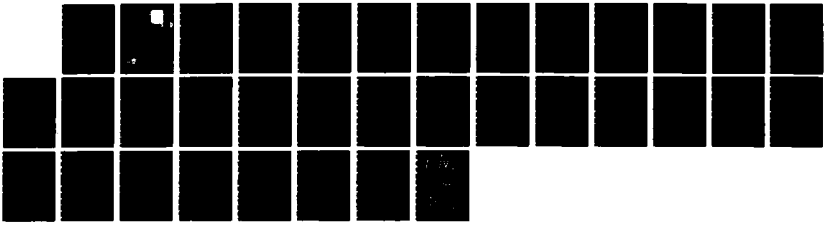
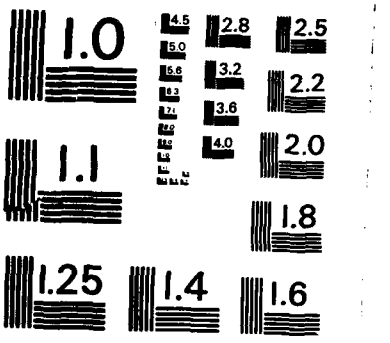
AD-A166 765 COMMUNICATIONS-ELECTRONICS MILITARY OCCUPATIONAL SPECIALTY (MOS) RESTRUCT (U) ARMY WAR COLL CARLISLE BARRACKS PA J C MOSS 05 MAR 86 1/1

UNCLASSIFIED F/G 17/2.1 NL





STUDY PROJECT

COMMUNICATIONS-ELECTRONICS MILITARY OCCUPATIONAL SPECIALTY (MOS) RESTRUCTURE IN SUPPORT OF THE FIELDING OF MOBILE SUBSCRIBER EQUIPMENT (MSE) SYSTEM

BY

LIEUTENANT COLONEL (P) JACKSON C. MOSS, SC

5 MARCH 1986

US ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

AD-A166 765

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): Communication-Electronics Military Occupational Specialty (MOS) Restructure in Support of the Fielding of Mobile Subscriber Equipment (MSE) System	5. TYPE OF REPORT & PERIOD COVERED: STUDENT PAPER 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): LTC(P) Jackson C. Moss	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: U.S. Army War College, Carlisle Barracks, PA 17013	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: SAME	12. REPORT DATE: 5 March 1986 13. NUMBER OF PAGES: 30
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

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

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Force Modernization always presents problems to the forces undergoing change. The Signal Corps is preparing to undergo the most massive and comprehensive modernization program it has ever attempted which involves new tactical radio equipment and revised doctrine to employ it in support of Divisions and Corps. The recent decision to acquire Mobile Subscriber Equipment through the Non-developmental Item process has created some unique challenges for the personnel community. New MOSs had to be created for equipment, and TOEs revised to support the new AirLand Battle doctrine. Because of compressed time schedules

(continued)

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

BLOCK 20 (continued)

brought about by NDI acquisitions, the personnel community initiated a series of actions to support the fielding of MSE. However, a key action was overlooked, that being the submission of a Basis of Issue Plan (BOIP) and its supporting documents. The failure to submit this key document has delayed the approval of the new MOSs and TOEs. In order to preclude future problems of this nature, it is recommended that DA DCSOPS and DA DCSPER publish a single source document which outlines step by step those actions required to support NDI items being brought into the Army inventory.

USAWC MILITARY STUDIES PROGRAM PAPER

COMMUNICATIONS-ELECTRONICS MILITARY OCCUPATIONAL SPECIALTY (MOS) RESTRUCTURE IN SUPPORT OF THE FIELDING OF MOBILE SUBSCRIBER EQUIPMENT (MSE) SYSTEM

AN INDIVIDUAL STUDY PROJECT

BY

LIEUTENANT COLONEL (P) JACKSON C. MOSS, SC

COLONEL BOB HERVEY
PROJECT ADVISOR

US ARMY WAR COLLEGE
CARLISLE BARRACKS, PENNSYLVANIA 17013
5 MARCH 1986

Author: Jackson C. Moss, LTC (P), SC

Title: Communication-Electronics Military Occupational Specialty (MOS) Restructure in Support of the Fielding of Mobile Subscriber Equipment (MSE) System

FORMAT: Individual Study Project

Date:3/05/86 Pages: 27 Classification: Unclassified

Force Modernization always presents problems to the forces undergoing change. The Signal Corps is preparing to undergo the most massive and comprehensive modernization program it has ever attempted which involves new tactical radio equipment and revised doctrine to employ it in support of Divisions and Corps. The recent decision to acquire Mobile Subscriber Equipment through the Non-developmental Item process has created some unique challenges for the personnel community. New MOSs had to be created for equipment, and TOEs revised to support the new Airland Battle doctrine. Because of compressed time schedules brought about by NDI acquisitions, the personnel community initiated a series of actions to support the fielding of MSE. However, a key action was overlooked, that being the submission of a Basis of Issue Plan (BOIP) and its supporting documents. The failure to submit this key document has delayed the approval of the new MOSs and TOEs. In order to preclude future problems of this nature, it is recommended that DA DCSOPS and DA DCSPER publish a single source document which outlines step by step those actions required to support NDI items being brought into the Army inventory.

TABLE OF CONTENTS

I. INTRODUCTION

Force modernization in any army is a massive undertaking involving large amounts of money and a great deal of time. It is not inconceivable for a system to take 10 to 15 years from concept to production to actual fielding of the first model in a unit. In fact the research, development and acquisition process based on the Life Cycle System Management Model (LCSMM) has built in time phases that create much of the delay encountered in obtaining a new system for the field.

This study analyzes a new approach to the acquisition of a major communications system and tracks those actions necessary to support the manning of the new system in the field. The Nondevelopmental Item (NDI) acquisition process eliminates years of time and millions of dollars of expensive research and testing enabling the Department of Defense to field much needed equipment in a significantly shorter time. The NDI acquisition process roughly cuts the time required to field a system under LCSMM to one-forth the normal time, or better. Because of the greatly compressed time schedule, personnel actions and requirements normally spread out over the LCSMM process are also compressed. This

reduced time frame has the potential of creating far-reaching problems in the personnel arena. These potential problems served as the genesis of this study, the purpose of which, is to look at the personnel actions and MOS restructure required to support the fielding of a new item of communications equipment acquired through the NDI process and to determine if personnel actions developed in support of the fielding of NDI acquired systems should be continued or abandoned, with a return to conventional personnel support systems

II. BACKGROUND

There were many factors that came into play which ultimately resulted in the US Army purchasing a new tactical radio system for use at Corps and Division. The most significant one, however, was the simple fact that the communications doctrine employed by the Army for over 20 years did not meet the requirements for supporting Airland Battle doctrine. " The rapid evolution of tactical doctrine over the past decade, to the Airland Battle concept, dictated a significant change in communication doctrine and means to support the deeper, expanded and integrated battlefield. The need for increased flexibility, dispersibility, mobility and transportability is concurrent

with the requirement for simplicity and a reduction in manpower intensity ."[1] It is interesting to note that the Signal Corps, as far back as 1976, had determined that the evolving tactical doctrine was going to leave the communicators " standing in the dust" if they did not come up with a new and innovative concept to support the Corps and Divisions in their command and control needs. In short, the existing systems were too cumbersome, complex and manpower intensive to support the evolving doctrine.

During the latter part of 1983 the Vice Chief of Staff of the Army directed TRADOC and the US Army Signal School in particular, to relook the current tactical communications doctrine designed for division and corps level support. He told the assembled group, "the Army should be looking for smaller, lighter weight and more mobile communications electronic equipment for the tactical forces, specifically the divisions. My specific goal is to get a greater capability with less people and fewer dollars."[2] His guidance included the following major points: (1) No personnel ramp-up for the Signal Corps; (2) Reduce Compo 1 by 5K Signal Soldiers; (3) Field more mobile/robust C^3 systems; (4) Go Non-developmental Item acquisition if required.

To assist in finding a solution to the communications doctrine deficiency and the people and money question, a

committee was developed to look at the problems from a coordinated Signal Corps viewpoint. The committee conducted a Battlefield Communications Review (BCR). They soon determined that in order to support the new tactical doctrine and bring about a reduction of personnel in the Signal Corps, some form of Mobile Subscriber Equipment (MSE) system would be an absolute necessity.

"The Mobile Subscriber Equipment System,... is an integrated corps-division network of smaller, more survivable communications nodes configured in an area common users communictions grid system. The backbone system integrates the functions of radio trunking, switching, communications security, and systems control into a composite communications system. Network users gain access to the system through extension nodes (node centrals) by some form of radio trunking. The MSE system will be capable of providing secure voice and data communnications connectivity, on a discrete address basis, to users (both mobile and stationary) regardless of their physical location on the tactical battlefield."3

" In 1976 the Signal Center completed a study which designed an objective architecture for the 1980's---the Integrated Tactical Communications System (INTACS). Mobile Subscriber Equipment (MSE) was the linchpin of that proposed system at division level. The MSE requirement was ... fully

documented and an Operational and Organizational Plan was written." [4] Although the requirement was fully recognized ten years ago, the system was not purchased because the technical feasibility was uncertain and the cost was seen to be prohibitive.

In January 1984 the Signal Corps leadership met to discuss once again the problem of command and control in support of Airland Battle doctrine. "On 5 January 1984, the Vice Chief of Staff of the Army approved the MSE architecture and directed funding, programming, and implementation actions to enable us to field MSE (Corps and below) and TRI-TAC at EAC for the total Army---Reserve as well as Active Component---by 1992."[5] By early July a request for proposal (RFP) was completed, calling for the acquisition of a total system, and was released for bids. The plan was to award a contract in mid-1985 and start equipment flowing to the field in the early part of FY 1987.

On November 6, 1985 the Department of Defense annnounced that a $4.3 billion contract had been awarded to the GTE Corporation and Paris based Thompson-CSF.[6] "The introduction of MSE into the Airland Battlefield will be the most intensive force modernization action yet envisioned. It totally integrates the command and control structure at corps and below, reorganizes and reequips Signal units,

places Reserve component units in the same generation as their active counterparts and totally reorients the manner of doing command and control functions."[7]

III Restructuring the Force

As a result of the Signal School Mission Area Analysis of the Airland Battle and in particular the assesment of the communications support doctrine, it was determined a new support approach was needed immediately in the area of tactical communications. The quickest available solution to the problem was a material fix, or the fielding of new equipment, which could support the tactical doctrine being developed for the umbrella concept of Airland Battle.

The Operational and Organizational Plan (OOP) originally drafted in 1976, which addressed MSE, was pulled out and dusted off by the Signal Center. After a careful assessment, the plan was redrafted and additional requirements identified that would enhance the C2 systems capabilities on the battlefield. The Signal School published a new draft O&O Plan in September 1984. The plan outlined a concept of what the force structure would look like and how it would be acquired, deployed, operated, and supported in peacetime and wartime. The draft O&O Plan is the focal point for the development of the Basis of Issue

Plan (BOIP) and the Qualitative and Quantitative Personnel Requirements Information (QQPRI) documents.

A BOIP is a planning document tailored to each materiel item. It describes the number of principal and support items required for each organizational element and lists the other equipment and personnel changes to the organization that are required to operate and support the BOIP item. The BOIP reflects the minimum essential wartime requirements for personnel and equipment, but is not a requirements document, fielding or distribution plan, or redistribution plan for displaced items. A BOIP is either tentative or final and always has a related QQPRI.

A QQPRI is a document that lists the MOS(s), skills, tasks, and knowledge required to operate and support the new item along with the estimated time required to maintain it. It also lists the number of direct operators and descriptive titles of duty positions for the operators and maintainers, as well as individual duties and tasks. If a new MOS is required, it will contain a recommended MOS from which personnel can be obtained, along with the required knowledge, skills, abilities, and physical-mental qualifications.

As a part of the draft O&O Plan the proponent (US Army Signal School) was required to identify personnel

requirements and recommend any MOS changes or restructuring deemed necessary to support the new equipment being proposed for fielding . At this point, the proponent took several key actions affecting personnel: A draft plan TOE for Corps and Division signal battalions was formulated; new MOSs were proposed; a Basis of Issue Plan (BOIP) and a Qualitive and Quantitative Personnel Requirements (QQPRI) document was developed, or should have been. The delay in submitting a BOIP is discussed in a later portion of this study. The most significant of these action, called for the creation of three new "operator" MOS under the provisions of AR 611-1, Military Occupational Classification Structure Development and Implementation.

The Signal Center determined that existing Signal MOSs did not adequately describe those actions and functions that would be required by soldiers operating the new MSE equipment. It was also decided that the use of additonal skill identifiers (ASI) only, would not give the personnel managers the tools necessary to manage MSE trained service members. Career Management Field (CMF) 31 was selected to be the career field underwhich MSE trained soldiers would be managed.

The mechanism used to develop the three MSE related MOSs needs to be examined closer to understand what the proponent went through in the design of the new MOSs to be

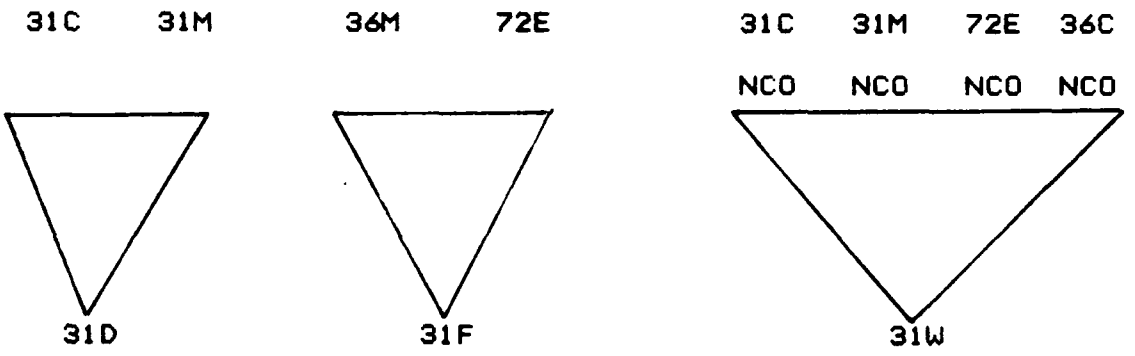
proposed for Army wide selection and fielding. AR 600-3: The Army Specialty Proponent System, lays out the MOSs and SCs that each service school is responsible for in developing and monitoring those MOSs required to install, operate and maintain the myriad of army equipments and systems. As the proponent for CMF 31 the Signal School organized a Proponent Office to work with its Combat Development Directorate in the development and recommendation for those Signal (Communications-Electronics) MOS requiring change, reconfiguration, elimination or addition as a result of the decision to field Mobile Subscriber Equipment.

Using AR 611-1 as a guide, the Signal Center Proponent Office began the tedious work of analysing what precisely an MSE equipment operator would be called upon to do. They studied existing MOSs in the tactical communications areas carefully assessing the training involved with each MOS. An attempt was made to try to use those MOS that currently existed and were in the force in some quantity. The desired course of action was to find existing MOS that could receive some additonal training and through the use of an ASI, be designated as MSE operators. The search proved futile.

It was determined that because of the dramatically different doctrine to be employed by MSE and the new equipment called for, the only way to satisfy the MOS and

training requirement would be to develop new MOSs and a training program to support them. The Proponent Office decided to use five existing MOSs and consolidate them into the three new MOSs proposed for supporting MSE. The five MOS used as the bases for the three new ones designed to support MSE will remain in use in the Signal Corps in their origional design in support of the systems for which they were designed. Some soldiers holding these five MOS will, however, be retrained in the newly created MSE MOS.8

The following chart shows graphically how the old MOSs were used to create new ones:



MSE TRANSMISSION SYSTEMS OPERATIONS	MSE NETWORK SWITCH OPERATOR	MSE SYSTEMS FOREMAN

A brief job description of each of the new military occupational specialties developed to support the Mobile Subscriber Equipment follows:

"MOS 31D: The mobile subscriber equipment transmission systems operator supervises, installs, operates and performs unit level maintenance on MSE equipment, radio access units (RAU), and radio links.

MOS 31F: The mobile subscriber equipment network switching operator supervises, installs, operates and performs unit level maintenance on node and extension switches, associated multiplexing, Net Radio Interface equipment, and COMSEC devices.

MOS 31W: Both of these MOS will be capped by MOS 31W, MSE Foreman, at E-7. This provides the MSE platoons selected dtaff positions with home grown MSE-trained NCO having concentrated knowledge in all areas of MSE." 9

Because of the detailed training currently received by CMF 29, no plans were made to create a specific maintenance MOS for MSE. It was felt by the proponent that existing maintenance MOSs could receive selected training on MSE and be managed with an ASI.

The rationale for selecting these particular feeder MOS can be found in AR 611-201: Enlisted Career Management

Fields and Military Occupational Specialties. In April 1984 the proponent forwarded their draft recommendations to Department of the Army for approval. Specifically the recommendations were sent to the Soldier Support Center-National Capital Region (SSC-NCR) currently co-located with the US Army Military Personnel Center in Alexandria, Virgenia. The SSC-NCR in coordination with MILPERCEN, DCSPER, DCSOPS, TRADOC and MACOMS, conducts a review of the proposed MOS changes and coordinates their final acceptance for inclusion in the new TOE's under development by the Signal School. With the approval of the new MOSs the BOIP/QQPRI can be put into final form and the process of manning the force initiated.

IV MANNING THE FORCE

On 10 January 1986, a Personnel Integration Review (PIR) was conducted which drew together the key personnel players of the numerous agencies responsible for ensuring manpower is available to support the first MSE systems to be fielded in early CY88, and subsequent fieldings out through the 1990 time frame. It should be noted that, at this point, several key actions were underway to support manning the MSE force. However, one vital action had not been initiated because, in the hurry of NDI acquisition, it was

felt the step could possibly be by-passed. That step was the development of the BOIP/QQPRI.

Although recognized in the early planning stages as the key step which follows the development of the O&O Plan, but being in haste to secure a contract and ensure that trained soldiers were on hand to man the system, the BOIP/QQPRI submission took a back seat to the development of new MOS and the development of a draft TOE. The January PIR brought the omission of this effort to the glaring attention of the entire personnel community.

The failure to develop a BOIP and a QQPRI can be seen as a major miscalculation on the part of the Signal School and AMC (CECOM) in their unrelenting efforts to field a new system in a compressed time frame in order to meet the guidance of the Army's leadership. These documents can not be eliminated because of the many and varied roles they play in the overall process of fielding new systems for the Army. The BOIP and QQPRI are absolutely critical to defining the number of personnel and equipment to be found in new or revised TOE.

The BOIP also serves to determine the Initial Issue Quantity (IIQ), the Army Acquisition Objective (AAO), and the logistical distribution and support plan for new systems entering the Army. The material development community uses

the document to determine program requirements, life cycle cost estimates and trade-off analysis. Combat developers use it to update TOE. Other commands and agencies involved with material acquisition use it to show the planned organizational placement of new items of equipment and personnel in TOE/TDA/CTA/JTA/AOP.

"The QQPRI is a compilation of organizational, doctrinal, training, duty positions, and personnel information. It is prepared for new or improved materiel systems by the materiel developer or materiel acquisition agency, in coordination with the combat developer and trainer....This information is used as follows: (1)To determine the need to establish or revise MOS, SI and civilian occupational series. (2) To prepare plans to provide the training and personnel needed to operate, maintain, and support the new or improved materiel system or item of equipment." 10 The QQPRI is submitted at the same time as the BOIP and is in fact a supporting document vital to the personnel planners across the entire spectrum.

It should be pointed out however that AR 71-2 provides for the submission of an expedited BOIP and QQPRI for Non-Developmental Items. The requirements call for input from the materiel developer or provider and the combat and training developer. "If delayed or incomplete, it can preclude timely personnel support for the materiel system

being fielded. The personnel requirements will include the principal items, all associated support items of equipment (ASIOP) components (end items to include maintenance significant items) that make up the system.11

A time span of six to eight years is normal for the BOIP process to occur from the development of a tenative BOIP, following Milestone I in the normal life cycle system, thru the first unit fielded (FUE). The NDI process calls for the BOIP/QQPRI process to be completed in twenty-four months with a one-time submission of both documents.

CONCLUSION

For the last 20 years the Signal Corps has supported division and corps units with a communication system that was complex, man-power intensive and not responsive to the needs of the user. The tactical employment of these units however, did not force the Signal community to take any drastic measures although tactical communicators at all levels recognized the problem. With the advent of new doctrine it became an absolute necessity to reevaluate communications support doctrine for these key tactical units.

Mobile Subscriber Equipment was seen as the best possible course of action to solve the communiction

requirements to support Airland Battle doctrine. MSE will also enable the Signal Corps to rapidly field a new system of radio equipment to replace existing, old, worn-out equipment. To do all of this, the Non-developmental Item acquisition process was employed.

The NDI process, while relatively simple in structure, presented numerous new and challenging problems to the Signal community. Because of the fact that the NDI process greatly reduces the time normally experienced to field a system under the LCSMM system, key steps in the personnel arena were overlooked, or activated out of sequence, causing delays and confusion in the personnel community.

The lack of a MSE Personnel Support Plan has caused the following problems to occur, the resolution of which are yet to be accomplished.

o Identification of personnel policies and regulations that may require waivers to support the fielding of MSE.

o Ensure replacement soldiers being assigned to an MSE unit receives formal MSE MOS training, e.g. TDY enroute.

o Identify reclassification procedures for all soldiers affected by MSE fielding, e.g. directed or voluntary reclassification.

o Soldiers whose positions are deleted due to MSE fielding will either be reclassified to other MOS's and/or moved into authorized positions.

o Currently there are no approved TOE's for MSE units. The Signal School is developing TOE'S and TRADOC must expedite boarding action in order to get into the July 86 Management of Change (MOC) window.

o The transition from current to MSE MTOE's involves a certain amount of flux that will impact on unit readiness. What this impact is and procedures for handling it must be determined. ODCSOPS must study the issue and submit recommendations .12

The failure, or oversight, on the part of the Signal School to submit a timely BOIP and QQPRI has contributed significantly to the above problems which, at best, are only representative of the myriad of problems that remain to be resolved before MSE can be fielded.

The purpose of this study was to look at the personnel procedures employed in the fielding of a new communications system acquired using an NDI acquistion process. As a result of this study the following oberservations are presented. (1) The use of the NDI system in the Signal Corps is a new experience and few personnel have an appreciation of the system. (2) The LCSMM is a complex

system that covers several years, allowing the personnel system to move along at a fairly unhurried pace. (3) The existing personnel system employed in todays army, in spite of automation, is complex at best. (4) ODCSOPS, ODCSPER and TRADOC in their collective role do not have a single source document that can be referred to by an action officer to explain personnel system functions on a routine basis, to say nothing of an exception such as that raised by the employment of NDI acquisition.

In the final analysis, personnel systems as they currently exist are adequate to support the fielding of new syptems using the NDI process. However, DA DCSOPS in coordination with DA DCSPER, should take the lead in developing a detailed document that can be used by action officers at all levels and in all commands that clearly outlines step by step those actions required to field a new system using the NDI approach. In order to avoid delays and confusion the personnel system must be understood and made to support the fielding of new equipment by causing the existing system to be triggered in a timely manner to support the compressed time schedule brought about by the NDI acquisition process. Most actions in the personnel arena necessary to field MSE are currently in progress. They did not however, occur in a smooth, well coordinated manner.

The fielding of MSE will point out to the Signal community, in no uncertain terms, that NDI procurement is the wave of the future, particularly in the field of communications-electronics. The personnel system can and will support the NDI approach but it must be properly managed by the personnel experts at all levels with emphasis on timeliness and responsivness.

One last obvious question remains. Having looked at the numerous personnel actions required to support an NDI acquired item of equipment, specifically MSE, and recognizing the fact that a critical step was overlooked, what is the impact on fielding MSE on schedule? The answer is...none! Fortunatly, simultaniously with the fielding of equipment, a New Equipment Training Team (NETT) will be conducting training on the equipment. At the completion of this training soldiers will be certified in the new MSE MOSs and the local Military Personnel Office (MILPO) in coordination with MILPERCEN will convert them to the new MOSs. The Signal School will not see its first MSE student for at least a year or longer after the first unit is equipped.

NOTES

1. Draft Operational and Organizational Plan for Mobile Subscriber Equipment (MSE) System, September 1984, p. 1-1.

2. William E. Kelly and LTC Louis S. Martin, "Mobile Subscriber Equipment: A new Acquisition Approach," ARMY COMMUNICATOR, Spring 1984, p.17.

3. IBID. p.18.

4. COL Charles L. Gordon, "Battlefield Mobility," ARMY COMMUNICATOR, Summer 1983, p.49-50.

5. MG Don Rodgers, "Commanders Comments," ARMY COMMUNICATOR,Spring 1984, P.2.

6. WALL STREET JOURNAL, 6 November, 1985.

7. Don Schaum, et. al., "MSE: Mobile Subscriber Equipment," ARMY COMMUNICATOR, Fall 1984, p.17.

8. Conversation with Mr. Glen Swann, MSE Project Officer, US Army Signal School.

9. Shaum, op. cit., p.19.

10. Army Regulation 71-2, Basis of Issur Plans (BOIP) Qualitative and Quantitative Personnel Requirements Information (QQPRI). Washington: 15 August 1983, p.1-2.

11. IBID., p.3-4.

12. Letter from DA DCSOPS dated 27 January 1986 directing an April 1986 Personnel Integration Review.

BIBLIOGRAPHY

PERIODICALS

1. Boutacoff, David A. "MSE Updates NATO's Tactical Communications." DEFENSE ELECTRONICS, August 1984, pp.111-114.

2. Gordon, Charles L., COL. "Battlefield Mobility." ARMY COMMUNICATOR, Summer 1983, pp. 47-51.

3. De Briganti, Giovanni and Meyer, Deborah Gallager. "GTE/French System Wins MSE Award; Army Says Decision Based on Cost." ARMED FORCES JOURNAL INTERNATIONAL, December 1985, P.22.

4. Estler, Gary L., MAJ. "Into the Hands of the User." ARMY COMMUNICATOR, Fall 1984, pp.16-18.

5. Feyk, William C., MAJ. "PMAD/UAD." SOLDIER SUPPORT JOURNAL, March/April 1985, pp.31-32.

6. Hayden, Lewell P., MAJ. "Documentation Modernization." SOLDIER SUPPORT JOURNAL, March/April 1985, pp.21-25.

7. Hayes, Carl S., SGM. "Enlisted Grade Structure." SOLDIER SUPPORT JOURNAL, March/April 1985, pp.7-8.

8. Judge, John F. "Commanding and Controlling $C3_I$." DEFENSE ELECTRONICS, January 1985, pp.78-92.

9. Kelly, William E. and Martin, Louis S., LTC. "Mobile Subscriber Equipment: A New Acquisition Approach." ARMY COMMUNICATOR, Spring 1984, pp17-18.

10. Kelly William E.; Martin, Louis S. MAJ.; Pugh, Don; and Wright, Bruce, CPT. "Mobile Subscriber Equipment: A Total Communications System." ARMY COMMUNICATOR, Fall 1984, pp6-22.

11. Meyer, Deborah G. and Schemmer, Benjamin F. "An Exclusive AFJ Interview With: Donald C. Latham Assistant Secretary of Defense $C3_I$." ARMED FORCES JOURNAL INTERNATIONAL, February 1985, pp.54-70.

12. Waits, David E., MSG."Specialty Proponent Coordination Center." SOLDIER SUPPORT JOURNAL, March/April 1985, pp.39-41.

13. Weand, Arnold E. Jr., MAJ."Who Gets How Much of What?" ARMY COMMUNICATOR, Fall 1985, pp.23-27.

14. Yeager, John A. "Enlisted MOS Decision Process." SOLDIER SUPPORT JOURNAL, March/April 1985, pp. 15-17.

15. "High Mobility Combat Communication Needs Spur Plessy/Rockwell/ITT Team in MSE Bid." DEFENSE SYSTEMS REVIEW, Vol 3, No.5 1985, pp42-43.

16. "C^3 Intercepts-International Teams Compete for Army MSE Communications System." DEFENSE ELECTRONICS, Vol.16, No.6, June 1984, p.20.

NEWSPAPERS

17. Carrington, Tim. "GTE Will Share $4.3 Billion Job With Paris Firm." WALL STREET JOURNAL, 6 November 1985, p.3.

18. Tice, Jim. "US-French Team Wins Army MSE Contract." ARMY TIMES, 18 November 1985, p.47-48.

19. "French Beat Brits in Communications Contest." DEFENSE WEEK, 12 November 1985, p.15.

ARMY PAMPHLET

20. US Department of the Army. ARMY PAMPHET 11-25: Life Cycle System Management Model for Army Systems. Washington: May 1957.

ARMY REGULATIONS

21. US Department of the Army. ARMY REGULATION 71-2: Basis of Issue Plans (BOIP) Qualitative and Quantitative Personnel Requirements Information (QQPRI). Washington: 15 August 1983.

22. US Department of the Army. ARMY REGULATION 105-22: Telecommunication Requirements, Planning, Developing and Processing. Washington 1 July 1978.

23. US Department of the Army. ARMY REGULATION 310-31: Management System for Tables of Organization and Equipmeant (The TOE System). WAshington: 15 October 1980.

24. US Department of the Army. ARMY REGULATION 310-49: The Army Authorization Documents System (TAADS). Washington: 15 December 1980.

25. US Department of the Army. ARMY REGULATION 570-4: Manpower Management. Washington: 15 October 1982.

26. US Department of the Army. ARMY REGULATION 600-3: The Army Specialty Proponent System. Washington: 15 November 1983.

27. US Department of the Army. ARMY REGULATION 600-200: Enlisted Personnel Management System. Washington: 5 July 1984.

28. US Department of the Army. ARMY REGULATION 611-1: Military Occupational Classification Structure Development and Implementation. Washington: 15 August 1983.

29. US Department of the Army. ARMY REGULATION 611-201: Enlisted Career Management Fields and Military Occupational Specialties. Washington: 25 October 1985.

INTERVIEWS

30. Bachman, Howard F., LTC(P). Staff Officer, Department of the Army, Director of Program Analysis and Evaluation (DPAE). Personal Interview. Washington: 14 February 1986.

31. Cipriano, John, MAJ. Personnel Plans Branch, US Army Military Personnel Center. Personal Interview. Fort Gordon, Georgia: 6 December 1985 and Washington: 5 February 1986.

32. Christ, Steve, LTC. Personnel Staff Officer, Department of the Army, Office of the Deputy Chief of Staff for Personnel. Peresonal Interview. Fort Gordon, Georgia:6 December 1985.

33. Josephson, Joe, LTC. Chief, Signal Branch, Combat Support Arms Division, Enlisted Personnel Management Directorate, US Army Military Personnel Center. Personal Interview. Washington: 5 February 1986.

34. Olsen, Mike, MAJ. SRC 11 Manager, Department of the Army, Office of the Deputy Chief of Staff for Operations. Telcon. 6 February 1986.

35. Rodgers, Don, MG. Commanding General, US Army Signal School, Fort Gordon, Georgia. Personal Interview. FT.Gordon: 7 December1985 and Carlisle Barracks: January 1986.

36. Thomas, Billy M., BG. Deputy Director of Combat Support Systems, Office of the Deputy Chief of Staff for Research, Development, and Acquisition. Personal Interview. Washington: 5 February 1986.

37. Thomas, Ferdinand, SGM. MOS Structure Division, Military Occupational Development Directorate, Soldier Support Center-National Capital Region. Washington: 5 February 1986.

38. Winbush, James, CPT. Team B, Specialty Proponent Coordination Center, Soldier Support Center-National Capital Region. Personal Intaerview. Fort Gordon, Georgia: 7 December 1985 and Washington: 5 February 1986.

END

DTIC

5—86