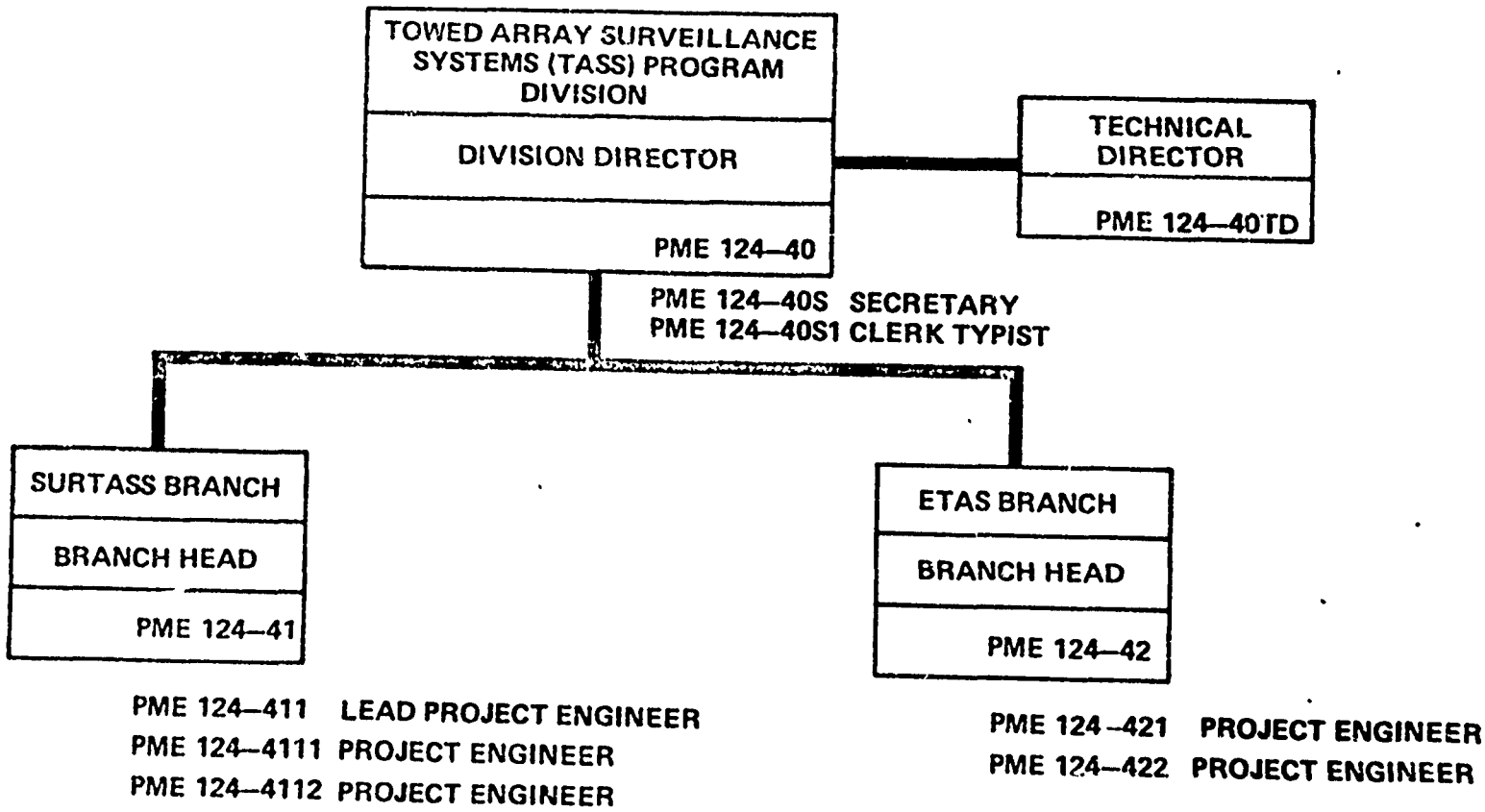


FIGURE 16

SECTION V

CONCLUSIONS

"Let all things be done decently and in order" I Corinthians 14:40

While at first glance it is tempting to conclude that the past twenty-three years ir the Undersea Surveillance Project has proved once and for all that PARKINSON'S LAW (11) is alive and well and living in the Navy, it is simply not true. The growth of this organization has been the result of three primary reasons:

1. Technology developments which made it easier and more profitable for the Navy to pursue additional surveillance, therefore more advance installations requiring a larger staff.

2. Coordination of the Navy's entire acquisition methods became more centralized and therefore more controlled.

3. Because of the urgency and classification of some phases of the project, functional organizations had to become permanently attached to the Project Office in order to react quickly to project needs.

The growth of the Undersea Surveillance Project also follows the management methods employed during its life. As the program became more complex, the more centralized the requirement for strong management with a "license" to get the job done. At the same time, as the project continued to meet its objectives the greater the need became for overall coordination of all associated programs and plans of the Navy, thus layering of authority became inevitable. For a Program Manager who had started out twenty-one years earlier as a LCDR with only three layers of authority over him, to find himself a Captain with five levels of authority over him is a contradiction

of the promotion cycle. (Of course, it must also be stated that for a Naval Officer to rise to the rank of Captain while remaining in the same job during his career is also a contradiction of normal Navy rotational cycles.)

To this writers relief, it was discovered that there is really nothing new about the "matrix" concept of management, it is simply a new definition contrived by management scientists to put a handle on a method of accomplishing a task. The operational side of the Navy has been employing it since John Paul Jones got his first ship. When Captain Jones left Boston on his way to war with the English, and laid over in Philadelphis for stores, he accomplished the task at hand by taking his functional ships organization and weaving it carefully into the functional organizations (Command, Political, Supply, etc.) he found ashore in Philadelphia. I doubt if he realized he was working a "magic matrix" at the time, but in fact that's just what he was doing. The successful Project Manager is also a careful weaver of "organizational fiber."

Also of interest, at least to this writer, was how important it is for all managers to know exactly how to weave this fabric through the maze of functional lines and organizations. The opening song from the Broadway hit, "The Music Man" should be the theme for all Project Managers, for Professor Harold Hill knew what he was talking about when he exclaimed, "Yo ve got to know the Territory."

In the review of Project CAESAR over the past twenty-five years many examplies of how to manage successfully have been seen. The most striking are:

1. The Project Manager must tailor his organization to the environment around him.

2. The degree of urgency in a project is of utmost importance.

3. The Project Manager must be able to motivate his and other peoples organizations to get the job done.

4. He must continually improve his legal ability to act and make decisions.

5. While military rank is important, the exercise of "expert influence" is more important in critical programs with high visibility.

Finally, the field of Project Management in the Navy is an exciting and rewarding job ranking a close second to commanding your own destroyer or becoming the Chief of Naval Operations. (Of course, both of these later jobs in this writers view are also Project Managers without portfolio so the comparison may not hold up.)

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