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Materiel Development
and
Readiness Command

Annual Historical Review

Fiscal Year 1981

Classified by:
Chief of Staff, DARCOM

Declassified on:
1 October 1987

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Headquarters
US Army Materiel
Development and
Readiness Command
Alexandria, VA 22333

[redacted]

U. S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

ANNUAL HISTORICAL REVIEW

FISCAL YEAR 1981
(RCS-CSHIS-6 (R3))

Prepared by

Historical Office

Headquarters, U.S. Army Materiel Development and Readiness Command

30 September 1982

APPROVED:

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DECLASSIFY ON: 1 October 1987

FOREWORD

This Annual Historical Review, prepared in accordance with the provisions of AR 870-5, covers the nineteenth year of life for the US Army Materiel Development and Readiness Command (DARCOM). The history was prepared from submissions from historical officers of staff elements discussed in the text and from sources assembled through various research programs. The review is the official history of the Command. It is used for orienting newly assigned personnel and for providing history and precedent upon which to base command operations. It is also a reference work for the preparation of more comprehensive command and Army histories. Detailed histories of DARCOM major subordinate commands, installations, and activities are preserved in the DARCOM Historical Office Archives.

The most significant change that occurred during 1981 was the retirement of the Commanding General, John B. Guthrie, on 31 August 1981. He was succeeded on 1 September by General Donald R. Keith, former Deputy Chief of Staff for Research, Development and Acquisition, US Army. A comprehensive Resource Self-Help Affordability Planning Effort (RESHAPE) was initiated during the fiscal year to best utilize all available resources. Consolidation of TACOM and CECOM was accomplished, and a major realignment took place at Headquarters DARCOM, effective 15 October 1981. At the start of the year, the functions of the Directorate for Battlefield Systems Integration was assumed by the US Army Materiel Systems Analysis Activity (AMSAA) at Aberdeen Proving Ground. At the end of fiscal year 1981, a new responsibility, that of Executive Director for Conventional Ammunition was assigned to Lieutenant General Harold F. Hardin, Jr., Deputy Commanding General for Materiel Readiness.

As in the past, total Army Logistics readiness continued to be DARCOM's goal. DARCOM's efforts to meet this challenge and to plan for the 500 new weapons and materiel systems expected are discussed within different areas of the text.

The preparation of the history continued to be a team effort. The project director was George J. Stansfield, who planned the history and also prepared Chapter VI - Materiel Readiness. Mr. Stansfield was also joint author with Major Howard K. Butler, TSARCOM Command Historian, of Chapter I - Command Management; and joint author with Dr. Michael J. Cassity, University of Georgia, Major USA (MOBDES), of Chapter VII - Security Assistance and Chapter VIII - Highlights and Trends. Don E. McLeod prepared Chapters II - Resources Management, III - Materiel Development, IV - Project Management - Weapons, and V - Project Management - Equipment and Management Systems.

The manuscript was edited, typed, and proofed by Mrs. Guyanne Parker and Ms Dianne Alexander.

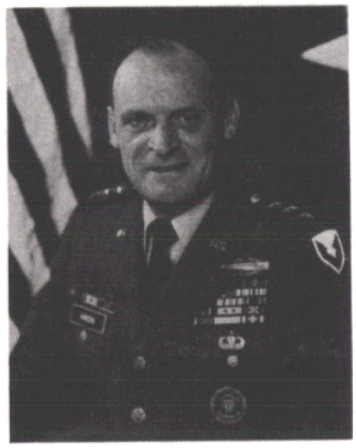
GEORGE J. STANSFIELD
Senior Historian
Project Team Leader

DALE BIRDSELL
Chief Historian

General J. R. Guthrie
Commander, DARCOM
May 1977 - August 1981

General D. R. Keith
Commander, DARCOM
31 August 1981 -

LTG R.J. Lunn
Deputy Commanding General
for Materiel Development
8 August 1981 -



LTG H.F. Hardin, Jr.
Deputy Commanding General
for Materiel Readiness
June 1979 -

MG R.L. Bergquist
Deputy Commanding General
for Resources & Management
15 March 1978 -

MG W.H. Schneider
Chief of Staff
July 1980 - August 1982

CSM W.B. Tapp, Jr.
Command Sergeant Major
July 1980 -

MG S.R. Sheridan
Director of Development
and Engineering
October 1980 -

MG O.E. Gonzales
Director of Development
and Engineering
14 September 1981 -

MG B.F. Register, Jr.
Director of
Materiel Management
January 1980 - March 1981

MG J.S. Welch
Director of
Materiel Management
10 March 1981 -

MG A.H. Holmes, Jr.
Director of Readiness
October 1980 -

MG R.L. Herriford
Director of Procurement
and Production
June 1980 -

MG H. Doctor, Jr.
Director of Personnel,
Training and Force
Development
May 1980 - August 1982

BG J.F. McCall
Comptroller
August 1980 -

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CHAPTER I

COMMAND MANAGEMENT

Introduction

(U) In the fall of 1981, General John R. Guthrie, the outgoing DARCOM commander, summarized his program undertaken during that year. "Two urgent considerations dominate DARCOM's goals and objectives today and for the future: the threat confronting our nation and the opportunities at hand for preparing our forces to meet and deter it."[1] In order to take advantage of these opportunities, General Guthrie stated, "We are embarked on a major Army modernization program, the largest since World War II. Over the next five years, more than 500 new weapons and materiel systems will enter our inventory."[2] He further pointed out that based upon General Myer's "Three Days of War" 1980 white paper, DARCOM was able "to have planned and executed a well-conceived, well-integrated force modernization program." This modernization program also presented DARCOM with "its biggest challenge: the development process of each new system, the vertical support impact-equipment, people-training, force-structure implications, logistics support concepts, and operating support costs."[3]

(FOUO) In order to support this program, three primary concerns were expressed regarding DARCOM's compliance with the fiscal year 1983-1987 Program Analysis and Resource Review (PARR) Army Guidance: It was considered, first, that "the PARR should be developed as a requirements-based program to include a statement of valid manpower requirements"; the second concern expressed regarded "the monumental increase in program detail required by the PARR"; and third, that "despite the DA resource increase supporting the Force Modernization Program, DARCOM had been forced to fund an additional $75 million from our core to adequately support these systems."[4]

(FOUO) Program requirements indicated a peacetime shortfall of approximately 25,000 civilian positions with a fiscal year 1983 requirement for an additional 20,000 military and civilian spaces.[5]

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[1] General John R. Guthrie, "The Threat: Means to Meet It Dominate DARCOM Objectives," Army, October 1981, p. 82.

[2] Ibid., p. 83.

[3] Ibid., p. 85.

[4] Major General Robert L. Berquist, "Command Statement FY 83-87 Program Analysis and Resource Reviews (PARR)," DARCOM Command Statement and Executive Summary (PARR), Vol I, FY 1983-1987, p. 1.

[5] Ibid., pp. 2, 6.

It was considered that the Resource Self-Help Affordability Planning Effort (RESHAPE) would provide "a partial solution," with full accomplishment possible in 5 years.[6] The deterioriation of the industrial base was also in an area in which additional resources were required, as well as to support the requirement to comply with pollution control standards.[7] Another area which was expected to be deficient, if adequate personnel and funds were not available, was central procurement.[8] General Guthrie also pointed out that because of the nature of the unglamorous day-to-day activities of DARCOM, "they have difficulty competing when it is necessary to accommodate inflation, fuel increases, and unanticipated cost growth or when funds must be provided for urgent, new priorities."[9]

Management By Goals and Objectives

(U) DARCOM's goals and objectives for fiscal year 1981 were: (1) Readiness--"Prepare total force for rapid transition to compete, fully capable of performing its wartime mission"; (2) The People Goal--"Provide the total force with highly effective and morally responsive soldiers and civilians capable of performing reliably in war, insure equal opportunity for all, provide quality of life support for our soldiers, civilians, and their families, and require from them reciprocal dedication to service"; (3) The Materiel Goal--"Develop, procure, store, issue, field, and maintain a balanced war fighting and sustaining capability"; (4) The Strategic Mobility Goal--"Improve Army deployment capability to move forces as scheduled in order to increase early availability of combat power"; (5) The Future Development Goal--"Improve Army equipment by exploiting new technology and concepts"; (6) The Management Goal--"Manage and utilize existing and programmed resources more effectively and strengthen the Army's resource justification process"; and (7) The Security Assistance Goal--"Provide weapons, equipment, and services to designated allied/friendly countries in an effective manner on an integrated basis with DARCOM support to the total US Army."[10]

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[6] Ibid., p. 3.

[7] Ibid., p. 4.

[8] Ibid., p. 5, 6.

[9] "Written Statement of General John R. Guthrie, Commanding General, DARCOM," 29 Apr 81, US 97th Congress, 1st Session. House Committee on Armed Services, Hearings on Military Posture and HR 2970 and HR 745, Part 5, "Operations and Maintenance Title III," p. 863.

[10] Ltr, COL H. L. Harrison, Director, Plans and Analysis, subj: FY DARCOM Goals and Objectives, 8 Aug 80. Note: This inclosed the goals and 53 proposed implementing objectives. See also, BG William H. Schneider, DRCPA-P, subj: FY 1981 DARCOM Program Plan, 25 Nov 80.

(U) A Review of Productivity Goals to Support the FY 1983-1987 PARR was also undertaken within Headquarters, DARCOM relating to the implementing objectives of the DARCOM goals.[11] Guidance was provided regarding Acquisition Policy, "Interim Guidance on Major Systems Acquisition," from the Department of Defense level in response to Deputy Secretary Carlucci's memorandum of 30 April on "Improving the Acquisition Process."[12]

(U) A series of annual conferences continued to improve the army-industry business relationship, with the latest held in Atlanta on 11-13 May 1981. The meetings theme, as expressed by General Guthrie, was to correct the "relative military imbalance between the Free World and Soviet Russia," and he quoted President Reagan, "this imbalance to continue is a threat to our national security." He considered that "the greatest single threat, the most serious problem to be faced and solved is cost control." LTG Donald R. Keith, DCSRDA, discussed problems of modernizing the Army, and a panel headed by LTG Robert J. Lunn, DCG for Materiel Development, DARCOM, discussed program stability and control. An afternoon panel headed by LTG Harold F. Hardin, DCG for Materiel Readiness, DARCOM, discussed force readiness. MG Robert L. Herriford, Director of Procurement and Production, followed as chairman of a panel on multi-year contracting.[13]

The Resource Self-Help Affordability Planning Effort (RESHAPE)

(U) The Resource Summary in regard to funds was:

Total Obligation Authority (TOA)		FY 1983	FY 1984	FY 1985
	($000)	$31,293	$40,427	$40,079

RESHAPE initiatives were undertaken in FY 1981 and included such major areas as use of overhire and overtime, organizational streamlining, and the use of capital investment with a goal in mind to increase from 63 percent to 69 percent the total of manpower used in direct labor effort. Other initiatives that were used were the use of such employee incentives to increase productivity and procedural improvements, as well as improved management of travel, training, and sick leave.[14] Accomplishments in

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[11] DF, LTC Richard E. Darcy, Executive Officer, DRCCP, subj: Productivity Goals, 31 Mar 81.

[12] Memo to ASA (RD&A), Navy (MRA&L) and (RE&S), and Air Force (RD&L), from Richard D. DeLauer, USDRE, subj: Interim Guidance on Major Systems Acquisition.

[13] "Atlanta VII--The Opportunity and the Problem," Army Research and Development Magazine, Jul-Aug 1981, p. 3, 6.

[14] PARR, FY 83-87, PDIPS, Vol II, p. 9.

this area included the consolidation of TACOM and CECOM, each during fiscal year 1981. CITA reviews, the formal affliation and increase of reserve component training at DARCOM depots, and the civilian high-grade reduction moratorium were also achievements of this year. The post-AMARC reviews and study of resource allocation models continued during the year.[15]

Headquarters, DARCOM Realignment

(U) At the initiative of General Guthrie, a separate study of Headquarters realignment was started in October 1979 with the development of an organizational concept, continuing until February 1980, producing Phase I of this effort. The resulting concept was to establish a matrix management in Headquarters, DARCOM by establishing two lead directors for systems management, development engineering and acquisition, and supply maintenance and transportation. Functional directors were to manage their programs and support systems lead directors. It was further considered to centralize technical leadership for capital investment and requirements for PA, A, OMA, and ASF appropriations. In addition, it was planned to centralize programming for PPBS and to establish a single Headquarters "face to the field."[16] The second phase was an analysis of the concept by a civilian SES panel, comprised of Mr. S. J. Lorber, Director of Product Assurance; Mr. Darold L. Griffin, Director of the Office of Manufacturing Technology; and Mr. William L. Clemons, Associate Director of Procurement, and later Deputy Director of the Directorate for Procurement and Production. This took place from February through November 1980.[17] These concepts were related to DARCOM employees[18] at the October Army Commanders' Conference and guided the Phase III study group which made a validation of the concepts under the chairmanship of William M. Ferron, within the office of Major General R. L. Bergquist, Deputy Commanding General for Resources and Management.[19] The headquarters was advised that realignment was under study by the RESHAPE Team headed by Major General Bergquist and that a HOTLINE would be available for "employees questions concerning the realignment."[20] The study examined workload and resource and performance trends for major DARCOM directorates and separate reporting activities. It considered the issues involved and made a functional analysis providing sizing and distribution options.[21]

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[15] General Guthrie, DIAG Entrance Briefing, 24 Feb 81, p. 27.

[16] DARCOM Headquarters Realignment Study, Chart 2.

[17] Oral interview, Mr. R. G. Silvey, Deputy Director, Directorate for Management, 16 Jul 81.

[18] Memo to All DARCOM Employees, from General Guthrie, DRCCS, subj: RESHAPE II, 6 Aug 80.

[19] Ltr, DRCDRM-RMA, from Mr. Ferron, Chairman, HQ Realignment Study Group, to Chief, Historical Office, 9 Jun 81.

[20] DRCIN-CI, COL Richard L. Horvath, Realignment HOTLINE, 19 Nov 80.

[21] Memo For All Directors and Office Chiefs, DRCCS, subj: RESHAPE, Study, Chart 4 and Study, Chart 187, 16 Oct 80.

(U) The study's summary described what the realignment was expected to do. First, it was to enhance the headquarter's management process by improving coordination through the well-defined matrix management of the two lead directorates. It would add technical competence back to the headquarters cost in prior organizational changes. It was to pinpoint responsibility for systems in the principal directorates of Development and Engineering and Supply Maintenance and Transportation, and functionally in other directorates. It clarified interfaces upward, downward, and laterally.[22]

(U) The realignment also strengthened resource management by centralizing the management of PA and A in Supply Maintenance and Transportation, widening the role of Director, Program Analysis and Evaluation, and centralizing capital investment planning in the Office of Manufacturing Technology.[23]

(U) In the area of readiness planning, it strengthened the readiness directorate by better focusing its mission and centralizing contingency planning. It also increased the productivity of separate reporting activities (SRA) by revision of staff responsibilities for SRAs, by shifting workload from headquarters to SRAs, and by subjecting SRAs to tighter management controls.[24]

(U) General Guthrie continued his efforts to obtain additional manpower for Headquarters, DARCOM and presented this need in a letter to General E. C. Meyer, Army Chief of Staff. In his letter of 3 February 1981, General Meyer stated, "I believe the only chance for success in obtaining any sizable increase in your headquarters is for you to clearly demonstrate the expected advantages in terms of improved readiness, productivity improvements, or management efficiencies which are expected to result from your reorganization."[25] In reply, General Guthrie remarked, "I am convinced, after studying intensely for almost four years, that the need to realign Headquarters, DARCOM is acute." He further pointed out that, in the 1975-1976 period realignment, the headquarters was reduced by 700 spaces, of which nearly 300 spaces consisted of "our commodity and weapon system technical expertise." This step also reflected AMARC reorganization concepts in which post-AMARC reviews had identified deficiencies that were remedied by the MICOM, TACOM, and CECOM mergers.[26] General Guthrie concluded his detailed description, "In my view the proposed realignment is the capstone of our efforts to improve our organization and management."[27]

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[22] Study, Chart 187.

[23] Ibid.

[24] Study, Chart 188.

[25] Ltr, from GEN Meyer to GEN Guthrie, 18 Mar 81.

[26] Ltr, from GEN Guthrie to GEN Meyer, 27 Mar 81, p. 1.

[27] Ibid., p. 3.

(U) General Meyer indicated late in May that the Army staff had completed its review of the "proposed headquarters reorganization," and stated in a letter to General Guthrie, "This reorganization is approved in concept." He pointed out that 100 spaces would be available from "sources within DARCOM," but that other spaces would not so clearly be available.[28] The Department of the Army concept approval was received on 29 May 1981, and on 8 June, the first step was taken to implement approval by starting to complete detailed floorspace planning for the entire building.[29] A second step was taken in mid-June to request all Directors and Chiefs of separate staff offices and serviced activities to "withhold requests for civilian position structure changes not related to the realignment until 30 September 1981."[30] The realignment meant that two principal directorates would be established with a commitment to matrix management and also, to increase the staffing of the headquarters as far as possible.[31]

(U) By mid-October 1981, the realignment took shape through the disestablishment of four directorates, changes to established directorates, and the creation of a new directorate to which old and new functions were given. Four organizations were disestablished: the Directorate for Plans, Doctrine and Systems; the Office of Product Improvement; the Office of Project Management; and the Office of International Research, Development and Standardization.

(U) The changes to mission and functions involved several offices and directorates as follows.[32]

a. The Comptroller lost the responsibility for technical proponency for four capital investment programs which were transferred to the Directorate for Manufacturing Technology, as well as the program analysis resource review (PARR), which was given to the Directorate for Program Analysis and Evaluation.

b. The Development, Engineering and Acquisition Directorate was given enhanced systems management responsibilities and acquired International Research and Standardization, Product Improvement, and Project Management Office responsibilities. To compensate for the additional workload, the directorate lost the mission for specifications, standards, and engineering to the Directorate for Manufacturing Technology, and the testing mission was given to the Directorate for Product Assurance and Test.

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[28] Ltr, from GEN Meyer to GEN Guthrie, 27 May 81.

[29] DF, DRCPA, subj: Implementation of HQ Realignment and Floorspace Planning, from R. G. Silvey, Chairman, HQ, DARCOM Realignment Implementation Committee, 8 Jun 81.

[30] Memo, DRCCO-PC, For All Directors and Chiefs of Separate Staff Offices, subj: Curtailment of Civilian Position Structure Changes During the HQ Realignment, signed MG W. H. Schneider, 19 Jun 81.

[31] Study, Chart 2, Directorate for Management briefing charts, HQ Realignment.

[32] Directorate for Management briefing charts.

c. The Directorate for Management lost the systems analysis mission which was transferred to AMSAA.

d. The Directorate for Manufacturing Technology acquired responsibility for specifications standards and engineering (from D/DEA), technical proponency for capital investment programs from the Comptroller, and assumed responsibility for capital investment master planning.

e. The Directorate for Procurement and Production received enhanced weapons systems orientation and lost PAA appropriation execution to D/SMT.

f. The Directorate for Product Assurance and Test also received enhanced weapons systems orientation and acquired testing responsibilities from D/DEA.

g. The Readiness Directorate acquired logistics planning and military plans from D/PDS and, in turn, lost ILS, equipment improvement, POMCUS, and force modernization to D/SMT.

h. The lead directorate, Supply Maintenance and Transportation, had its systems management responsibilities enhanced and acquired the following additional responsibilities: ILS; Force Modernization; POMCUS; and Equipment Improvement from the Directorate for Readiness; war reserves and wholesale logistics systems from D/PDS; and PAA execution from D/P&P.

i. The Directorate for Technology Planning and Management received enhanced staffing and acquired the Technical Information Liaison Office (TILO) and Independent Research and Development from D/DEA.

j. The last major action was that a new Directorate for Program Analysis and Evaluation was established with responsibilities for integration, and the balance of staff programming and planning efforts, the performance of analysis and evaluation of allocation or resources, and the mission as staff proponent of PARR and MRIS.[33]

Transfer of Items to the Defense Logistics Agency

(U) Deputy Secretary Frank C. Carlucci decided, on 7 Jul 81, that "additional consumable items should be transferred to the Defense Logistics Agnecy (DLA)." Specifically excluded were "field-level reparables, design unstable items, classified items, military service manufactured items, items controlled by the Defense Nuclear Agency and National Security Agency, and nuclear propulsion items." The ASD (MRA&L) was to be "responsible for implementing this decision and for chairing a steering committee to oversee and direct this transfer" of about 200,000 items within the next six months.[34] A Joint Implementation Group was also established and was responsible for the development of an implementation plan which was finally submitted to

[33] Ibid.

[34] Memo For the Secretaries of the Military Departments, Chairman JCS, Director DLA, Director DNA, and Director DSA, subj: Realignment of Item Management Assignments, 7 Jul 81.

the Joint Steering Committee by 21 September 1981. The DARCOM response was a message sent on 13 July to the Commanders of TACOM, CECOM, MICOM, TSARCOM, ARRADCOM, and ARRCOM from Major General Welch, Director of Materiel Management, indicating the summary of the Deputy Secretary's memorandum and setting up a meeting on 16 July 1981 to develop the DARCOM plan.[35] Input was made to the final Department of Defense time-phased plan for transfer of 200,000 consumable items to the Defense Logistics Agency in October 1981. The first stage of the Army's share (35,000 items) transfer was to take place in fiscal year 1982.[36]

Personnel Developments

(U) The most significant change that occurred near the end of the fiscal year was the retirement of General John R. Guthrie on 31 August 1981. General Guthrie had served as Commanding General of DARCOM since May 1977 and had completed more than 39 years of active service at the time of his retirement. During his tenure, such major weapons systems as the Abrams Tank, BLACK HAWK Helicopter, the PATRIOT, DIVADS, and the Advanced Attack Helicopter were developed. His support for his "people programs," especially the federal women's and equal opportunity programs, will also be long remembered. In addition, he was personally involved in the implementation of the civil service reform act and Merit Pay. General Guthrie was succeeded by Lieutenant General Donald R. Keith, former Deputy Chief of Staff for Research, Development, and Acquisition, US Army, who was promoted to the rank of General on 1 September 1981.[37] Headquarters changes during fiscal year 1981 included the assignment of Major General James Welsh as Director of Materiel Management in April 1981,[38] and Major General Orlando E. Gonzales, former Chief, JUSMAG Korea, as Director of Development and Engineering on 14 September 1981.[39]

Organizational Changes

(U) On 1 October 1980, the headquarters Directorate for Battlefield Systems Integration was disestablished and its functions were assumed by the US Army Materiel Systems Analysis Activity (AMSAA) at Aberdeen Proving Ground, effective 26 September 1980.[40] A new responsibility, that of

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[35] Msg, 03131625, 7 Jul 81.

[36] DOD Time-Phased Plan for Transfer of 200,000 Consumable Items to the DLA, October 1981, DOD OSD (MRAL), p. II-2.

[37] DARCOM Command Information News, 7 Jul 81.

[38] DARCOM Bulletin, No. 15, 10 Apr 81, p. 4.

[39] Pentagram News, 17 Sep 81, p. 12.

[40] DARCOM Permanent Orders 74-1, 1 Oct 80.

Secretary of the Army responsible for execution of the Single Manager for Conventional Ammunition, was delegated to the Commanding General, DARCOM under the terms of the charter that was signed on 14 August 1981. An Ad Hoc Working Group was, however, established in February 1981 to develop the functions, organization, and TDA for the Joint Staff to support the EDCA.[41]

(U) Lieutenant General Harold F. Hardin, Jr., was designated as Executive Director for Conventional Ammunition and Mr. Edwin Griener as Acting Deputy Director for Conventional Ammunition on 11 September 1981, following the signing of the charter.[42] The office for EDCA was established on 1 October 1981, with a strength of 7 officers and 18 civilians.[43] Two major organizational changes took place during fiscal year 1981 in the organization of DARCOM reflecting RESHAPE considerations. On 1 October 1980, the Tank-Automotive Command (TACOM) was established at Warren, Michigan, reflecting the recombination of the US Army Tank-Automotive Research and Development Command (44 military and 827 civilians) and the US Army Tank-Automotive Materiel Readiness Command (140 military and 3,540 civilians).[44] The establishment of another new command, the US Army Communications-Electronics Command (CECOM), was announced on 18 December 1980.[45] It was to be formed effective 1 May 1981 by the consolidation of the assets of the US Army Communications and Electronics Materiel Readiness Command (CERCOM)[46] (56 military and 627 civilians) and the US Army Communications Research and Development Command (CORADCOM) (324 military and 3,384 civilians), both collocated at Fort Monmouth, New Jersey.[47] The Inventory Research Office (IRO), the Logistics Study Office (LSO), and the Procurement Research Office (PRO) were reassigned in place from the US Army Logistics Management Center (ALMC), Fort Lee, Virginia to AMSAA with operational control effective 1 February 1981 and formal reassignment effective 1 October 1981.[48]

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[41] Ltr, DRCCS, subj: SMCA Ad Hoc Working Group, signed BG W. H. Schneider, 24 Feb 81.

[42] DRXMM-MD, subj: Designation of Executive Director and Acting Deputy Director for Conventional Ammunition, signed GEN D. R. Keith, 18 Sep 81.

[43] HQ, DARCOM, Permanent Orders 62-1, 22 Sep 81 and DF, DRCDMR, subj: Coordination With the Office of the Executive Director for Conventional Ammunition, from Chief of Staff, signed MG Schneider, 23 Oct 81.

[44] HQ, DARCOM, Permanent Orders 73-1, 29 Sep 80.

[45] HQ, DARCOM, Command Information News, Fact Sheet #5, 18 Dec 80.

[46] HQ, DARCOM, Permanent Orders 23-1, 14 Apr 81.

[47] Ibid., Permanent Orders 26-1, 29 Apr 81.

[48] Ltr, DRCPA-R, subj: Reassignment of IRO, LSO, and PRO from ALMC to AMSAA, signed BG Schneider, 14 Jan 81.

Joint DARCOM/NMC/AFLC Commanders

(U) The Joint Commanders organization was the joint activity which was the "least heralded and least publicized of all of the joint activities."[49] Meeting regularly on a quarterly basis, the Joint Commanders, as General Guthrie indicated, continued to "try and insure that we coordinate our mutual efforts in order to eliminate the overlaps that stem from duplication and to get equipment which is preferably standard, but at least interoperable."[50]

(U) DARCOM had lead responsibilities in relation to the Joint Logistics Commanders tasks in the following groups of committees:[51]

a. Joint Conventional Ammunition Program Coordinating Group (JCAP-CG).

b. Joint Technical Coordinating Group for Munitions Effectiveness (JTCG-ME).

c. Joint Deputies for Laboratories Committee.

d. Joint Technical Coordinating Group - Reliability, Availability and Maintainability (JTCG-RAM).

e. Fuze Management Organization Panel.

f. Joint Policy Coordinating Group on Computer Resource Management (JPCG-CRM).

g. Tactical Shelter Acquisition and Support Panel.

h. Insensitive High Explosives and Propellants (JPCG-IHEP).

i. Civilian Personnel Management Panel.

j. Review of Rail Equipment Ad Hoc Group.

k. Special Test and Plant Equipment Ad Hoc Group.

(U) Quarterly meetings were held as follows: The 24 September 1980 meeting was held at the Naval Coastal Systems Center, Panama City, Florida; The 3 December 1980 meeting was held at Sacramento Air Logistics Center, McClellan Air Force Base, California; the 19 March 1981 meeting was held at Watervliet Arsenal in Albany, New York; the 24-25 June 1981 meeting was held at the Aerospace Medical Division, Brooks AFB, Texas, HQ AFSC, Andrews AFB, Washington, DC; and the 24-25 September 1981 meeting was held at the Naval Underwater Systems Center, Newport, Rhode Island.[52]

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[49] General John R. Guthrie, "View From the Top," Military.

[50] Electronics/Countermeasures, October 1980, p. 20.

[51] "Joint Logistics Commanders Current Tasks," 3d Quarter CY 81, p. 1.

[52] MFR: 7 Oct 80, n.d., 3 Apr 81, 6 Jul 81, 5 Oct 81.

Study of Army Logistics

Introduction/Background

(FOUO) On 25 February 1980, the Chief of Staff, Army (CSA) issued a White Paper containing specific major functional tasks to be accomplished by the Army. At the subsequent 1980 Army Commanders' Conference, participants discussed these tasks thoroughly, using them as the basis of discussions concerning strategies and objectives for the last two decades of this century. The postconference tasks were to wield the results of these discussions into a lucid strategy for the Major Commands and Army Staff.

(FOUO) DARCOM's chief postconference task entailed a thorough review and analysis of the Army logistics system, an effort called the Study of Army Logistics, 1981. The conference had focused upon this area, for it was felt that the Army had to improve its ability to support its present and future force. To do so required a disciplined, coherent, and responsive Army logistics system. Accordingly, on 27 January 1981, CSA tasked the Commander, DARCOM, to undertake a broad analysis of the Army logistics system. The analyses encompassed six areas: 1) the status of support and how plans for such support would affect the Army of the eighties and nineties; 2) an examination of logistics from the soldier in the field to the production base that supported him; 3) a study of doctrine and organization to include the relationship between wholesale and retail logistics; 4) logistics planning in the materiel acquisition process; 5) the relationship with outside agencies that affected Army logistics; and 6) time-phased recommendations for change, to include resource requirements. DARCOM's report results were due by 31 August 1981.[53]

(FOUO) The resulting study was the first major review of logistics since the 1969 Besson Board.[54] Moreover, because the Besson Board was joint and Southeast Asia-oriented, this study constituted the first major review of the Total Army Logistics System since the 1965 Brown Board. Under the directorship of General John R. Guthrie, DARCOM Commander, a study team of 25 men was formed, 18 of whom were from DARCOM.

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[53] Memorandum for Directors and Office Chiefs, DRCDRM-RMA, subj: Study of Army Logistics, 1981, BG William R. Schneider, 27 Jan 81 (FOUO).

[54] The formal study title was The Study of Army Logistics 1981.

Premises and Plan

(FOUO) The study relied upon five major assumptions. These were: an unchanged Army mission; a constrained resources environment; a strategy based on both contingency response and deterence in Europe; an Army for the year of 2000, structured for the integrated battlefield; and a logistics system able to surge in support of allies, to support operations in underdeveloped areas, and to sustain a conventional war. These five assumptions rested upon the context of a global strategy.

(FOUO) Execution of the study followed a detailed plan. First, DARCOM was determined to keep the study compact, believing that, as similar past studies had been very large, few had read them, and therefore, the studies had been impractical to implement. Second, this decision for compactness contained exclusions that omitted consideration of personnel administration, medical support, special weapons logistics, medical logistics, and three combat service support elements: personnel, medical, and military police. The study was, in brief, limited to facilities that supported logistics and to eight straightforward principles: austere, simple, disciplined, well-trained, flexible, competent, modernized, and uniform.

(FOUO) The ensuing study covered 26 topics and encompassed a 28 section report. Areas examined included such topics as financial management, integrated logistics support, facilities, energy, capital investment, ammunition, water, and organizational relationships. There were over 3,000 explanatory charts attached to the study.

Trends and Projections

(FOUO) Two of the initial sections served as the basis for later study work. Section 2, Trends and Projections, primarily consisted of two types of comparisons. The first compared several types of costs. For example, retired military pay, the Army budget, and the US Gross National Budget were compared in 1980 in contrast to the year 2000 plan. The second set of comparisons showed the availability of many resources in 1970 as opposed to the year 2000. Resources included the 18-24 year old draft pool, minerals such as cobalt and selenium, types of employment service as opposed to industrial, and US total energy consumption.

(FOUO) Section 2 also discussed the long range effects of the introduction of new equipment items and the problems arising from their associated training and support items. The study found that the new items were far more complex and electronically-oriented, which led to development lags, shortages in automatic, built-in test equipment, and in operator training. Furthermore, continuing modernization, such as the AH-IS COBRA, caused several models to be in the field at once. As a consequence, automatic test equipment (ATE) development was piecemeal, subsystem by subsystem, and suportability suffered.

(FOUO) Section 2 ended with a discussion of the types and implications of future technology. Subjects included thermoplastic composites, ceramic engine components, metal matrix composite bridging, fiber optics, microelectronics, computers, crystal oscillators, microwave and millimeter wave vacumn tubes, electromagnetic pulsing, reactive armor, kinetic energy projectiles, electronic missile guidance, laser weapons, advanced digital/optic control systems, and robotics. Section 2 concluded that: technology was a major logistics driver; provisions had to be made to train operators for, and provide test equipment to, new electronic devices; production methods had to be improved; and more survivable equipment-improved sustainability, shifting the burden from the production base to the supply and maintenance systems.

Concepts and Doctrines

(FOUO) The other introductory section, Concepts and Doctrine, was a thorough examination of the process which the Army used to develop its logistics concepts and doctrine. This section began by identifying terms and addressing approaches to doctrinal formulation. It was found that doctrinal development followed no logical, encompassing path. Of the three principal parties involved, DARCOM had no institutionalized process, the Military Traffic Management Command (MTMC) had no responsibility for developing wholesale transportation doctrine, and TRADOC, which had a structured and institutionalized process, did its doctrine development without resorting to DARCOM, MTMC, or any others. As a consequence, DA had no way to evolve doctrine from or for its missions. Hence, Army 86 still focused on near-term NATO problems, ignoring the re-enunciated global strategy and the implications of new systems or Army organizations.

(FOUO) This section postulated various world-wide scenarios and discussed the ability of the peacetime force to react to each of these the need to equate the war terms--deter, fight, and terminate--with the respective logistics terms--readiness, execute, and sustain. The section concluded that the use of the scenario-based approach provided a coherent manner to define concepts leading to the development of logistics doctrine. Such an approach would expose voids, insure the consistency of logistics planning with operational planning, lead to problem definition and solution, and provide bases for operational plans.

(FOUO) The section presented two sets of recommendations. The first, which dealt with logistics doctrine development, charged MTMC with the development of producer-level transportation doctrine, DARCOM with producer-level supply and maintenance doctrine, and ODCSLOG with doctrine integration and approval. The Commanding General, TRADOC, was to be relieved of logistics doctrine interface responsibilities, while developers took care to insure that joint logistics doctrine was developed as appropriate. The second set of recommendations concerned long-range planning. These held that HQDA should develop a long-range logistics planning cell charged to project beyond the year 2000, and that this cell should use scenario-based methodology as a standard for its long-range planning.

Findings

(FOUO) Its premises, plan, and concept and doctrinal approaches set, the study proceeded with its discussion of the aforementioned 26 areas. Of these, five were of major impact.

(FOUO) Force Modernization. Examining force modernization as a total system, the study group found that it had several major deficiencies. There was no long-range planning for integrated logistics support (ILS), no complete ILS evaluation at each system review, no adequate consideration of force structure variations, no single Basis of Issue Plan (BOIP) or Qualitative and Quantitative Personnel Requirements Information (QQPRI), no ability to handle adequately over 20,000 annual TDA and Modification Table of Organization and Equipment (MTOE) changes, no adequate update of personnel accounting, and, finally, no comprehensive approach to overcome funding shortages. The study group made six major recommendations to improve force modernization:

a. First and foremost, it recommended the designation of DCSOPS as the single manager of force modernization for two reasons: 1) to strengthen central management, and 2) to recognize that most systems and processes related to force modernization were already DCSOPS-controlled.

b. Second, it recommended that DCSOPS also be charged with Integrated System Support (ISS). This tasking would complement DCSLOG's traditional ILS role.

c. Third, total life cycle responsibility for ILS should rest with DARCOM. This had two bases: 1) Most ILS life cycle outlays were made very early, and 2) DARCOM was the command responsible for acquisition and support.

d. Fourth, the requirements determination process should be strengthened. Steps to do so should include the combination of the BOIP/QQPRI and their inclusion in PERSACS; enforcement of authorization documents standardization; harmonization of personnel management and equipment fielding; performance of Target Acquisition Aids (TAAs), less frequently, but with better methods; and inclusion of composition force requirements in logistics structures and composition systems (LOGSACS).

e. Fifth, the cost growth had to be controlled. Measures to do so included pre-award surveys, more should-cost studies, and increased stabilization of programs and requirements.

f. Sixth, a time-phased plan to improve production expertise had to be developed. This would include an assessment of production personnel and a determination of those skills necessary to improve production cost estimates and processes.

(FOUO) In summary, the study concluded that force modernization could be treated in two broad ways. First, deficiencies in existing systems and processes had to be rectified. Second, a seven-dimensional model had to be developed to tie together the total structure impact. The seven dimensions were weapon systems; associated items and components; support items; number of systems; resources as expressed in people, dollars, and facilities; distribution; and re-distribution of displaced items. When the changes were made DARCOM would be able to establish itself forward in Europe and capitalize on its depots as centers of technical excellence.

(FOUO) Training. The study found training inadequacies at all grade levels. Enlisted advanced military occupational speciality (MOS) training programs produced deficient graduates who were not properly grounded in theory. There was, moreover, a very high pre-reenlistment dropout rate among trainees. Finally, those who took Ad Hoc training courses did not receive credit for such courses. The study proposed two remedies. First, the Army had to procure technically qualified trainers for unit training programs. Second, promotion possibilities had to be extended in logistic MOSs.

(FOUO) The only deficiency in warrant officers was the lack of the same. The study revealed that increasing their numbers would not only improve supply and maintenance discipline, but also property accountability and readiness.

(FOUO) Concentrating on the dual speciality system for officers, the study found that, as combat officers advanced in grade, the percentage of combat arms speciality positions decreased. There were two solutions: to recode selected TOE positions as combat service support positions and to reduce combat arms requirements in order to further "late entries" into logistics specialty codes. Finally, the study noted that there were fewer nuclear/chemical weapons officers today than decade ago.

(FOUO) The reserve's deficiencies were course-related. The reserves not only needed new equipment training, but they also needed to fit their two-week tours with resident training programs.

(FOUO) Automation/Communications. Automation/Communications had three growing characteristics: investment, complexity, and dependence. Against this backdrop, a complicated structure involving five activities and the Computer Systems Command (CSC) worked with very little coordination to develop and support automated systems. Moreover, CSC shared its functional and technical control of systems development with TRADOC. The result was an endemic mismatch of hardware and software, with a corollary of dismal post-deployment software support (PDSS), as 77 percent of the 91 battlefield automated systems for 1987 were still under development an immediate resolution was needed.

(FOUO) The cure was a new DARCOM commodity command for automation. The fledgling would be responsible for the development and support of all standard automated systems, the complete logistics automation area,

and battlefield automation. It would also be assigned automation R&D, data management and standardization, software standardization, and off-the-shelf automatic data processing (ADP) equipment selections and buys. These responsibilities would entail the absorption of CSC, TRADOC, and DARCOM elements.

(FOUO) Maintenance. Besides adequately defining the term, the study's main concern was that fix forward be workable in current and future operating environments. Hence, the Army should retain fix forward as a goal for maintenance support, to include development program objectives, maintenance tasks, and soldier battlefield training. This retention should take into account a proper assessment of what could and should be done in battlefield repair work, and it should recognize such future factors as the increased use of electronics; the requirements for test, measurement, and diagnostic equipment (TMDE); maintenance times; recovery capability; the integrated battlefield; and battlefield dynamics--in short, shoot, move, and communicate repairs only.

(FOUO) The study group next examined what kind of maintenance could be done at the echelons above corps (EAC). Fix forward had determined that three modern developments were in conflict with the traditional general support (GS) role: the need for high-speed mobility of repair facilities; the increased vulnerability of such facilities to nuclear, CBR, and other threats; and the inability to find the skilled labor to man the facilities. Taking these factors into account, and considering the requirement of such areas as electronics, fire control, and fiber optics for sanitized work environments, the study participants decided to concentrate GS maintenance in EAC. Not only would it shield a high repair parts user from a dirty and dangerous battlefield, but it would also reduce battlefield clutter, force structure personnel, and transportation requirements. It should, however, require additional pipeline funds, an active force structure for minimum GS units, and an offset direct support (DS) capacity to fill requests for DS work otherwise done by GS. Total savings, then, for a three-corps structure would be 5,000 vehicles and 21,000 men by D+30.

(FOUO) The study then turned to the 3 and 4 level maintenance structures in use at the time. It found that the traditional four--organizational, direct support, general support, and depot--were appropriate for less complex commodities, high density items, and items difficult to recover and evacuate. Three levels, on the other hand, were appropriate for complex commodities such as electronics and fiber optics, which enabled one to take advantage of controlled environment repair, economies of scale production, and a concentrated pool of highly trained technicians.

(FOUO) The maintenance aspect of the study concluded with a thorough investigation of TMDE. This investigation covered manual equipment, ATE, built-in test equipment (BITE), and supporting software--known as test program sets. It also addressed plans for using automated testing at each echelon of maintenance, processes for developing repair methodology, and R&D programs related to ATE and BITE.

(FOUO) An example of one major TMDE issue tackled was the proposed corps deployment of a sophisticated repair system called EQUATE. The group decided that EQUATE should be deployed at EAC rather than corps and that the Army should develop and apply a repair methodology for electronic components that considered force structure, manpower, fiscal, and tactical constraints. The group also concluded that the Army should plan and fund requirements for the post-deployment software support of automated systems, and that it needed to do a better job in both ATE and BITE.

(FOUO) Consumer Supply. The last major area of emphasis, consumer supply, centered its attention on the one supply area that was directly soldier-related, unit level supply. It found numerous system problems. Chief among these were over-complexity, obsolescence, constant changes that wrought little improvements, and too many data and supply sources. Further, training was too difficult and there was too much to learn.

(FOUO) The cure was a simplified supply system for the prescribed load level (PLL) soldier. This cure required five treatments: the development of a simple doctrinal and procedural manual for PLL operation; the simplification of PLL tasks by Army-wide standardization; the restriction of hertofore widespread local system alterations; the authorization of an E-5 PLL clerk; and the designation and training of an E-4 assistant to the E-5 PLL clerk.

(FOUO) The supply section also looked at the impact of transferables to the Defense Logistics Agency (DLA), problems with the return of reparables, and the impact of foreign military sales (FMS) on the Army. The last was a big problem: from fiscal year 1978 through fiscal year 1981, for example, security assistance diversions took enough tanks to fill five tank battalions; enough radios to equip 50 mechnized battalions; and enough antitank missiles for eight mechanized battalions. The group suggested that the problem might be alleviated by establishing both a special contingency stockpile and a special defense acquisition fund for FMS.

(FOUO) Conclusion. On 30 August 1981, the study group presented its findings to CSA. On 15 September 1981, DA assigned DCSLOG as the lead staff agency, and the published study went to the major commands and the Army staff. As of the end of the year, DA had approved 21 of the 24 actions identified by the study as low or no cost, such as simplifying and stabilizing the personnel management system, establishing ILS responsibilities, and adopting the 3-level maintenance system for complex commodities. CSA did not disapprove the other three actions, asking instead for either more data or analysis. There were finally, several study aspects discussed which required extra-Army action, particularly in regard to obtainment of, and restrictions upon, funding. While awaiting such actions, DARCOM was preparing its own consolidated response to the on-going plan assessment, a response due on 20 November 1981.

United States/German Army Staff Talks

General

(U) Originating in 1975, the United States/German Army Staff Talks were part of a continuing military desire to configure the American and German armies to maximize their fighting ability and combat power on the North Atlantic Treaty Alliance's (NATO's) central front. The talks led to regular bilateral discussions. These discussions had four purposes: to develop Joint Tactical Concepts; achieve Tactical Interoperability; derive Mutual Weapon Systems Requirements; and increase Standardization of Materiel. Concepts derived from these talks continued to receive the ratification of the German and American Armies' Chiefs of Staff.

(U) The key to cooperation was product orientation. Hence, a device called a Military Equipment Characteristics Document (MECD) or a joint user expression of military requirements was the first step. MECDs served as requirements documents to bridge harmonized tactical concepts to military hardware and to assist formalization of a Memorandum of Understanding (MOU). After the MECDs were signed and the MOUs developed, the two armies used Data Exchange Agreements (DEAs) as primary sources of information. DEAs in force in fiscal year 1981 covered night vision, optical fire control, far infrared, electro-optical image convertors, rocket weapons systems, infantry and antitank weapon systems, smoke, incendiary and flame agents, defense against chemical agents, land mines, and armored vehicles. The DEAs were the offspring of eight MOUs. Future MOU topics included helicopter flight control, the multiple launch rocket system, 1980's bridging, combat vehicle technology, and the nuclear burst detection system.

Actions

(U) US/GE Experts Meeting. There were three major US/GE interchanges in fiscal year 1981. The first took place on 17-25 October 1980, when the first US/GE Experts Meeting, Camouflage/Concealment/Smoke, convened in Munich. The participants discussed 28 equipment items and agreed to draft three MECDs before the second meeting. The Germans were especially interested in common camouflage patterns and paints, as well as the overall approach called Camouflage System 86. Examples of other items under discussion included HAWK Dummy Assemblies, Smoke Grenades, Smoke Generators, and Radar Decoys. A second meeting was to follow at Fort Belvoir in 1981.

(FOUO) Bremen Staff Talks. On 5 January 1981, the American delegation received a cordial welcome to Bremen, Germany, for the Bremen Staff Talks. General Donn A. Starry, Commander, TRADOC, led the American delegation, which included Headquarters, DARCOM representatives. Participants faced a 15-topic agenda.

(FOUO) The foremost topic was Land-Air Battle of the 90's. The United States presented a draft concept which clearly intimated those conditions and documents which pertained to the employment of United States land forces in the 90's. The draft pleased the Germans, who agreed to use it as a basis for joint considerations.

(FOUO) Another key topic was the Attack of the 2d Echelon. This was a concept which focused upon limited strengths and resources and how to employ these resources as a follow-on response to external attack. The United States, acting through TRADOC, was to visit USAREUR and other major commands and to identify, among other measures, those key 2d echelon elements called targeting ills that would be the responders.

(FOUO) Other staff talk subjects were: Armored Operations of the 90's, tactical air, MECD systems, training, logistics exercises, power generator equipment, threat to the rear area, use and training of German Army reservists, expandable jammers, Army 86, terminally guided submunitions, Army air defense, and US Army Corps Aviation.

(FOUO) The talks produced impressive results. The parties signed a wargaming agreement, declared themselves in accord in principle on the concept Armored Operations in the 90's, and came to understanding on interoperability programs such as TACFIRE and training. The Germans concluded by stressing a need for more attention to prioritization of future joint efforts and by initiating an effort to examine the whole procedural framework of the staff talks. The United States agreed with the German remarks and invited the German delegation to the next talks, set for November 1981 at Fort Bliss.

(FOUO) Fifth Non-Major Items WGM. On 28-30 April 1981, MERADCOM hosted the Fifth Non-Major Item (NMI) Working Group Meeting (WGM) at Fort Belvoir, Virginia. Attendees discussed and approved the status of 36 NMIs. Some examples of these were: the XM-16 Jet Exhaust Powered Decontamination System, an Automatic Liquid Agent Detector, the High Explosive (HE) M107 155mm Projectile, Image Intensification Goggles, Aviation Survivability Equipment, Barrier Technology, Thermal Blankets, a Remote Contamination Monitor, an Oil Skimmer, a Radio Antenna, and a Platoon Early Warning System. Further, they signed two MECDs on 30 April 1981: one on the Shaped Charge and one on the Ribbon Bridge-Night Outfit. They also approved a Procedural Guide for Non-Major Item Cooperation; received the final report from the Smoke, Camouflage, and Concealment Expert Working Group; established a new expert working group for Military Operations in Urbanized Terrain (MOUT); and began actions to standardize Camouflage Paint Patterns.

(FOUO) Liaison Office. On 28 June 1981, DARCOM established a liaison office at the German Federal Office for Technology and Procurement (BWB) at Moselweiss. This office was an extension of the US Army Research, Development and Standardization Group at the US Embassy in Bonn and reported to the Assistant Deputy for International Research, Development and Standardization. The primary purpose of the office was the resolution of United States-German rationalization, standardization, and interoperability (RSI) issues by keeping in touch with the several commodity-oriented BWB directorates at Moselweiss, especially those concerned with Automotive/Equipment and Weapons/Ammunition.

Product Assurance

Introduction

(U) This directorate remained stable during fiscal year 1981. The Director, Mr. S. J. Lorber; the Executive Assistant, Mr. R. E. Smith; and the Chiefs of the Product Quality Division, Mr. R. F. Tiner and the Engineering Division, Mr. A. H. Nordstrom continued in position during the year. The Chief of the System Assessment Divsion, Mr. R. Dubois, who was acting chief at the beginning of the year, became Chief of the new TMDE Division by the end of the year and was replaced by LTC W. O. Loomis. As the result of Headquarters realignment, additional personnel and organizational changes would take place in fiscal year 1982.

Directorate Achievements

(U) Army RAM. DOD published a directive on Reliability and Maintainability (R&M), DODD 5000.40, that established policies and responsibilities for defense systems, subsystems, and equipment. It implemented the principles set forth in DODD 5000.1 and DODD 5000.2 for major systems, and for items not designated as major systems during all phases of the life cycle.

(U) A continuing effort this year was the preparation of the AR 702-3, Army Materiel System, Reliability, Availability, and Maintainability (RAM), to implement the policies of DODD 5000.40. The final draft of this regulation was forwarded to HQDA for staffing and publication by the end of fiscal year 1981.

(U) A revised RAM Design Practices Guide was contracted to be published in two full volumes.

(U) The directorate initiated four RAM and four quality reviews in fiscal year 1981. Of the four RAM reviews initiated, two had been completed (PERSHING II and SEMA) and two are ongoing (SINCGARS and HEMTT). On the quality reviews, three had been completed (M483, COPPERHEAD, and ANVIS) and one was ongoing at the end of fiscal year 1981.

(U) Army Quality Engineering. A survey of the development MSCs to determine the degree of implementation of DARCOM-R 702-10, Quality Assurance Provisions for Army Materiel, was completed in fiscal year 1981. The regulation, which was completed in fiscal year 1979, defined the format, content, and requirements for QAPs; established the organization responsibilities for preparing, changing, and improving QAPs; emphasized the requirement for a coordinated effort from project engineers, quality engineers, maintenance engineers, and safety engineers to establish and maintain QAPs; established the relationship of QAPs to acquisition activities in each phase of the life cycle; and provided for configuration management and technical audit of QAPs.

(U) Quality Readiness Reviews (QRRs), an analysis of the documentation and procedures used to insure a product of acceptable quality, were accomplished on four items during fiscal year 1981. The QRR provided the development command or product manager assurance that documentation existed which defined the quality assurance, inspection, and acceptance procedures of the product, and components thereof, and the the final product would satisfy user requirements. The QRR addressed all areas leading to the acceptance of the system and sub-system components. In particular, the review was conducted so as to assure that the system/product design performance characteristics had been properly and thoroughly characterized in the Technical Data Package; that the quality assurance provisions and acceptance tests were properly designed to relate to all performance characteristics; and that the First Article test, Comparison test, Quality Conformance Acceptance inspections, Interchangeability test, and Surveillance tests would demonstrate the acceptability of the product. The findings of the review were developed so that the recommendations could be incorporated into the Technical Data Package with minimal delay and cost. These findings had supporting data and rationale to demonstrate how their incorporation into TDP could result in a product of acceptable quality.

(U) During fiscal year 1981, 44 Acquisition Plans (APs) were reviewed for adequacies in reliability, maintainability, and quality assurance planning. On those APs found inadequate, actions were taken to correct identified deficiencies prior to approval of the respective plans.

(U) The Materials Testing Technology (MTT) Program operational and MTT Committee Guidlines were published during fiscal year 1981. The operational guidelines described procedures and responsibilities for identifying, preparing, and proposing MTT projects, and the committee guidelines described the responsibilities and operations of the MTT committee. A testing needs survey of the MSCs was initiated to determine the overall testing needs of DARCOM for fiscal year 1982-1985. The survey would determine possible MTT and Manufacturing Methods and Technology (MM&T) projects, RDT&E projects, and projected overall funding needs. The testing needs survey was scheduled to be completed in the 2d quarter of fiscal year 1982.

(U) The second and third classes of the Quality Assurance Provisions Engineering (QAPE) course were conducted at AMETA during 1981. The course was designed to provide students with a working knowledge of quality assurance provisions and practice in their development and preparation. The course format was modified for the 1981 classes to include more practical exercises and presentations by guest lecturers in lieu of extensive statistical analysis. Additional topics in the program of instruction included the identification of product characteristics, types and forms of requirements documents, analysis of material requirements, software quality assurance, nondestructive testing overview, depot maintenance work requirements, and storage serviceability standards. The course was designed for personnel engaged in developing technical quality assurance provisions or reviewing or evaluating the provisions developed by contractors or other organizations.

(U) RSI Standardization. The Quadripartite Working Group on Proofing, Inspection and Quality Assurance (QWG/PIQA) was established under the provision of the Basic Standardization Agreement 1964 and the Quadripartite Standing Operating Procedures (QSOP). It reported to, and was managed by, the Washington Standardization Offices (WSO), to whom recommendations for amendment to these Terms of Reference were to be submitted.

(U) The QWG/PIQA mission was to identify and recommend to Armies, means of establishing common or compatible proofing, inspection, and quality assurance procedures, techniques, terms, and definitions to enable ABCA Armies to recognize others' methods and responsibilities and to accept each other's standards. The organizational structure and method of operation of QWG/PIQA differed from that of all other QWGs, except QWG/ES. That is, both of these QWGs worked on a project system, with project officers appointed to each project within each Army. QWG/PIQA project officers were responsible for producing the detailed work of the QWG, initially under information exchange conditions to establish the feasibility of standardization. Later, following Principal Member approval, project officers developed QSTAGs to the final draft stage, with the project officer of the Custodian Army leading in project development. The QWGs structure was thus three tiered, with Principal Members acting mainly as a steering group, project officers as action officers, and the Standing Chairman acting as overall Director/Coordinator.

(U) The 8th QWG/PIQA made 53 recommendations resulting in 142 scheduled milestone dates. The standing Chairman, Mr. S. Lorber, cancelled two milestones and extended one beyond the 9th QWG/PIQA, leaving 139 milestones to be completed prior to or at the 9th QWG/PIQA. One hundred and eleven milestones were completed prior to the 9th QWG/PIQA and 22 (16 percent) were completed at the 9th QWG/PIQA for a total completion rate of 95.7 percent. This was an outstanding record which was brought about by increased efforts and dedication by the project officers and the principal members. The projects progressed on an orderly basis throughout the period between the 8th QWG/PIQA and the meeting. The QWG overcame the trend of relative inactivity following QWG/PIQA meetings and a furious effort was made just prior to the next QWG meeting. With regard to the QSTAG workload from 1968 to the present, the QWG accomplished the following: It was responsible for 48 QSTAGs; 25 QSTAGs were ratified (53 percent); QSTAGs were cancelled (2 percent); 10 QSTAGs were in the ratification stage (7 QAPs) (21 percent); 10 QSTAGs were in draft stage (4 QAPs) (21 percent); and 2 QSTAGs were in preliminary draft stage (1 QAP) (4 percent). Seven "guidance" QSTAGs had reached the final draft stage, but unfortunately were held up awaiting United States ratification. This delay was due to the guidance nature of these documents. At the last meeting, the 8th QWG/PIQA in January 1980, the standing chairman reported 43 QSTAGs had been initiated and only 5 were ratified, plus 10 were in process of ratification. The record of this group's progress over that 20 months speaks for itself.

(U) The 9th QWG/PIQA was hosted by Australia at Watsonia Barracks in Melbourne from 16-24 November 1981. The results achieved at the meeting were a substantial contribution to the standardization aims of the group. Project officers attending participated fully in deliberations and manned six separate subgroups to resolve major technical issues. During the meeting, a special effort was undertaken to review all QWG/PIQA QSTAGs for currency, validity, and need. Action was initiated to terminate 11 projects when their work was completed. Two projects were suspended and 13 new projects initiated. Ten of these projects dealt with quality assurance of combat vehicles which provided for standardization of quality engineering design practices, test procedures, data collection and analysis methodology, QA for selected major subsystems, and definition of terms. Two of the projects dealt with the field of quality assurance of electronic systems for such vital areas as software quality control system requirements and the testing and acceptance of software. In addition, new studies were initiated for quality assurance of soldering and of selected electronic components. These new projects were an expansion of the QWG into areas other than ammunition and weapons.

(U) National Standardizations. The Z-1 Committee on Quality Assurance is an American National Standards (ANSI) Committee of which the American Society for Quality Control (ASQC) hold the Secretariat. It was created to develop and review generic standards in the field of quality assurance having general appreciation, and included developing appropriate standard guidelines of general nature. It also provided advice to other standards activities which covered quality assurance for specific areas, and interfaces with appropriate international standards activities. Preparation of individual product of industry standards was not included in the scope of this committee.

(U) Membership in the committee was divided into three categories: Organizational Members, Company Members, and Individual Members. The DOD Membership was headed up by Mr. D. Burchfield, OUSD(R&E)SAS; Mr. A. Nordstrom, Jr., HQ, DARCOM, alternate; and Mr. Richard M. Brugger, ARRCOM. There were other members of the team from Navy, Air Force, and DLA. The committee was divided into the following subcommittees: Domestic Interface, Systems and Procedures, Statistical Methods, Definitions and Nomenclature, and International Interface.

(U) The committee held two meetings a year. For 1981, meetings were held on 9-10 March in Washington, DC and 15-16 September in Chicago, Illinois. Mr. A. Nordstrom represented DOD at the 9-10 March meeting and Mr. Ira Smart at the 15-16 September meeting. A major area of interest at the 9-10 March meeting was Software QA and future activities at the 15-16 September meeting. A joint DOD/ANSI Z-1 meeting was planned to be held on 12 March 1982, along with the regularly scheduled meeting of the committee on 10-11 March in the Washington DC area.

(U) NATO AC/250 Sub-Group IX Defense Equipment Reliability and Maintainability Assurance. The purpose of this sub-group was to provide a focal point for the exchange of information and experience on equipment availability (Reliability and Maintainability) between the various NATO Nations and Agencies and to assist in the establishment of rationalized common policies, procedures, and methods in this field. The sub-group was to: 1) Make recommendations to the AC/250 Group for NATO policy in areas of common application in the field of equipment availability (Reliability and Maintainability) and to provide a consultation; 2) Prepare Quality Assurance documents necessary for NATO use in the field of equipment availability (Reliability and Maintainability) assurance; 3) Use, as a basis for its work, existing national and international publications to prevent duplication of effort and to ensure compatibility with practices; 4) Take into consideration, in particular, the requirements of NATO Agencies and invite their participation in the work of the sub-group; 5) Take into consideration that equipment Availability (Reliability and Maintainability) impinged on the work of other sub-groups and that, therefore, liaison be established with those sub-groups; 6) Make recommendations to the Main Group as to the form and content (eg., STANAGs, AQAPs, or other formats) under which its proposals could be published; and 7) Report regularly on its progress to the Main Group.

(U) The program of work for the sub-group was to: 1) Publish an Allied R&M Program Publication-1 (ARMP-1) covering contractual management responsibilities and requirements for R&M programs and plans to be imposed on the contractor; 2) Draft supporting guidance documents ARMP-X to ARMP-1; and 3) Draft a guidance document describing the elements that must be created by authorities responsible for the nations procurement cycle to provide for a viable R&M program to be published as an ARMP.

(U) Mr. S. J. Lorber, Director of Product Assurance and Test, was appointed Chairman of the Sub-Group. The 14th meeting of the Sub-Group was held in London, England on 25-27 November 1980, and the 15th meeting of the Sub-Group was held in NATO Headquarters, Brussels, Belgium on 15-17 September 1981. The 16th meeting would be held on 20-23 April 1982 at Brussels.

(U) DARCOM Supply and Maintenance Quality Assurance Program. Improvements continued to be made in the DARCOM Shelf-Life Program. The Major Readiness Commands (MRCs) provided a certification on the number of shelf-life line items by type that were in the supply system. The number of line items covered by storage serviceability standards was established and the MRCs initiated actions to assure coverage of all items identified in the shelf-life program. Additionally, the MRCs implemented reporting procedures of a DOD shelf-life item report requirement and submitted System Change Requests for automation of the report. A Product Assurance and Test Bulletin entitled "Shelf-Life Management" was prepared providing concise information on the background, regulatory requirements, and entire life-cycle of shelf-life items.

(U) The US Army Depot System Command (DESCOM) achieved significant improvements in realignment of post-production testing, particularly at Red River, Corpus Christi, Anniston, and Letterkenny Army Depots. Major areas realigned were engine dynomometer testing, live fire function firing, and vehicle track testing. The MRCs improved Depot Maintenance Work Requirements (DMWR) documents by inclusion of defined in-process and final acceptance testing. Efforts in the area resulted in the shift of 117 manyears from Maintenance to Quality Assurance to provide for separation of testing responsibility from production responsibility. Combined DESCOM and MRC efforts were aimed at improving the depot reconditioning test program and the quality of the materiel being supplied to the user.

(U) A special review program was established wherein each MRC conducted a comprehensive review of their Storage Serviceability Standards, Technical Bulletins, and prepositioned Materiel Configured to Unit Sets (POMCUS) Procedures and adjusted exercising requirements as required. Interim guidance was issued to the field and formal changes to technical documentation were initiated. An independent review was made to assess MRC actions, assure compatibility of guidance, and identify any additional actions that may have been required.

(U) DARCOM Ammunition Surveillance Program. The Commanding General, DARCOM, was responsible for providing Quality Assurance Specialist Ammunition Surveillance (QASAS) to various Department of Defense installations, activities, and commands engaged in the receipt, storage, maintenance, issue, use, and disposal of ammunition and explosives. QASAS were assigned to worldwide positions under a mandatory rotational system. There was an increase in the fiscal year 1981 verses fiscal year 1980 number of vacant positions in the career program from 23 to 49. This increase was due to an increase in authorized spaces from 522 to 565. The trend toward growth was projected to continue based on new requirements in USAREUR and ARRCOM. To meet these additional requirements, recruitment and training by the US Army Defense Ammunition Center and School at Savanna, Illinois would continue at a high level for fiscal year 1982 and beyond.

(U) Progress was made on several subprograms of the Ammunition Stockpile Reliability Program (ASRP) during fiscal year 1981. The Basic Load Ammunition Program continued as part of the ASRP during fiscal year 1981. This program was designed to determine the functional serviceability of ammunition which was subjected to uploading/downloading for extended periods of time. Fiscal year 1981 results were satisfactory and the program was scheduled to continue.

(U) The Toxic Chemical Agent Sampling Program was scheduled to be completed during fiscal year 1981, however, due to transfer of the Mobile Chemical Lab to Johnston Island, and safety issues at Anniston Army Depot, the program was rescheduled for completion in the 2d quarter of fiscal year 1982. A Phase II Program was scheduled for initiation in fiscal year 1982.

(U) The use of Meppin test facilities in Germany for purposes of US ASRP firings was negotiated. Test firings were scheduled to be initiated in fiscal year 1982. The use of Korean test facilities for ASRP firings was also being investigated.

(U) Ammunition Stockpile Realiability Program Initiatives during fiscal year 1981 included the following: 1) Chartering of the Surveillance Modernization Committee; 2) continuation of "skip-lot" inspection method for new receipts, resulting in manhour savings; and 3) investigation was initiated into a program to centralize periodic inspections. If feasible, this program would result in manhour and dollar savings.

(U) Mustard agent testing on chemical protective clothing was completed in fiscal year 1981, and results were excellent in terms of agent penetration time. Testing of samples selected from USAREUR using units was in progress, and was scheduled for completion in the 2d quarter of fiscal year 1982, at which time shelf-life projection would be made.

(U) DARCOM Acquisition Quality Assurance Program. The Army continued to serve as the lead Service in the area of Procurement Quality Assurance Policies and Procedures. DARCOM provided the chairmanship of the Defense Acquisition Regulation Subcommittee on Procurement Quality Assurance. During the past year, five major cases were handled by this subcommittee which resulted or would result in significant changes to the Defense Acquisition Policy as related to Procurement Quality Assurance.

(U) One case involved incorporating DODD 4155.1, Quality Program, requirements in Section I, VII, and XIV of the DAR. This case stressed that contracts would not be awarded to contractors with a history of providing supplies and services of an unsatisfactory quality. Further, the Government may exercise its rights to reject or return to contractors responsible any and all defective items for repair, correction, or replacement.

(U) Changes had been made to Section XIV and Section VII of the DAR to provide for a contractor to document his manufacturing processes as part of his first article production program. Upon approval of the first article these manufacturing processes would not be changed without prior notification to the Government. This was considered a significant change and provided increased assurance to the Government that products produced under volume production conditions should continue to be of uniform quality as the item produced under first article conditions.

(U) Provisions had been made to expand the use of Certification of Conformance by the procuring activities and to provide for the contract administration activity to exercise decision authority over the use of Certificate of Conformance as the basis of acceptance or to supplement the Certificate of Conformance with Government inspections.

(U) The remaining two cases, latent defects and consequential damages, and contract administration services for non-DOD organizations were in process at the end of fiscal year 1981.

(U) The DAR Quality Assurance Subcommittee was significantly engaged in the evaluation and rewrite of Section 31, Part 46, of the Federal Acquisition Regulations which involved procurement quality assurance policy for all Government organizations. Extensive recommendations and policy changes were made by this Quality Assurance Subcommittee on behalf of the DAR Council for consideration by the Federal Acquisition Regulation Policy Office (FARPO). This was a significant effort to achieve compatibility between the DOD and Federal policy guidance for procurement Quality Assurance.

(U) Leadership was provided in the review of Major Weapons Systems Programs warranting headquarters management evaluation. Technical expertise was furnished on a number of these reviews (M1 Tank, M483 Munitions, Helicopter Engines, etc.). Extensive improvement recommendations were made to the industry and Government organizations involved to improve the manufacturing and quality control operations to achieve a reliable production that fully conformed to technical requirements. The results of these reviews were highly beneficial and significant in the enhancement of the Army's readiness.

(U) Significant achievements were made in the implementation of an automated worldwide standard quality deficiency reporting system. This system had unique features in that it provided for the collective analysis of materiel deficiencies by individual component, by weapons system, by contractor, and by contract administration activity. It also provided for an automatic interim response within five working days of the date the complaint was received from the user and for continued tracking until the complaint was resolved and the user notified. In addition, a management information exchange system was developed whereby deficiency reporting was summarized and provided to the department responsible for the administration of the contract on which the defective materiel was produced. This program significantly enhanced the Army's ability to highlight to the other departments, problems requiring their management attention in a timely manner.

(U) A major thrust action to improve the Procurement Quality Assurance Program for providing materiel to the user that met technical requirements was the establishment of this review program. At the beginning of fiscal year 1981, DARCOM initiated action to develop a program including appropriate guidelines for the conduct of these joint reviews. On 19 February 1981, the US Army Materiel Development and Readiness Command (DARCOM) and the Defense Logistics Agency (DLA) jointly agreed to conduct Selected Program Reviews of major weapon system procurements. The Director, Product Assurance, DARCOM, and the Executive Director of Quality Assurance, DLA, signed an agreement to

conduct joint selected program reviews to measure the effectiveness of combined Procurement Quality Assurance Operations for assuring the acceptance of only that materiel which would meet contractual requirements. The objectives of this program were to: 1) determine the adequacy of Government technical requirements, quality assurance provisions of the procurement package, and technical guidance and support provided to DCAS; 2) determine the ability of the contractor to control the manufacturing operations and consistently produce acceptable products; and 3) determine the effectiveness of the Government's inspection and acceptance operations. The first Selected Program Review was conducted during the second and third quarter of fiscal year 1981 on Ammunition Metal Parts. DLA and DARCOM jointly developed a plan for timely implementation of 126 improvement actions. This initial effort provided top DLA/DARCOM management with an assessment of the health of the collective Procurement Quality Assurance Program.

(U) Major program improvements had been implemented to strengthen and expand the Nondestructive Testing and Inspection (NDTI) Certification Program. DARCOM Regulation 702-22, Depot Process Control-Electroplating, was published requiring that personnel establishing NDTI requirements, performing NDTI, or accepting the results on NDTI be certified became mandatory. Management, tracking, and reporting of the numbers of individuals trained, qualified, and certified in NDTI were established. The training program was significantly revised and the requirements/criteria for certification were tailored to the specific application of NDTI. A significant improvement was achieved in the number of personnel trained and certified in NDTI. The NDTI certification status report reflected that of 832 engaged in NDTI activities; 425 had been certified and five were in process. The remainder were programmed for training. There were 232 certified in fiscal year 1980 of a required 765.

(U) Aggressive action was taken to establish a positive viable Product Assurance role in DARCOM's mobilization requirements. These actions included:

a. Active participation in three mobilization exercises, one of which involved 22 consecutive days of around-the-clock involvement.

b. Product Assurance War Emergency Plans were significantly revised and an evaluation and realignment of our emergency relocation site was conducted. This evaluation and realignment included plans, facilities, equipment, files, and methods of staffing and operations.

c. Product Assurance organizations at the Materiel Readiness Commands and DESCOM were included in the overall reevaluation and improvement actions.

d. Active participation in the DARCOM-wide efforts to establish and implement a DARCOM Readiness Evaluation System.

e. Active participation in planning and augmenting DARCOM's role with the Rapid Deployment Force and the USA Readiness Command.

Collectively, these efforts significantly improved the Product Assurance Program in being responsive to mobilization requirements.

(U) Materiel Release Program. Continued DARCOM emphasis was given to materiel releases during fiscal year 1981 to decrease the number of conditional releases that were being approved and to increase the percentage of releases made on schedule. The percentage of on-target releases was still below the DARCOM goal of 75 percent, but the program did see a 3 percent improvement over fiscal year 1980. The percentage of conditional releases approved continued a trend of showing a small increase. However, there were no problems reported as a result of conditional releases, which indicated the program was being managed properly by the major subordinate commands and project managers. A new requirement for tracking conditional releases was initiated late in the year and clarified forecasting instructions were provided to the field which should improve both of these performance indicators. Program guidance contained in DARCOM-R 700-34, Release of Materiel for Issue, had also been under review and a revised regulation, designed to simplify the materiel release process was expected to be published during the 2d quarter of fiscal year 1982.

(U) System Assessment. A system assessment seminar was held at CECOM to identify issues which, if resolved, would improve the system assessment process. Some of the MSCs were tasked to come up with draft solutions for submission to DARCOM. These solutions would be incorporated into the forthcoming revision of DARCOM-R 702-9, System Assessment Program.

Nuclear Chemical Affairs

(U) The Nuclear Chemical Office continued to expand during fiscal year 1981. The Chief, Colonel G. A. Carruth, left on 25 June 1981 to become Commander of Dugway Proving Ground and was replaced by Colonel C. M. Griffin. Mr. R. Miller continued to be responsible for Nuclear Affairs, but was joined by LTC R. C. Hunt as an additional position. The Nuclear Chemical Affairs officer, LTC J. Stevens, retired in July 1981. The position was abolished and a different position, Chemical Surity Officer, was established with LTC M. E. Burge arriving in September 1981 to serve in this capacity.

(U) Major activities during 1981 were as follows:

a. Operation RMT, the movement of 888 GB-filled WETEYE Bombs from Rocky Mountain Arsenal (RMA), Colorado to Tooele Army Depot (TEAD), Utah was completed on 29 August 1981. The move had been planned since 1976, but political considerations and concerns about the integrity of the bombs had caused cancellation of the operation. Passage of Public Law 96-418 required the Army to remove or destroy all chemical munitions

on RMA by 10 October 1981. After completion of and concurrence in environmental documentation by Department of Health and Human Services, the move started on 12 August 1981 and required 17 days to complete. The estimated total cost of the operation was $3.40 million.

b. The Drill and Transfer System (DATS) completed demilitarization of all leaker munitions at Pine Bluff Arsenal on 6 May 1981. A total of 39 M55 GB-filled rockets were processed. After clean-up, the equipment was shipped to Anniston Army Depot, which was the next scheduled installation for DATS operation.

c. Congress approved construction for a Phase I Binary Facility at Pine Bluff Arsenal ($3.15 million for construction and $20 million for equipment). This would provide the capability to produce the 155mm GB projectile. Construction was scheduled to begin in October 1981. The authorization for construction did not authorize actual munition production. A separate Presidential decision was required for production.

Equal Opportunity

Introduction

(U) The Office of Equal Opportunity continued, during fiscal year 1981, to implement the Equal Employment Opportunity Commission's (EEOC) requirements to provide Equal Employment Opportunity (EEO) in Federal employment without discrimination because of race, color, religion, sex, national origin, age, or physical/mental handicap.

(U) A US Army Materiel Development and Readiness Command (DARCOM) Equal Employment Opportunity/Equal Opportunity Civilian Personnel Office (EEO/EO/CPO) Conference was scheduled for 2-5 November 1981 in St. Louis, Missouri. Attendance by EEO Officers, EO Officers and non-commissioned officers, Hispanic Employment Program Managers (HEPMs), Federal Women's Program Managers (FWPMs), Civilian Personnel Officers (CPOs), and Command Career Program Managers was expected, as well as guest speakers from Headquarters, Department of the Army.

Affirmative Action Planning

(U) The DARCOM Multi-year Affirmative Action Program Plan for fiscal year 1982-1986 was scheduled to be ready for the Commanding General's signature by mid-November 1981. This was the first plan that would attempt to set goals for more than one year at a time and was the natural progression from our fiscal year 1980 and 1981 Transition Year Plans.

Complaints Processing

(U) A total of 257 formal complaints were filed throughout the command during fiscal year 1981. Of these complaints, a total of 100 were closed with a finding of discrimination in three instances or 3.0 percent of the cases.

Equal Employment Opportunity Complaints

1 October 1980 - 30 September 1981

		No. Closed	
	No. Filed	No. Discrimination	Discrimination
Race/color	107	47	1
Religion	1	0	0
Age	32	13	
Sex			
Female	35	14	1
Male	9	3	0
National Origin	16	6	0
Handicap	47	11	1
Other (Reprisal, Harassment, etc.)	10	3	0
	257	97	3
		100	

Statistical Data

(U) The total work force had reversed the downward trend reported in previous historical reports. There was an increase in the lower grades (GS/WG 05-09) of 2,752, the middle grades of 1,373, and the high grades of 259. The number of super grades remained constant at 100. This increase in the total work force helped DARCOM to make some significant EEO gains. Women gained in numbers and percentage points in all categories. Minorities gained in numbers in all but the super grade category where they lost one SES, lowering the number of minority SESs from three to two. Even though the numbers of minorities in the lower grades increased, the percentage of minorities in this category decreased from 19.5 percent to 19.1 percent. This was due to the large number on nonminorities that were hired during the same period.

PROGRAM STATISTICS

	30 Sep 80			30 Sep 81		
	Total	Minority	Females	Total	Minority	Females
Lower Grades (GS/WG 05-09)	40,514 (100%)	7,884 (19.5%)	15,402 (38%)	43,266 (100%)	8,281 (19.1%)	16,788 (38.9%)
Middle Grades (GS/WG 10-12)	30,712 (100%)	2,839 (9.2%)	3,220 (10.5%)	32,085 (100%)	4,036 (12.6%)	3,791 (11.8%)
High Grades (GS 13-15 and WG 13-16 and all WS and WLs)	14,785 (100%)	1,301 (8.8%)	416 (2.8%)	15,044 (100%)	1,414 (9.4%)	505 (3.4%)
Super Grades (GS 16-18)	100 (100%)	3 (3%)	1 (1%)	100 (100%)	2 (2%)	2 (2%)

Special Emphasis Programs

(U) Hispanic Employment Program. The Command HEPM continued to emphasize that restricting the area of consideration on vacancy announcements was the single most important barrier towards the employment of Hispanics. Another area of emphasis was to encourage more Hispanic employees to apply for the various DARCOM intern programs.

(U) The number of Hispanics in all pay plans at the end of fiscal year 1981 totaled 5,321 or 5.0 percent of the total work force. This reflected a numerical increase of 170 over fiscal year 1980, even though the percent of Hispanics remained constant. The number of Hispanics decreased in wage grade positions by 10 and decreased in the percent of Hispanics in this category from 9.2 percent to 8.8 percent. All other grade categories showed some improvement in Hispanic representation, with the exception of wage supervisors and the Senior Executive Service (SES) where there was no change. DARCOM was still not able to boast of a single Hispanic SES.

(U) The Command HEPM continued to serve as a resource person to the DARCOM Field Placement Office, Atlanta. As a result of participation in recruitment visits to the University of Puerto Rico, Mayaguez Campus, the HEPM helped to recruit 40 Hispanic Engineers for employment in DARCOM's Engineering Intern Program.

(U) Federal Women's Program. The representation of women in the DARCOM work force continued its upward trend. Of 16 goals, 14 were met or exceeded. Gains had been both numeric and percentile. Particularly significant: as their total number increased so did their representation by grade level, resulting in the development of a pool of women who will be qualified to compete for GS-14 and above positions. For the first time, a goal for minority women was established and exceeded. A second DARCOM woman was appointed into the Senior Executive Service at Headquarters, DARCOM. The chart below shows accomplishment for women in in fiscal year 1981.

Category	Goal	Accomplishment
Total work force (GS & WG)	29.4	30.2
Minority women	4.9	5.0
GS-9	28.9	32.0
GS-11 and GS-12	15.0	16.3
GS-13 and GS-14	4.2	4.2
GS-15 and SES	2.5	0.92
WG Supervisor	1.3	1.6
WL-8 and above	1.5	1.7
WG positions	7.4	8.6

(U) Sexual Harassment received increased emphasis with the publication of the first Plan for the Prevention of Sexual Harassment, March 1981; the Chief of Staff's indorsement to the Secretary of the Army's policy statement on Sexual Harassment, July 1981; the sexual harassment topic used in the DARCOM Journal #4, May 1981; and the subject's inclusion as a topic for training of all military and civilian personnel.

Military Equal Opportunity Program

(U) Staffing. Following a year of testing at the headquarters, General Guthrie directed that the realignment of Equal Employment Opportunity (EEO) and Equal Opportunity (EO) functions be completed command-wide as of 30 September 1981.[55] The shortage of commissioned officers as EO staff officers continued to be a problem, as only three of the officer slots were occupied at the end of the fiscal year. During the year significant progress was made in upgrading the part-time EO staffs. A 3-day workshop was conducted for US Army Depot System Command's (DESCOM) additional duty personnel to give them an overview of the EO Program, to unify the EO efforts in DESCOM, and to demonstrate some of the techniques necessary to manage the EO Program. The DARCOM EO staff conducted the workshop.

(U) Enlisted Promotions. A study of the enlisted promotion system was initiated during the 2d quarter of fiscal year 1981. As a result, major subordinate commands were asked to take a close look at the enlisted promotion system, especially at the E3 to E4 level. As a result of their examination, many administrative problems were addressed and indications were that the system operated in a manner that insured equality for all DARCOM soldiers.

(U) Staff Assistance/Assessment Visits. The major effort in staff assistance/assessment visits was directed toward major subordinate commands and centers. Nine of eleven major subordinate commands and three of four centers were visited. Because of the workshop for DESCOM, only two depots were visited. The purpose of the staff visits was to assess the EO Program and to offer assistance in improving the management of the EO Program.

Management Information Systems

Personnel Changes

(U) The office organization remained stable up to July 1981, when the Director, Mr. Gilbert, left DARCOM and Mr. J. A. Saum became Acting Director through the end of the fiscal year. In turn, the Chief of the Resources Division, Mr. J. Cianflone, became Acting Deputy Director, and his position was filled by Mr. E. J. Fornasar as Acting Division Chief. The chief of the Materiel Readiness Systems Division, Mr. J. E. Smith, the new chief of the Materiel Development Systems Division, Mr. R. T. Edwards, and the Executive Officer, LTC C. O. Walters continued throughout fiscal year 1981.

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[55] Ltr, DRCEE, subj: Realignment of Equal Employment Opportunity/Equal Opportunity Functions, signed MG William H. Schneider, 1 Apr 81.

General Developments

(U) During fiscal year 1981, the command continued to have effective automated support in addition to the significant improvements brought about as part of the implementations from the Blueprint. The fiscal year 1979 and fiscal year 1980 historical reports introduced the "Blueprint for DARCOM Information Processing in the 1980s." The Blueprint consisted of several individual thrusts which progressed separately, but ultimately complemented each other. As component parts of the Blueprint, all thrusts were important.

(U) Concern was expressed regarding two instances of separate action rather than proper, long-range planning for automation in late 1980, and MACOMs were reminded of the Army Automation Planning and Evaluation System (AAPES) as the primary system for management of Army automation and associated resources.[56] In another action, training guidelines were issued regarding narrative processing in the fall of 1981.[57]

(U) The Architecture Thrust concentrated on the use of modern, state-of-the-art equipment and technology. The major goals were to provide adequate and reliable capability, gain "machine independence," protect DARCOM's large investment in application software and peripheral equipment, make our application programs "transportable" to any equipment, and put DARCOM in the position of being able to continue to move ahead as further advances in technology took place.

(U) The fifty-plus minicomputers acquired throughout DARCOM in fiscal year 1980-1981 were steadily being moved into local network configuration. The comprehensive network software being developed for DARCOM-wide use by ALMSA was on target and was to be prototyped in mid-fiscal year 1982. Intensive effort was expended to develop specifications and obtain a source for a DARCOM Standard Communication Front End (CFESS). A prototype would be installed in early fiscal year 1982 and evaluated for capacity and adaptability during fiscal year 1982. A DARCOM standard file system to operate on a separate back-end computer was delivered to DARCOM in fiscal year 1981 and would undergo extensive testing in fiscal year 1982. In all, DARCOM actions resulted in a banner ADP year, and many ongoing efforts of the last five years were expected to be brought to fruitation during fiscal year 1982.

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[56] Ltr, DAAC-PEL, subj: Failure of Long Range Planning for Automation, signed MG Buckingham, 4 Dec 80.

[57] Ltr, DRCMS-IS, subj: Narrative Processing Thrust (NPT) Guideline Implementation, signed James A. Saum, 20 Aug 81.

(U) The Distributed Functional Processing Thrust had the objective of bringing computer power closer to the users by giving them a computer capacity which they could use through terminals to store and access information. The potential for increased productivity and increased accuracy was high, as reflected in the prototype DFP application Procurement Automated Data Documentation System (PADDS), where a significant increase in productivity of contract specialists was demonstrated, along with an annual savings of $8 million. Other functional areas which appeared to be candidates for DFP were being evaluated to forecast the potential productivity increase to be gained. Productivity increase was the prime factor in determining the priority for development of additional DFP applications.

(U) The PADDS system had achieved such wide acceptance that a study was planned to determine whether the present equipment could support the anticipated use growth. The study would also look at the feasibility of converting the system to the IBM Plug Compatible equipment being installed with the Architecture Plan.

(U) The Narrative Processing Thrust had the objective of providing automated support for many of the functions which were performed in an office. It covered the managerial level, the professional level, the technical level, and the administrative/clerical level--all the components of an office.

(U) There were 1,105 ARPA Net Terminal Users in the 4th quarter of fiscal year 1980. This number grew to 1,665 by the end of fiscal year 1981, which was an increase of 560 users (over 50 percent increase) for the year.

(U) Electronic Desk was a concept that was developed to improve narrative processing. It was decided to automate the functions of a worker at his desk. These functions included the use of a calender system, a text editor, a milestone tracking tool, a bookcase, an inbox, an outbox, a file box, a file cabinet, a table, a calculator, a phone pad, a coding sheet, a typewriter, and a report generator. There would also be a graphic subsystem, a teleconferencing subsystem, programing support subsystems for the S&E users, and programing templates and tutorials. During the 4th quarter of fiscal year 1981, ALMSA was tasked with writing the functional description of this concept. Later, ALMSA would be tasked with the design, analysis, and programing. This complete effort was envisioned as taking two to three years. The ultimate goal of this project was to provide a single terminal to perform multi-functional work.

(U) At the start of 1981, DARCOM had two Cluster computers. A Cluster computer was generally a medium scale computer which was capable of processing data and message processing. These computers were located at Headquarters, DARCOM and the Ballistics Research Laboratories. During the year, a Cluster was emplaced at MICOM. In addition, Appendix I's for Clusters were received from White Sands Missile Range, Catalog Data Agency, and CECOM. Both MICOM and Headquarters, DARCOM had had several

training classes on UNIX, the operating system for the cluster, C language, and Pascal. Also, there was an administrator course on the micro conducted at HQ, DARCOM. Training would continue into fiscal year 1982.

(U) During fiscal year 1981, micro computers were installed at MICOM, TSARCOM, Letterkenny Depot, LSSA, and HQ, DARCOM. HQ, DARCOM purchased 13 such micro computers and installed one in the Personnel, Training, and Force Development Directorate. A slight delay was experienced in deploying the micro computers due to the necessity to adapt the send/receive mailer called the multi-media distribution file (mmdf) on the micro. Installation of the others was expected to be accomplished in early fiscal year 1982.

(U) There were several prime computers located in DARCOM. CECOM, ARRCOM, and MERADCOM had these cluster computers. These were unique cluster systems in DARCOM and were not being supported with headquarters resources.

(U) The training guidelines were completed and concurred in by most of the field elements. Much of the NPT training had taken place already. The scope--that is the number of personnel and area covered, needed to be enlarged. Official mail was more command demanding and was still in coordinating channels, but there was expected to be an official net mail beginning in fiscal year 1982.

(U) TIGER (Text Integrated Graphics Environment Resource) was a concept of using previously developed graphics and narrative text software to prepare consolidated documentation or presentation charts. The Directorate for Management Information Systems worked with Harry Diamond Laboratories, Decision Resources, Incorporated, and MERADCOM to coordinate the development of software and equipment independent graphics. This would permit the TIGER operations to be performed on different types of equipment and different software packages throughout the command. During this fiscal year (1981), the concept was validated by the development of demonstration software; specifications were developed for the detailed TIGER architecture.

(U) In the last quarter of fiscal year 1981 the need for increased automation within the headquarters was recognized. A requirement for a controlled approach and implementation was also recognized; therefore, action was initiated to established the DARCOM Headquarters Automation Committee.

(U) The digital technical data system thrust was an ongoing effort to provide the DARCOM community with an updated capability to rapidly retrieve, change, and produce engineering drawings on aperture cards which first had to be digitized in order to be available for new graphic plotters and for transmission throughout DARCOM via a digital data communication network. A number of individual components of the total system were tested during fiscal year 1981. Final design and selection of supporting computer hardware and software was expected to occur in fiscal year 1982.

(U) The Technical Data/Configuration Management System (RD/CMS) replaced a system that was installed more than ten years ago. The new TD/CMS would use a laser scanner, which was under development at Edgewood Arsenal, to digitize blueprints. It used video disk technology and computer output microfilm techniques for the storage, and Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) devices for the origination of new drawings. The DARCOM TD/CMS concepts had been adopted by Marine Corps Logistics Base in Albany, Georgia, and by the Naval Surface Weapons Center in Dahlgren, Virginia.

(U) The Security Thrust was a cardinal element of the Blueprint. Considerable activity had occurred throughout DARCOM during fiscal year 1981 in the area of computer Data Encryption Standard (DES) testing. Efforts for the IBM computer community were well underway at MICOM, ALMSA, and LSSA. ALMSA was also testing DES equipment for the Perkin-Elmer computer family on which the DARCOM Automated Procurement System was being operated. HQ, DARCOM and LSSA personnel had DES efforts underway for the DEC computers which were being used throughout DARCOM in the Office Automation arena.

(U) The Networks Thrust was another ongoing effort. DARCOM, to a large extent, was using existing networks to satisfy DARCOM community digital communication requirements. There was an ongoing program, within DCA, to upgrade the nodes (digital switches) within the ARPANET. DARCOM had seven nodes installed with one additional node approved for installation at MICOM. A BBN computer, designated the C30, had been installed at TYMSHARE Corporation, Cupertino, California, and at the Yuma Proving Ground, Arizona during the year as part of the upgrade. The C30 was also the computer that would be installed at MICOM in the 3d quarter, fiscal year 1982.

(U) While the thrusts of the Blueprint were moving ahead, support of operations by DARCOM's standard automated systems had also improved.

(U) Exercise Capability (EXCAP) was one of the more important new applications, which created the capability to provide automated support to mobilization exercises. The conduct of exercises was an important aspect of readiness which previously had to be handled off-line. EXCAP permitted the processing of uniquely coded exercise documents through the standard CCSS Item Accounting application, identified as exercise material. Following acceptance of the JCL-oriented test system, ALMSA produced a CCSS-embedded EXCAP which automatically trapped exercise documents based on DIC or specific project code. Processing of the trapped documents was dependent upon the presence of exercise files which had to be built on demand at each MRC. EXCAP was included in Release 62, and was scheduled to be exercised in January 1982 at ARRCOM. The depot EXCAP system processed the Shipment Planning and Movement (SPAM) cards and shipment planning worksheets, all identified as exercise documents. The Logistic Control Activity (LCA) received images of all the exercise

traffic for insertion in their EXLIF (Exercise Logistics Intelligence File) just as in the real world. When the Military Traffic Management Command was participating in the exercise, MILSTAMP documents were also prepared.

(U) Item Accounting changes to accommodate the GO-TO-WAR (GTW) Project were completed and included in Release 62 (November 1981 Release). Other functional areas remained under study.

(U) Security Assistance Distributive Processing System (SADDPS) and Security Assistance Information Network (SAIN) was a proposed system using the distributed processing concept linking the US Army Security Assistance Center and user commands, forming a Security Assistance network. It would be developed under Life Cycle Management procedures. The Mission Needs Statement (MENS) had been approved by HQDA pending AAA acceptance of a new Economic Analysis. The Functional Description/Requirements Description (FD/RD) would be developed by Security Assistance functional personnel with assistance from ALMSA.

(U) Testing of the standard Army Procurement Appropriation Reporting (APAR) system continued at ALMSA. The implementation schedule was revised, with prototype testing at ARRCOM to begin during 3d quarter fiscal year 1982. File load at ARRCOM was scheduled for 2d quarter fiscal year 1982, with a proliferation schedule to be determined upon successful prototype completion. ARRCOM completed both minifile testing and a file load environmental test of over 130,000 transactions. Both MICOM and TSARCOM were continuing to receive on-site ALMSA technical assistance in the library build, file creation, and initial test processing areas. Using prior year and current year line file data, much operational experience was being gained, as well as providing test data for functional familiarization of terminal processing techniques. The ARRCOM prototype was provided on-site technical assistance from ALMSA during initial testing; and on-site support during file load was planned.

(U) Reduction of Provisioning Runtime at TACOM--to insure compatibility of technical data between the PMDR and Sectors 18 and 19 of the NSNMDR, additional transactions from the Provisioning System were forwarded to Application 594, beginning with Release 58. These additional transactions caused TACOM to progressively build up a transaction backlog in Application 594 which, at one point, exceeded one million transactions, and impaired TACOM's readiness posture. During the backlog buildup timeframe, average transaction-per-hour processing in Application 594 was approximately 4,000. Based on functional and technical research by TACOM and ALMSA personnel, changes made to generating transactions, selected input routines, and JCL, as well as an immediate fix being applied, eliminated TACOM's backlog. The average hourly transactions processed in Application 594 increased to approximately 20,000 per hour, allowing TACOM to run and maintain a weekly cycle without a backlog.

(U) The baseline Integrated Logistics Support Milestone Report System (ILSMR) was redesigned to provide the capability for on-line data entry through the Data Entry Systems Interface (DESI) and to provide on-line inquiry to the data as well as providing hardcopy output. The redesigned system was fielded to all five MRCs plus AVRADCOM and ERADCOM during the 4th quarter of fiscal year 1981.

(U) Release 62--prototype testing was preceded by a full volume test of Item Accounting Stock Control applications at ALMSA, using the MICOM live files and recreated transactions from the normal MICOM input data stream. This marked the first time a full volume test (FVT) was used for a regularly scheduled release. Functional acceptance of this pre-prototype test method was enthusiastic, as was that of the responsible ALMSA Design Division. Less enthusiastic was the reaction of the ALMSA Directorate for Systems Readiness, due to the impact on their scheduling. Full Volume Testing, with appropriate scheduling considerations, was being studied as a better approach to Release Management than review of the Division Level Test results by the Functional Coordinating Groups, particularly for those functional areas sustaining a large impact in the release.

(U) The first meeting of the Mobilization Automation Work Group (MAWG) and LOGNET Subcommittee was convened in March 1981. The draft LOGNET-DX concept of operations and work loading document was prepared and distributed for staffing during 4th quarter fiscal year 1981.

(U) Accomplishments related to Standard Depot Systems applications, in the area of production and equipment, included a non-issuable materiel system, distributed to Quality Assurance functional personnel within the depot system. This system gave the QA people visibility of assets for test inspections, litigation, control cannibalization, and other areas where the stock could not be issued to users. Implementation of the IEM continued with the successful implementation at New Cumberland, Tobyhanna, and Seneca Army Depots and Rocky Mountain Arsenal. Training for representatives of the depots was conducted, and an IEM test data package was furnished to be used for initial 60-day shakedown of PCM equipment. The equipment serial number cross-reference file was eliminated from the IEM system, resulting in reduced run time and disk space. Edit and validation was expanded within the CEDRS application.

(U) In the area of resources, methods and standards and REM routing were completed. Conversion of NAF payroll to IBM 360 for Germany was completed. STANFINS redesign support to cost accounting, travel, disbursing, and commercial accounts was affected. Successful yearend close and establishment of fiscal year 1981 records were accomplished. Assistance was rendered in establishment of contractor operations at Hawthorne.

(U) Other accomplishments related to Standard System applications in the area of PCM conversion, which were ongoing, included 96 percent completion for define file changes, 83 percent completion for PCM version tested, 100 percent completion for tasks assigned, and 100 percent completion for tasks reformatted.

(U) A comprehensive analysis of Phase I Automated Labor & Production System (ALPS) testing was developed and furnished to DESCOM. This included an analysis of statistical data, a comparison of ALPS with present Standard Systems Applications (SSA), L&P reporting experience, and a summary and analysis of on-site observations and test questionnaires.

(U) An IEM Enhancement Review (similar to an SCR review) was conducted at Gettysburg, Pennsylvania. The review was attended by 36 of the 39 IEM users, plus five activities which were scheduled to accomplish implementation during 1981. In addition, HQ, DARCOM, DARCOM I&SA, and seven major subordinate commands were represented. A total of 138 people attended.

(U) A change to the Calibration Recall System was distributed to permit identification of TMDE items classified as Calibration Not Required (CNR), and to facilitate collection and posting of manhours expended for maintenance and repair support of these items.

(U) A change was made to preclude automatic inventory adjustments of $10,000 and greater. This provided for pre-adjustment research.

(U) An Inventory Statistical File was provided, which contained the dollar value of assets on-hand and inventoried, number of consolidated line items completed, number of adjustments, and number of locations surveyed.

(U) Storage Item Change Cards (SICC) were replaced. The transmittal of Storage Item Change Cards was eliminated from Defense Logistics Agency Supply Centers to Service Storage Activities.

(U) Changes were made to in-line identify, according to previously established criteria, certain Air Force materiel release orders and direct their shipment to a consolidation/containerization point at McClellan Air Force Base, California.

(U) A Memorandum of Understanding (MOU) was signed by the Chief, LSSA and the Project Manager, Redesign Integration Group, of Computer Systems Command. The purpose of the MOU was to identify work to be accomplished, assign responsibility by agency, and establish communications procedures for the development of the cost accounting component of STANFINS redesign by LSSA.

(U) Phase I of a real time interactive Tool Crib Control System was developed and distributed. This phase provided for the establishment of the data base, real time check-out and turn-in of tools, a real time inquiry of a specific tool availability at any one or all cribs, and real time inquiry which would show tools issued to any one employee.

(U) A Standard Depot System (SDS) Implementation took place at Miesau Army Depot. In January 1981, as a result of a feasibility study, a test commenced, linking Miesau Army Depot (MIAD), as a remote installation, with Letterkenny Army Depot (LEAD), as host. Communications support was provided by commercial satellite. The results of this test proved the

feasibility of providing CONUS ADP support to OCONUS installations. Approval to extend selected portions of the Standard Depot System to MIAD was granted on 29 February 1980 by the Assistant Secretary of the Army (Installations, Logistics, and Financial Management). On 1 June 1981, SDS was implemented at MIAD. LEAD was providing MIAD with three daily cycles. MIAD officials expressed satisfaction with SDS operation and response.

(U) The development of the DARCOM ADP Continuity of Operations Plan (COOP) for a single ADP COOP site continued. The facility engineering requirements to improve the building at the Northeast Computer Center (NECC) were identified and documented. The first increment of ADP equipment required to upgrade the facility was identified and forwarded to procurement for acquisition. The ADP COOP document was drafted. DARCOM coordination meeting was held in June and attended by each MRC and DESCOM.

(U) The Procurement of ADPE when Cost Effective (PACE) Program was executed in DARCOM for the first time. This new HQDA program provided approximately $7 million to DARCOM to purchase ADPE that was being leased. This program freed a significant amount of the operating budget and contributed to the goal of reducing the amount of leased equipment to the minimum consistent with requirements.

(U) Headquarters DMIS sponsored the 1981 DARCOM recognition of the Federal Women's Program. Ms. Katheryn Castleman served as the HQ, DARCOM Chairperson. Under her direction, a series of programs were presented during the month of October which were developed to instruct and motivate women in their climb up the federal career ladder. A brochure titled DARCOM Success Stories was published, which detailed success stories of some of the women employees within HQ, DARCOM. This year's program was well received and attended by a large number of men and women.

(U) The Product Improvement Management Information Report (PRIMIR) was automated. It was in the process of being redesigned to incorporate additional reports that would aid the Product Improvement Office in making time-sensitive management decisions. In June 1981, TSARCOM was tasked with establishing and chairing a Functional Coordinating Group (FCG). Formation of the FCG would be completed by April 1982.

(U) Digital Teleconferencing was an action with high visibility and the potential for significant pay-back. During the first quarter of fiscal year 1981, documented TDY savings of $4,348 resulted from the use of teleconferencing at ALMSA. In addition, 119 manhours were saved by spending only an hour or two in a conference, versus several days of traveling. Development of a computer-based teleconference system for APPLE microcomputers was begun with the initial implementation scheduled for February 1981. Enhancements to this system, especially graphics capability, were expected to make teleconferencing an even more productive means of communication in the future. The first phase of the microcomputer teleconferencing system was delivered to HQ, DARCOM, for prototype test, and successful teleconferences were held using APPLE II microcomputers.

This was the first system in Pascal to be exported from ALMSA. It was a menu-driven system enabling a user to create and edit screens of text and transmit them to remote locations, one at a time or by file. Design of phase two had also begun, which would add color business graphics to the teleconferencing system. By the end of the year, MICOM and CECOM were fully operational with compatible equipment, in addition to the Headquarters and the two DARCOM central design agencies. Five additional MSC sites were to be incorporated in the expanded teleconferencing network during fiscal year 1982.

(U) Common Test Data Collection System (CTDCS) started with manual collection of data at the test ranges on failures of parts of items under test. These data were keystroked and entered into the edit programs. The edit used a reference file that was built by AMSSA and contained the allowable ranges and data types for common items and for the specific weapon system under test. The edited data was then loaded into a System 2000 Data Base that was used to produce routine reports and was available for ad hoc queries. The Data Base was transferred to the commodity commands upon completion of test for their continued input and use. OSD guidance in a DEPSECDEF Memo of 16 October 1975 established the initiative for visibility and development of an approach to make visible the cost DOD incurred in operating and supporting its weapon systems. DA relied on a standard comprehensive test data collection and reporting system as part of its implementation. In DARCOM, several local systems were to be replaced with CTDCS. In fiscal year 1981, CTDCS II was developed and scheduled for test on MICOM's Multiple Launch Rocket System (MLRS) at White Sands Missile Range. Also to be tested in fiscal year 1982, was the Division Air Defense system of ARRADCOM, first at Aberdeen Proving Ground and then at White Sands Missile Range. CTDCS I was installed at MICOM, WSMR, and APG in fiscal year 1981, pending delivery of CTDCS II.

(U) In July 1981, Mr. John C. Gilbert resigned as Director of Management Information Systems, a position which he had held for over 12 years. Mr. Gilbert accepted a GS-15 position with the ALMSA element on the STANFINS Redesign Group, working with the US Army Computer Systems Command. Mr. James A. Saum was detailed to the position of Acting Director, and recruitment action was started for another SES Director.

(U) In fiscal year 1981 the Command not only kept its position at the leading edge of the Management Information Systems environment, but moved on into the cutting edge in certain aspects. Fortunately, many of the advances DARCOM made and was making, could be used by the other Services and they were anxious to take advantage of them. As a result, the Defense Department, as a whole, stood to benefit from DARCOM's achievements.

Communications - Electronics

(U) The United States Army Communications Command (USACC) - DARCOM, remained under the command of Colonel E. E. Tabor during this reporting period. COL Tabor had two primary responsibilities. First, he was the

Director, Communications-Electronics Directorate at HQ, DARCOM, and second, he commanded USACC, an intermediate command which reported to the 7th Signal Command at Fort Ritchie, Maryland. In his second capacity, COL Tabor presided over 50 USACC-DARCOM units located CONUS-wide. Each of the 50 units also operated under similar dual-commander concepts.

(U) The 50 field units had a variety of equipment types installed in various modes. The units did, however, have a common intent, to provide world-wide telephone service, data and message transmission and receipt, on-base radio, and air traffic control at DARCOM's active airfields.

(U) USACC-DARCOM strength continued its steady decline, reaching by 30 June 1981, the lowest level in its nine-year history: 1,552 of which 276 were military and 1,276 were civilians. As planned by higher headquarters, the cutbacks focused upon telephone maintenance personnel. The resulting C-E support ratio to DARCOM's 116,000 personnel was about 1 to 77.

(U) Despite the reductions, C-E support remained excellent. There were no major communications failures; communications reliability exceeded 98 percent during heavy traffic hours and switching centers rejected less than one percent of all messages. Moreover, USACC-DARCOM constantly tried to replace or improve its obsolete equipment, particularly telephones. The latter prompted Commander, DARCOM, interest, focusing upon the Aberdeen and Rocky Mountain centers, as well as on Picatinny, Rock Island, Anniston, and Letterkenny.

Equipment Improvements

(U) In September 1981, a High Speed Digital Secure Facsimile (HSDSF) became operational at the White Sands Missile Range (WSMR), New Mexico. This installation was the 24th to join the HSDSF common-user telecommunications (TCC) network within DARCOM. All of these locations had the ability to transmit and receive classified data.

(U) In the 3d quarter of fiscal year 1981, USACC-DARCOM began to install 21 High Speed Non-secure Facsimile Devices to replace existing leased slow speed, 4- to 6- minute, facsimile devices. The upgrade gave facsimile users a high speed, two-minute transmission capability, which would reduce Automatic Voice Network (AUTOVON) and commercial toll call holding time by over one-half, improve the speed of service, and reduce the manual operations and operators workload.

(U) In addition to these widespread alterations, there were a host of station improvements in fiscal year 1981. These included the installation of a Modular Automatic Digital Network (AUTODIN) Terminal Equipment (MATE) at the Hawthorne Army Ammunition Plant (AAP), replacing the older Digital Subscriber Terminal Equipment (DSTE); the construction of a modular Air Traffic Control (ATC) tower at Redstone Arsenal; the installation and certification of a new state-of-the-art, Terminal Very High Frequency Omni-Range (TVOR) navigation aid device at Phillips Army Airfield, Aberdeen Proving Ground (APG), Maryland, together with an Automatic Terminal Information System (ATIS); the purchase of a 2,000 line electronic digital

switchboard by Picatinny Arsenal; and the upgrade of TACOM's telephone system to Centrex II, which gave TACOM touch-tone service as well as other modern telephone features.

(U) Expansion and improvement of the Federal Telecommunications System (FTS) continued throughout DARCOM. In fiscal year 1981, 15 DARCOM installations joined the system. Not only did this greatly reduce toll call costs, but it also satisfied a Congressional mandate to DA to use FTS.

(U) In summary, USACC-DARCOM was trying to steer through a difficult strait. The constant reduction of maintenance manpower could only have adverse effects on the large amount of overage and obsolete equipment. Modernization was more than just a wish for convenience. It had to occur just to keep operations running. The question for the future was whether the improvements would offset the losses. There were also ancillary concerns; that is, modernization itself was expensive, and such programs as reduced maintenance remained unproven entities.

Logistics Management

(U) The US Army Logistics Management Center (ALMC) at Fort Lee, Virginia, was transferred to the Army Materiel Systems Analysis Activity (AMSAA), effective 1 October 1981.[58]

(U) Starting in October 1980, transfer of the Test Measurement and Diagnostic Equipment (TMDE) level A mission from DESCOM to the US Missile Command (MICOM) was begun. These included activities at Anniston, Letterkenny, Lexington-Blue Grass, Pueblo Depot Activity, Sacramento, and Tobyhanna Depots. In addition, responsibilities for activities in Korea and Hawaii were also transferred.[59]

(U) DARCOM was tasked to assume the lead based on the 1978 DA Concept Study for improved Army-wide TMDE calibration and repair operations to prepare a subject mission transfer plan in six volumes, and also to consider transfer of FORSCOM/TRADOC functions by 1 October 1981.[60]

(U) Congressional concern was also expressed regarding the establishment of a Single Manager for Test Measurement and Diagnostic Equipment, which was given to the Commanding General of the consolidated CECOM after 1 May 1981. The Army Central TMDE Activity (CTA) was to remain at the Lexington-Blue Grass Depot with mission and staffing, although it was given changed mission responsibilities as indicated.[61]

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58 HQ, DARCOM Permanent Orders 39-2, 25 Jun 81.

59 HQ, DARCOM Permanent Orders 80-1, 17 Oct 80; 96-1, 15 Dec 80; 97-1, 16 Dec 80; 99-2, 30 Dec 80; 34-1, 5 Jun 81; 41-1, 2 Jul 81; 44-1, 13 Jul 81.

60 DRCPA-O, subj: Mission Transfer for Implementation of DA Approved Concept for TMDE Calibration and Repair Support at FORSCOM and TRADOC Field Calibration Acty., Vol 1, Anniston Area, to HQDA (DAMO-ODO), signed BG W. H. Schneider, 23 Feb 81.

61 Ltr to Hon. Wendell H. Ford, US Senate, from Sec. Army, 19 Mar 81.

Test, Measurement and Diagnostic Equipment

(U) The US Army Central TMDE Activity (USACTA) experienced significant fiscal year 1981 growth, rising from 35 civilians on 30 September 1980 to 48 civilians on 30 September 1981. Nine more civilian spaces remained unfilled. Military strength, meanwhile, remained a constant three spaces.

(U) In November 1980, the Activity reorganized, establishing two branches in each of its three existing divisions. The three divisions, and their respective branches were: TMDE Systems Evaluation, with Systems Evaluation and Automatic Test Equipment (ATE) Branches; TMDE Acquisition and Field Requirements, with Acquisition Control and Field Requirements Branches; and TMDE Planning and Resources Division, with Policies, Plans and Administrative, and Logistics Information and Analysis Branches.

(U) Possible further expansion awaited resolution of the still pending TMDE single manager question. USACTA was one of three candidates for the job, but DARCOM recommended CECOM instead. DA concurred, but fiscal year 1981 passed without any implementation.

Actions

(U) One policy that was implemented was a single ATE, General Support and Depot. USACTA received 14 ATE tasks. It also began an ATE data collection effort, its purpose being to produce a better ATE information base.

(U) DARCOM agreed, in an April 1981 meeting, that there was a need for improved TMDE resource planning and programming. USACTA prepared a document identifying TMDE resource requirements and, by the end of fiscal year 1981, had distributed it to interested DARCOM parties. USACTA also initiated a program to develop a standard TMDE user survey to gather field input to a standard TMDE data base. Field testing of the survey was to begin in fiscal year 1982.

(U) In fiscal year 1981, USACTA approved 1,140 TMDE acquisition requests, valued at approximately $110 million. It disapproved 250 requests, recommending substitutes in all but two cases. The Modernization Program claimed about $14.8 million of the total funds. Of the total DA TMDE acquisitions in fiscal year 1981, USACTA cleared about 35 percent, a great improvement over fiscal year 1977's 12 percent.

Safety

(U) The DARCOM Safety Office was responsible for the direction and staff supervision of the DARCOM Safety Program. This included the provision of the maximum safety features possible in the design of Army materiel, the prevention of injury to personnel and damage to government property, and the elimination of those environmental hazards caused by DARCOM operations. The Office also exercised control over the DARCOM Field Safety Activity.

(U) The Office added an extra organizational action section in fiscal year 1981. This was the Chemical Safety Section, which DARCOM established on 20 July 1981, in order to deal with increased interest in Toxic Chemical Munitions. The section's particular concerns were with military, not occupational chemical, agent safety. Thus, the agents were toxic, incapacitating, riot control, smoke and incendiaries, not pesticides, environmental, or industrial chemicals.

(U) The new section functioned through one Safety Engineer, who chaired the Army's Chemical Agent Munitions Safety Committee (CAMSC), and who directed the DARCOM Chemical Agent Safety Program. CAMSC was an independent system safety group whose function was the assurance of adequate chemical munitions safety. The group accomplished this by conducting safety studies during the development of new chemical munitions and by making special studies of existing stockpile items.

(U) With approximately two months of fiscal year 1981 allotted to him, the Safety Engineer tried to obtain protective clothing and detection equipment capable of protecting at occupational exposure levels. No military equipment sufficed for this task. The Engineer also began work on four draft regulations which would bring occupational exposure standards to toxic chemical agents, in accord with OSHA standards on protective clothing and detection equipment.

(U) Significant actions in the other four non-administrative sections included:

Aviation

(U) DARCOM's flight safety rate for fiscal year 1981 was its lowest in AMC/DARCOM history--zero mishaps. It was, of course, also the best rate for any comparable size Army command, and was well below the DA average of 2.63 CLASS A mishaps per 100,000 flying hours. As could be expected, DARCOM units won 26 DA Aviation Mishap Prevention Awards during fiscal year 1981.

(U) The section conducted 24 aviation safety surveys of those DARCOM installations and activities with aviation facilities. The surveys were all satisfactory. In addition, the section participated in the meeting of the DARCOM Flight Standardization Board, which directly influenced the zero mishaps results.

Engineering

(U) In April 1981, ARRADCOM hosted a System Safety Workshop. As a result, Engineering revised DARCOM-R 15-1, establishing a DARCOM System Safety Management and Engineer Action Committee. Centrally funded, the Committee was to meet semi-annually.

(U) Other Engineer actions included ground work for a nuclear weapons safety program, the strengthening of explosives safety measures through the revision of DARCOM-R 385-100, and the bolstering of the entire DARCOM Safety Program as a result of a DARCOM-wide manpower survey which recognized a requirement for an additional 76 spaces in addition to the then 235.

Health Physics

(U) The primary concern of the Health Physics Section was radioactive material. DARCOM had over 75 percent of the Army's inventory of about 4,000,000 curies of such material. DARCOM used about 2,000,000 curies for RDTE and production tools and slightly less than 1,000,000 for such managed supply items as fire control devices and self-luminous gauges.

(U) The section devoted much of its attention to the DA-emphasized Radioactive Waste Disposal Program. DA stressed proper packaging, labeling, documentation and quality assurance to DARCOM. DARCOM in turn tasked ARRCOM to bring the program into currency and compliance. Two sites had been closed to the Army because of defective waste shipments. The re-emphasis enabled them to reopen. ARRCOM steps included revision of the appropriate technical manuals (TMs) and MTMC programs of instruction.

(U) DA also gave DARCOM, on 26 August 1981, responsibility for Reactor Safety from the Office of the Corps of Engineers. DARCOM had two reactors, one at White Sands Missile Range (WSMR) and one at Aberdeen Proving Ground (APG). DARCOM surveyed both and placed suggested improvements in operation.

(U) Finally, DA, at section urging, provided funds for establishing an Army Ionizing Radiation Dosimetry Program and a Central Repository for Ionizing Radiation Dosimetry Records. DARCOM charged MICOM with providing personal thermoluminescent dosimetry to DARCOM special weapons sites, which heretofore had little, if any, such service.

Occupational Safety and Health (OSH)

(U) DARCOM spent over $8 million in fiscal year 1981 to correct OSH deficiencies, more than twice fiscal year 1981's outlays. TECOM and ARRCOM received, between them, over one-half the funds. DARCOM used about $1.4 million of the remainder as centralized DARCOM funding to conduct a Command-wide industrial hygiene baseline survey. The purpose of this survey was to identify all OSH deficiencies. The survey was to take place in fiscal year 1982 at no expense to DARCOM installations.

CHAPTER II

RESOURCES MANAGEMENT

Office of the Comptroller

Introduction

(U) Resource Management continued to receive special attention in the Headquarters, DARCOM activities during fiscal year 1981. Although the Reagan Administration pledged not to cut the Department of Defense budget and envisioned $1,600 billion in expenditures over the next five years, there was a determination to make a wise use of resources. This desire prompted the Deputy Secretary of Defense, Frank C. Carlucci, to institute his Defense Acquisition Improvement Program (DAIP), which was designed to get costs under control to demonstrate that the Services were buying efficiently.

(U) Some of the significant accomplishments of the DARCOM Office of the Comptroller during fiscal year 1981 included the following actions. The Office of Productivity Management (OPM) was established on 1 July 1981. DARCOM obligated 99.6 percent of available Operation and Maintenance, Army (OMA) funds by the end of fiscal year 1981, and exceeded 1980 performance in both direct and reimbursable programs. The quality rating average of positions prepared for external audits was 91.3 percent, a decrease of .2 percent since fiscal year 1980. The sixth DARCOM report on actions taken to detect fraud and eliminate waste was issued in fiscal year 1981. Five Comptroller Evaluation Surveys (CES) were completed, in spite of a four-month temporary suspension due to travel fund limitations, and four separate headquarters merit pay units were consolidated into one on 17 June 1981. The Deputy Comptroller was then appointed as Headquarters, DARCOM Merit Pay Unit Administrator.

(U) As the fiscal year drew to a close, special attention was focused on yearend certifications; reevaluation of missions, goals, and objectives; reaffirmation of the Comptroller support of affirmative action in Equal Employment Opportunity; and enhancement of the automation of budget, reporting, and other financial processes to improve planning and management.

(U) Career Program. During fiscal year 1981, the activities of the Comptroller Career Program Office included developing and evaluating skills, knowledge, abilities, and personal characteristics (SKAP) screening panels; managing the DARCOM Comptroller Intern Program; providing advice and consultation for all Comptroller personnel; developing program goals and planning; and administering the DARCOM Comptroller command training program, as well as serving as training coordinator for 250 Headquarters, DARCOM Comptroller employees.

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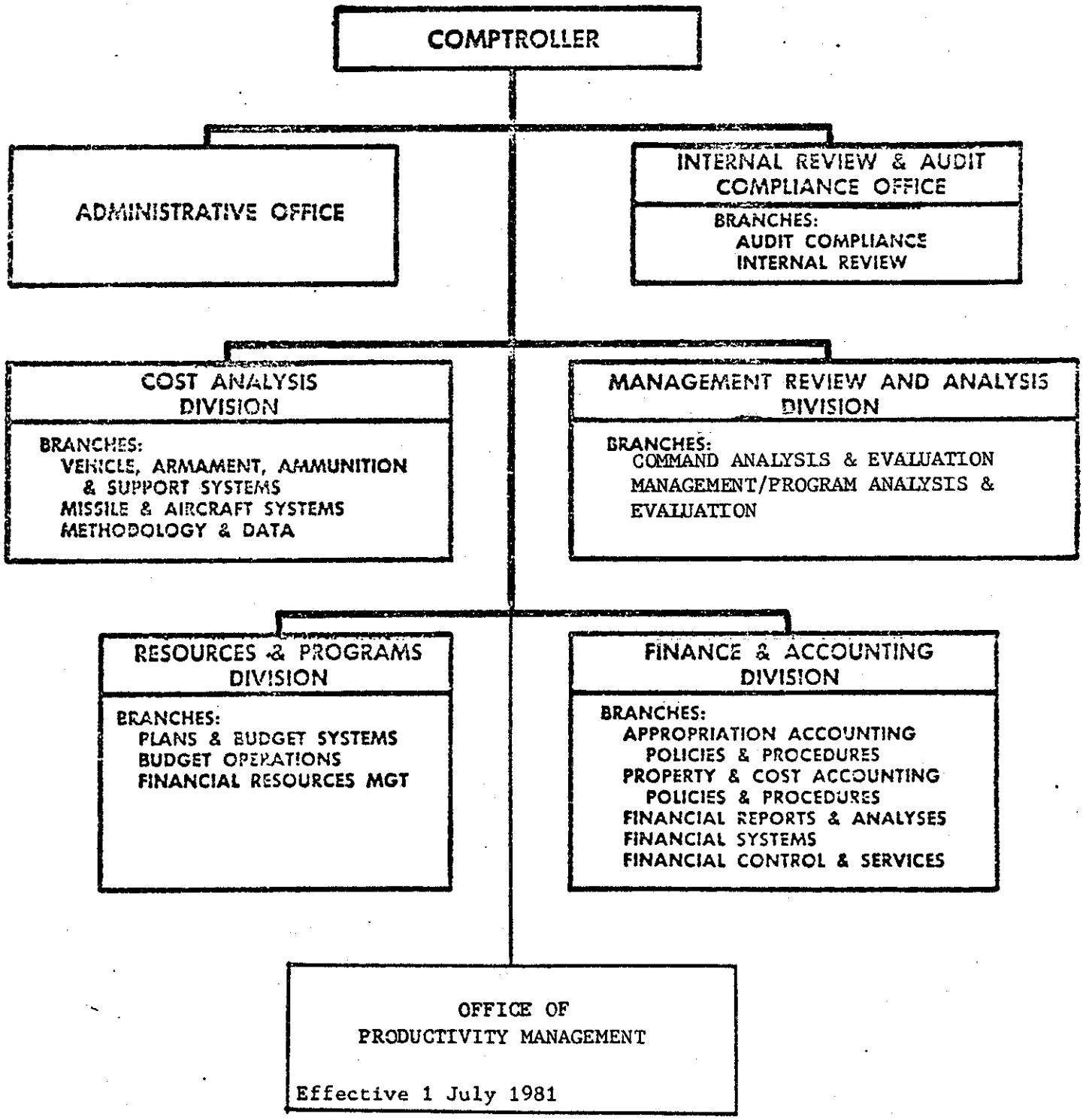


(U) Resources and Programs. The fiscal year 1983-87 Program Analysis and Resource Review (PARR) was submitted to HQDA in January 1981, and the fiscal year 1982/83 Command Operating Budget (COB) was submitted in January and July 1981, respectively. The Program and Budget Estimate (PABE), a normal recurring requirement in previous years, was eliminated during the fiscal year 1983-87 Program Cycle.

(U) The OMA funding levels for fiscal year 1982 and fiscal year 1983 were as follows:

		$ IN MILLIONS	
		FY 82	FY 83
PARR		3,557.7 (Oct 80 PBG)	3,667.2 (FY 83-87 PARR)
COB		3,342.8	3,374.8
	Net Change	- 214.9	- 292.4

The respective decreases in the COB had impact primarily on Program 7, Central Supply and Maintenance, and included some HQDA withholds of inflation funds. The COB Executive Summary addressed "Must Funds" unfinanced requirements of $280.8 million in fiscal year 1982 and $442.9 million in fiscal year 1983. These priority problems were highlighted in the Command Statement. Some of those included were: First Destination Transportation; Headquarters, DARCOM Realignment; RESHAPE; Depot Maintenance; Care of Supplies in Storage (COSIS); Multiple Integrated Laser Engagement System (MILES)-Maintenance; Real Property Maintenance; Maintenance Support; and Supply Management Operations. The HQDA Markup of the DARCOM COB was expected at the end of November 1981.

(U) As a result of intensive monitorship in the headquarters, and at all levels of the command during the 4th quarter of fiscal year 1981, all available OMA funds issued to DARCOM were fully used. DARCOM obligated 99.96 percent of $3.2 billion direct funds received. Despite a program increase of 26 percent ($649 million) in direct funding and a 15 percent increase ($63 million) in reimbursements over actual fiscal year 1980 obligations, fiscal year 1981 performance exceeded fiscal year 1980 in both direct and reimbursable programs. The majority of the increases were released to DARCOM late in the fiscal year after passage of the fiscal year 1981 Supplemental Appropriation Act.

(U) Cost Analysis. Extensive effort was placed on review and validation of weapon system cost estimates, including Logistics Command Assessment of Projects (LOGCAPs), Review and Command Assessment of Projects (RECAPs), Department of the Army Program Reports (DAPRs), Independent Parametric Cost Estimates (IPCEs), and

Baseline Cost Estimates (BCEs). Input or support was provided for the Program and Cost Control System (PCCS), the fiscal year 1984 Military Construction Army (MCA) program, the Production Base Support (PBS) program, the Product Improvement Program (PIP), and the M1 Abrams Tank Review.

(U) Finance and Accounting. For approximately 5 years, Headquarters DARCOM and Headquarters ARRCOM jointly tried to establish a revolving fund to finance the initial acquisition costs of conventional ammunition with subsequent sale to DOD customers, Foreign Military Sales (FMS) and other ammunition users. The objectives of the fund were to simplify the acquisition process through consolidated procurements with savings being realized both in reduced acquisition and administrative costs. The OSD Comptroller approved the establishment of the Ammunition Working Capital Fund on 1 October 1981, which provided the needed vehicle to accomplish the stated objectives. Headquarters ARRCOM had accomplished the needed planning and system modifications to meet the prescribed implementation date.

(U) Research, Development, Test and Evaluation (RDTE) Disbursement Rate Study. During the 3d and 4th quarters of fiscal year 1981, the DARCOM Comptroller and Director of Development and Engineering conducted a study of RDTE accounting data both in the field and at Headquarters, DARCOM to determine the cause of declining RDTE disbursement rates, and formulate recommendations for corrective action. Study findings and conclusions were as follows:

a. OSD/DA conclusion was confirmed that some RDTE programed/obligated in one fiscal year was in fact being executed during the following fiscal year.

b. The RDTE disbursement rates were declining because both contract and OSD/DA deferrals were increasing.

c. A reduction in reported disbursements was occurring because the due date for accounting reports was accelerated in fiscal year 1980. This prevented subordinate commands from including in-float Defense Contract Administration Services Region (DCASR) transmittals in the yearend accounting reports.

d. After accrual accounting for RDTE contracts was implemented within DARCOM, OSD and DA were urged to use accrued cumulative costs incurred instead of disbursements as the measure of performance.

(U) Centralized FMS Accounting and Disbursing Test. On 18 June 1980, the Defense Audit Service issued an interim report on the review of the FMS Accounting and Disbursing Test and made recommendations that an economic analysis be performed, the test be extended, and the number of contracts be expanded. A DARCOM cost analysis reflected an increased requirement of 16 additional Army spaces, not including the space requirements for centralization of secondary items. The test was extended to

30 September 1981 and the number of contracts selected from Army activities was increased to 23. DARCOM also conducted a cost analysis, entitled Direct Citation of Secondary Items for Foreign Military Sales Procurement. This study indicated that there would be a substantial increase in cost and staffing for DARCOM to convert to a centralized FMS accounting system. In fiscal year 1981, DARCOM was completing the final report due in DSAA no later than 30 October 1981. DARCOM study results were as follows: 1) the Army be excluded if tested concepts were implemented; 2) the Army implement direct cite of FMS Trust Fund using Army station number; 3) that real-time reporting be related to cash management at the FMS trust fund; and 4) that real-time cash control procedures be subject to external audit within a year.

(U) Self-Reimbursement of FMS Administrative Fee. Effective in 1981, procedures were developed to:

a. Execute allotments of FMS Obligational and Expenditure Authorities (OA/EA) applicable to the Army's FMS Administrative Fee Budgets.

b. Eliminate the manual funds distribution (via DA Form 2544).

c. Provide automated compatibility between the Administrative Fee Budget Allotments.

d. Integrate accounting and reporting requirements into existing financial networks, including supplementation of reconciliation requirements.

(U) The new procedures were to decentralize FMS Administrative Fee Budget billing and disbursing through the Army's Customer Order Control System (ACOCS). The centralized procedures prior to fiscal year 1981 were to continue until the accounts were liquidated.

(U) Memorandum of Understanding Between the Commander, US Army Security Assistance Center (USASAC) and the Comptroller of DARCOM. This Memorandum of Understanding, signed on 24 December 1980, defined the responsibilities and relationships between USASAC and the DARCOM Comptroller relative to financial management, and became effective on 1 January 1981.

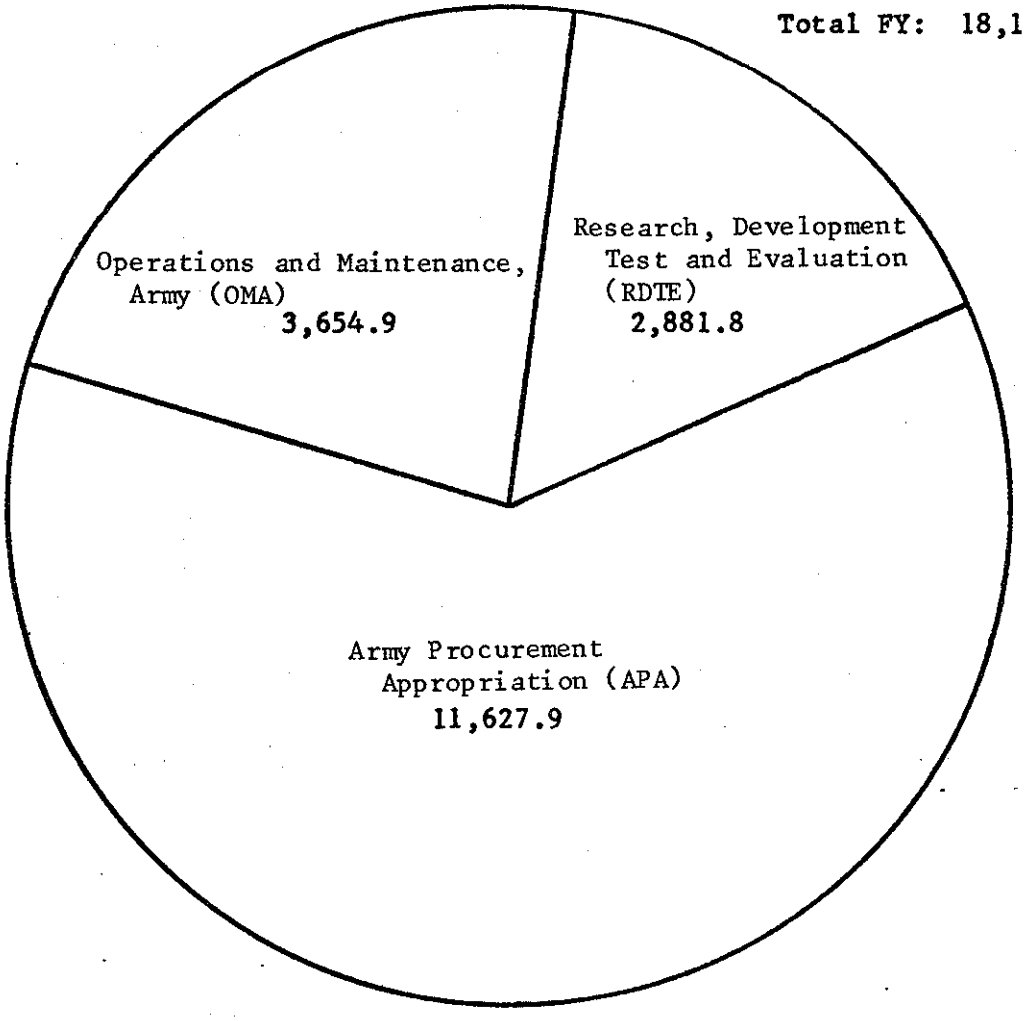
(U) Internal Review and Audit Compliance. During fiscal year 1981, the Internal Review and Audit Compliance Office produced the sixth DARCOM report on actions taken to detect fraud and eliminate waste. It represented a compilation of data obtained from Headquarters, DARCOM and DARCOM subordinate commands; timely and quality command responses to external audit organizations; and real-time audit applications which assisted in identifying system deficiencies before they developed into problem areas.

CHART 1

ARMY PROGRAMS RECEIVED APPROPRIATIONS (MILLIONS OF DOLLARS)

As of 30 Sep 81

Total FY: 18,164.6



FISCAL YEARS	TOTAL RECEIVED	OMA	APA	RDTE
77	11,938.5	2,313.8	7,373.0	2,251.6
78	13,239.7	2,691.0	8,086.0	2,462.7
79	14,392.3	2,635.6	9,021.7	2,735.0
80	13,960.4	2,942.7	8,212.6	2,805.1
81	18,164.6	3,654.9	11,627.9	2,881.8

CHART 2

APA FUNDING
FY 81
(MILLIONS OF DOLLARS)
(DIRECT AND REIMBURSABLE)

As of 30 Sep 81

FISCAL YEAR	Aircraft (2031)	Missile (2032)	Weapons & Tracked Vehicles (2033)	Ammunition (2034)	Other (2035)	TOTAL
Available						
79	78.6	31.5	25.0	82.5	123.3	340.9
80	156.8	357.6	563.1	206.6	430.9	1,715.0
81	1,227.5	1,911.8	4,026.9	2,099.5	3,029.1	12,294.8
TOTAL	1,462.9	2,300.9	4,615.0	2,388.6	3,583.3	14,350.7
Obligated						
79	64.2	25.5	(.6)	52.1	96.3	237.5
80	108.6	289.6	349.9	125.7	313.0	1,186.8
81	1,056.0	1,604.9	3,407.7	1,826.9	2,308.1	10,203.6
TOTAL	1,228.8	1,920.0	3,757.0	2,004.7	2,717.4	11,627.9
Unobligated						
79	14.4	6.0	25.6	30.4	27.0	103.4
80	48.2	68.0	213.2	80.9	117.9	528.2
81	171.5	306.9	619.2	272.6	721.0	2,091.2
TOTAL	234.1	380.9	858.0	383.9	865.9	2,722.8

CHART 3

OMA FUNDING
FY 81
(MILLIONS OF DOLLARS)

As of 30 Sep 81

Appropriation	Direct	Reimbursable	Total
Available			
Central Supply Activities (Program 7S)	1,659.5	242.8	1,900.3
Depot Materiel Maintenance & Support Activities (Program 7M)	1,356.8	114.0	1,470.8
Support of Other Nations (Program P10)	--	95.8	95.8
Other Programs	147.7	41.8	189.5
Total	3,162.0	494.4	3,656.4
Obligated	3,160.5	494.4	3,654.9
Unobligated	1.5	0	1.5

CHART 4

RDTE FUNDING
FY 81
(MILLIONS OF DOLLARS)

As of 30 Sep 81

	FISCAL YEAR	DIRECT	REIMBURSABLE	TOTAL
Available	80	99.5	96.1	195.6
	81	2,536.7	615.6	3,152.4
	Total	2,636.2	711.7	3,347.9
Obligated	80	98.2	91.4	189.6
	81	2,395.2	486.6	2,881.8
	Total	2,493.4	578.0	3,071.4
Unobligated	80	1.3*	4.7*	6.0*
	81	141.5*	129.0*	270.5*
	Total	142.8*	133.7*	276.6*

* May not add due to rounding

CHART 5

DARCOM ARMY INDUSTRIAL FUND
FY 81
(MILLIONS OF DOLLARS)

As of 30 Sep 81

	PROGRAM	ACTUAL
Obligation - End of FY	2,605.5	2,422.5
Sales	2,376.2	2,463.4
Collections	2,384.6	2,412.1
Cash	152.1	175.0
Accounts Receivable	80.2	108.2
Inventory	174.9	195.0

CHART 6

DARCOM DIVISION, ARMY STOCK FUND
FY 81
(MILLIONS OF DOLLARS)

As of 30 Sep 81

	PROGRAM	ACTUAL
Obligation - End of FY	1,527.5	1,593.6
Sales	1,282.5	1,234.5
Collections	1,290.2	1,241.1
Cash	147.5	166.0
Accounts Receivable	71.0	71.4
Inventory	2,936.6	2,821.2

(U) Management Review and Analysis. The major efforts of the Management Review and Analysis Division in fiscal year 1981 were to provide the DARCOM Commanding General and the Command Group with review and analysis support through the Command Performance Indicator Review (CPIR) system and to perform management and evaluation studies.

(U) Activities included an in-depth analyses of OMA yearend closeout procedures; review of AR 5-2; and publication of the DARCOM Commander's Handbook of Performance Indicators which were distributed to the staff and field elements. The staff administered the conduct of Comptroller Evaluation Survey (CES) that consisted of field visits to Comptroller elements for the purpose of evaluating their performance. Five CESs were conducted during the year. Other actions included planning for the automation of the Capital Investment Program and cash flow management, as well as for expanding office automation within the Office of the Comptroller, and the control of three Financial Management Executive Workshops (FMEWs). Significant accomplishments included the Command Summary Analysis -- FY 1980 and First Half FY 1981; DARCOM Indicator Study; Analysis and evaluation of the COB Executive Summary/ Resource Posture Statement/PARR Executive Summary; review of DARCOM Should Cost Program; and the Comptroller WPC Study.

Comptroller Career Program Office

(U) The DARCOM Comptroller, member of the Army Comptrollership Education and Training Board, attended the third board meeting on 16 October 1980. The purpose of this board was to review the graduate education and training content presented to military and civilian students in the field of comptrollership. The primary focus was on the Army Comptrollership Program (ACP), Professional Military Comptroller School (PMCS), Military Comptroller Course (MCC), and intern training. In fiscal year 1981, a decision was made to extend the ACP at Syracuse University to 14½ months, a revision which increased the acceptance in the program among DARCOM Comptroller careerists. In fiscal year 1981, five DARCOM Comptroller careerists were accepted into this program.

(U) The DARCOM Comptroller Career Program Planning Board met 15-17 June 1981 and agreed that the Skills, Knowledge and Abilities, and Personal Characterists (SKAP) needed to be modified to consolidate it with the performance appraisals. It was also decided that the Comptroller Intern Program should continue in its present format.

(U) In August 1981, the Deputy Comptroller Career Program Manager attended a DA working group for discussions on the comptroller career program, in general, and the SKAP changes proposed by the Office, Deputy Chief of Staff for Personnel. Major decisions concluded by the group were that additional study was needed on the value of panels prior to eliminating them. Reduction of justification proliferation was necessary, use of the reviewer's rating in lieu of panels was not appropriate, and consideration should have been given to using both the

supervisor's and the reviewer's rating if the panels were discontinued. In addition, separate rating scales for performance and potential were acceptable, but five levels should have been used; automation of the SKAP and referral process should have been top priority.

(U) During the past fiscal year, there were 130 comptroller intern spaces authorized for recruitment of which 119 interns were recruited. Since DARCOM experienced difficulty in recruiting interns for the cost analyst career field, attempts were emphasized, in fiscal year 1981, to recruit a sizable number of interns for this field. This attempt was moderately successful.

Resources and Programs Division

(U) DA Programer's Conference, July 1981 -- PARR. Although this conference, restricted to the five MACOMs, identified minor changes to the Army programing process, its main thrust was that the fiscal year 1984-88 cycle would be essentially unchanged.

(U) DARCOM Programer's Workshop, 19-21 August 1981. This workshop was attended by representatives from each of the participating major subordinate commands (MSCs) and activities reporting for the fiscal year 1984-88 PARR. The purpose of the workshop was to distribute Impact Memorandum Instructions to the field representatives that attended from each of the 33 reporting activities. Feedback from the conference indicated that the attendees had a better understanding of the submission requirements for the PARR as a result of the workshop.

(U) PARR. The PARR for fiscal year 1983-87 expressed the Army's major resource requirements and initiatives essential to provide support to the Army. The Modernization Resource Information Submission (MRIS) was the third attempt to capture all of the resources (other than RDTE acquisition dollars) associated with all of the Army Modernization Information Memorandum (AMIM) identified systems. That effort required an extensive data collection system to accomplish the required reporting. The PARR was submitted to HQDA in January 1981.

(U) DA FY 1984-88 MRIS Conference, 16-18 September 1981. Representatives of all MACOMs participating in the PARR attended this HQDA-sponsored MRIS conference. Topics presented were: Fiscal Year 1983-87 Modernization Program Assessment; Fiscal Year 1984-88 Program Objective Memorandum (POM) Cycle; Fiscal Year 1984-88 MRIS Process; Distribution Plans; Division 86/Army 90; MRIS Automation Support; Force Modernization Program Execution; AMIM; and Force Modernization Milestone Reporting System.

(U) Command Operating Budget (COB). The fiscal year 1982/83 DARCOM COB reflected funding of $3,342.8 million in fiscal year 1982 and $3,374.8 million in fiscal year 1983. The COB Executive Summary highlighted the top priority "Must Fund" funding problems totaling $280.8 million in fiscal year 1982 and $442.9 million in fiscal year 1983. Included were

First Destination Transportation; Headquarters, DARCOM Realignment; RESHAPE; Depot Maintenance; COSIS; MILES-Maintenance; Real Property Maintenance; Maintenance Support; and Supply Management Operations. The HQDA markup of the DARCOM COB was expected at the end of November 1981.

(U) Real Property Maintenance Activities (RPMA) Funding. In fiscal year 1981, the inadequacy of funding support for real property maintenance and repair activities was of considerable concern. The past funding shortfall and rapid escalation of the unfinanced backlog, due to the inflationary rate, created a facilities maintenance problem that required immediate attention during the fiscal year. Fiscal year 1981 funding in this area was increased by 29 percent over the fiscal year 1980 level. With funding realized through reprograming actions within DARCOM, for the first time, the fiscal year 1981 level of funding enabled DARCOM to contain annual facility deterioration, but did not permit reduction of backlog from previous years.

(U) First Destination Transportation. The high priority unfinanced requirement for fiscal year 1983, in the amount of $15.6 million, was the result of excessive withdrawal in support of the Conventional Ammunition Working Capital Fund (CAWCAF). This was reflected in the fiscal year 1982-83 COB submission to DA and failure to restore these funds by DA would have serious impact upon DARCOM's ability to ship urgently needed materiel and new weapon systems to customer units with a commensurate impact on combat readiness.

(U) Project Managers Account. The Reagan Amendment provided the Project Manager's Account with an increase of $15 million in fiscal year 1982 and $17 million in fiscal year 1983 for Force Modernization. There was also an $8 million reduction for "Marginal Programs" in fiscal year 1982 with a net increase of $7 million.

(U) Plans to transition PM BLACKHAWK were completed in the 3d quarter of fiscal year 1981. PM BLACKHAWK was transitioned from a separate reporting PM to TSARCOM, effective 1 October 1981. This action included transitioning 52 spaces and $2.5 million.

(U) ARRCOM reprogramed 182 CEP and $8.0 million from the PM account to Industrial Preparedness Operation.

(U) Central Procurement. In Central Procurement, the estimated excessive backlog for fiscal year 1981 submitted in the fiscal year 1981-82 COB was 75 percent of all procurement actions or 46,200 actions.

(U) The Reagan Amendment provided $11 million in fiscal year 1982 which was to fund 100 spaces for near-term readiness to reduce the 75 percent backlog to an acceptable 30-day level.

(U) Care of Supplies in Storage (COSIS). The fiscal year 1981 Supplemental budget made $12 million available for the COSIS program and the fiscal year 1982 amendment made $43 million available. The increased funding would enhance the condition of DARCOM's inventory, such as ammunition and general supplies. In turn, this enhancement would would improve stock availability, reduce denial rates, and reduce shipping costs.

(U) Headquarters Realignment. The DARCOM RESHAPE Study noted a need to realign Headquarters, DARCOM and to increase the technical expertise directly accessible to the Commanding General, DARCOM. This realignment required resource trade-offs within DARCOM plus the addition of 145 spaces to the overall OMA Army Management Headquarter's Activities (AMHA) ceiling. The OMA dollars increase for this requirement was $6,485 thousand in fiscal year 1982 and $5,485 thousand in fiscal year 1983.

(U) Fiscal Year 1981 OMA Supplemental Funds. DARCOM received a net increase of $136 million in fiscal year OMA Supplemental Funds. This increase was above the $141 million pay raise supplement and was released incrementally in June, August, and September.

(U) Supplemental funds were provided for specific purposes and the Department of the Army (DA) required a "Stewardship" Report on accountability and use of these funds which was submitted on 16 October 1981. The Army Audit Agency undertook a review of DARCOM's OMA yearend funding procedures and a review of DARCOM's use of the OMA supplemental funds.

(U) Major program increases financed from fiscal year 1981 OMA supplemental funds were as follows:

	$ IN MILLIONS
COSIS	12.0
Ship Ammo to EUR/KOREA	7.8
Line Haul Transp	17.7
Depot Maint	55.0
Move WETEYE	1.5
AIF Pass Thru	29.2
NTC Support	1.5
Non-Fuel Cost Increases	4.0

(U) Yearend Funding Procedures. DARCOM issued yearend funding procedures for OMA funds on 20 July 1981. Three formal status reports were required. The first report was submitted on 14 August 1981 with two follow-on reports during September 1980. These reports covered unfinanced requirements, excess funds, and automatic reimbursable customer earnings. The DARCOM Staff reviewed field submissions, prioritized requirements, and submitted to DA its hardcore requirements

for yearend funding. In addition, during the last 10 days of fiscal year 1981, regular conference calls were made to the activities which were the major users of OMA funds. Data for all field elements were maintained on obligated balances, critical deficiencies, and excess funds. Funding adjustments were made daily, and field elements having special problems were provided staff assistance. Due to this close monitoring and control of funds, the fiscal year 1981 direct OMA unobligated balance was $1.4 million, and total obligations were 99.9 percent of available funding.

(U) Foreign Military Sales (FMS) -- Administrative Fees. The fiscal year 1981 program was $74.0 million after adjustments, with the most significant change being a $5.5 million decrease for contract administrative costs. Effective 1 January 1981, contract administrative costs were no longer charged to FMS Administrative Fee funds but were billed directly to the Security Assistance Accounting Center (SAAC). A separate surcharge of 1.5 percent was applied by SAAC to all FMS shipments from contractors to cover these costs. The FMS program was adequate based on criteria established for costs to be reimbursed by FMS.

(U) Military Assistance Program/Grant Aid (MAP/GA). In fiscal year 1980, the MAP/GA program continued to decrease as this program was phased out. The fiscal year 1980 program was $4.0 million and fiscal year 1981 had been reduced to $3.1 million.

(U) International Military Education Training (IMET). DARCOM did not budget for this program but received funds for training at DARCOM activities. DARCOM activities obligated funds as they were received and met obligation rate as established by Congress, i.e., 85 percent of program to be obligated 1 October - 31 August of any fiscal year, limiting obligations to be incurred during the month of September to 15 percent of the annual funding program.

(U) Fiscal Year 1982 Army Industrial Fund (AIF) Annual Budget. The fiscal year 1982 budget estimates, as submitted to DA, reflected the following operating data:

	$ IN MILLIONS		
	FY 80 ACTUAL	FY 81 ESTIMATE	FY 82 ESTIMATE
Orders	2,012.5	2,353.6	2,742.0
Revenue	2,151.8	2,501.6	2,691.9
Costs	2,157.2	2,460.0	2,691.2
Civilian End Strength	60,736.0	61,799.0	60,078.0
Civilian Manyears	60,991.0	61,945.0	64,171.0

(U) The Office of the Secretary of Defense (OSD) had instituted a new policy in fiscal year 1981, to be effective in fiscal year 1983, which would have far-reaching effects. Subject of a memorandum, 19 August 1981, from Frank C. Carlucci, the Deputy Secretary of Defense, was "Financing of Equipment Purchased for Industrial Fund Activities." Discussion with the tri-services continued during the fiscal year, and the policy had not yet been fully defined.

(U) Operation and Maintenance, Army Reserve (OMAR). In fiscal year 1981, the OMAR program, under Code 527991 Depot Maintenance included second destination transportation, depot maintenance of US Army Reserve equipment (repair and return to users), direct exchange program (aircraft), and calibration.

(U) During the reporting period, the one significant change that occurred in this program was the transfer of calibration from DESCOM to MICOM. The US Army Metrology and Calibration Center (USAMCC), located at MICOM, was expanded to include command and control of the six secondary reference laboratories and transfer teams located at US Army Depot System Command depots.

(U) Base Level Commercial Equipment. In fiscal year 1981, Congress approved the transfer of OMA funds to support the policy decision that commercial investment items of equipment costing $3,000 and over be transferred to Other Procurement, Army (OPA). Through reprograming, the DARCOM Staff was able to transfer sufficient funding to assist subordinate commands to bridge the funding transition from OMA to OPA. Transfers were to be made in fiscal year 1982 and out-years.

(U) Base Operations/RPMA Separation. Effective fiscal year 1981, PE 722896 Base Operation was divided in two separate programs: 722894 RPMA and 722896 Base Ops (-). The RPMA included all functions contained in the JKLM accounts while all other alpha accounts remained in Base Ops (-).

(U) Audiovisual. Effective in fiscal year 1981, the Base Ops "A" account (audiovisual activities) was eliminated with establishment of mission account PE 722890. In addition, it was determined that all audiovisual support within other P7 mission accounts, as well as Army Industrial Fund (AIF), would be transferred into PE 722890.

(U) Policy Clarification on Stock Fund Charging. Effective in fiscal year 1981, funding was transferred from PE 728012 to PE 738017 for proper charging of stock fund components, assemblies, and parts that pertained solely to stock fund-type end items. Funding was also transferred for fiscal year 1982 and beyond.

(U) WETEYE Bomb Movement. With the fiscal year 1980 decision to retain the WETEYE bomb in storage at Rocky Mountain Arsenal indefinitely, it was determined that caretaker funding should be discontinued in favor of standard AIF procedures. The 1981 Military Construction Act, however,

required the removal of the WETEYE during fiscal year 1981 and transfer to Tooele Army Depot. Although the WETEYE movement was virtually complete during fiscal year 1981, there remained many toxic materials awaiting disposition that would require security guard personnel. It was anticipated that by the end of fiscal year 1983 all toxic materials would be removed and Rocky Mountain would return to caretaker status.

(U) DARCOM Support to Europe. In fiscal year 1981, the Commanding General, DARCOM and Commander in Chief, US Army, Europe (CINCUSAREUR) agreed to the concept of a single DARCOM Focal Point in Europe (DARCOM-EUR) to create a more desirable war planning function. It was determined that the functions and duties of assigned military and civilian personnel would be charged to 728012.11, and that DARCOM-EUR would have a tentative implementation date of 1 October 1982.

(U) Executive Director for Conventional Ammunition (EDCA). The EDCA charter was approved on 14 August 1981, and its office was staffed by all four Services. Its mission was to manage and execute the DOD Single Manager for Conventional Ammunition (SMCA) operations, and its overhire authority for eight civilian spaces was provided for fiscal year 1982 in program element 721112.

(U) Single Manager for Conventional Ammunition (SMCA). In fiscal year 1981, DA increased SMCA as part of the "Get Well" program. The increase was $15.5 million for Supply Depot Operations and $18.9 million for Conventional Demilitarization.

(U) The fiscal year 1982 amendment provided $12 million for Demilitarization Operations and $43 million for COSIS, of which $7 million was identified to SMCA. The SMCA had to be provided requisite financial resources to accomplish the defense mission and to continue the already delayed, but ongoing, "Get Well" and demilitarization programs in a timely and effective manner.

(U) Fiscal Year 1982 Reagan Amendment. In Central Procurement the fiscal year 1982 amendment provided $11 million for funding 100 spaces for near-term readiness to reduce the 75 percent backlog to an acceptable 30-day level. For the Project Managers Account a $7 million increase was provided; the net of a $15 million increase for Force Modernization and an $8 million reduction in marginal programs. For Depot Operations, a $43 million increase was provided for COSIS, enhancing the condition of DARCOM's inventory.

(U) Force Modernization. During fiscal year 1981, continuing emphasis was placed on programing for the fielding of new systems. Effective with the beginning of fiscal year 1982, MACOMs would be required by DA to account and report for Force Modernization costs. It was also anticipated that the fiscal year 1983/84 COB would require a separate force modernization submission.

Cost Analysis Division

(U) Program and Cost Control System (PCCS). PCCS advanced to initial implementation in fiscal year 1981. During the process, proponency changed from Procurement and Production (P&P) to Development and Engineering (D&E). The Cost Baseline appendix of the PCCS documentation remained with the Comptroller. PCCS was accepted by the DARCOM Command Group in May 1981, and draft implementation instructions were sent to the MSCs and PMs on 28 June 1981. The Army Vice Chief of Staff endorsed the PCCS concept on 29 July 1981 and requested further review by the Army Ad Hoc Cost Discipline Advisory Committee (CDAC). The M1, Fighting Vehicle System (FVS), and RVP programs provided initial submissions of PCCS documentation for examination by this committee. The FVS was briefed to the CDAC on 16 September 1981, and was subsequently briefed in greater detail to Mr. Paul Miller, CDAC member, at Headquarters, DARCOM. PCCS implementation was slowed to ARSTAFF and field improvement recommendations prior to finalizing the circular and bringing the initial systems in under PCCS.

(U) DARCOM Regulation (DARCOM-R) 37-4, Cost Estimate Control Data Center Activities. During fiscal year 1981, DARCOM-R 37-4 was revised and published, with significant changes focused on the following topics: 1) validation of cost data released to lateral commands; 2) validation of cost data prepared by project management offices reporting directly to Headquarters, DARCOM; 3) validation of cost data prepared by corresponding development and readiness commands; 4) expanded validation definition; 5) addition of a validation sheet; 6) modification of validation requirements for key cost reports; and 7) project/product manager validation responsibilities.

(U) Operating and Support Cost Management Information System (O&SCMIS). The O&SCMIS Development Plan was revised to accurately reflect future O&SCMIS development and implementation activities. The original schedule called for the system to be incrementally developed by commodity groups (aircraft, combat vehicles, armament, missiles, and electronics), however, based upon the proposed design approach and detailed investigation into each of the five groups, it was determined that O&SCMIS would be developed in two phases. Phase one would provide detailed design, program development, and integrated testing for the aircraft, combat vehicles, and armament. Phase two would provide for the design development and testing to accommodate the missile and electronic commodity groups.

(U) Weapon System Resource Summary (WSRS). The WSRS Handbook, completed during fiscal year 1981 and published in April, was designed to enable the analyst to identify cost/budget shortfalls on selected weapons systems and to ascertain possible budget/quantity shortfalls on weapon system support equipment. For each system, the analysis contained both dollars and quantities by appropriation for the current year, budget year, and five out-years. Unfinanced requirements were also identified in the analysis.

(U) DARCOM Cost Analysis Personnel and Training Survey. The fiscal year 1982 survey of DARCOM cost analysis performance in the areas of manpower and training was completed during the 1981 fiscal year. The survey assessed the status of DARCOM cost analysis manpower and emphasized training awareness by a comparative analysis of major subordinate command training performance. The survey enumerated authorized and on-board cost analysis spaces among the major subordinate commands, project manager offices, and Headquarters, DARCOM by job series and grade levels. Training indicators were tabulated which compared fiscal year 1980 training completed and fiscal year 1981 training scheduled by professional, clerical, and intern personnel to the DARCOM average as well as training performance by female and minority professionals to performance by the overall professional population.

(U) DARCOM Cost Analysis Chiefs' Meeting. On 30-31 October 1981, the Annual DARCOM Cost Analysis Chiefs' Meeting was convened at this headquarters. The 1980 theme was "Cost Estimate Validation and Cost Control." Special interest topics included Merit Pay, Performance Standards, International Materiel Evaluation, and the ARRCOM Financial Management Model.

(U) DARCOM Cost Analysis Award. On 26 March 1981, the Commanding General authorized establishment of the "DARCOM Cost Analysis Award." As many as four awards would be presented annually for achievements in any of the following categories: 1) cost estimating/cost analysis; 2) review and validation; 3) research, methodology, and data; and 4) economic analysis. The inaugural presentation would recognize achievements made or culminated during calendar year 1981.

(U) Tank-Automotive Command (TACOM) Cost Model Review. During fiscal year 1981, the Cost Analysis Division reviewed the TACOM Operating and Support Cost Model; a computer model for calculating and displaying vehicle operating and support costs. After review and discussion among DARCOM Cost Analysis Division personnel, comments and recommendations for improvement and expanded application of the model were forwarded to TACOM.

(U) Inflation Guidance. Two consolidated inflation guidance letters were issued in fiscal year 1981. The first, dated 27 March 1981, replaced guidance of 3 September 1980, and revised indices were issued in a second letter dated 13 August 1981. The DARCOM historical inflation review was released to the field for comment on 13 July 1981. In addition to the historical inflation indices for each command, the package contained a comparison of historical indices prepared by the Commerce Department's Bureau of Economic Analysis and the Office of the Secretary of Defense.

(U) Deobligation Forecast Model Update. The Deobligation Forecast Model was developed by the Cost Analysis Division in fiscal year 1981 to provide the Associate Director of Procurement and Production with a forecast of DARCOM procurement deobligations for the forthcoming fiscal year. A fiscal year 1982 deobligation forecast was developed. In order

to initiate the forecast, the model data base was updated by the insertion of fiscal year 1981 deobligations and the removal of fiscal year 1975 program year deobligations. The model was then used to produce tables of anticipated monthly deobligations during fiscal year 1982 for procurement programs starting in fiscal year 1980 and fiscal year 1981.

(U) Fiscal Year 1983 Product Improvement Program (PIP). The fiscal year 1983 DARCOM Product Improvement Program was presented by the Product Improvement Office in December 1980 and June 1981. The review in December was to determine which PIPs would be included in the fiscal year 1983-87 Program Objective Memorandum; the June review determined those to be included in the fiscal year 1983 Budget. A total of 804 PIPs valued at 2.3 billion were reviewed in fiscal year 1981. Of these, 97 had supporting economic analyses, which the Cost Analysis Division reviewed for completeness and accuracy.

(U) Fiscal Year 1984 Military Construction Army (MCA) Program. The fiscal year 1984 DARCOM MCA Program was presented by the Director of Installations and Services to the Program Budget Advisory Committee (PBAC) for approval on 9 June 1981. It contained 57 projects consisting of six categories: Mission Support (29); Morale, Welfare, Recreation (14); Water Pollution Control (6); Energy Conservation (4); Occupation Safety and Health (3); and Special Energy (1). Each of the projects was reviewed by the Cost Analysis Division relative to the application and acceptability of the economic analysis (EA). Based on the review, the following summary was compiled:

	Number	Percentage
Projects	57	-
EA Application	45	79
Adequate Application	45	100
Revision Required	0	0
Initial EA Required	12	12

EAs or valid exemptions were subsequently submitted for the 12 projects for which they were lacking. They were reviewed and found to be adequate.

(U) Production Base Support. During July 1981, 285 Production Base Support projects were submitted in support of the fiscal year 1983 budget and were reviewed to determine the validity of their supporting economic analyses. Economic analyses were adequate in 208 (73 percent) of the projects. The remaining projects were returned for revision.

(U) M1 Abrams Tank Review. The Under Secretary of Defense (R&D) and the Under Secretary of the Army requested that the Comptroller establish a team comprised of representatives of the cost analysis community to develop a historical cost trail for the M1 Abrams Tank. The purpose was to consolidate the various estimates generated during the 1972-1981 timeframe and to reconcile their interrelationships.

This investigation identified the amount of real cost growth experienced and that which was attributed to inflation. The result was a report which examined various aspects of the program, including baseline cost estimates, contracting, selected acquisition reports, budgets, and inflation.

(U) Armored Combat Vehicle Technology (ACVT). At the center of the ACVT Program were the High Mobility/Agility (HIMAG) Test Vehicle and the High Survivability Test Vehicle-Light (HSTV-L). These had been used extensively during the past few years to assess the effectiveness of advanced technology vehicle and armament configurations. Concern with the potential costs of the various configurations led to the development of a computerized cost model; the Tracked Vehicle Resource Analysis and Display Model. Upon request by the US Army Armor Center (USAARMC), DARCOM provided input data related to 25 vehicle and armament configurations. Input data pertained to development engineering cost, numbers of R&D contractors and prototypes, project management manyears, and facilities cost and overhaul cycle for each potential configuration. Life Cycle Cost Estimates (LCCEs) for the 25 configurations would be prepared by exercising the cost model on this data. Preliminary cost estimates (acquisition costs) were prepared by Cost Analysis for inclusion in requirements documents related to the ACVT program. Complete Baseline Cost Estimates were initiated during the last quarter of fiscal year 1981.

(U) Extended Planning Annex (EPA). The Cost Analysis Division continued to support the development of the EPA by COA. The EPA to the Program Objective Memorandum for fiscal year 1983 to fiscal year 1987 extended planning to fiscal year 1988 through fiscal year 1997. Acquisition and annual operating and support costs for 60 materiel systems were provided. The EPA would be used in affordability studies and other Army planning efforts.

(U) Infantry Close Combat Anti-Armor Requirements Study. This effort was initiated by TRADOC in February 1980 as a result of the perception that the anti-armor capability of infantry-type units must evolve with the growing threat. The study compared the existing LAW, DRAGON, and TOW Systems, in various mixes, with their follow-on systems. The DARCOM portion of this project was concluded in March 1981 with a final shipment of supportive cost data and quantity cost curves for the study alternatives.

(U) Tactical Wheeled Vehicle Fleet Study. The Secretary of Defense and the House Appropriations Committee requested that the Army examine its tactical wheeled vehicle requirements in terms of fleet composition and vehicle quantities. The US Army Training and Doctrine Command (TRADOC) conducted the study with the support of DARCOM, with DARCOM providing tactical wheeled vehicle asset definition by quantity, type, age, and life cycle cost estimates for each vehicle, type, and fleet. The Cost Analysis Division provided study advisory group membership, study cost

direction/tasking to the Tank Automotive Readiness Command (TARCOM) and the Tank Automotive Research and Development Command, and coordinated these efforts with Headquarters TRADOC and the US Army Transportation Center. This effort involved 142 specific vehicles in five separate, alternative vehicle fleets. TRADOC completed the preparation of the report which was subsequently briefed to higher Headquarters. The results were used in preparation of the Army truck requirements in the POM.

(U) SOTAS Special Review. In July 1981, a Secretary of Defense Decision Memorandum (SDDM) directed the Army to submit by September 1981 a restructured, less costly program for the SOTAS. A special cost/technical study team was assigned the task of developing Government cost estimates. The study team included Cost Analysis Division participants for the cost estimate development phase, as well as the review phase for the final cost submission. Cost results were furnished for the Special ASARC Review.

(U) Mobile Protected Gun (MPG). In fiscal year 1981, a Program Office was established to manage the near- and far-term Mobile Protected Gun Program, a combined Marine Corps--Army acquisition program. Hardware concepts included vehicle (wheeled and tracked versions) and weapons developed for use in light divisions for the rapid power projection role. The Cost Analysis Division was responsible for cost input to the requirements documents.

(U) 1981 Army Modernization Information Memorandum (AMIM) Revisions. During review of the 1981 AMIM data for the M1 Tank and FVS, the Deputy Chief of Staff for Research, Development, and Acquisition (DCSRDA) and the Deputy Chief of Staff for Operations (DCSOPS) discovered discrepancies in spare parts cost, and requested review by DARCOM. The Force Modernization Office, Readiness Directorate, was tasked to respond to this requirement. Due to differing methodologies by each project management office in developing these costs, the Cost Analysis Division was requested to review and revise the data. The two systems were at different stages of the acquisition process with different levels of cost detail available to develop appropriate numbers. With the assistance of PMO FVS, PMO M1, Materiel Management, TACOM and Materiel Management, ARRCOM reasonably similar recurring spare parts costs were developed for the two projects. Details were briefed to and approved by DARCOM and DA staff elements. Further detailed effort by Materiel Management with Cost Analysis Division review of methodologies involved was scheduled for fiscal year 1982.

(U) XM1 Manpower and Logistics Analysis (MALA) Study. The TRADOC Study Advisory Group on M1 MALA had almost completed the original DA tasking to identify spares required for peacetime availability objectives plus war reserve requirements, manpower requirements, operational availability, maintenance cost drivers, and maintenance related operating costs. The Cost Analysis Division functioned as one of the DARCOM members of the Study Advisory Group. An OSD MALA briefing was scheduled

in October 1981, which was expected to complete all actions required on this program. DCSRDA recommended further refinements to the program with possible DARCOM tasking as the lead agency.

(U) M774 Production and Cost Review Panel. A production and cost review panel was formed in response to a request by the Vice Chief of Staff of the Army to the Commanding General, DARCOM, to examine the M774 production program cost growth. The Cost Analysis Division provided representation to the panel along with the responsibility for the coordination of the final response to the Vice Chief of Staff.

(U) Nuclear Weapons Accident Exercise. In April 1981, a Nuclear Weapons Accident Exercise was held in which Cost Analysis played a very important role. The Cost Analysis Division, working in conjunction with the Budget Office, estimated and managed the Army funds for participation in the exercise.

(U) Logistics Command Assessment of Projects (LOGCAPs). LOGCAPs were prepared to provide timely review of acquisition programs, including consideration of Integrated Logistics Support, identification of "supportability issues," and meeting of operational and readiness requirements prior to deployment. LOGCAP reviews during fiscal year 1981 included the following systems:

DSCS	HEMTT	M224 MORTAR
XM128 GEMMS	MILES	TACFIRE
PLRS	AN/TPQ-37	FIREFINDER/REMBASS
DIVADS	SLUFAE	SATCOM
EQUATE	M1 TANK	QUICKFIX

(U) Review and Command Assessment of Project (RECAP) and Department of the Army Program Report (DAPR) Presentations. RECAPs and DAPRs covering technical performance, schedule, and cost information on selected systems were prepared by the project managers to provide timely program review by higher authorities. RECAPs were submitted to the Headquarters, DARCOM level and DAPRs to HQDA because of special interest in those projects at those levels. During fiscal year 1981, STINGER, SINCGARS, GSRS, AN/TPQ-37, ITV, PERSHING II, and SOTAS were under the DAPR system and the projects listed below under the RECAP system:

SEMA	NAVCON	TAC (SATCOM)
DSCS	PLRS/JTIDS	CC (SHME)
NUC MUN	CAWS	FIREFINDER/REMBASS
SANG	MEP	M9 ACE
COPPERHEAD	TACFIRE	M113
GPS	CH-47	ASE
IMPROVED HAWK	AAH	BLACKHAWK
CHAP/FARR	MLRS	ACVT
HET	DCS (ARMY)	

(U) Independent Parametric Cost Estimates (IPCEs). The Department of Defense (DOD) policies that governed the materiel acquisition process required an IPCE for each major weapon system that underwent a milestone review by the Defense Systems Acquisition Review Council (DSARC). Additionally, selected In-Process Review (IPR) systems required an Independent Cost Estimate (ICE) for systems that underwent a review by the Army Systems Acquisition Review Council (ASARC). The IPCE or ICE was used to assess the reasonableness of the project manager's estimate of the cost resources required to complete the program. IPCE/ICE activity during fiscal year 1981 included the following systems:

a. Completed.

SOTAS	RPV	AN/TTC-39
LACV-30	AN/TPQ-37	M1 TANK
GMFSC	TOS	HELLFIRE FF
AHIP	HELLFIRE MMS	IFV/CFV

b. In-Process.

MSE	SINCGARS
CNCE	AAH
DIVAD	

(U) Baseline Cost Estimates (BCEs) and BCE Reassessments. In fiscal year 1981, BCEs were normally prepared by the project manager and reviewed and coordinated by the Cost Analysis Offices at the major subordinate commands and HQ, DARCOM. BCEs formed the basis for the audit trail/track throughout the life cycle of a weapon system, and reassessments were made at major decision points and tracked to the initial BCE. The following systems required BCEs or reassessments during fiscal year 1981:

a. Completed.

TOW 2	VIPER	CLASSIFIED PROJECT
SOTAS	AN/TPQ-37	IFV/CFV
LACV-30	TOS	AN/TTC-39
GMFSC	HELLFIRE MMS	PATRIOT
RPV	AHIP	

b. In-Process.

MSE	SINCGARS
STINGER	AAH
CNCE	DIVAD
FVS	IMAAWS

(U) Cost and Operational Effectiveness Analyses (COEAs). Coordination with COA, TRADOC, major subordinate commands, and the project manager offices was required for the following COEAs:

PLRS	TAC (SATCOM)
SOTAS	AN/TPQ-37
SAW	AN/TTC-39
MULTEWS	BRIDGING 85
MORTARS IN COMBAT UNITS	INFANTRY ANTI-ARMOR/MOUT
CORPS SUPPORT WEAPON	CLASSIFIED PROJECT
DIRECTED ENERGY WEAPONS	INFANTRY CLOSE COMBAT ADVANCED ANTI-ARMOR
BLACKHAWK	

(U) Selected Acquisition Reports (SARs). In fiscal year 1981, SARs were standard, comprehensive, summary status reports on major defense systems, prepared for management within the Department of Defense and for submission to Congress and other Government agencies. SARs were required for all programs designated as major defense systems by the Secretary of Defense, but were usually limited to those systems for which 5-year defense program estimates required total cumulative financing for research, development, test and evaluation in excess of $150 million or cumulative production investment and evaluation in excess of $600 million. SARs summarized estimates of technical schedules, quantity, and cost information. They were normally prepared by the project manager offices and reviewed and coordinated by the major subordinate command cost analysis offices and Headquarters, DARCOM. The following major systems were under SAR reporting during fiscal year 1981:

ROLAND	PATRIOT	HELLFIRE
PERSHING II	MLRS	AAH
STINGER	CH-47 MODERNIZATION	BLACKHAWK
ACFIRE	FVS	DIVAD
COPPERHEAD	XM1 TANK	AN/TTC-39
M198	SOTAS	

Finance and Accounting Division

(U) Repair and Return. Billings processed against maintenance support arrangements with foreign military customers were improved by changing funding procedures beginning on 1 October 1980. MRCs, based upon receipt of requisitions from USASAC, recorded automatic reimbursable orders in their OMA P7M accounts. New customer codes were established to accomodate identification of these orders. MRCs billed and received reimbursement from the SAAC's FMS trust fund based upon costs that were identified on Program Status Reports (PSRs) from depots. DESCOM processed SF 1080 billings to the MRCs and reimbursed the AIF depots.

(U) Government Furnished Materiel. In fiscal year 1981, the policy on Government Furnished Equipment/Government Furnished Materiel (GFE/GFM), as issued to a non-Army customer, was revised through an interim change to DARCOM-R 37-33. Step-by-step procedures were issued to the DARCOM

Comptrollers in the field and were applicable to Procurement Appropriation (PA) GFE/GFM that was issued to satisfy a non-Army customer requirement. These procedures outlined the handling of and the method to be used when an MRC received a customer order for an end item that required a component part managed by another MRC. These procedures became effective 1 October 1981.

(U) Program and Funds Control System (PFCS). The DARCOM suballocation subsystem of the Program and Funds Control System was declared the official Department of the Army Record in the 4th quarter fiscal year 1981. Modifications to the data processing and data generation processes would continue throughout fiscal year 1982. This subsystem was designed to distribute Army Procurement Appropriation (DIRECT) Program and Funds to DARCOM General Operating Agencies/Major Subordinate Commands.

(U) Army Customer Order Control System. The Expenditure Authority Module was implemented and declared the official Department of the Army Record in the 4th quarter fiscal year 1981. Modifications to the data processing and data generation processes would continue throughout fiscal year 1982. This module was designed to distribute Expenditure Authority to all Army Disbursing Activities.

(U) Standard Financial Systems (STANFINS) Redesign Fixed Assets Function. Fixed Assets was a function of the STANFINS REDESIGN (SRD) General Accounting module. Accounting for fixed assets was one of the major factors necessary to obtain Government Accounting Office (GAO) approval of the SRD system. DARCOM was assigned the lead responsibility for developing the fixed asset function. The purpose of accounting for fixed assets in SRD was to provide the following:

a. Greater general ledger and financial control over those assets costing over $1,000 and having a useful life of more than 12 months, defined as a fixed asset.

b. A means to reconcile the fixed asset financial records with those on the property systems' records.

c. Accurate and meaningful depreciation expense charges to provide to cost accounting and general ledger.

(U) The development began in September 1980 with a representative from both DARCOM and ACOA forming a team to work on the SRD Fixed Assets function. The work began with studies and reviews of the financial and property systems. The operation concept was developed based on this research and commercial accounting for fixed assets. The functional description (FD) was prepared using a structured design methodology with the addition of a CSC representative to the team. The FD was completed and accepted by CSC for design in August 1981.

(U) In fiscal year 1981, the Fixed Assets team was working in two development areas. One was making user visits to gather input and output documentation to use in modeling and testing of the fixed asset function and to obtain user opinions and views of the SRD fixed asset function. The other work area was in assisting CSC in the modeling and design of the fixed asset function.

(U) Standard Finance System (STANFINS) Redesign Cost Accounting Function. In October 1980, a subtask group was formed from the full cost-team membership, which met several times during the past year. The group gathered information and prepared the documentation for the functional description of the cost accounting segment of STANFINS Redesign. Although, a working draft of the functional description was completed in August 1981, several more months of detailed reviews, polish, and refinement would be required before the group would have a finished product.

(U) Nonappropriated Funds (NAF). In 1977, the Comptroller of the Army tasked the US Army Finance and Accounting Center (USAFAC) with the responsibility to design and implement a Standard NAF Accounting System. As a result of USAFAC study of existing local accounting systems, the Army adopted the Red River Army Depot (RRAD) NAF system as a baseline for the development of the Army automated NAF accounting systems. Soon, RRAD NAF payroll system was designated as the Army Class II Activity, and became a central site for the Army NAF payroll. In fiscal year 1981, RRAD served 23,500 NAF employees throughout CONUS, Alaska, Korea, Hawaii, and Panama. Only Europe NAF payroll operated separately.

(U) RRAD NAF accounting system was accepted Army-wide, and adopted for IBM 360 equipment. RRAD itself operated on CDC 3300 equipment, which resulted in a need for two design agencies: USACSC for IBM environment, and RRAD DMIS for CDC 3300.

(U) In 1978, DARCOM developed a concept of centralization of accounting and reporting of diversified club and welfare funds activities on one central site, RRAD, which proved to be a successful undertaking. As a direct result of this centralization effort, considerable savings were achieved. Studies in fiscal year 1980 revealed savings of $284,500 in appropriated and $103,900 in nonappropriated funds, in addition to elimination of 15 Customer Assistance Office (CAO) spaces. The savings had been achieved through the cost reductions in personnel, training, travels, clerical help, programmer personnel, computer time, paper work, and overhead. Also, centralized operations were conducive to efficiency and higher level of expertise.

(U) In fiscal year 1981, 29 installations and subordinate commands were being served by RRAD. Watervliet Arsenal (WVA) would be consolidated in the December 1981 to January 1982 timeframe and the remaining four commands would be centralized in fiscal year 1982.

(U) Revision of Techniques for Accounting Surveillance Reviews. Because of the voluminous numbers of checklist items and limited staff to conduct the surveillance visits, the DARCOM Finance and Accounting Office initiated a new procedure for conducting the surveillance visits, In lieu of using only the checklists per se, the surveillance team would be briefed by the Assistant Finance and Accounting Officer on specific problem areas needing on site assistance.

(U) The checklists were forwarded to the site three weeks prior to the visit and completed by the field finance and accounting operations. Each completed checklist was then reviewed by the surveillance team and a representative selection of the more significant checklist items was made for a thorough review. The selection included items in areas susceptible to fraud.

(U) Nonappropriated Fund (NAF) Accounting Standardization. In conjunction with the centralization of DARCOM's CAO operations at Red River Army Depot, it was imperative that standard accounting forms and procedures be developed. DARCOM-R 230-2, Nonappropriated Funds-DARCOM Central Accounting Office, was published and distributed on 5 October 1981. This regulation covered the responsibilities of the CAO, NAFI, AND F&AO of the serviced installation. Standard Forms for submission to DARCOM CAO at RRAD with due dates were included.

(U) Historical Activities Reporting. The Program and Funds Control System (PFCS), Phase II, was parallel tested during all of fiscal year 1981. During this period many systems deficiencies were corrected and enhancements added. After a sustained period of successful processing, DARCOM requested and received permission to use PFCS as the official system for Procurement funding and program releases effective 1 October 1981.

(U) Effective 1 March 1981, the Security Assistance Allocation (SAC) Module of the Army Customer Order Control (ACOCS) was implemented. The SAC Module provided real time capability to obtain necessary FMS EA at the disbursing voucher level prior to processing direct cite or self-reimbursement disbursements against the FMS trust fund while simultaneously updating the FMS billing and cash accounting systems.

(U) During June and July 1981, DARCOM received and released fiscal year 1981 supplemental funding of approximately $1.7 billion in procurement funds, $61 million in RDTE funds and $121 million in OMA funds. These funds were issued expeditiously to MSCs to insure obligation by 30 September 1981.

(U) The fiscal year 1981 obligations proved to be the largest in DARCOM's history. The fiscal year 1981 obligations are listed below by appropriation. Amounts are rounded to the nearest thousand.

APPROPRIATION NAME	SYMBOL	OBLIGATIONS DIRECT	REIMBURSABLE	TOTAL
FHMA	0700	29,595	1,410	31,005
MAP	1080	21,067	-0-	21,067
OMA	2020	3,160,538	494,451	3,654,989
APA (All)	203X	9,730,794	1,897,410	11,628,204
RDTEA	2040	2,493,399	578,027	3,071,415
MCA	2050	-0-	26	26
OMAR	2080	5,688	-0-	5,688
ASF	4991	-0-	1,593,616	1,593,616
ASF-ID	4991	-0-	238,895	238,895
AIF	4992	-0-	2,422,458	2,422,458
WILDLIFE	5095	51	-0-	51
TOTAL		15,441,121	7,226,293	22,667,414

Internal Review and Audit Compliance

(U) Semiannual Report, Inspector General Act of 1978. During October 1980, the sixth DARCOM report on actions taken to detect fraud and eliminate waste was issued, covering the period of 1 April 1981 to 30 September 1981. The report was prepared by a joint effort of the Internal Review and Audit Compliance Office and the DARCOM Inspector General, and represented a compilation of data obtained from Headquarters, DARCOM and DARCOM subordinate commands and organizations.

(U) The actions that were reported on as efforts to prevent or uncover fraud and waste were: an audit of administrative travel funds; an audit of fiscal year 1979 unobligated procurement balances; an audit of the Headquarters, DARCOM Merit Pay Program; and and audit of commercial accounts. Also included in the report was a summary of internal reviews for the period which resulted in two cases being referred for investigations.

(U) Quality and Timeliness Fiscal Year 1981. Fifty-nine positions were prepared in fiscal year 1981. Fifty-six of these positions were 95 percent on time, representing a 12 percent increase from fiscal year 1980. The quality rating average for fiscal year 1981 was 91.3 percent, a decrease of .2 percent from 1980.

(U) Internal Review Guides. In fiscal year 1981, the Internal Review Guide Program continued to provide guidance on specific areas for use by command internal review staffs. Four guides were issued during fiscal year 1981: Imprest Fund Operations, Commercial Accounts, Administrative Travel, and Fiscal Year 1979 Unobligated Procurement Balances.

(U) Implementation of Real Time Audit. In fiscal year 1981, real time audit applications assisted in identifying system deficiencies before they developed into significant problem areas and reports were issued on Procurement, ADP Security, and Club Management. These reports provided examples of real time audit situations which could occur at the various DARCOM commands. They provided suggested real time audit procedures for implementation by functional supervisors and managers.

Management Review and Analysis

(U) The Command Performance Indicator Review (CPIR) System. The Headquarters, DARCOM CPIR System, established by the Commanding General (CG), DARCOM, in August 1977 as the Commander's review and analysis system, continued through fiscal year 1981. Management Review and Analysis Division supported the Comptroller in the responsibilities for the development, conduct, and overall management of the CPIR system for the CG, DARCOM. Under this system, the Commander could keep abreast of performance of the DARCOM mission by meeting quarterly with the Command Group and all Headquarters, DARCOM staff directors/office chiefs. They personally presented the performance indicators which they used to manage their directorates, discussing those indicators where performance deviated from a norm or standard and highlighting good or poor performance.

(U) Prior to each quarterly CPIR, the Comptroller prepared and provided the Commanding General with a handbook that listed all performance indicators the directors/office chiefs used to manage their areas of responsibility, including the planned targets for each performance indicator, and whether or not the target was achieved. As a follow through, an MFR that would contain directed actions placed on the staff by the Commanding General was prepared and distributed to the staff for each quarterly CPIR. Following each quarterly CPIR, the Commander's Handbook of Performance Indicators, a set of charts and narrative presented at the CPIR, and a copy of the MFR that covered the CPIR were distributed to the DARCOM major subordinate commands so that they could see what areas the Commanding General, DARCOM had reviewed.

(U) Summary of DARCOM CPIR's Conducted in Fiscal Year 1980. In the 4th quarter FY 1980 review, on 8 and 9 December 1980, the Commanding General provided general guidance and comments to improve the staff CPIR presentations. He stated that fewer people presented analysis of their data than before and that at every CPIR he had to ask for analysis of the data presented. He stressed that analysis was an integral part of management. If there were problems, they must be identified. What the data showed could not be taken on faith--it must be checked out--it must be analyzed to find out the reasons for the problem so that management action could be taken to resolve it. He indicated that the overall year looked good, but the 4th quarter performance did not look good. There appeared to be a definite loss in momentum in the latter part of the year. He mentioned that if we were not careful, the overall annual performance might mask problems that could be developing. If there were

any problems, they should be identified. Finally, the Commanding General issued 42 directed actions to 20 headquarters staff elements participating in the review.

(U) In the 1st quarter FY 1981 review, on 11 and 12 March 1981, the Commanding General provided general guidance and comments. He stated that cost growth of weapons and equipment was DARCOM's most important problem and a special effort must be made to meet obligation plans because of the possibility of increases in funding. He mentioned that meeting scheduled initial operational capability dates was the development payoff. Even though trade-offs were to be made in developmental programs, delays would cost money. He noted that there was a significant improvement in this CPIR over the last one. A number of key areas were covered for the first time. Although several of these new indicators showed unfavorable performance, it was commendable that they were presented so that all of those concerned were aware of the situation and could take action to correct or improve it. The Commanding General issued 44 directed actions to 21 headquarters staff elements that participated in the review.

(U) In the 2d quarter FY 1981 review, on 26 and 28 May 1981, the Commanding General provided comments and guidance for improving CPIR techniques and management objectives. He was deeply concerned with the obligation of DARCOM programs. If DARCOM did not perform well, it would not get the resources it needed. The Department of the Army had provided the additional people and money requested and it was up to DARCOM to produce. He asked, therefore, that the staff communicate forcefully to all levels of command that obligation plans must be met. He expressed his continuing concern about weapons and equipment system cost growth and was particularly concerned about the changing cost estimates for the kinds of systems whose basic technology was not new. He asked that every effort be made to identify the real cause of this growth. He observed that the accomplishment of many plans and targets, particularly in RESHAPE, was dependent on given resource levels. He said that if required resources were not available, the responsible directors and office chiefs should know what the impact would be on the plans to reach the targets. He noted that most of the reasons given for the use of letter contracts were more indicative of poor management than of acceptable reasons for the use of this type of contract. The Commanding General issued 31 directed actions to 16 headquarters staff elements participating in the review.

(U) In the 3d quarter FY 1981 review, on 24 and 25 August 1981, the Commanding General, General Guthrie, and General Donald R. Keith, the DARCOM Commander Designee, provided general comments and guidance: The DARCOM staff was using data and analyzing it better than in the past; security violations were a serious problem and should be treated as such; and good progress had been made in EEO. General Guthrie said that the point had been reached where the recruitment of women should not be overemphasized, but, we should concentrate on improving the grade levels of both women and minorities; where appropriate, goals should be developed for each indicator--these goals should be shown at the

CPIR, and briefers should be prepared to explain how the goals were derived; and indicators should be structured so that whether or not action is required, the kind of action required could easily be seen. The Commanding General issued 21 directed actions to 16 headquarters staff elements participating in the review.

(U) Command Summary Analysis--Fiscal Year 1980. This briefing, presented to the Commanding General and other members of the Command Group on 10 March 1981, was the fifth in a series of semiannual command summary analysis. The series was intended to present a comprehensive and cohesive picture of DARCOM's performance in relation to past performance and existing targets and forecasts, and also highlight critical relationships and identify areas requiring the attention of top management. The briefing on 10 March 1981 summarized performance in the areas of materiel development, materiel readiness, overall DARCOM output, and resources and management. In addition, the relationships between requirements, resources, management, and performance were analyzed in the main mission areas of development and readiness. The specific areas of coverage included were: contract actions; product improvement resource allocation and schedule performance; TECOM test workload versus capability; SAR systems schedule and cost performance; procurement action accomplishment; price competition and small business trends; should cost study performance; Army Industrial Fund (AIF) treasury cash balance; depot customer complaints; and energy consumption reduction versus energy cost growth.

(U) The analysis identified areas that needed management. These included the significant shift of cost growth in terms of Selected Acquisition Reports (SAR) weapon systems cost categories; procurement management in the areas of price competition, small business and letter contracts; supply management in the areas of on-time receiving and requisition processing; the increase of quality deficiency reports, discrimination complaints and energy costs; and the decline in the performance of should cost studies.

(U) The analysis also showed that significant advances were made in many key areas. These included improved stock availability, continued reduction in back orders, reduced Air Line of Communication (ALOC) ordership times, reduction in delinquent deliveries, a high maintenance completion rate, excellent obligation performance, improved reenlistment and sick leave rates, a dramatic increase in Vietnam veteran appointments, and significantly reduced energy consumption and vehicle mileage. With respect to resources, the summary analysis showed that development requirements were still above resource levels but that both remained generally at the fiscal year 1979 levels, procurement requirements and resource levels were diverging while supply and maintenance requirements and resource levels showed no significant change from fiscal year 1979 levels. The analysis concluded that most of the trends of mission performance in fiscal year 1980 were favorable.

(U) As a result of the briefing, the Commanding General directed that the condition of the should cost study program and the continued increase in Quality Deficiency Reports be reviewed and analyzed.

(U) Command Summary Analysis--First Half of Fiscal Year 1981. The summary analysis, which was forwarded to the CG for review, identified exceptional performance in the development, readiness, and resource management areas of DARCOM. These areas included the widening gap between RDTE requirements and the RDTE program; the downward trend in product improvement funding; the improvement in product improvement distribution of funding toward higher priority work; the favorable trend of performance of the 6.3B and 6.A projects in development and initial production; the high ratio of those R&D projects which were considered unsatisfactory due to technically related problems; the number of unsatisfactory R&D projects that had been marginal or unsatisfactory for three or more continuous quarters; the continued escalation of SAR system costs; the tenfold increase in the engineering cost growth category for the SAR systems; the continued decrease in price and design competition for procurement contracts; the lack of performance in the should cost area; the highest level of stock availability in the past 4 years; the continued favorable downturn in back orders; the apparent increasing rate of customer complaints; the reduction in customer complaints due to condition of materiel; the downturn in significant hardware problems reported by product assurance; the concentration of significant hardware problems in the ammunition area; the improved POMCUS performance; the continued improvement in equal employment opportunity in the higher general service grades for women and minorities; the increase in formal discrimination complaints at midyear; the decrease in fire losses through midyear; and the exceptional fact of no aircraft accidents over the past six quarters.

(U) DARCOM Indicator Study. This study examined over 700 indicators used in various resource management type documents, such as Program Analysis Resources Review (PARR), Resource Posture Statements, Baseline Study, RESHAPE, and the CPIR. Indicators of significance that were included in those documents but were not included in the CPIR System were highlighted. The results of the study were presented to the Comptroller on 18 November 1980, and recommendations were subsequently furnished to the DARCOM staff elements concerned.

(U) Comparative Analysis and Evaluation of the COB Executive Summary, Resource Posture Statement, and PARR Executive Summary. During the Command Summary Analysis prebrief to the Comptroller on 5 March 1981, there were inconsistencies between the PARR Executive Summary and the Resource Posture Statement. Because of this, the Comptroller requested that an evaluation of these documents and the COB Executive Summary be made to determine which presented the best case. The Comparative Analysis and Evaluation of the COB Executive Summary, Resource Posture Statement, and PARR Executive Summary was presented to the Comptroller on 18 June 1981. It included an assessment of the three documents in the following areas: coverage, consistency, and presentation.

(U) The following conclusions were presented in the briefing: Certain basic issues were not included in all three documents; data and analyses were inconsistent and incomplete within and among documents; lack of standardized format for data charts led to misinterpretation and error; and dollar treatment was not standard and lacked inflation indices references on charts.

(U) Review of DARCOM's Should Cost Program. DARCOM's should cost program management was briefed to the Deputy Commanding General for Materiel Readiness on 7 October 1981. The study identified the results achieved by the program, its cost effectiveness, and those areas requiring further management attention. The should cost program review recommended that: command emphasis be increased; the magnitude of the should cost's study requirements be clearly identified and the Defense Systems Acquisition Review Council related procurements be differentiated from others; a priority procedure which arranged sole source procurements by their potential for achieving savings through should cost be established; and that additional dedicated resources be provided at those major subordinate commands for which a continuing should cost requirement was identified. The Deputy Commander accepted the recommendations and directed that should cost be a topic at the next Commander's Conference.

(U) Comptroller Word Processing Center (WPC) Study. This overall assessment of the WPC operations, requested by the Deputy Comptroller in November 1980, was presented to the Comptroller on 22 September 1981. The briefing's overall assessment was that the center's supervisors were managing the center's typing operations in an outstanding manner, and that although the center fell short of some approved plan goals, progress toward achieving those goals in the light of personnel constraints was exceptional. The WPC supervisors properly directed the center's objectives to fit the immediate needs of the Comptroller organization. It was pointed out that some clarification in the responsibilities of Comptroller WPC managers was required and that some improvements in recurring reports were needed. Finally, it was concluded that the center's management concept no longer fit the needs of the Comptroller and that a new management concept should be explored.

(U) Comptroller Evaluation Surveys (CES). The evaluation of Comptroller offices throughout DARCOM began on 5 January 1981. Nine surveys were planned for fiscal year 1981. Because of travel fund limitations, the program was temporarily suspended on 18 January 1981. A study was conducted to determine if viable alternatives to the CES were available. The DARCOM Comptroller was briefed on 10 April 1981. His decision was to resume the CES program as mission essential. Four additional surveys were conducted during the remainder of the fiscal year. A recap of fiscal year 1981 surveys follows.

a. The MICOM survey, conducted 5 through 9 January 1981, rated all comptroller functions either satisfactory or higher. The IRAC, cost and economic analysis, and review and analysis functions were rated excellent; the highest rating available. This was especially noteworthy since the former MIRCOM and MIRADCOM had only recently been reconfirmed.

b. The TSARCOM CES was conducted 8 through 10 June 1981, at St. Louis, Missouri. Four functions were rated excellent: IRAC, cost analysis, review and analysis, and the Comptroller Career Program. Other functions received satisfactory ratings.

c. Comptroller activities were reviewed at AVRADCOM on 11 and 12 June 1981. The cost and economic analysis functions received an excellent rating, and all other functions, including management analysis located in the Force Development and Management Office of Headquarters AVRADCOM, were rated satisfactory. It was noted that a definite need existed to upgrade the comptroller organization to preclude further potential violations of the antideficiency statutes.

c. The MERADCOM survey was conducted from 27 through 31 July 1981. All comptroller functions were rated as satisfactory or better. The program and budget and the cost analysis functions received excellent ratings. It was noted that three functions exhibited tendencies toward a downturn in performance which, if left unattended, could jeopardize the overall effectiveness of MERADCOM comptroller efforts.

d. In the DESCOM survey, conducted from 31 August to 4 September 1981, the economic analysis function and the productivity improvement programs each received excellent ratings. The management analysis function was determined to be unsatisfactory according to minimum standards contained in DARCOM-R 5-13. Corrective actions were initiated.

(U) Commercial Activities Program (Formally Commercial/Industrial Type Activities (CITA)). In April 1981, the Management Review and Analysis Division was authorized, and filled, one space to provide staff and technical assistance regarding Commercial Activities. During fiscal year 1981, the following actions were processed: 11 Commercial Activities Proposed Actions Summaries; 6 Decision Summaries; 2 Commercial Activities reviews; and 4 On-site management study reviews.

(U) Secretary of the Army's Mobility Opportunity and Development (SAMOD) Program. The SAMOD intern program was designed to locate and use previously untapped sources of talent for positions in the Department of the Army's civilian professional and administrative fields. Its purpose was to provide maximum opportunity for high potential individuals to advance and perform at their highest potential. Participants entered the program in grades GS-301-4, 5, and 7 and were promoted to target positions in a career program series to grades GS-09 and GS-11. Ten SAMOD interns were assigned to the Comptroller's Office. The Management Review and Analysis Division had overall responsibility of coordinating the SAMOD Intern Program for the Comptroller. Eight of the original ten interns assigned to the Comptroller's Office successfully completed the program in fiscal year 1981 and were promoted to GS-11s. All of the graduates were placed within the Headquarters, DARCOM Comptroller area. The two interns remaining in the program were scheduled to complete internship in June 1982.

Office of Productivity Management

(U) The Office of Productivity Management (OPM) was established on 1 July 1981, with Mr. T. Jack Nickerson as its chief. In fiscal year 1981, this office was the DARCOM focal point for management of programs and other efforts to improve command productivity. Specific ongoing functions included capital investment programs, work measurement/methods and standards (including direction of the US Army Methods and Standards Activity (IMSA)), and productivity measurement systems. OPM would also pursue new productivity improvement concepts and techniques, including developing and managing the gain sharing program.

Personnel, Training and Force Development

Manpower and Force Management

(U) Introduction. In fiscal year 1981, the DARCOM manpower managers were faced with unusually difficult and restrictive circumstances. The outgoing administration's one for two (one replacement from outside DOD for every two losses to outside DOD) hiring limitation remained in effect throughout the first quarter, and the new administration imposed a total hiring freeze early in the second quarter, with few exceptions in exempted programs. DA's late release of DARCOM's fiscal year 1981 civilian space allocations for near-term readiness, for March 1981, closely followed by an Office of the Secretary of Defense (OSD)-imposed reduction of Full-time Permanent (FTP) positions in July 1981, created a seesaw effect of hurry-up hiring followed by an in-house hiring freeze which remained in effect throughout the remainder of the fiscal year. No reduction-in-force (RIF) actions were imposed. The net result for fiscal year 1981 showed an improvement of DARCOM's on-board, civilian strength posture by 3,752 over fiscal year 1980. The general authorization ceiling was exceeded by 436 civilians on-board, and the revised FTP ceiling was exceeded by 2,120 civilians on-board at the end of fiscal year 1981.

(U) DARCOM's Manpower and Force Management activities included the participation of DARCOM analysts in DA study groups on development of staffing standards for use by DA for civilian personnel administration; the feasibility of civilian personnel offices consolidation; DA position identity procedure; DA manpower requirements determination program; and full-time equivalent workyears manpower ceiling implementation planning.

(U) DARCOM submitted the fiscal year 1983-87 Program Analysis and Resource Review (PARR) to HQDA in January 1981. The required DARCOM Manpower resources for fiscal year 1983 were stated at approximately 136,000, of which 122,185 were identified as hardcore military and civilian requirements. The subsequent Command Operating Budget (COB) submission to HQDA in July 1981, stated that fiscal year 1983 civilian requirements were at 126,461 and military requirements at approximately 12,000. Major increases were identified for Supply Depot Operations (+2,445) and Maintenance Support Activities (+1,983).

Personnel Space Authorization and Strength

(U) Civilian. The DA program increased DARCOM's civilian space authorization by 3,598 from the end of fiscal year 1980 to the end of fiscal year 1981. This net increase included DA adjustments for a near-term readiness supplemental increase of approximately 3,000 and restoration of approximately 200 spaces associated with Commercial Activities (formally identified as Commercial Industrial Type Activities-CITA). Other adjustments included increases for Force Modernization (Weapons Systems); approximately 300. Actual (on-board) civilian strength increased from 104,027 at the end of fiscal year 1980 to 107,779 at the end of fiscal year 1981 (a net increase of 3,752).

(U) Military. DARCOM military space authorizations remained relatively constant from the end of fiscal year 1980 to the end of fiscal year 1981. Actual military strength decreased from 9,707 at the end of fiscal year 1980 to the end of fiscal year 1981, a decrease of 30. This actual military strength was materially below the authorized level at the end of fiscal year 1981, which was 10,762 authorized versus 9,677 actual, a difference of 1,085. DARCOM's low standing on the Department of Army Master Priority List (DAMPL), and the Personnel Structure and Composition System (PERSACS), resulted in a low distribution capability in fiscal year 1981 precluding a high rate of fill for military positions similar to what DARCOM experienced in fiscal year 1980.

(U) Restriction on Full-Time Permanent (FTP) Hiring. In March 1981, DARCOM received 2,975 civilian spaces for near-term readiness, with the proviso that recruitment be accomplished by 30 September 1981.[1] The emphasis placed on this hiring affected recruitment in general, with the result that DARCOM's FTP strength reached 105,850 on 31 July 1981. This figure was 360 greater than the DA allocation of 105,490 which was then in effect. While DARCOM was improving its strength posture, the DA staff directed a fiscal year 1981-only reduction of 3,156 FTP.[2] DA instructions expressly prohibited reduction-in-force (RIF) as a means of attaining this new ceiling. Accordingly, DARCOM promptly instituted a hiring restriction on FTP for the remainder of fiscal year 1981, to include those spaces provided for near-term readiness.[3] Attrition reduced DARCOM FTP strength to 104,454 on 30 September, a loss of 1,396. This number was still 2,120 over the revised ceiling of 102,334. However, this overstrength was expected, since RIF procedures were not to be used, and attrition alone was insufficient.

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1 Msg, DAPE-ZA, FY 81 Budget Supplemental-Civilian Manpower, 241500Z Mar 81.

2 Msg, DAPE-MBC, FY 81 Civilian End Strength Ceiling, 231400Z Jul 81.

3 Msg, DRCPT-SA, End FY 81 Civilian End Strengths, 301525Z Jul 81.

REFLECTS THE ADJUSTMENTS IN DARCOM MILITARY AUTHORIZATION AND CIVILIAN EMPLOYMENT PROJECTIONS

FY 81 DA PROGRAM TO DARCOM (OCT 81 PBG)

	MILITARY				CIVILIAN EMPLOYMENT PROJECTION		
	TOTAL	OFF	WO	EM	TOTAL	FTP	TPT
END FY 80	10777	3177	260	7340	103574 1/	101986	1588
END FY 81	10778	3224	262	7292	107172 2/	105496	1676
FY 81 (+/-)	+1	+47	+2	-48	+3598	+3510	+88

1/ Excludes 1870 overhires authorized by DARCOM for end FY 80.

2/ Excludes 1434 overhires authorized by DARCOM for end FY 81.

FY 81 DARCOM PROGRAM (OCT 81 PBG)

	MILITARY				CIVILIAN EMPLOYMENT PROJECTION		
	TOTAL	OFF	WO	EM	TOTAL	FTP	TPT
END FY 80	10760	3174	259	7327	103495	101759	1736
END FY 81	10762	3201	262	7299	107164	105428	1736
FY 81 (+/-)	+2	+27	+3	-28	+3369	+3669	N/C

NOTE: DARCOM Program for military spaces differs from DA Program due to administrative lead time in implementing/reporting military changes.

For explanation of increases to DARCOM's end FY 81 civilian authorizations refer to narrative Chapter I "Personnel Space Authorization and Strength".

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MAJOR DARCOM ACTIVITIES
ACTUAL CIVILIAN STRENGTHS

	FY 80 30 SEP 80 TOTAL	FY 81 30 SEP 81 TOTAL	DIFFERENCE AS OF 30 SEP 81
TOTAL	104,027	107,779 1/	+3,752
(FTP)	(100,416)	(104,454)	(+4,038)
(TPT)	(3,611)	(3,325) 1/	(-286)
HQ DARCOM & STAFF SPT	1,875	1,863	(-12)
SUB-MACOMS	61,791	62,660	+869
DEPOTS (DESCOM)	34,947	37,695	+2,748
PROJECT MANAGERS	1,045	1,068	+23
RESEARCH LABS	757	720	-37
ALL OTHERS	3,612	3,753	+141

1/ Includes 171 Part-Time Permanent (PTP) equivalents for a net of 107,608 total, and a net of 3,154 TPT.

INITIAL SUBMISSION:
Data are subject to change due to CIVPERSINS reporting problems.

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(U) Civilian Manpower Guidance and Ceilings. DARCOM exceeded its end fiscal year 1981 DA authorization by 436 over ceiling (107,608 on-board versus 107,172 authorized). DARCOM was understrength by 1,042 FTP employees. On the other hand, Temporary Part-Time (TPT) strength was over by 1,478 (when adjusted by 171 Part-Time Permanent (PTP) equivalents).

(U) Army Management Headquarters Activities (AMHA). Army Management Headquarters Activities ceilings continued under strict DA/DOD controls during the fiscal year. In May 1977, DARCOM recommended that the Army regulation and the DOD directive on AMHA be amended to leave only Headquarters, DARCOM and the seven DARCOM staff support activities under this controlled program.[4] This recommendation, however, was not accepted by DOD. A revised DOD Directive was issued on 12 March 1981, which reaffirmed the control of the number and size of AMHA accounts. It retained all previous Headquarters, DARCOM and staff support activities under AMHA control and added Headquarters USA Depot System Command (DESCOM) to the list of controlled AMHA activities. In fiscal year 1981, the revised Army regulation which would implement the revised DOD directive had not been issued.

TAADS Management

(U) RESHAPE Affects the Army Authorization Document System (TAADS). The TAADS Management Branch was assigned responsibility to associate each TDA personnel line with a Resource Self-Help Affordability Planning Effort (RESHAPE) Code and to extract these data for analytical and study purposes. Data were identified on 97 percent of the unit TDAs and in fiscal year 1981, extracts were available under TAADS Cycle X procedure.

(U) Management of Change (MOC). During fiscal year 1980, a letter was forwarded to HQDA recommending rescission of the MOC constraints over the Table of Distribution and Allowances (TDA) and the Modified Table of Organization and Equipment (MTOE) processing and revision of the AR 310-49, which governed TAADS management.[5] As of the end of fiscal year 1981, the Department of the Army had not responded to the letter and, consequently, the TAADS Manager continued to submit TDA/MTOE to HQDA only two times each fiscal year (January-March and July-September) under MOC constraints.

(U) TAADS Processing. TDA/MTOE processing time was reduced from an average of 79.9 days per case at the end of the first quarter to 36.1 days by the end of the fourth quarter of fiscal year 1981.

(U) Installation The Army Authorization Documents System (ITAADS). Headquarters, US Army Armament Research and Development Command (ARRADCOM), located at Dover, New Jersey, became operational as an ITAADS location in June 1981, thereby giving them the ability to obtain immediate management extracts.

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4 Chapter I, Annual Historical Review, Dir of PT&FD, FY 1978.
5 Ltr, DRXMM-TM, subj: Management of Change, 21 Apr 80.

(U) The Automated Manpower System (TAMS). TAMS became operational during the 1st quarter of fiscal year 1981. The system provided the capability to store DA PBG, DARCOM PBG, and Troop List data and to compare these data with each other and TDA/MTOE on the VTAADS file. The process isolated data mismatches for management reconciliation action.

Manpower Utilization, Standards and Policies

(U) Full-Time Equivalent Workyear Manpower Ceiling (FTE/WY). Advanced planning in DARCOM for possible implementation in fiscal year 1982 of the FTE/WY ceiling included fielding guidance, a training package, and automated systems design; training trainers, managers, and supervisors; developing a contingency reporting system, and testing during the 3d and 4th quarters of fiscal year 1981. MICOM developed the systems design for managing and controlling FTE/WY. Testing was conducted in MICOM and ARRCOM during the 3d quarter and throughout DARCOM during the 4th quarter of fiscal year 1981. The general consensus of organizations tested was: FTE/WY ceiling generated added workload; was harder to manage than end strength; required additional resources; was more restrictive when applied to the Army Industrial Fund (AIF); had low managerial acceptance; would require frequent reprioritizing; could result in lower productivity; and required a new automated management system.

(U) At the end of the fiscal year, DARCOM had requested that DA seek participation in the DOD Impact Analysis required by Congress. Subsequent to the end of the fiscal year, in October 1981, OSD agreed to DARCOM's participation and accepted DARCOM's invitation to visit the DARCOM test sites at MICOM and ARRCOM. DARCOM provided DA with extensive sample data from test organizations, and an analysis of the data.

(U) In November 1981, the House and Senate passed the Authorization Bill, directing that Title 10 of the US Code be amended so that "...civilian personnel will be managed solely on the basis of workload, available funds and authorized civilian end strengths...." This Move effectively "killed" the imposition of FTE/WY on DOD.

(U) DA Position Identity Procedure. DARCOM participated in the development of this procedure through the study advisory group (SAG) membership, test participation, and technical appraisals. DA accepted several DARCOM recommendations for incorporation into the procedure.

(U) DA Manpower Requirements Determination Program (MRDP). DARCOM participated in the development of this proposed ODCSPER program through SAG membership and several manpower management analyses of contractor or study documents.

(U) Presidential Hiring Limitation. During the limitation on civilian hiring, which began in March 1980 under the Carter Administration and continued into the last weeks of the administration,[6] DARCOM was permitted to hire only one FTP civilian employee from outside of the Army for every two losses (1:2). Exemptions were provided for the hiring of minorities and filling of positions which involved work related to vital health and safety functions. The Reagan administration endorsed the concept of a limitation on civilian hiring as a means of limiting federal spending and levied a total freeze, with exemptions for health and safety positions. DARCOM's FTP civilian manpower strength during the period of the limitation declined from 100,166 on 29 February 1980,[7] to 99,495 on 31 January 1981.[8] DARCOM minimized its losses through hiring within DOD and Army to replace FTP losses, using exemption provisions, and hiring minority applicants. Additionally, DARCOM's 1:2 hireback rate was differentially apportioned across the command in accordance with known historical attrition rates and prioritization factors.

(U) Overhire/Hirelag. Maximization of overhire use was part of the RESHAPE effort. DARCOM commands and activities employed local plans and procedures to improve manyear use through hirelag management. Headquarters, DARCOM staff elements provided additional overhire authority wherever feasible, which resulted in fiscal year 1980 use of 3,002 overhire manyears versus the fiscal year 1984 target of 3,833 manyears.[9]

(U) During fiscal year 1981, DARCOM did not realize significant use of overhire manyears in excess of the manyears available through authorization until the 4th fiscal quarter. Limitations on civilian hiring during the 1st fiscal quarter and an authorization increase for near-term readiness in the 3d quarter contributed to this situation. An increase in authorization changed the base against which RESHAPE overhire manyears were measured.

(U) Manpower Surveys. Manpower Survey Branch personnel, in accordance with their revised functions,[10] performed or participated in the following surveys:

a. Manpower survey of the Finance and Accounting Office and Management Information Systems Office (MISO), Aberdeen Proving Ground (APG)[11] which was generated by the transfer of Headquarters, DARCOM, Foreign Science and Technology Center (FSTC) and the Project Manager (PM) for TRADE finance and accounting support from the Military District of Washington (MDW) to APG.

b. Manpower survey of Dugway Proving Ground conducted by Headquarters, TECOM.

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6 Msg, DAPE-MBC/DAPE-CPS, 281600Z Jul 80, subj: Limitation on Civilian Hiring.
7 Data Source: CIVPERSINS (RCS: DCSPER-322), 29 Feb 80.
8 Data Source: CIVPERSINS (RCS: DSCPER-322), 31 Jan 81.
9 Source: 4Q FY 80 CPIR data.
10 Revised Manpower Survey Branch Functions and DARCOM-R 10-51.
11 Msg, Transfer of Accounts -- MDW to TECOM/APG, 16 Jul 80.

c. Manpower survey of Lexington-Blue Grass Depot Activity,[12] that resulted from the Blue Ribbon Panel recommendation that a survey be conducted as Phase III of the management study.

d. Manpower survey of the Safety Function within DARCOM[13] -- The Chief, DARCOM Safety Office, based on an internal study dated 16 May 1980, and other documentation, set forth a number of personnel management/manpower problems which he felt impacted on his ability to fully accomplish the command safety mission. Manpower surveys were conducted at various DARCOM Major Subordinate Commands, depots, and separate activities to determine safety staffing requirements necessary to accomplish DARCOM's safety responsibility.

e. Manpower survey of representative installation Security Offices -- These surveys attempted to determine manpower requirements for the Operational Security[14] function. On 10 January 1980, the Chief, DARCOM Command Security Office requested that the Manpower Survey Branch conduct special surveys of representative installations. This resulted from answers received on a DARCOM Command Security Office questionnaire that reflected a wide discrepancy in the amount of effort required and time expended on Operational Security. Security offices at White Sands Missile Range and Headquarters, ERADCOM were surveyed in fiscal year 1981.

(U) Management Studies. Manpower Survey Branch personnel performed or participated in the following management studies or projects:

a. A review of the status and future of the Resource Allocation Model (RAM) at ALMC and LSSA.

b. A manpower and organization review was conducted of three divisions at PM TRADE.

c. Participated in a Foreign Military Sales (FMS) Centralization Economic Analysis at HQ, MICOM.

d. Participated in a manpower meeting[15] at Lowry Air Force Base, Colorado, to gain final agreement on methodology to be used in establishing manpower requirements for the operation of a Centralized Accounting and Disbursing Office for FMS Direct Cite Procurement.

e. Participated in the Phase I Management Study of Lexington-Blue Grass Depot Activity.

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12 DF, Manpower Survey LBDA, 26 Jan 81.
13 DF, Safety Organizational/Manpower Study, 12 Jan 81.
14 DF, OPSEC Manpower Needs, 10 Dec 80.
15 Memorandum, Trip Report - Manpower Meeting, FMS Accounting and Disbursing Centralization, Lowry AFB, 28 Jan 81, dtd 30 Jan 81.

(U) Commercial Activities (CA) Evaluations. Manpower Survey Branch personnel conducted a management study of the Commercial Activities (CA) in the DARCOM Service Support Activity during the fiscal year.[16] The study was made at the request of the DARCOM Chief of Staff to reassess the Service Support Activity, to determine the feasibility of contracting out its functions and to insure the efficient and effective in-house organization of the workforce.

(U) Staffing Studies. Manpower Survey Branch personnel participated as members of two DA study groups. For the development of staffing standards for use by DA for Civilian Personnel Administration, the study group requested data from 192 civilian personnel offices and made on-site work sampling measurements. The collected data were reviewed and, through computer analysis, coefficients were developed for use during the application plan testing phase.[17] On-site reviews of the application plan were performed at Tooele Army Depot and Pueblo Depot Activity.[18] Refinement of data was performed during on-site visits to CECOM, MICOM, and TACOM. To determine the feasibility of Civilian Personnel Office consolidation, the study group performed fact-finding visits to the Boston and Maine areas, and the Sacramento, California area during fiscal year 1981.

(U) Manpower Management Performance. Manpower Survey Branch personnel developed a draft regulation for the Force Development Evaluation Program. The regulation prescribed the concept, responsibilities, and guidance for the evaluation of Force Development functions which were common to DARCOM activities.

(U) An evaluation of the status and effectiveness of manpower management at Headquarters, MICOM was made as a member of the Comptroller Evaluation Study Group.[19] The Force Development Evaluation of Headquarters, ERADCOM was performed to determine the status and effectiveness of manpower management at subordinate activities.[20]

(U) The Manpower Survey Branch personnel were involved in the following special projects/activities:

a. Personnel, Training and Force Development Conference at Orlando, Florida.

b. Development of a Program Analysis Resource Review (PARR) Manpower Validation Plan.

c. Design of a plan for a Resource Allocation Model (RAM) at AMETA.

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16 DF, Management Study of USA DARCOM SSA Functions under CITA Review, dtd 6 Apr 81.

17 Memorandum, Functional Army Manpower Evaluation (FAME), Application Plan, dtd 2 Apr 81.

18 Msg, FAME, dtd 1 May 81.

19 DF, Comptroller Evaluation Surveys (CES) for FY 81, dtd 17 Oct 80.

20 Memorandum, Force Development Appraisal (FDA) Reports, dtd 23 Jan 81.

Manpower Program Development

(U) Fiscal Year 1983-87 Program Analysis and Resource Review (PARR). The PARR was the first document in the Program/Budget cycle. It provided a formal means for MACOM participation in order to identify and explain their resource requirements to HQDA.

(U) The fiscal year 1983-87 PARR was based on the October 1980 PBG and covered five fiscal years, but focused on fiscal year 1983. Selected DARCOM Commands participated in the preparation of the DARCOM instructions. Commands submitted impact memoranda to Headquarters, DARCOM in November 1980, and DARCOM submitted the PARR to HQDA in January 1981.

(U) PARR Submissions -- Commands/Activities. All commands, Project Managers, and selected activities participated in the PARR. Field civilian requirements totaled 11,281 military and 122,833 civilians for fiscal year 1983.

(U) DARCOM PARR Submission to HQDA. The PARR identified 122,185 hardcore military and civilian requirements for fiscal year 1983, total requirements of approximately 136,000. DARCOM included major increases for Supply Depot Operations, Supply Management Operations, Depot Maintenance, Maintenance Support, and RDTE. Directorate personnel participated in a HQDA Modernization Resource Information Submission (MRIS) Review in February 1981. As a result of DARCOM efforts in the PARR and the MRIS review, HQDA provided an approximate increase of 2,400 to 3,600 Force Modernization Systems manpower spaces for fiscal year 1983-87 in the Addendum B to the DA January 1981 PBG, dated June 1981. DARCOM submitted the COB to HQDA in July, with civilian requirements totaling 123,673 for fiscal year 1982 and 126,461 for fiscal year 1983. Military requirements totaled about 12,000 for both fiscal year 1982 and fiscal year 1983. DARCOM identified major increases for the following: Supply Depot Operations -- 2,445; Maintenance Support Activities -- 1,983; and RDTE -- 5,011. DARCOM requested numerous program adjustments between appropriations, and between and among budget programs. During the months of August and September, DARCOM worked closely with the DA program directors and was highly successful in getting all the requested reprograming for civilians accomplished in the DA October 1981 PBG. DARCOM received an increase of approximately 3,000 manpower spaces in fiscal year 1981 via Addendum A, and 3,200 effective in fiscal year 1982 for Near-Term Readiness based on the fiscal year 1981 Budget Supplemental and the fiscal year 1982 Budget Amendment -- fiscal year 1981-82 COB.

(U) Research, Development, Test and Evaluation (RDTE) Program. DARCOM expanded the RDTE Non-Army Industrial Fund (NAIF) and the Army Industrial Fund (AIF) in the DARCOM PBG from a one-line entry to a six-digit program element display which was kept up to date through the Program Change Request procedure. RDTE participation in the fiscal year 1983-87 PARR consisted of a separate, manual submission to DA at the program element level. The fiscal year 1981-82 COB, on the other hand, was processed at the total level. Updates of the Modernized Army R&D Information System (MARDIS) were to be consistent with COB and PARR submissions. In each case manpower was under-reported in significant amounts.

(U) Fiscal Year 1983 AIF Budget and Annual Report. The Budget System was designed to provide data required by DA, Office of the Secretary of Defense (OSD), and Office of Management and Budget (OMB) to evaluate operations and the financeial condition of Industrial Fund Activities. DARCOM submitted the budget to DA in August 1981. All commands operating under AIF prepared budgets for installations operating under AIF.

(U) Schedules on Detail of Permanent Positions (RCS: CSCOA-74). Each year DA required Major Commands to submit the total number of civilian permanent positions broken down by grade. The fiscal year 1982 DARCOM report reflected an actual total of 100,416 positions for fiscal year 1980, and the estimates of 102,565 for fiscal year 1981 and 102,872 for fiscal year 1982. Also reflected was an estimated number of unfilled positions: 136 for fiscal year 1981 and 363 for fiscal year 1982.

(U) The objective of the report was to ensure that grade escalation had halted, and that schedules submitted would not reflect any increases in the average grade. However, should new or expanded programs have caused an average grade increase, a detailed narrative justification was required to explain the increase. If a detailed justification was not submitted, commands were held to their same usage level.

(U) Fiscal Year 1982 Force Modernization. HQDA tasked the DARCOM Comptroller to develop and implement a system for the accountability and identification of costs provided for Force Modernization. In turn, the Headquarters, DARCOM, Force Development Division, tasked the DARCOM Major Subordinate Commands to identify all manpower spaces by using the Force Modernization System.

(U) The Force Development Division initiated action and developed manpower guidance by Army Management Structure Code, by command/project manager based on fiscal year 1982 data submitted in the fiscal year 1983/87 PARR submissions. Data were reviewed by the DARCOM program managers and Comptroller and forwarded to the field.[21] Since the basic data were approximately a year old, sub-MACOMs and project managers were requested to update it where necessary. Coordination with budget offices was urged to assure that all OMA spaces were fully financed. These data would become the fiscal year 1982 base for Force Modernization and would be used to account for all manpower spaces by weapon systems and to effect future adjustments within Force Modernization.

Headquarters DARCOM Realignment

(U) On 27 May 1981, the Chief of Staff, Army, approved a Concept Plan to reorganize Headquarters, DARCOM into a matrix weapon systems operation, which became effective on 15 October 1981.

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21 Ltr, DRCPT-SP, subj: Force Modernization System-FY 82 Manpower Guidance, 23 Oct 81.

(U) Representatives of the Headquarters Manpower Office, serving as members of the Headquarters, DARCOM Implementation Realignment Group, furnished guidance for the preparation of the Headquarters, DARCOM Tables of Distribution and Allowances (TDA) and DARCOM-R 10-2, the Organization, Mission and Functions Manual.

(U) The realignment added 350 spaces to the headquarters, which increased the total of 1,502 spaces to the new level of 1,852 spaces. The military spaces were decreased from 210 to 209, and the civilians gained 351 spaces, increased from 1,292 to 1,643. The new TDA was handcarried to HQDA on 9 October 1981.

Civilian Personnel Management

(U) Introduction. Much of the DARCOM Civilian Personnel Management emphasis during fiscal year 1981 continued to address completion of the Civil Service Reform Act (CSRA) of 1978, as the two final major areas of this Act were fully implemented. These areas were the General Performance Appraisal System (GPAS) and the Merit Pay System. Because of a General Accounting Office (GAO) finding, the Office of Personnel Management (OPM) was required to authorize full comparability in the 1981 pay adjustment for those under the Merit Pay System, which would defer a full evaluation of the system as it was intended. An evaluation of GPAS would be possible during fiscal year 1982.

(U) Civilian Personnel Management Program. Civilian Personnel Management Program Objectives and Goals for fiscal year 1981 were published on 28 January 1981,[22] and the mid-year performance against the goals was published in the Civilian Personnel Management Report, mid-year, fiscal year 1981.[23]

(U) The Program Evaluation and Assistance Branch (PE&A) members conducted or participated in seven on-site civilian personnel management surveys during fiscal year 1981. Three special-topic surveys and two follow-up reviews were conducted. The branch participated in two surveys of DARCOM installations conducted by the Deputy Chief of Staff for Personnel (DCPERS), HQDA. Five on-site staff assistance visits for merit pay training, merit pay implementation evaluation, position and pay management, and staffing were conducted.

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22 DARCOM-C 690-1, 28 Jan 81, Civilian Personnel Management Program Objectives and Goals, FY 81.

23 Ltr, DRCPT-C, 22 Jan 81, Civilian Personnel Management Program Report, FY 81.

(U) In fiscal year 1981, DARCOM was below the annual sick leave usage goal of 64 hours per employee, which was increased during the fiscal year from 62 hours. The headquarters exceeded its own goal of 58 hours per employee. Most significantly, however, DARCOM was well under the fiscal year 1980 level. Based on the diferences between fiscal year 1980 and fiscal year 1981 usage, DARCOM was able to use 640,373 hours of production--worth approximately $6 million--which might otherwise have been lost to sick leave.

(U) Civilian High Grade Reduction. DARCOM continued under a temporary high grade ceiling during fiscal year 1981, as a result of the requirement in the 1978 DOD Appropriation Authorization Act that DOD reduce civilian high grade positions by 6 percent. DARCOM participated with DA and OSD to seek repeal of the reduction, and action by the Congress was still pending at the end of fiscal year 1981. As of 30 September 1981, the DA assigned ceiling for DARCOM was 10,598, and the number of filled positions was 10,625 or 27 above the ceiling.

Incentive Awards

(U) Senior Executive Service (SES) Appraisals and Awards. The second year of the SES performance appraisal system was completed during fiscal year 1981. The Performance Review Board, which met in August 1981 and reviewed the performance appraisal of each SES member, recommended to the Commander, DARCOM, a rating for each SES member, performance bonus awards, as appropriate, and pay level increases. Nineteen DARCOM SES members received performance awards ranging from 8 percent to 20 percent, with one DARCOM SES member receiving the Presidential Rank of Distinguished Executive and four receiving the Meritorious Executive rank.

(U) Incentive Awards. DARCOM goals for cash and honorary awards were, for the most part, met or exceeded. The command fell short of its goal for tangible benefits from civilian suggestions. At $26.4 million, the command was $8.8 million below the goal. DARCOM individuals were recognized for many high level honorary awards during 1981. Mr. Teddy L. Barber, Physicist from White Sands Missile Range (WSMR), US Army Test and Evaluation Command (TECOM) was selected as HQDA's Outstanding Handicapped Employee of the Year and went on to be chosen one of the ten Outstanding Handicapped Federal Employees for 1981.

(U) Mr. Kenneth B. Bellinger, Physicist from WSMR, TECOM was selected as the Army Outstanding Civilian Suggester for his suggestion which saved the Army $4,136,505. Mr. Austin L. Vick, Physical Science Administrator, WSMR, TECOM, was selected for the Secretary of the Army's Award for Outstanding Achievement in Equal Employment Opportunity. DARCOM also had six winners for the Secretary of the Army's Award for Outstanding Achievement in Materiel Acquisition--two individuals and one group: Mr. Ronald E. Elbe, US Army Armament Materiel Readiness Command (ARRCOM); Mr. Donald W. Mowrer, US Army Armament Research and Development Command (ARRADCOM); and Messrs. Elwin C. Nunn, John N. Hynes,

Raul Real Vasquez, Jr., and Jerome P. Cleaessen, WSMR, TECOM. Ten individuals and 10 group nominations involving 39 individuals were selected to receive the Army Research and Development Award from a large variety of DARCOM subordinate commands and activities.

Labor-Management Activities

(U) Post-Audit Review of Negotiated Agreements. In fiscal year 1981, all labor-management agreements negotiated by DARCOM commands and activities were reviewed in Headquarters, DARCOM to insure compliance with applicable laws, regulations, and rules. Where violations were found, the agreements were required to be modified to conform with the finding. During this period, 24 agreements were reviewed and 18 required modification.

(U) NAGE Petition for Unit Consolidation. The Federal Labor Relations Authority (FLRA) notified DARCOM by a letter dated 27 February 1980, that the NAGE had filed a petition for consolidation of all units nationwide into one bargaining unit. DARCOM opposed the consolidation because it did not meet criteria set forth in Title VII, Civil Service Reform Act, which stated that the proposed unit did not constitute a community of interest, would not promote effective dealings, and would not contribute to efficient operations. At a hearing held at the Washington Regional Office of the FLRA on 18 November 1980, DARCOM introduced into the record a number of exhibits in support of its position. None of the exhibits were challenged by the union, and the union did not introduce any exhibits in support of their positions. Both DARCOM and the union submitted post hearing briefs to the FLRA in support of their respective positions. No decision had yet been received from the FLRA as to whether the units should or should not be consolidated.

(U) Clarification of Unit Petitions (Merit Pay). The activity regarding Clarification of Unit (CU) petitions continued in 1981. Petitions were filed with the Federal Labor Relations Authority (FLRA) to remove nearly 800 employees from the bargaining unit. These employees were tentatively identified as "supervisors" or "management officials" for merit pay purposes. In January 1981, Headquarters, DARCOM advised subordinate commands and activities to remove from their CU petitions those employees at GS-13 and 14 levels who were in bargaining units. This action was an interim measure because of an FLRA decision in the Communications Systems Agency (CSA) at Fort Monmouth, New Jersey. In the CSA decision, the FLRA determined that 15 of 18 disputed positions did not meet the definition of "management officials" and consequently remained in the bargaining unit. After analyzing this decision it was decided to temporarily remove GS-13 and 14 management officials from the DARCOM CU petitions pending additional decisions from FLRA. At the end of fiscal year 1981, the FLRA had completed hearings on all the DARCOM units except for the Headquarters, DARCOM units and the ARRADCOM professional unit. By the end of fiscal year 1981, the FLRA had not rendered a decision on any of the DARCOM CU petitions.

Career Management

(U) DARCOM Announcement Distribution System. As a result of the abolishment of centralized referral for Engineer and Scientist (E&S) (Non-Construction) positions, an automated DARCOM Announcement Distribution System (DADS) was being developed in fiscal year 1981. DADS would provide vacancy announcements and direct mailing to interested candidates for E&S positions GS-12 through GS-15. Interested candidates would then apply for these positions according to instructions in the announcements. DADS would be used when the local activity had determined that there were insufficient numbers of qualified candidates through local search or for targeted recruitment.

(U) The purpose of the DARCOM Referral Level Study, which started in October 1980, was to determine the cost of Major Army Commands (MACOMs) referral Operation, timeliness of referral, aspects of affirmative action, and effectiveness of referral service to the field. The study recommended the following: abolishment of the DARCOM Referral Level; maintenance of centralized referral for Comptroller, Security, and Information and Editorial Career Programs; and establishment of a Key Position Concept throughout the Army. DA approved the recommendation to abolish the DARCOM Referral Level as a test that would run for 18 months beginning on 1 December 1981. During the test phase, program evaluation would be conducted to compare the results of decentralization with the centralized system in terms of cost, time, quality of candidates, and affirmative action goals and objectives.

Training and Development

(U) During fiscal year 1981, five developmental assignments were begun or completed at DA or DOD departmental levels. Six developmental assignments were also completed in Headquarters, DARCOM: Three of these were in the office of the Deputy Commander for Readiness. One assignment was overseas, and one in the office of the Chairman of the Armed Services Subcommittee, House of Representatives. One MARED participant completed, and another began, a one-year professional training program during the fiscal year.

(U) Learning Resource Centers (LRCs). DARCOM continued to actively encourage the expansion of its DARCOM-wide LRC network, with the newest LRC at Natick Laboratories opening for official business on 4 November 1981. In fiscal year 1981, there were 10 fully operational LRCs in the Command. To further enhance the LRC programs, DARCOM entered into agreement with TRADOC and Air Training Command (ATC-USAF) to institute an "in-house" system for computer-based instruction, specifically PLATO. This capability would be available to select DARCOM installations as early as January/February 1982 with other appropriate installations joining the system as soon as feasible.

(U) In addition, the Civilian Personnel Executive Development office was closely coordinating with the Army Continuing Education Services (ACES) program to facilitate a sharing of resources, so as to better provide broad training/educational opportunities to all personnel; civilian and military.

(U) Civilian Engineer Recruitment Retention and Use Throughout the Joint Logistics Commands. On 30 October 1981, the Joint Logistics Commanders (JLC) approved and forwarded to the Deputy Secretary of Defense a study on the recruitment, retention, and use of civilian engineers in the four JLC Commands. Those commands included DARCOM, the Navy Material Command, the Air Force Systems Command, and the Air Force Logistics Command. The study applied only to civilian engineers of the four JLC Commands as a group, and not with engineers in particular organizations, locations, or disciplines. It found that in the Federal sector engineer pay at journeyman levels was competetive with private industry, but industry topped the Federal sector in entry level pay by about $3,000. It found that loss rates were higher in subjourneyman grades, but that numerical loss of journeyman engineers was serious because of the quality of the special skills lost. Finally, it found that many engineers did not employ their professional skill full-time because management incorporated non-engineering duties in engineering job descriptions.

(U) Mobilization Planning. The command continued the initiative, in conjunction with the Department of the Army (DA), to develop a proposed DOD policy for retention of civilians who have critical jobs in unsafe areas. Listings of critical logistics positions vital to maintaining uninterrupted logistics support in a war zone were provided DA again on 10 October 1980 and on 1 July 1981. The DA response, dated 21 April 1981, advised that the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics (ASA/MRA&L) was staffing a proposal to establish a special military reserve unit which designees to critical positions must join as a condition of employment. While this might provide some relief for the retention problem, the logistics community's position was that consideration should be given to providing military incumbents for both Federal civilian and military jobs in an emergency.

(U) Quality of Life. The DARCOM booklet, Emphasis: DARCOM Quality of Life,[24] published and distributed to the field on 20 July 1981, provided information about the DARCOM Quality of Life emphasis and described the ways it could be applied to the DARCOM soldiers, civilians, and their families. Research had shown that such programs had a reciprocal effect. The individual benefited in terms of improved working conditions and job satisfaction. The organization benefited from increased productivity, better workforce retention, fewer lost time accidents, less absenteeism, and fewer grievances.

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[24] See Booklet, Emphasis: DARCOM Quality of Life.

Military Personnel Management

(U) Fiscal year 1981 was characterized by continued efforts to improve Headquarters, DARCOM to rapidly respond with reliable data concerning all aspects of military personnel.

(U) Enlisted Personnel Management. During fiscal year 1981, the DARCOM enlisted operating strength averaged over 97 percent of Program Budget Guidance authorization, a 2 percent increase over fiscal year 1980. The increase was a result of closer management between Headquarters, DARCOM and MILPERCEN distribution branches.

(U) A new field management report was implemented for the four priority security units which allowed those units to personnally express their 6 months gains and losses prior to validations of requisition. This was done so that soldiers could be identified 90 to 180 percent for assignment, to keep the unit strength at 100 to 102 percent.

(U) The Noncommissioned Officer Logistics Program (NCOLP) averaged 67 percent fill of authorized positions, a 13 percent increase over fiscal year 1980. The increase was attributed to heightened command emphasis in NCOLP recruiting by the Command Sergeant Majors (CSMs) in DARCOM and close monitoring of requisition submitted by the field.

(U) A training team was established in the Military Personnel Support Division, DARCOM Personnel Support Activity, during fiscal year 1981, to administer, monitor, assist, and coordinate individual soldier training (Skill Qualification Test (SQT)) of all DARCOM enlisted personnel.[25] It consisted of two training representatives, a Master Sergeant, and a civilian, GS-11.

(U) Since the DARCOM training team was established, a worldwide, personal communications system was initiated between Headquarters, DARCOM and Army military training institutions; such as, Noncommissioned Officer Academies, Service Schools, and other training activities. A letter[26] was published and distributed for DARCOM units explaining enlisted courses available at the NCO Academies, and the prerequisites governing attendees to the courses. An SQT letter,[27] also signed by Director, Personnel, Training and Force Development, was prepared and published to the field explaining the soldier's manual, job booklets, and other training tools available to the supervisor to assist the soldier in the development of military skills.

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25 DARCOM-R 1-51, Organization and Functions, 3 Feb 81.

26 Ltr, HQ, DARCOM, DRXMM-U, 26 Feb 81, Noncommissioned Officer Development Program.

27 Ltr, HQ, DARCOM, DRXMM-U, 17 Jun 81, Skill Qualification Test Training.

(U) The training team provided continuous coordination with, and assistance to, the SQT Directorate for the Training Support Center at TRADOC for policy and procedure changes. Additional input and responses relating to extension training material, The Army Magazine, newly produced training tapes and films, and various other training vehicles which which required the major Army commands' comments and responses were also provided.

(U) Reenlistment Program. A new initiative was implemented by the DARCOM Reenlistment Program Supervisor that required a copy of consummated contracts of DARCOM personnel to be forwarded to Headquarters, DARCOM. These contracts were used to identify errors on the reenlistment report of the Deputy Chief of Staff for Personnel. Additionally, there was emphasis on getting the personnel reenlisted early so that SIDPERS transactions had more time to get into the DCSPER data system and reduce the number of personnel carried eligible for reenlistment, thus reducing DARCOM's objective. These two major improvements made it possible for DARCOM to achieve and surface the DA Reenlistment objective in all categories for the first time in the history of DARCOM.

(U) Officer Personnel Management. The calendar year 1981 Officer Distribution Plan (ODP) support for DARCOM had increased by 7 percent for commissioned officers and 4 percent for warrant officers. This ODP included 100 percent support for Specialty Code 51 (Research and Development) and Code 97 (Procurement) based on the decision by the Deputy Chief of Staff for Personnel (DCSPER) to grant DARCOM exception status in these specialties. During fiscal year 1981, MILPERCEN initiatives called for increasing actual officer strength to meet or exceed ODP by the end of the calendar year. In order to give the personnel managers a more accurate and responsive projection of assets and program requirements in the major subordinate commands, the Requisition Generator (REQ-GEN), a completely automated requisitioning system, was an excellent example of using the technology of automated data processing to increase the communications and cooperation between the field units, this headquarters, and MILPERCEN. The resultant efficient and timely requisitioning, coupled with accurate strength information, allowed DARCOM personnel managers to work with MILPERCEN to closely monitor and control the fill levels within the MSCs. This would prevent significant overages or shortages that would require massive fill or curtailment actions which would destroy unit stability and cohesion.

(U) Implementation of REQ-GEN was scheduled for December 1981. Also during this period, an intensive effort was made to verify all Army Educational Requirements Board (AERB) positions within DARCOM and reconcile these positions with the USA MILPERCEN data base. The initial scrub, completed in May 1981, resulted in 528 positions identified by paragraph and line number, and reconciled with MILPERCEN. Continuing management of this program, coupled with increased fill and awareness of the program had reduced the total number to 477. The reduction of 51 positions was due to

consolidation of TARCOM, TARADCOM, CERCOM, CORADCOM, and other internal reorganizations which duplicated or eliminated positions. The establishment of a systematic process, involving the TAADS Management Branch, the Military Personnel Management Detachment, Military Personnel Division, and MILPERCEN resulted in a realistic and workable management approach to the DARCOM AERB program.

Military Personnel Programs

(U) Army Community Services (ACS). Mrs. Ruth Sheridan accepted a charter as the new Headquarters, DARCOM ACS volunteer consultant in February 1981, filling the vacancy created when Mrs. Joanne Patton moved to Department of the Army level in August 1980. Headquarters, DARCOM was well represented at the ACS Worldwide Conference held 17-20 February 1981 in Colorado Springs, Colorado. Nineteen persons representing various DARCOM depots and installations, including Mrs. Sheridan and Mrs. Kimes from the headquarters, attended. Headquarters, DARCOM sent 10 people throughout the year to the 2-week ACS training course conducted at Fort Benjamin Harrison, Indiana. Mrs. Sheridan was among those attending the course beginning 21 April 1981. DA sponsored an ACS Child Care Conference at Silver Spring, Maryland, 17-21 August 1981, which was attended by both the volunteer consultant and the DARCOM ACS Point of Contact, Mr. James Olinger. During the period 21-23 July 1981, Mrs. Sheridan and Mr. Olinger visited the Center at Selfridge Air National Guard Base, Michigan, to conduct an evaluation of that program. Results of that visit were highly gratifying and played an important part in increased TDA authorization for ACS staff and relocation of the Center to more suitable quarters in the family housing area. Mrs. Sheridan was also invited to attend a seminar for the Fort Bliss ACS program as a guest speaker and trainer. That seminar was also attended by DARCOM personnel from White Sands Missile Range.

(U) Army Continuing Education System. Fiscal year 1981 was marked by significant increases in overall participation in Army Continuing Education System (ACES) sponsored courses. Substantial progress was made in the continued expansion of the Basic Skills Education Program I (BSEP I) at DARCOM installations, Aberdeen Proving Ground, and Redstone Arsenal. Participation was increased 189 percent, from 288 to 832, in this program which provided basic literacy instruction in reading, writing, arithmetic, and English language skills in support of MOS training.

(U) During fiscal year 1981, the Advanced Skills Education Program was initiated and 81 noncommissioned officers were provided training in this on-duty, fully-funded skill development program. The number of personnel who enrolled in college courses increased by 10 percent from 4,751 in fiscal year 1980 to 5,007 in fiscal year 1982. Not only did

more individual service personnel participate in ACES-sponsored courses during fiscal year 1982, but enrollments were up and the completion rate was enhanced by approximately 8 percent, from 78 to 86 percent. The range and scope of individual study programs were also expanded at all DARCOM Learning Resource Centers (LRCs).

(U) Coordination between ACES and civilian personnel training officials was reemphasized in order to enhance the interface between military and civilian training programs and to increase training opportunities by encouraging shared use of ACES LRCs.

(U) Headquarters, DARCOM ACES Education Services Specialist and Aberdeen Proving Ground Education Services officer actively supported the Ninth Worldwide Education Conference at the University of Maryland by making presentations and participating on a panel covering the "Role of the Education Services Officer in Serving on Community and State Councils." This highly successful conference was attended by military educators from the Army, Navy, Air Force, and Marine Corps from around the world, and also by numerous colleges.

Military Awards

(U) Army Achievement Medal. The new Army Achievement Medal was to be awarded to any member of the Armed Forces of the United States who, while serving in any capacity with the Army in a noncombat area after 1 August 1981, was distinguished by meritorious service or achievement of a lesser degree than required for award of the Army Commendation Medal. Department of the Army Interim Change 102, dated 30 June 1981, delegated approval authority to 06 commanders.

(U) Impact Award. In fiscal year 1981, a newly implemented Headquarters, DARCOM policy permitted the use of impact awards to reward unusually significant achievements by military and civilian personnel. Awards which could have been used on an impact basis were the Meritorious Service Medal, the Army Commendation Medal, the Army Achievement Medal, the Meritorious Civilian Service Award, the Commander's Award for Civilian Service, the DARCOM Certificate of Achievement, and the DARCOM Certificate of Recognition.

Mobilization Planning

(U) During the fiscal year, Headquarters, DARCOM developed a plan to redistribute personnel on M-day. This included internal procedures for filling the critical personnel requirement projected by the Military Personnel Center. Each month the United States Army Forces Command would plan for the redistribution of their personnel assets within that command to insure that their potential Rapid Deployment Force-Army (RDF-A) units could be filled with personnel to a "mission capable" level in the event the RDF-A units deploy.

Morale Support Activities

(U) A study of Morale, Welfare, and Recreation management was published in February 1981. The most significant recommendation was to consolidate morale support activities with the Army clubs, post restaurants, and post exchanges to establish a Morale, Welfare, and Recreation Branch at the headquarters level. The establishment of the branch was included as a part of the DARCOM RESHAPE Program.

Military Position Management

(U) Adjustment of the Military Occupational Specialty (MOS) Suffix "K." Results of a February 1981 ODCSLOG, DA worldwide review of NCOLP positions, which adjusted the MOS suffix "K" identification of these logistics specialy NCO positions, was implemented throughout DARCOM and all DARCOM TAADS documents were amended accordingly.[28]

(U) New Specialty Code 25B (Teleprocessing Operations Officer). In accordance with guidance received from the Assistant Chief of Staff for Automation and Communications,[29] this command implemented[30] an urgent survey of all DARCOM organizations to determine the need for and to adjust TAADS authorization documents to include DARCOM requirements for battlefield automated communications systems being introduced into the Army inventory. As a result, 14 officer positions with a new specialty code 25B (Teleprocessing Operations Officer) were added to DARCOM authorization documents during the July-September 1981 (MOC) open window period. This quick reaction permitted inclusion of DARCOM manpower needs for this new officer skill requirement in the initial DA fiscal year 1982 Personnel Structure Composition System (PERSACS) and Officer Distribution Plan (ODP).

Headquarters Military Personnel Management

(U) Throughout the year the majority of the effort expended by the Headquarters Military Personnel Office was in the area of military personnel support programs. These programs were directed toward enhancing the readiness, personal, and professional development of the officers and enlisted personnel assigned or attached to Headquarters, DARCOM. To promote the physical readiness posture of the soldiers, Headquarters, DARCOM, through the morale support fund, purchased membership in the Shirley Racquet Club. Soldiers were able to use the club's facilities to increase their physical condition. As an associated program, the headquarters conducted the first annual weigh-in of officers during the month of October. In conjunction with the

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28 1st Ind, 27 Feb 81, to Ltr DALO-RMP-M 1029416, HQDA, 19 Feb 81, subj: Noncommissioned Officer Logistics Program Position Authorizations.

29 Ltr, HQDA, DAAC-PEL, undated, subj: SC 25B Teleprocessing Officer.

30 Ltr, HQ, DARCOM, DRXMM-U, 31 Aug 81, subj: TAADS Documentation of SC 25B (Teleprocessing Operations Officer)Military Positions.

DARCOM Surgeon's Office and the Civilian Employee Health Services Clinic, influenza immunizations were given to military personnel. Finally, an active Voting Assistance Program was conducted to assist and encourage voters to participate in the 1980 General Election.

(U) Training received increased emphasis. The SQT Training Program was formalized and responsibilities delegated to the Military Personnel Office, the enlisted soldier's supervisor, the Commander, Headquarters Company, US Army, and the individual soldier. Classes in the mandatory subject area were given by the company and the Headquarters, Office of Equal Opportunity. The Military Personnel Office participated in the quarterly new employee orientations to acquaint the recently arrived military personnel on the programs available and services provided in the headquarters.

Schools Management

(U) In fiscal year 1981, the Schools Division exercised staff supervision and managed the funding program over the US Army Logistics Management Center (ALMC), the US Army Management Engineering Training Activity (AMETA), and the Joint Military Packaging Training Center. The US Army Defense Ammunition School, an integral part of the Ammunition Center, was under the operational control of the Commander, US Army Armament Materiel Readiness Command. The combined training capability of these schools resulted in the training of 17,242 students in residence, 18,366 on-site, and 8,454 in correspondence mode for a total of 44,062 students trained in fiscal year 1981. This last figure, compared with fiscal year 1980, represented an increase of 8,156 students trained in fiscal year 1981, which was attributed to the shift to on-site training and added emphasis on correspondence course training. Another important factor was the availability of Program 7S funds to pay travel and per diem of DARCOM students who attended ALMC and AMETA resident courses.

(U) DARCOM Schools Conferences. Two DARCOM Schools' Conferences were held during fiscal year 1981, with the objective of providing the DARCOM schools with policy guidance that could have impact on education and training, to afford the conferees the opportunity to present topics of mutual interest, and to openly discuss any problem areas and reach decisions. Other objectives included reviewing and analyzing the training, research, and consulting services accomplished at mid-year and the projected workload in these areas for the remainder of the year.

(U) Mobilization Planning. The US Army Logistics Management Center, US Army Management Engineering Training Activity, Joint Military Packaging Training Center, and the US Army Defense Ammunition School completed and published full mobilization plans. The plans, developed in concert with course proponents, reflected course lengths for full mobilization and peacetime for designated courses as well as the modes of presenting the training, such as resident, on-site, accredited off-campus instruction, correspondence, and learning centers.

(U) Facilities. On 15 September 1979, a fire destroyed the interior of the principal US Army Management Engineering Training Activity building. The renovation of the building was completed and beneficial occupancy was begun in July 1981.

(U) Program 8. Initial Program 8 budget guidance for fiscal year 1981 was $34,203K. During the year, the Department of the Army increased the guidance by $467K to a total of $34,670K. Actual expended was $33,882K.

Alcohol and Drug Abuse Program

(U) The DARCOM Alcohol and Drug Abuse Prevention Program for the civilian workforce lead the pace in fiscal year 1981 for the rest of the Army, with a rate of admission to the program of 5.0 per 1000, while the rest of the Department of the Army admission was 2.0. Alcohol abuse accounted for 92 percent of the admissions. Several factors could be attributed to this highly successful trend in fiscal year 1981. They were: The positive action shown in support of the Alcohol and Drug Abuse Prevention and Control Program by the Commanding General; the team effort of program staff in supporting Commanders/Supervisors in performing the mission; the extensive training and educational program for supervisors and nonsupervisors; and the establishment of a broad Employee Counseling Services Program, which encompassed problems affecting employee performance.

(U) Program Statistics. The fiscal year 1981 projection for military admissions was exceeded, with alcohol abuse accounting for 71 percent of the admissions. Of the total drug diagnoses for fiscal year 1981, cannabis abuse accounted for 74 percent. Of those military who were identified and enrolled in the treatment program, 83 percent completed and successfully returned to duty. Fiscal year 1981 represented the highest number of admissions since statistics were kept. The number of civilian personnel admitted during fiscal year 1981 was 524, with 71 percent having successfully completed their rehabilitation. An increasing number of civilian employees were being referred by their supervisors to the program and a large percent were being referred to outside agencies for treatment and rehabilitation.

(U) Program Management. During fiscal year 1981, with prevention and education continuing to be strongly emphasized among supervisory personnel, the DARCOM goal of training 80 percent of the supervisors was exceeded. The training increased the supervisors' awareness of the program and made them amenable to referring employees to the Alcohol and Drug Abuse Program.

(U) Staff management surveys were conducted at nine DARCOM installations in fiscal year 1981, with the purpose of providing the commander on-site recommendations, technical assistance, and evaluation of the program. The surveys assured that policy and regulations were observed and also gave the program increased visibility and emphasis.

(U) Headquarters Counseling Services Office. In December 1980, the Headquarters Counseling Services Office integrated the Employee Counseling Services Program (ECSP) within the Alcohol and Drug Abuse Prevention and Control Program (ADAPCP) to broaden services to supervisors and employees seeking assistance. As a result, in fiscal year 1981, there was an increase over fiscal year 1980 referrals to the program. Forty-one referrals were initiated for fiscal year 1981. Self-referral was the method most often used with supervisory referral being second. The educational program was broadened to include subjects other than alcohol and drug abuse. Efforts were made to address issues that could ultimately lead to substance abuse.

Organization, Functions and Staffing of the Directorate for Personnel, Training and Force Development

(U) The Staff. Mr. Frank P. Cipolla entered on duty as Deputy Director of Personnel, Training and Force Development in May 1981. Mr. William S. Charin retired that same month after serving continuously as Deputy Director since the beginning of the Army Materiel Command. Colonel Robert J. Frazier assumed duties as Chief of Military Personnel Division in June 1981, replacing Colonel Harold Dyson who was reassigned. Mr. George A. Blakeslee became Chief of Civilian Personnel Division in August 1981, replacing Mr. Gordon A. Kellett who retired from that position in December 1980.

(U) Personnel Strength. As a result of the headquarters realignment of 1981, the directorate was reduced by 12 civilian personnel spaces. The TDA strength breakout at the end of the year was as follows:

Element	Officer	Enlisted	Civilian	Total
Office of Director	2		3	5
Plans & Administrative Ofc			4	4
Alcohol & Drug Abuse Ofc			6	6
Civilian Personnel Div			31	31
Force Development Div	2		41	43
Military Personnel Div	7	5	18	30
	11	5	103	119

Organization, Functions and Staffing of the DARCOM Personnel Support Activity

(U) The Staff. Colonel Isaiah E. Barnwell, Jr., assumed the position of Chief, Manpower Support Division on 8 April 1981. Colonel Charles H. Mayhew was assigned as Chief, Schools Division, on 17 August 1981. He replaced Colonel Frederick N. Olson, who retired in October 1981. Lieutenant Colonel Richard W. McCann entered on duty in the position of Chief, Military Personnel Support Division on 14 September 1981. He replaced Lieutenant Colonel Doris Pennington, who had retired.

(U) Organization. Effective 1 February 1981, the Manpower TDA Branch, Manpower Support Division, was redesignated TAADS Management Branch.

(U) Personnel Strength. As of 30 September 1981, the Personnel Support Activity's authorized TDA strength was 4 officers, 3 enlisted, and 164 civilians for a total of 171.

Plans and Analysis

DARCOM Goals and Objectives

(U) The fiscal year 1981 DARCOM Program Plan, containing the command goals, objectives, and DARCOM-wide tasks, was published in November 1980. This was the fourth DARCOM Program Plan containing objectives and tasks which were developed by Headquarters, DARCOM in concert with the major subordinate commands. The DARCOM Goals were basically developed during the 1978 Spring DARCOM Commanders' Conference. These goals set forth DARCOM's broad aims dealing with readiness, people, materiel, strategic mobility, future development, management, and security assistance. The objectives for the fiscal year were manageable subdivisions of the goals and tasks that showed how, when, and where action would be taken to implement each of the objectives.

(U) The plan was developed following the milestones established in the regulation for the DARCOM System of Management by Goals and Objectives (DARCOM-R 11-4, Volume 2). The Headquarters, DARCOM staff and the major subordinate commands reviewed the 48 fiscal year 1980 DARCOM objectives, and based on this review, the Chief of Staff, DARCOM approved 55 objectives for fiscal year 1981. In a follow-up action the Headquarters staff submitted 254 tasks to implement the objectives. The plan was published containing two sections, with the DARCOM Goals, implementing objectives, and programmed tasks contained in Section I and Section II containing

the supplemental narrative guidance in the form of policies, priorities, and areas of emphasis established by the responsible staff members. The Commanding General received periodic reports of progress toward the objectives from the Headquarters Staff during the quarterly Command Performance Indicator Review (CPIR).

Resource Analysis and Evaluation

(U) Commercial Activity (CA) Program. A few fiscal year 1980 CA studies not completed on schedule, were completed in fiscal year 1981. Among the problems that resulted in the delays were:

a. Recalculations of some cost elements in the cost comparison process which were identified during Army Audit Agency (AAA) audits.

b. Higher headquarters guidance that required data changes in the cost comparison process.

c. Higher headquarters guidance that required management studies.

(U) Fiscal Year 1981, 1982, and 1983 Studies. No CA studies were announced by Congress for completion in fiscal year 1981 because 1980 was an election year. In fiscal year 1981, Congress announced nine studies to be completed in fiscal year 1982 and 14 CA studies to be completed in fiscal year 1983. Three of the fiscal year 1982 studies were put on hold to determine whether they should be reviewed on an other-than-cost basis.

(U) Management Assistance. DRCDM-R conducted CA workshops which provided objectives and recommendations for the initial phase of the study process. Additionally, DRCDM-R performed on-site reviews of management studies, performance work statements, and cost comparisons to offer technical assistance as a result of lessons learned to help preclude problems encountered during earlier studies. Standardized performance work statements were developed for many job centers, which established a degree of conformity within DARCOM.

(U) Significant Changes in CA Guidance. During fiscal year 1981, draft changes were made to CA program circular. The appendix to the CA circular detailing the cost comparison development was finalized. Additional guidance received from higher headquarters resulted in standardization in assets depreciation determination.

(U) DARCOM Consolidation, Realignment, Reduction and Closure. The DRCDM-R responsibility to manage DARCOM consolidations and realignments remained in affect in fiscal year 1981. Two studies were completed and three were announced to be performed. The first study involved the realignment of aircraft depot maintenance from New Cumberland Army Depot to Corpus Christi Army Depot. The Secretary of the Army's approval in September 1981, culminated a 5-year plus study and the second study

dealt with the transfer of the management of the Navajo Army Depot activity to the Arizona Army National Guard. At the close of fiscal year 1981, this study had been submitted to DA for final decision.

Mission and Organization

(U) Headquarters Realignment. During fiscal year 1981, actions were initiated to realign Headquarters, DARCOM with an effective date of 15 October 1981. Effective with this realignment, the Directorate for Plans and Analysis was redesignated as Directorate for Management. The Systems Analysis Division was disestablished and personnel resources (7 spaces) were transferred to the newly established Directorate for Program Analysis and Evaluation. Responsibility for Systems Analysis was assumed by the Army Materiel System Analysis Activity.

(U) Memorandum of Understanding. DARCOM Policy Letter No. 80-2, dated 3 October 1980, subject: Policy for Negotiating and Documenting Mutual Logistic Support Agreements With Non-DARCOM Elements in Europe, tasked the Directorate for Plans and Analysis as the Headquarters, DARCOM focal point for staffing agreements within Headquarters, DARCOM for approval, developing and interpreting policy for agreements, and providing a repository for completed agreements. A letter, DRCPS-C, dated 17 August 1981, subject: DARCOM Policy for Negotiating and Documenting Mutual Logistic Support Agreements with OCONUS Non-DARCOM Elements, expanded this tasking to include agreements with all non-DARCOM OCONUS elements.

(U) Reassignment of the Inventory Research Office (IRO), the Logistics Studies Office (LSO), and the Procurement Research Office (PRO) from the Army Logistics Management Center (ALMC) to the Army Materiel Systems Analysis Activity (AMSAA). On 14 January 1981, the IRO, LSO, and PRO were reassigned in place, from ALMC to AMSAA. Operational Control of IRO, LSO, and PRO was assigned to AMSAA on 1 February 1981, by DARCOM Permanent Orders 7-1. Formal reassignment of the three elements to AMSAA was effective on 1 October 1981. The Director of Management, acting for the Deputy Commanding General for Resources and Management, was responsible for PRO assignments through the Director of AMSAA. The Director of Procurement and Production would continue to have a lead role in identifying requirements and evaluating products assigned to PRO.

(U) Single Manager for Conventional Ammunition (SMCA)/Executive Director for Conventional Ammunition (EDCA). In 1973, the Government Accounting Office (GAO) recommended that conventional ammunition management be centralized; and on 26 November 1976, DOD designated the Secretary of the Army as the Single Manager for Conventional Ammunition (SMCA). However, in August 1979, when GAO audited SMCA and deficiencies were reported in the managerial and organizational changes required were identified to implement the concept, GAO proposed two alternatives: either establish a separate DOD-directed Defense Munitions Agency or a Single Operating Agency for Conventional Ammunition, organized by the Secretary of the Army as a Major Command of the US Army. Both functions would be based in the Washington, DC area.

(U) The Department of the Army and DARCOM generally agreed with the GAO findings. However, both proposed to strengthen the Washington, DC SMCA command and control element through Joint Service staffing and assigning a Deputy Commander to the operating agency. During 1980, the governing regulations, DODD 5160.65 and Charter for the SMCA were rewritten and staffed DOD-wide. A DARCOM Ad Hoc SMCA Working Group, comprised of personnel from the Air Force, Navy, DARCOM, and ARRCOM, was convened on 27 February 1981 to develop the functions, organization, and joint Table of Distribution and Allowances (TDA) for the Executive Director for Conventional Ammunition (EDCA). Finally, the Charter for the SMCA was approved by the Secretary of the Army on 14 August 1981.

(U) The Directorate for Plans and Analysis in collaboration with the ARRCOM Liaison Office and with assistance from DARCOM staff elements developed the concept plan and finalized the mission, functions, and organization of the EDCA in August 1981. Permanent Order 62-1, 22 September 1981, established the Executive Director for Conventional Ammunition organization, assigned to Headquarters, DARCOM, with the effective date of 1 October 1981. The Commanding General, DARCOM, on 18 September 1981, appointed Lieutenant General Harold F. Hardin, Jr. as the Executive Director for Conventional Ammunition and Mr. Edwin Greiner, the Acting Deputy Executive Director for Conventional Ammunition. The EDCA organization, with a TDA staffing of 25 personnel, was located in Headquarters, DARCOM.

(U) Establishment of the US Army Communications-Electronics Command. On 2 March 1981, the Commanders of CORADCOM and CERCOM and the DARCOM Deputy Commanding General for Resources and Management agreed to merge CORADCOM and CERCOM to form a new command, the US Army Communications-Electronics Command (CECOM). Establishment of CECOM was effective 1 May 1981.

(U) Organizational Title Change. By Department of the Army, Permanent Orders 31-2, dated 1 June 1981, the US Army Metrology and Calibration Center (USAMCC) was redesignated as the US Army Test, Measurement, and Diagnostic Equipment (TMDE) Support Group effective 1 July 1981. The unit was assigned to the US Army Missile Command (MICOM).

(U) MICOM Realignment. As a result of the MIRCOM/MIRADCOM merger, on 1 July 1979, MICOM initiated realignment actions designed to establish strong, elite operational management required by the full life cycle mission of the US Army Missile Command. Significant changes in this realignment included the abolishment of the Office of the Secretary of the General Staff and the establishment of the Office of the Deputy Chief of Staff as a separate organizational element reporting to the Chief of Staff. The three divisions of the former Office of the SGS were elevated and reported directly to the Chief of Staff.

(U) The Plans, Analysis and Evaluation (PA&E) Directorate and the provisional Operations Analysis Office were abolished. These were replaced by a new Plans and Concepts Office and a new Systems Analysis Office.

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CHART 9

DARCOM PERMANENT ORDERS ISSUED DURING FY 81

PERMANENT ORDER/CY	EFFECTIVE DATE	ORGANIZATION	ACTION
75-1/80	3 Oct 80	US Army Communications Research & Development Command (CORADCOM) Field Offices, Fort Monmouth, New Jersey.	Unit reorganized. Resident Development Office discontinued.
90-1/80	1 Aug 80	USA Office of the Test Director, Joint Services Electro-Optical Guided Weapons Countermeasures Test Program, White Sands Missile Range.	Redesignated to Electro-Optical Guided Weapons Countermeasures/Counter Countermeasures (EOGW CM/CCM) Joint Test and Evaluation Directorate. Mission changed.
97-1/80	1 Oct 80	USA Metrology & Calibration Center X6(W1PLAA) Redstone Arsenal, AL 35898	Command & control of test measurement & diagnostic equipment (TMDE) function in Hawaii assigned.
99-2/80	1 Apr 80	USA Depot Activity Ober-Ramstadt (ORDA) XW(WNAAA) APO New York 09175	Unit discontinued
99-2/80	1 Apr 80	USA Depot Mainz (MZAD) XW(W109AA) APO New York 09185	Unit reorganized & assigned to USA Depot System Command (DESCOM).
99-3/80	27 Oct 80	USA Office of the PM for Tactical Operations Systems/Operations & Intelligence Tactical Data Systems (PM TOS/OITDS) XC(W4BLAA) CCNUMX10381, Ft Monmouth, NJ 07703	Unit redesignated & mission changed.
99-4/80	3 Nov 80	USA Office of the PM for Smoke/Obscurants (SMOKE) XL(W39GAA), Aberdeen PG, MD 21005	Reassigned from DARCOM to ARRADCOM. Command code changed from XL to XA.
15-1/81	1 Oct 81	95th Service Co. (Calibration) (TSARCOM) X6(WGEHAA) (MTOE29-226HX101), Redstone Arsenal AL 35898	Redesignated to 95th Service Co. (Calibration and Repair Support) (TMDE). Mission changed.
22-1/81	1 Mar 81	USA Special Rotary Wing Test Activity XE(W4GZAA), Ft Eustis, VA 23604	Unit organized & assigned to AVRADCOM.
23-1/81	1 May 81	HQ, USA Communications Research & Development Command (CORADCOM), XC(W4A4AA), Ft Monmouth, NJ 07703	Unit discontinued.

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CHART 10

PERMANENT ORDER/CY	EFFECTIVE DATE	ORGANIZATION	ACTION
23-1/81	1 May 81	HQ, USA Communications & Electronics Material Readiness Command (CERCOM), XS(W4A5AA), Ft Monmouth, NJ 07703	Unit discontinued.
23-1/81	1 May 81	HQ, USA Communications-Electronics Command (CECOM), X8(W4GVAA), FT Monmouth, NJ 07703	Unit organized. CORADCOM & CERCOM units assigned to CECOM.
26-1/81	1 May 81	USA Communication-Electronics Command Research & Development Center (CECOM R&D Center), X8 (W4G8AA) FT Monmouth, NJ 07703	Unit organized, assigned to CECOM.
27-1/81	1 Jun 81	USA Atmospheric Sciences Lab XD(WIN2AA), White Sands Missile Range NM 88002	Unit reorganized. Rocky Mountain Meterological Team disestablished & Aberdeen Meteorolgical Team established. Assigned to ERADCOM.
31-1/81	1 Jul 81	CECOM Liaison Office/USA Training & Doctrine Command Combined Arms Test Act. (LNO/TCATA), X8(W4BRAA), Ft Hood, TX 76544.	Unit discontinued and functions assigned to CECOM R&D Center.
31-1/81	1 Jul 81	USA DARCOM Research & Development Field Support Activity XK(W4ARAA) Ft Hood, TX 76544	Unit reorganized (added functions).
31-2/81	1 Jul 81	USA Metrology & Calibration Center (USAMC) X6(W1PAA), Redstone Arsenal, AL 35809	Redesignated as USA TMDE Support Group. Assigned to MICOM.
34-1/81	28 Feb 81	HQ, USA Missile Command (MICOM), X6(WOH9AA) Redstone Arsenal, AL 35809	Operational control of TMDE Calibration & repair support functions in the USA Depot Anniston Support Area reassigned from MICOM to USA Metrology & Calibration Center, UIC X6(WLPLAA).
36-1/81	1 Jun 81	USA Office of the PM for Navigation/Control Systems (NAVCON) XB(W28UAA), Ft Monmouth, NJ 07703	Unit discontinued. Mission, functions & personnel strength authorizations transferred to the USA Avionics Research & Development Activity TDA XBWINOAA CONUM X10581.
37-1/81	17 Feb 81	USA Office of the PM for XM1 Tank System XL (W3TJAA), Warren, MI 48092	Redesignated to the USA Office of the PM for ABRAMS Tank System and assigned to HQ, DARCOM.

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CHART 11

PERMANENT ORDER/CY	EFFECTIVE DATE	ORGANIZATION	ACTION
39-2/81	1 Oct 81	USA Logistics Management Center (ALMC) X4 (W1E1AA), Ft Lee, VA 23801	Reorganized; Mission changed. Amended to reflect the deletion of the Logistics research mission & functions accomplished by the USA Inventory Research Office (IRO), the USA Procurement Research Office (PRO), and the Logistics Studies Office (LSO) from ALMC and transferred to the USA Materiel Systems Analysis Activity (AMSAA) X5(W3JCAA), Aberdeen PG, MD 21005.
41-1/81	18 Apr 81	HQ, USA Missile Command (MICOM), X6 (WOH9AA), Redstone Arsenal, AL 35898	Operational control of TMDE for Tobyhanna & Letterkenny support areas is further assigned from MICOM to USA TMDE support group, UIC X6(W1PLAA).
41-1/81	1 May 81	HQ, USA MICOM, X6(WOH9AA) Redstone Arsenal, AL 35898	Operational control of TMDE for Pueblo support area is further assigned from MICOM to USA TMDE Support Group, UIC X6(W1PLAA).
44-1/81	1 Jun 81	HQ, USA MICOM X6(WOH9AA), Redstone Arsenal, AL 35898	Operational control of TMDE Calibration & repair support functions for the USA Depot Sacramento support area and the USA Depot Activity Lexington-Blue Grass support area are further assigned to the USA TMDE Support Group.
52-1/81	1 Oct 81	USA Ofc of PM Black Hawk, XL St. Louis, MO 63120	Unit reassigned from HQ, DARCOM to HQ TSARCOM.
55-2/81	1 May 81	USA Test Unit, Ft Monmouth NJ X8(W4DHAA)	Unit discontinued; mission, functions & personnel space authorizations transferred to the USA Systems Engineering & Integration Center (CENSEI), TDA X8W4BUAA.
62-1/81	1 Oct 81	Executive Director For Conventional Ammunition (EDCA) X3(W4JEAA) 5001 Eisenhower Ave., Alex, VA 22333	Unit organized.

(U) The Advanced Systems Concepts Office (ASCO), originally a separate office reporting directly to the Commander, MICOM, was transferred to the Army Missile Laboratory (AML). In concurrence, a new Systems Development Office was established by the transfer of the Corps Support Weapons System (CSWS) Project Office (Provisional) to AML.

(U) The newly established Missile Logistics Center centralized the responsibility for maintenance management, materiel management, and weapon system management for non-project managed systems; and the Missile Systems Readiness Directorate was established through the transfer of existing resources.

(U) DARCOM Mission and Organization. Other DARCOM organizational changes which took place during fiscal year 1981 are shown on Charts 9-11.

Installations and Services

Mission and Organization

(U) During fiscal year 1981, the Directorate for Installations and Services continued to direct, staff, supervise, and develop authorization and funding programs for, and/or coordinate the management and use of the physical plant of the US Army Materiel Development and Readiness Command, and the logistical support services incident to the operation of its installations. These included: construction; utility operations; repair and maintenance of facilities; functional aspects of information system design, development, training, implementation, and operation; environmental protection, involving air, water, noise, and all other forms of pollution; conservation of energy and natural resources; land management; fire prevention and protection; real estate; family housing, housing referral service, guest houses, barracks, and bachelor quarters, intraservice and interservice support agreements (excluding wholesale supply support agreements); audiovisual activities; direct and general support maintenance, authorization, use, and redistribution of installation equipment, industrial plant equipment, and administration transport vehicles, utility railroad equipment, and marine floating equipment; retail supply activities, clothing sales stores, and self-service supply centers; commissaries, post exchanges, theaters, post restaurants, open messes; direct Energy Coordination Center activities and Environmental Quality Programs.

(U) In fiscal year 1981, the Director of Installations and Services served as resource manager and program director of the Military Construction, Army (MCA) Appropriation, the DARCOM Family Housing Management Appropriation Budget Programs 1800 and 1900, and program director for the DARCOM Installations and Services Program. He also directed the operation of the DARCOM Installations and Services Activity at Rock Island Arsenal. In addition, the Director coordinated within Headquarters, DARCOM all matters that related to Installation Restoration assigned to US Army Toxic and Hazardous Materials Agency (USATHAMA).

Plans and Programs

(U) In fiscal year 1981, the Plans and Programs Office was involved with program and funding issues that affected DARCOM-wide missions and cut across most appropriations. The office synthesized data for the preparation of impact statements as a result of: the past DA 1983-87 Program Objective Memorandum submission to the Office of the Secretary of Defense (OSD) in May 1981; ongoing OSD Program Budget Decisions affecting fiscal year 1981 and the budget year (fiscal year 1983). It also assisted with DA's Program Budget Guidance of July, October, and November 1981 and the October 1981 "Army Guidance." The latter document set the stage for preparation and submission of the DARCOM FY 1984-88 Program Analysis Resource Review to DA.

(U) The Plans and Programs Office also represented the Directorate on the new Headquarters Mobilization Working Group, which was tying together a more detailed examination of resource requirements before and after "M"-Day. To assist in its expanding responsibilities, two powerful micro-computers with exceptionally versatile peripheral equipment had been ordered for the Directorate. When the system was to come "on-line," it was to enable the Directorate to query data bases of other directorates, DARCOM subordinate commands, and the Installations and Services Activity.

DARCOM Energy Program

(U) The fiscal year 1981 DARCOM Supplement to AR 11-27, the Army Energy Program, established three major objectives for the DARCOM Energy Program: 1) To assure adequate energy supplies to maintain Readiness; 2) to conserve energy resources; and 3) to foster the conservation ethic. The inability of the OPEC oil producers to agree on a uniform price for their crude oil, the Saudi decision to restrain prices by overproducing, and the continuing decline in US petroleum demand turned the shortfall into a "glut." This eased prices for most forms of energy during fiscal year 1981. Almost all analysts viewed lower fuel prices as temporary, and certainly no reason to relax conservation programs or the development of petroleum substitutes to meet long-term needs. Even as the fiscal year ended, events in the mid-East signaled yet another change in direction, with accompanying impacts on the world-wide energy market: OPEC had finally agreed on a uniform price; Saudi Arabia would cut its production; political unrest in that region continued; and the Soviet maneuvered to gain an advantage at the expense of the West. These events confirmed DARCOM's goals of reducing consumption of natural petroleum fuels and deriving a greater percentage of its energy needs from coal, solar, and biomass fuels; in addition to promoting energy technology for employment of fuel cells, gasification, liquefaction, and cogeneration systems.

(U) Program Management. DARCOM had used fiscal year 1975 as the base year for determining fiscal year 1985 and fiscal year 2000 goals. Since only 5.4 percent of DARCOM's total energy consumption was mobility related, the major thrust of the Energy Office lay in the management of Facility Energy. In fiscal year 1981, actions were built upon the following framework of goals:

DA Facility Energy Goal	-	20 percent reduction by FY 1985
DA Petroleum Goal	-	75 percent reduction by FY 2000
DA Mobility Goal	-	10 percent reduction by FY 1985
DARCOM Petroleum Goal	-	30 percent reduction by FY 1985
DARCOM Coal, Solar, RDF, and Biomass Goal	-	30 percent of Facility Energy by FY 1985
DARCOM Total Energy Goal	-	1.0 percent reduction FY 1981 vs FY 1980

(U) Chart 12 identifies the specific areas where DARCOM had reduced energy consumption, showing fiscal year 1981 as a watershed year in the Energy Program. By 1981, energy reduction due to production decreases had ended and production would increase in the future. Simple conservation efforts had reached a plateau, so future conservation would have to take the form of increased efficiency in all phases of DARCOM activity. The dip in the chart for fiscal year 1981 was a subtle reminder that future DARCOM energy reduction would not come easily.

(U) Chart 13, identifying the consumption trends of the major facility energy fuels, shows that the fiscal year 1985 goal of 30 percent reduction of petroleum consumption was achieved in fiscal year 1980. However, this success was realized at the expense of Natural Gas consumption which had been steadily increasing since fiscal year 1977. Electricity consumption had generally increased, following a national trend toward greater use of electrical energy over other forms of energy.

(U) Chart 14 shows fiscal year 1981 consumption compared to fiscal year 1980. DARCOM consumed 0.3 percent more energy. The goal of 1 percent reduction of energy was not realized, primarily due to increased production and new energy intensive waste explosive incinerators, both being at Radford AAP.

(U) The DARCOM Industrial Energy Plan (DIEP). This plan was prepared as a comprehensive guide for energy managers and other key decision-makers who must be involved in expanding the scope of the Command's energy program from facilities-oriented to industrial process energy as well. Signed by the Commanding General, the DIEP addressed seven major thrust areas for energy management: buildings; industrial equipment; methods and processes; energy production and distribution systems; contracting procedures; funding; and energy research and development (R&D). Under the area of general management, the plan discussed technology transfer, energy awareness, contingency planning, incentive awards, and other topics. Separate chapters also explained the goal-setting process and provided instructions for developing installation energy plans.

(U) The Energy Engineering Analysis Program (EEAP), the Energy Conservation Investment Program (ECIP), and the Energy Conservation and Management (ECAM) Program. Fiscal year 1981 was an active year for all the energy capital investment programs. The EEAP contracted 117 study increments at DARCOM installations which was by far the most active year of the program to date. This activity included initiation of contracts at 28 DARCOM installations which were not previously included in the program. The ECIP, involving Military Construction, Army (MCA) appropriation, also experienced its most active year to date. Twenty-eight ECIP projects were programmed during fiscal year 1981 with an anticipated savings in excess of 1 million MBTUs per year to DARCOM once these projects were completed. Family Housing ECIP programmed three projects during fiscal year 1981 with an expected savings in excess of 20,000 MBTUs per year to DARCOM. Fiscal year 1981 marked the formulation of the ECAM program which would not become effective until fiscal year 1982. Eight projects were formulated for the 1982 program which were expected to save approximately 300,000 MBTUs per year for DARCOM.

(U) In a Department of Defense (DOD)/Department of Energy (DOE) joint initiative, in fiscal year 1981, the Army Energy Technology Demonstration program demonstrated energy conserving technology. The program's projects formed a comprehensive display of energy technologies of interest to DOD elements and other energy consumers, especially those in the central area of the United States. The portion of the program being conducted at the Red River Army Depot/Lone Star Army Ammunition Plant was called the Army Energy Technology Demonstration Center. The Mobility Equipment Research and Development Command (MERADCOM) testing of gasohol continued at Red River Army Depot (RRAD), consuming 269 barrels in fiscal year 1981. The Tank Automotive Command (TACOM) purchased five electrically powered vehicles to be used at RRAD for their testing and evaluation of these vehicles for administrative use. DOE authorized $550 thousand for installation of an industrial solar hot water system to provide hot water for chemical cleaning tanks at RRAD.

(U) Energy Awards. Winners of the Semiannual Installation Energy Awards for the first and second halves of fiscal year 1980 and the first half of fiscal year 1981 were selected during fiscal year 1981. Winners and runners-up are shown on Charts 15-17.

(U) The Study of Army Logistics -- 1981. This study, directed by the Chief of Staff, Army, represented a comprehensive and detailed statement of the Army's logistic posture, and what would be required to equip and sustain our fighting forces in the decades of the 1980s and 1990s. The study report recognized the impact of energy on future logistics systems and gave prominence to the material assembled or developed by the DARCOM Energy Office. Included were recommendations and supporting documentation which: continued funding the conservation programs; converted large oil-fired boilers and heating plants to burn coal, biomass, synfuels, or combinations of these fuels; exploited site-available energy resources; promoted and used the growing technologies; continued the emphasis on facilities energy; and designed energy efficiency into weapon systems.

CHART 12

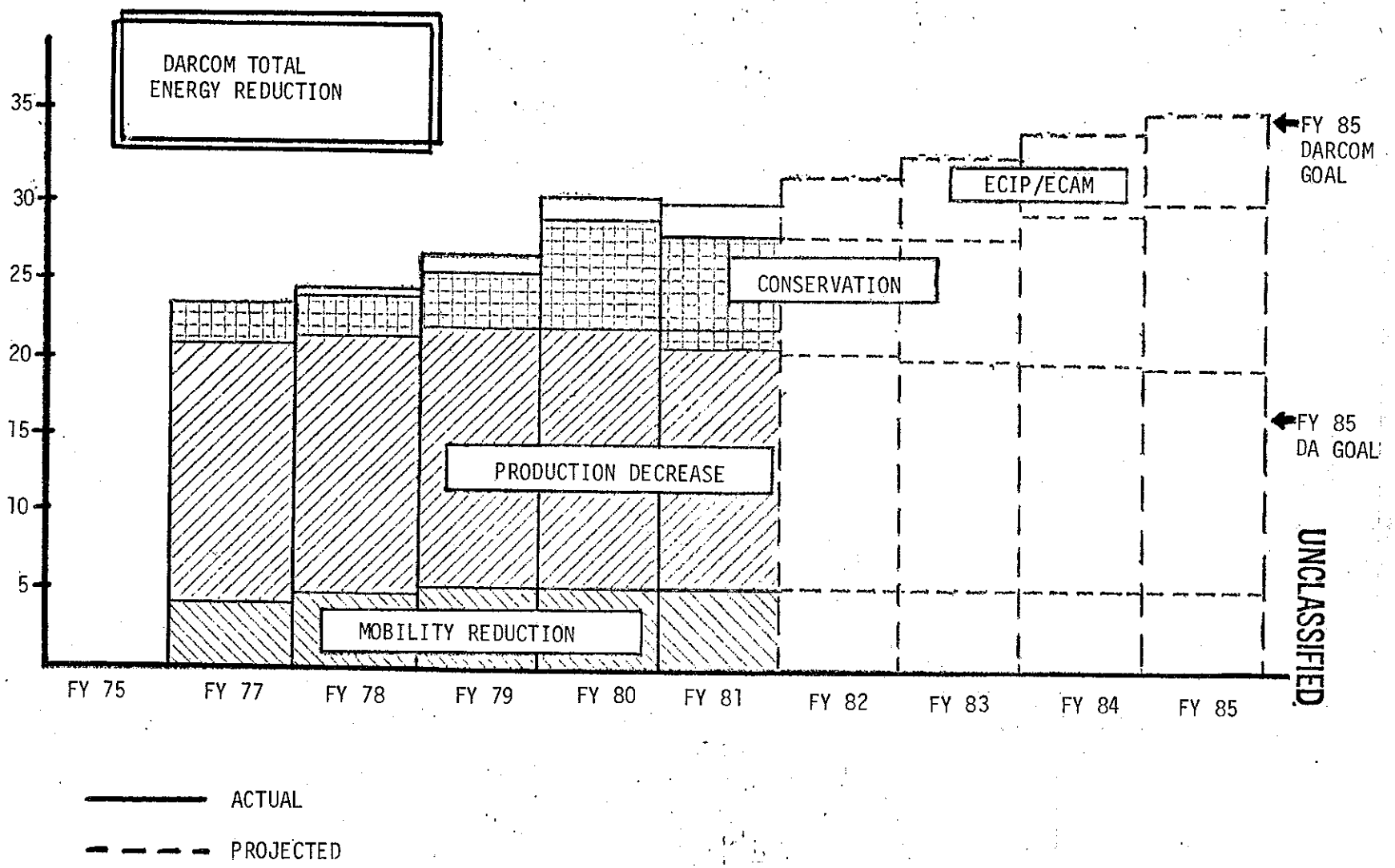

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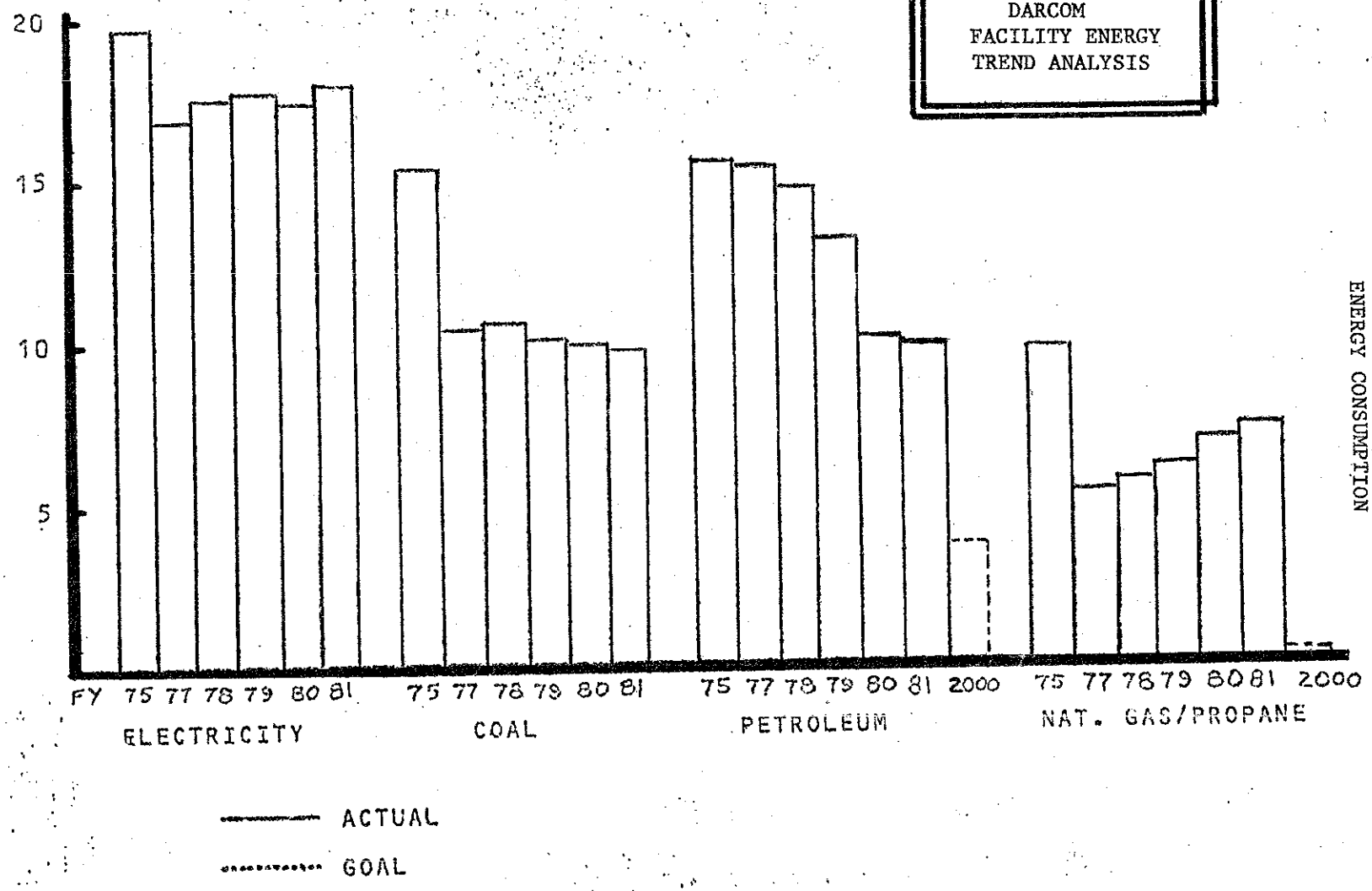
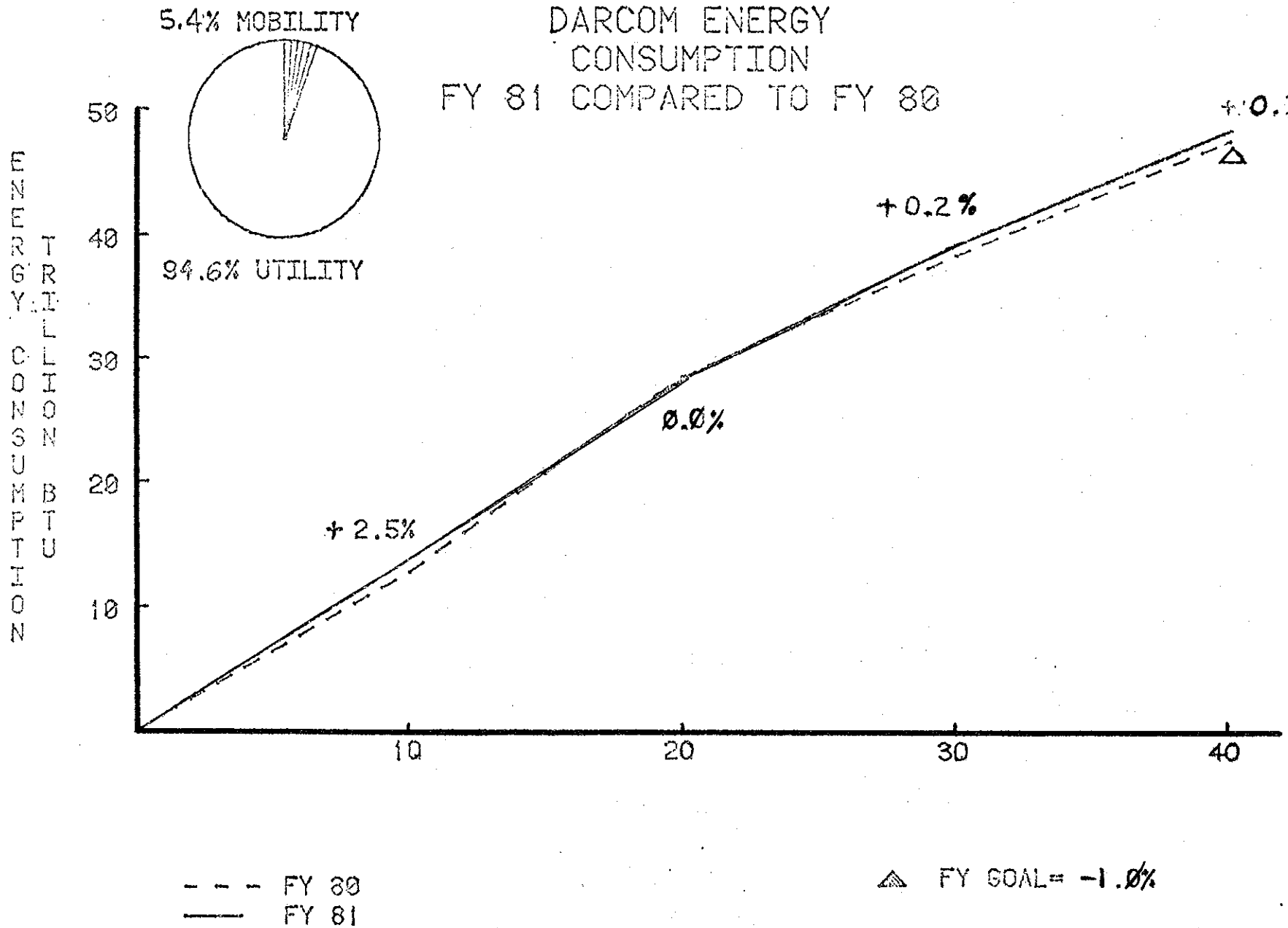
CHART 13

DARCOM
FACILITY ENERGY
TREND ANALYSIS



ENERGY CONSUMPTION

TOTAL DARCOM ENERGY CONSUMPTION FY 81 COMPARED TO FY 80



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DARCOM ENERGY INCENTIVE AWARDS

FIRST HALF FY 81

INSTALLATION CATEGORY	WINNER	RUNNER(S)-UP (* - First Runner-up)
1. Ammunition Plants	Lake City	*Longhorn Cornhusker Riverbank Scranton Iowa Milan Badger Twin Cities Kansas
2. Depots	Pueblo	*Corpus Christi Navajo Savanna Tobyhanna Tooele Sacramento Seneca
3. Labs, Proving Grounds, Others	White Sands MR	*Natick Yuma PG Fort Monmouth St. Louis
4. Arsenals and Other Plants	Rock Island	None

NOMINATIONS FOR

CHART 16

DARCOM ENERGY INCENTIVE AWARDS

SECOND HALF FY 80

INSTALLATION CATEGORY	WINNER	RUNNER(S)-UP (* - First Runner-up)
1. Ammunition Plants	Joliet	*Scranton Cornhusker Lake City Longhorn Newport Twin Cities Lone Star Louisiana Kansas Holston
2. Depots	Pueblo	*Seneca Savanna
3. Labs, Proving Grounds, Others	Natick	*White Sands MR AMMRC Ft. Monmouth Aberdeen Yuma Picatinny
4. Arsenals and Other Plants	Rock Island	*Detroit Watervliet

NOMINATIONS FOR

CHART 17

DARCOM-ENERGY INCENTIVE AWARDS

FIRST HALF FY 80

INSTALLATION CATEGORY	WINNER	RUNNER(S)-UP (* - First Runner-up)
1. Ammunition Plants	Lone Star	*Holston Cornhusker Badger Volunteer Indiana Kansas Longhorn Ravenna Radford
2. Depots	Corpus Christi	*Sacramento Savanna Sharpe New Cumberland Pueblo Lexington Tobyhanna Anniston
3. Labs, Proving Grounds, Others	White Sands MR	*AMMRC Dugway Natick Jefferson Aberdeen Picatinny
4. Arsenals and Other Plants	Rock Island	*Redstone Watervliet Pine Bluff

(U) DARCOM Third Annual Energy Conference. The theme of this conference, which took place in Springfield, Virginia, was Energy Management: A Broader View. The first day's agenda featured National, DOD, DA, and private sector energy programs. The second day included a forum for DARCOM Energy Programs, as well as a presentation of the DARCOM Industrial Energy Program (DIEP). The third day was reserved for major subordinate command (MSC) meetings and discussion groups.

(U) Program Problems/Solutions. The major task of the Energy Office, in fiscal year 1981, was to identify and implement a successful Command Energy Program with the insight and aggressiveness necessary to meet the energy challenge of the 1980s. Management of energy in the past was constrained to tracking fuel consumption, with little manpower resources left for the management of energy. The DA Energy plan did not address the industrial nature of DARCOM. Therefore, the major management thrust for the DARCOM Energy Office was to develop the DARCOM Industrial Energy Plan. With the identification of the solution accomplished, the implementation remained to be completed in fiscal year 1982.

(U) Uncertainty over the future of the Army Energy Technology Demonstration Program and administrative problems, such as the coordination of efforts and responsibilities among OCE/DOE/DARCOM, were resolved in fiscal year 1981, and a DOE funding extension was provided through September 1982.

Engineer Division

(U) Real Estate Branch. During fiscal year 1981, documents of title transferring Charleston Army Depot were approved and delivered to the Navy. The property transferred consisted of approximately 622 acres of land and improvements with initial costs of $6,497 million. Navy tenants were already occupying 367,000 square feet of the available space. A savings to DARCOM as a result of the transfer was estimated at $698 thousand per annum.

(U) In fiscal year 1981, Frankford Arsenal, which was being processed for disposal, was certified as decontaminated for unrestricted use. This was a necessary procedure in order for GSA to accept Frankford for disposal.

(U) Steps leading to acquisition of the long-range and the mid-range test launch sites for the Pershing II missile were instituted at White Sands Missile Range in fiscal year 1981. The long-range site included control of approximately 680,000 acres; the mid-range site totaled approximately 734,000 acres.

(U) Facilities Branch. Actual and projected number of projects and costs for pollution abatement, covering fiscal years 1968 through 1985, are listed below:

Fiscal Year	Cost ($Millions)	Number of Projects
1968-78	184	151
1979	55	15
1980	50	29
1981	36	12
1982	10	5
1983	21	4
1984	13	6
1985	25	6

(U) Urgent minor construction projects and self-amortizing minor construction projects ($100,000-$500,000) funded for construction for DARCOM installations or activities amounted to $10.9 million. Thirty-five projects were funded during the fiscal year.

(U) Sixty-five military construction projects were authorized by Congress in the fiscal year 1981 budget. The Military Construction, Army appropriation totaled $100.3 million for fiscal year 1981.

Environmental Quality

(U) The fiscal year 1981 DARCOM Environmental Program represented a broad-based, multi-disciplined effort that encompassed environmental management, applied technology for pollution abatement and environmental enhancement, and research and development for the solution of unique Army environmental problems. The Environmental Quality Division of the DARCOM Installations and Services Directorate was the focal point for the command program, working closely with the environmental representatives of the Major Subordinate Commands (MSCs), installations, and the functional directorates of the headquarters. The division had a total of 13 persons: 11 civilians and 2 military, authorized on-hand.

(U) The Pollution Abatement Operations Center (PAOC), established in fiscal year 1978, continued to be a focal point for information on the DARCOM environmental posture, and, in fiscal year 1981, new requirements under the Toxic Substances Control Act and the Resource Conservation and Recovery Act, were placed into effect. The new administration undertook revision of the Clean Air Act and the Clean Water Act, but had not enacted any specific changes by the end of the fiscal year. A noticeable shift of enforcement activity from Federal to State authority took place.

(U) Compliance with Applicable Environmental Quality Standards. The Clean Air Act and Clean Water Act were the expensive driving environmental laws of the 1970s, and in fiscal year 1981, the regulations implementing the Toxic Substances Control Act (TSCA), Resource Conservation and Recovery

Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund) began to have a major impact on the DARCOM environmental picture.

(U) At the onset of fiscal year 1981, DARCOM had 21 noncomplying installations composed of 8 air noncomplying sources, 21 water noncompliers, and 1 solid waste noncomplier. At the close of fiscal year 1981, the number of noncomplying installations remained the same at 21, although four installations had been removed from the list and four new installations added to the noncomplier listing.

(U) At the close of the fiscal year, the 21 DARCOM installations had a total of 7 air noncomplying sources, 20 water noncompliers, and 2 hazardous waste noncompliers. Although the net compliance posture was balanced and relatively stable for the fiscal year, the new hazardous waste noncompliers and additional solid waste source were only the first regulatory enforcement actions under TSCA and RCRA. Furthermore, this headquarters had received warning that the Environmental Protection Agency Region III was about to issue one procedural violation for improper polychlorinated biphenyl storage and hazardous waste inspection reports for three other installations. Thus, in the beginning of fiscal year 1982, DARCOM would have the potential for four new hazardous waste non-compliers.

(U) Regulatory proceedings and litigation represented a measure of pending and actual legal actions against DARCOM installations. Regulatory proceedings included violation notices, show cause or adjudicatory hearings, and compliance orders. The net number of installations--eight--with such legal actions was the same at the start and the end of fiscal year 1981. However, during that period the number temporarily jumped to 12 installations with regulatory proceedings during the third quarter of fiscal year 1981.

(U) At the start of fiscal year 1981, the eight installations had 17 violation notifications and one compliance order. At the close of the fiscal year, there were five violation notifications and three compliance orders.

(U) The DARCOM litigation picture (actual law suits) decreased from four to two during fiscal year 1981. The Red River Army Depot water suit and the Callery Chemical Company's Carborane facility, National Environmental Protection Agency (NEPA) suit were settled. However, the claim for $50 million damages from DDT against Redstone Arsenal continued in the Southern Court of Alabama, and the Illinois District Court suit on solid waste from Joliet AAP continued, even though Joliet had properly applied for solid waste permits for existing and new solid waste landfills.

(U) The operating permit status for air, water, solid waste, hazardous waste, and dredge/fill operating permits for DARCOM installations continued to improve during fiscal year 1981. The permits increased from 71 percent on hand at the beginning, to 84 percent on hand at the close of

fiscal year 1981. The on hand plus applied for permits remained constant at 99 percent during the same time period. Command emphasis resulted in very positive results in the DARCOM operating permit area. It was anticipated that on hand plus applied for permit percentages should remain constant at about the 98-99 percent level, as air and water permit renewals continue and as solid and hazardous waste permit application refinements are made by the regulatory agencies.

(U) In fiscal year 1981, the Environmental Protection Agency/ Department of the Army (EPA/DA) Federal Facility Compliance Agreement (FFCA) for 17 noncomplying sources at 15 DARCOM installations continued to be tracked and reported on. The agreement, also called the "Golden Football," provided for the EPA refraining from enforcement actions at the covered installations as long as the Army adhered to its construction compliance schedules. At the close of fiscal year 1980, three of the original Golden Football projects had achieved compliance: two at Lake City and one at Pine Bluff Arsenal; and by the end of fiscal year 1981, four other projects were completed at Milan Army Ammunition Plant, Newcumberland Army Depot, Tobyhanna Army Depot, and Radford Army Ammunition Plant. However, because of other water problems at Radford and Milan, these two installations were not brought into compliance.

(U) During the fiscal year, the EPA/DA FFCA also required regular reporting on design, construction, and final compliance milestones on 17 projects at 15 installations. In addition, extensive progress reporting had to be sent quarterly by the Corps of Engineers to the DARCOM installations and by the DARCOM installations to the State regulators and the EPA Region. A numerical monthly summary of this milestone and quarterly reporting are found on Chart 18.

(U) Under the EPA/DA FFCA 61 percent of the milestones were met on time during fiscal year 1981, with all but two of the seven missed milestones being completed one to three months late. The Corps of Engineers, at Huntsville, Alabama, maintained a 97 percent on-time reporting rate to DARCOM during fiscal year 1981; and DARCOM installations achieved a 92 percent on-time reporting record to the EPA Regions and States during the same time period.

(U) Resource Conservation and Recovery Act (RCRA)/Toxic Substance Control Act. Completion and implementation of installation-level hazardous waste management programs continued in fiscal year 1981, aided by US Army Environmental Hygiene Agency management surveys, and state and federal regulator inspections. Defense Property Disposal Service guidance resulted in a significant shift of hazardous waste disposal responsibility from the installation to servicing Defense Property Disposal Offices, although the installations continued to be required to retain custody of the waste until it was picked up by service contractors.

CHART 18

DA/EPA COMPLIANCE AGREEMENT STATUS SUMMARY
(MILESTONES & REPORTS)

1981

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MILESTONES												
SCHEDULED	2	0	1	0	3	4	3	1	2	1	3	2
COMPLETED	2	0	1	0	1	1	3	0	1	1	2	2
NOT ACHIEVED	0	0	0	0	2D	3F	0	0	1H	0	1M	0
COMPLETED LATE	0	0	0	0	0	0	1G	0	1I	0	0	0
OCE REPORTS (MILESTONES & QUARTERLY REPORTS)												
SCHEDULED	4	3	6	2	6	9	7	4	5	3	7	3
COMPLETED	4	4B	6	2	6	9	7	4	3	1	7	1
COMPLETED LATE	0	0	0	0	0	0	0	0	2J	2L	0	2P
ANTICIPATED DELAY	1A	0	0	0	1E	0	0	0	1K	0	1N	0
DARCOM REPORTS												
SCHEDULED	8	8	12	4	12	18	14	8	10	6	14	6
COMPLETED	8	8	10	4	12	18	14	6	6	2	14	2
COMPLETED LATE	0	0	2C	0	0	0	0	0	4	4L	0	4P

NOTES:

A. RADFORD ANTICIPATED DELAY FOR CONSTRUCTION COMPLETION AND ACHIEVE COMPLIANCE MILESTONES. OSHA DEFICIENCIES MUST BE CORRECTED.
B. LONE STAR WATER PROJECT ACHIEVED FINAL DESIGN 5 MONTHS AHEAD OF SCHEDULE.
C. RADFORD RENEGOTIATING FFCA W/EPA AND STATE. QUARTERLY COMBINED LETTERS LATE.
D. ROCK ISLAND ARSENAL AND TOBYHANNA AD AIR PROJECTS CONSTRUCTION COMPLETION DELAYS. RIA SLIPPED TO JUL 82 DUE TO STRUCTURAL STEEL DESIGN AND OCE ACCEPTANCE OF A BAGHOUSE SUPPLIER. TOAD HAS REVISED AGREEMENT FROM EPA RGN II STILL PENDING.
E. ABERDEEN PROVING GROUND WATER PROJECT CONSTRUCTION COMPLETION DATE, ANTICIPATED DELAY UNTIL NOV 1981.
F. TOBYHANNA WATER PROJECT CONSTRUCTION COMPLETION MILESTONE SLIPPED ONE MONTH. ROCK ISLAND ARSENAL AIR COMPLIANCE MILESTONE SLIPPED TO AUG 82. ABERDEEN PG WATER PROJECT SLIPPAGE (SEE NOTE E).
G. TOBYHANNA WATER CONSTRUCTION COMPLETION MILESTONE ACHIEVED JUL 1981.
H. SAVANNA AD DENIL PROJECT CONSTRUCTION AWARD SLIPPED TILL DEC 81.
I. TOBYHANNA WATER PROJECT ACHIEVED COMPLIANCE ONE MONTH LATE.
J. QUARTERLY REPORTS OUT OF HUNTSVILLE OCE LATE ON LONE STAR AAP AND ANNISTON AD.
K. ROCK ISLAND ARS. ANTICIPATED DELAY AIR PROJECT TILL AUG 82. DELAY DUE TO BAD WEATHER, EQUIPMENT DELAY & TRADE UNION STRIKES.
L. REDSTONE ARS AND IOWA AAP QUARTERLY REPORTS LATE FROM OCE HUNTSVILLE AND DARCOM REPORTS TO EPA AND STATE ALSO LATE.
M. ANNISTON AD IWTP CONSTRUCTION COMPLETION DELAYED TILL MAY 82.
N. HOLSTON AAP IWTP CONSTRUCTION COMPLETION ANTICIPATED DELAY MAY 82 TO SEP 82.
P. ANNISTON AND SENECA ADs QUARTERLY REPORTS LATE FROM OCE HUNTSVILLE AND DARCOM REPORTS TO EPA AND STATE ALSO LATE.

(U) Projects at several installations were completed to upgrade or construct hazardous waste storage facilities. More than 200 groundwater monitoring wells were emplaced at 19 installations at a cost of nearly $1 million using US Army Environmental Hygiene Agency, US Army Toxic and Hazardous Materials Agency, installation and contractor resources. Most of the contractor efforts were managed through Huntsville District, Corps of Engineers, Single Manager for the Army Pollution Abatement Program. Waivers for well emplacement were prepared at three installations. Closure plans for hazardous waste facilities were initiated at five locations.

(U) Memorandums of agreement and other program documents were completed in anticipation of drastically increased groundwater monitoring, contamination investigation, and RCRA permitting requirements during fiscal year 1981.

(U) Water Quality. During fiscal year 1981, $45 million worth of waste water treatment facility projects reached completion. The stage was set for enhanced DARCOM compliance with environmental regulations in the water area, primarily compliance with the National Pollutant Discharge Elimination System (NPDES) permit requirements. The completed projects would have marked the beginning of the end of DARCOM noncompliance; however, during 1981, a parallel development--the receipt of the first of the "second-round" NPDES permits--set substantially more stringent, effluent limitations on DARCOM facilities. Thus, during fiscal year 1981, there was only one net reduction in the total number of DARCOM installations tracked by the Environmental Quality Division (EQD) as water noncompliers.

(U) With a large number of DARCOM installation NPDES permits expiring in 1981 and 1982, all affected commands and installations were advised in early fiscal year 1981 to prepare early to negotiate "second-round" permits with the most advantageous limitations possible, from the Army viewpoint. This effort began to pay off, with several installations, such as Pine Bluff Arsenal, Iowa Army Ammunition Plant, Tobyhanna Army Depot, and Aberdeen Proving Ground, achieving concessions from the regulators on seemingly unreasonable permit restrictions. These concessions represented thousands of dollars in monitoring costs in some cases, and millions of dollars in construction costs in others.

(U) A major milestone was reached in fiscal year 1981, with the completion of a several-year effort to install marine sanitation devices (MSDs) on all required Army watercraft by DARCOM's Project Office for Amphibians and Watercraft, by the statutory deadline of 1 April 1981. All applicable craft received either the required, permanently installed MSD, or a suitable, portable substitute until contracts for MSDs could be executed. Several earlier indications that the deadline would not be met were overcome by intensive command management.

(U) Air Quality. The air quality emphasis in fiscal year 1981 was toward Inspection and Maintenance plans for automobiles and establishing environmentally acceptable coatings for paint shops. Inspection and maintenance plan summaries were prepared and sent to major subordinate commands for them to determine their applicability to their commands. To assure that installation paint shops were in compliance with volatile organic compound emissions, a survey form was developed for the purpose of determining which paints should be reformulated and which installations required add-on equipment in order to meet these requirements.

(U) The monitoring of the open burning and open detonation incinerator projects continued to be a priority program for this year. This program had saved in excess of $115 million.

(U) A considerable amount of time was spent in fiscal year 1981 monitoring the progress of the Clean Air Act Amendments scheduled for 1981, so that MSCs could be notified of any changes in compliance strategies.

(U) National Environmental Protection Agency (NEPA). Implementing and complying with the latest Council on Environmental Quality (CEQ) regulations throughout the Army during fiscal year 1981 met with a series of responses throughout DARCOM. The highlights were as follows:

a. HQDA published, in the Federal Register on 20 October 1980, implementing regulations of the CEQ Regulations, and DODDs 6050.1 and 6050.7. The Army's official Army Regulation 200-2, Environmental Effects of Army Actions, was published on 1 September 1981.

b. Headquarters, DARCOM implemented the NEPA requirements on 16 November 1979, when it published DARCOM Supplement 1 to AR 200-1. Chapter 2 addressed NEPA and was the basis for officially supplementing AR 200-2. The draft DARCOM Supplement was being staffed for comments in November 1981.

(U) Installation Restoration (IR). During fiscal year 1981, in the DARCOM IR program, record searches were initiated for 42 installations. These included searches for 17 DARCOM installations, 6 former installations, and 19 installations at other Major Subordinate Commands. All DARCOM installations record searches were completed. Five installation surveys would carry over to fiscal year 1982, 9 surveys were completed, and 11 new surveys were started. The surveys completed included: Alabama AAP; Aberdeen PG; Fort Wingate DA; Milan AAP; Navajo DA; Sacramento AD; Fort Gillem; Rhode Island Nike Sites; and Fulton Property, Rhode Island. The installations where surveys were initiated included: Anniston AD; Blue Grass DA; Cornhusker AAP; Indiana AAP; Iowa AAP; Letterkenny AD; Lone Star AAP; Longhorn AAP; Tooele AD; Twin Cities AAP; and Sharpe AD. Contamination/Abatement operations continued at Milan AAP, Redstone Arsenal, and Rocky Mountain Arsenal, while all decontamination efforts at Frankford Arsenal were completed. A decontamination effort was initiated at Alabama AAP.

(U) Environmental Conference. An environmental workshop was held on 28-30 October 1980 at the (then) Charter House Motor Hotel in Alexandria, Virginia. Headquarters, DARCOM Environmental Quality Division (EQD) sponsored the workshop, and the US Army Toxic and Hazardous Materials Agency (USATHAMA) was the host. Mr. Lewis D. Walker, MG W. H. Schneider, Dr. D. K. Emig, and COL K. Halloran were principal speakers. As an over-capacity group of 175-180 persons attended, the larger MSCs held mini-workshops with their own installations. The principal subject was the new NEPA implementation procedures, such as categorical exclusions, Findings of No Significant Impact (FNSI), and reduced Environmental Assessment (EA) documentation.

(U) Environmental Publications. The Environmental Newsletter, an unofficial publication authorized under the provisions of AR 360-81, Command Information Program, was initiated by the EQD in fiscal year 1979, and continued in fiscal years 1980 and 1981. Issues were published for the periods of October through November 1980, December 1980 through January 1981, February through March 1981, April through May 1981, June through July 1981, and August through October 1981. The August through October 1981 issue marked the beginning of the use of a computer-aided printing system, which simplified editing and provided a more readable format. During 1981, the Environmental Newsletter was defended against an Army publications cutback as being the only exclusively environmental publication in the Army and widely supported by its readership. A second informal publication, Environmental Lessons Learned, was considered viable in 1981, but no issues were published during the fiscal year.

(U) The major official environmental publication issued by the Environmental Quality Division during fiscal year 1981 was the DARCOM Supplement 1 to AR 200-1, Environmental Protection and Enhancement, which was printed and distributed on 29 June 1981. It superseded the 16 November 1979, DARCOM Supplement 1 to AR 200-1, dated 20 January 1978. The regulation prescribed policies, assigned responsibilities, and established procedures for the protection and preservation of the environment as it related to DARCOM installations, facilities, activities, equipment, and vehicles. A significant change in this supplement was Chapter 2 of AR 200-1, which was superseded by AR 200-2, Environmental Effects of Army Actions. Chapter 2 had addressed environmental considerations in DA actions and implemented the National Environmental Protection Act. DARCOM planned to issue a supplement to AR 200-2 in early fiscal year 1982. The DARCOM Supplement to AR 200-1 gave new formats and guidance for the DD-M(SA) 1383 Report, which was the major environmental pollution prevention, control, and abatement report. The supplement also provided an appendix with format for the DOD required Environmental Management-by-Objectives (MBO) Report, RCS DD-M(A&SA) 1485.

(U) Environmental Awards. Four DARCOM Installations, the Red River Army Depot, Iowa Army Ammunition Plant (AAP), Lone Star AAP, and the Watervliet Arsenal, submitted entries for the Annual Environmental Quality Award competition in fiscal year 1981. Red River Army Depot won the DARCOM award, while Iowa and Lone Star AAPs were first and second runners-up, respectively. Unfortunately, DARCOM installations did not place in the higher echelon competitions. Three DARCOM employees were nominated to HQDA for the Federal Environmental Engineer Award, but did not place in the DA-level competition.

(U) OMA Funds. In fiscal year 1981, DARCOM received $8,794 million Operation and Maintenance, Army (OMA) funds for pollution abatement activities, of which $7,445 million were a supplemental. The majority of these funds were further allocated to Major Subordinate Commands (ARRCOM--$5,407 million, DESCOM--$0.728 million, and Huntsville Division, Corps of Engineers--$1,832 million). MSCs augmented the funds provided by DARCOM to the extent that a total of over $12 million was obligated for pollution abatement projects and studies. The fiscal year 1982 OMA requirement was $13.5 million for environmental protection activities primarily to comply with the Resource Conservation and Recovery Act.

CHAPTER III

MATERIEL DEVELOPMENT

Highlights

(U) Fiscal year 1981 saw budget restraints and direction from the Administration to "hold down spending", which resulted in some cutbacks and major realignments in materiel development programs. However, some notable accomplishments were experienced. The M1 Abrams Tank was authorized full production; and the Vice Chief of Staff of the Army approved introduction of improvements to the M1. A total of four production IFV vehicles were delivered and accepted by the Government during the fiscal year. On 20 October 1981, the FVS was formally named the Bradley Fighting Vehicle. The first U. S. ROLAND production fire unit was completed in October 1981, 30 days ahead of schedule. The CH-47 modernization production contract was awarded in December 1981.

(U) Fiscal year 1981 marked a banner year in the Value Engineering Program with validated savings exceeding $300 million. The tapering off of Manufacturing Methods and Technology dollar value in fiscal year 1980 was recouped in fiscal year 1981 with a $6 million increase in project funding.

(U) Under the Headquarters DARCOM Realignment, the Office of Project Management became the Policy and Project Management Division of the Directorate for Development, Engineering, and Acquisition on 15 October 1981. The Office of Product Improvement was to be merged with the Development and Engineering Directorate. The Office of Manufacturing Technology was to become a Directorate as part of DARCOM's general reorganization, to strengthen and give visibility to the productivity enhancing aspects of the Manufacturing Technology Program.

(U) Mr. James A. Bender was named to the Senior Executive Service (SES) position as Chief, Office of Laboratory and Development Command Management in July 1981. The SES position as the Chief, Office of Manufacturing Technology remained vacant with one of the GS-15 team leaders acting in that capacity.

(U) There was a continued increase in Cooperative Research and Development arrangements with allied and friendly nations. Presidential, Congressional, and DOD emphasis was placed on achievement of NATO Rationalization, Standardization, and Interoperability (RSI).

Development and Engineering

Programs and Budget

(U) The FY 1983-1987 Research, Development, Test & Evaluation Program (RDTE). The plans and recommendations for the DARCOM portion of the Army's Five-Year RDTE Program for fiscal years 1983-1987 was submitted to the Deputy Chief of Staff for Research, Development and Acquisition, Department of the Army, in December 1980. The data were used by DA as a basis for development of the Army's Program Objective Memorandum (POM). DARCOM prepared the submission within the RDTE Program Guidance furnished by ODCSRDA; and essentially applied the same philosophy and approach that was used in previous years. The submission was made via the automated Modernized Army Research and Development Information System (MARDIS). The DARCOM portion of the POM five-year RDTE Program for FY 1983-1987, as submitted by DA in June 1981 to Office Secretary of Defense, was as follows:

DOLLARS IN THOUSANDS

FY 1983	FY 1984	FY 1985	FY 1986	FY 1987
$3,368,647	$4,054,280	$4,817,929	$4,982,072	$5,377,236

(U) The Program Objective Memorandum (POM) cycle for RDTE culminated in the issuance of the Program Decision Memorandum from the Secretary of Defense to the Secretary of the Army. In September 1981, the Administration directed further reductions in the FY 1983-1987 RDTE Programs to hold down spending. This process completed the program cycle and changed the DARCOM program as of 16 October 1981 as shown below:

FY 1983	FY 1984	FY 1985	FY 1986	FY 1987
$3,059,256	$3,864,359	$4,773,875	$5,004,961	$5,365,773

(U) During November - December 1981, the FY 1983-1987 Program was further revised by the OSD Program Budget Decision review process. In January 1982, the FY 1983 Program, as revised by OSD, was presented to Congress.

Program Control

(U) FY 1981 DARCOM RDTE apportionment request, as submitted in the President's Budget, totaled $2,635.1 million. The FY 1981 Supplemental Appropriation and Congressional actions resulted in the following adjustments:

President's Budget	$2,635.1	million
Congressional Changes Supplemental Appropriation	-125.5	"
Hiring Freeze, Study & Analysis and TDY Reductions	-24.6	"
Program Increases	+60.6	"
Adjusted DARCOM FY 1981 Budget	$2,545.6	"

(U) The FY 1982 DARCOM apportionment request, submitted in President Carter's Budget to Congress, totaled $2,851.1 million. The Reagan Administration submitted the following amendments to Congress:

President Carter's Budget	$2,851.1	million
President Reagan Amendments:		
Studies & Analysis & TDY Reductions	-6.4	"
Repricing and Productivity Reductions	-45.9	"
Elimination of Marginal Programs	-105.6	"
Added Programs & Accelerations	+395.7	"
Adjusted DARCOM FY 1982 Budget	$3,088.9	"

(U) The FY 1982 Budget was further adjusted in September as result of the Administration's desire to hold down spending. The September amended budget reduced DARCOM's portion of the RDTE request by $179.6 million.

Management Systems and Procedures

(U) The practice of limiting face-to-face reviews with major subordinate commands, project managers (PM), or laboratories to one a year had been successfully implemented and the sixth annual RDTE Program Review was conducted in the May - July timeframe of 1981. The sixth review gained greater participation by the DCSRDA staff, including DCSOPS and TRADOC. The practice in fiscal year 1981 minimized the number of program reviews requiring field participation and preparation both to this headquarters and to Headquarters DA. It further reduced the number and time duration of meetings required between DARCOM and DA staff members required to resolve differences toward establishing an Army RDTE Program.

(U) The Program and Budget Division (DRCDE-P) continued to provide support to the School of Logistic Science of the Army Logistic Management Center (ALMC) by providing guest speakers and technical assistance for the Cost Estimating for Engineers, Decision Risk Analysis, and Research and Development management courses conducted at the ALMC in fiscal year 1981.

(U) Modernized Army Research and Development Information System (MARDIS) was developed by DA in an effort to modernize the RDTE reporting system. The system included a Program Data Form (PDF) for data capture,

which replaced manually prepared forms supporting the budget formulation, phase scheduling, and apportionment processes. MARDIS became operational with the submission of data support for the FY 1981 budget; and the MARDIS technical milestone reporting requirements for DARCOM were merged with the Integrated Logistic Milestone Reporting System operated by the Directorate for Readiness. This action eliminated one quarterly reporting requirement during FY 1981. A special report was prepared for the Office of Manufacturing Technology drawing their requirements for producibility engineering data from the MARDIS file. A special report was prepared to satisfy the interchange of dollars among DARCOM commands. Work load information was provided to TECOM from MARDIS describing the fire-year test plan. An FY 1984-1988 POM submission of MARDIS data was made by this Headquarters to DCSRDA in December 1981. These data were used to support the HQDA preparation of Congressional descriptive summaries and the OSD (Office of the Secretary of Defense) required submission of DD Form 1634 program planning data.

Program Execution

(U) RDTE Program Directives (FY 1981). The Comptroller of the Army forwarded to DARCOM the FY 1981 RDTE funding document (DA Form 1323) in October 1980. After receipt of funds, program directives (AMC Form 1006) were released to the field to cover the approved plan for each project and/or task. These Forms 1006 were forwarded to the Finance and Accounting Division, Comptroller, DARCOM, along with Schedule I and AMC Form 20 requesting issuance of funds to the major subordinate commands and laboratories.

(U) Program directives were issued throughout FY 1981, which were used to reprogram, issue released funds, and withdraw unobligated funds excess to requirements. In addition to an approximate average of 12 program directives issued each working day, numerous program revisions for each subordinate command were processed within DARCOM, and approvals were returned to the subordinate commands.

Project SCORECARD

(U) SCORECARD (Obligation Status) reports began in October 1978 on a monthly basis. Subordinate commands and independent activities reported their unobligated balances of the FY 1980 carryover program as well as their FY 1981 unobligated balances at project level. In FY 1981, DARCOM Subordinate Commands, Independent Corporate Laboratories, Project and Product Managers again operated under the concepts and principles of incremental funding, with total unobligated balance for FY 1981 as of 30 September 1981 being $142 million. The total direct RDTE program for fiscal year 1981 released by DA was $2,536.8 thousands. At the end of fiscal year 1981, $8.8 million was still held by OSD/DA. The direct fiscal year 1981 program and percent of obligation achieved for each major subordinate command, separate activities, and HQ DARCOM, as of 30 September 1981, is reflected below.

COMMAND	PROGRAM ($000)	% OBLIGATED
ARRADCOM	$ 314.3	95.4
AVRADCOM	375.9	98.2
TSARCOM	5.9	63.3
ERADCOM	241.3	97.2
CECOM	253.9	95.1
MICOM	552.6	96.4
TACOM	234.6	92.7
TECOM	263.3	98.5
MERADCOM	43.9	98.6
NLABS	37.0	99.2
OTHER DARCOM	168.9	93.0
UNDISTRIBUTED	45.2	
TOTAL	$2,536.8	94.4

(U) Through the SCORECARD reporting system, this headquarters continuously assessed the progress of each command toward meeting an obligational goal established by the subcommand and/or activity.

Systems Development

(U) Post-Deployment Software Support (PDSS). The Post-Deployment Software Support (PDSS) Concept Plan was forwarded to HQDA on 10 February 1981. DA provided interim approval of the plan on 5 May 1981 and directed that manpower and funding requirements be included in the program submissions (COB FY 1982-1983 and PARR 1984-1988). HQDA also requested that additional data be provided on OCONUS software support, software interoperability testing, and a common PDSS baseline across all Battlefield Automated Systems to include echelons above corps and systems developed by US Army Communications Systems Agency (USACSC), US Army Health Services Command (USAHSC), US Army Communications Command (USACC), and Intelligence Security Command (INSCOM). These data would be developed over a 30-month period by TRADOC and DARCOM, and would result in a gradual evolution of the PDSS plan.

(U) Army Command and Control System (ACCS). The ACCS provided command and control of Army forces and support. In fiscal year 1981, to maximize the effectiveness of the ACCS, the Army managed it as a single system; and DARCOM was assigned the role of ACCS Systems Engineer responsible for overall system design, testing, interoperability, and fielding. In July 1981, HQDA approved the ACSS Systems Engineering Implementation Plan which described the management structure, methodology, responsibilities, and milestones for executing this new Army-wide mission. Further endorsement came in the form of 53 additional personnel spaces for Headquarters and DARCOM subordinate commands with responsibilities for the program. The Director, Development, Engineering, and Acquisition (DE&A) was assigned responsibility of Program Director for ACCS Systems Engineering.

(U) Integrated Software Research and Development (ISRAD). The ISRAD program coordinated and produced general computer software techniques for use by all Army agencies in the development of operational software. Agreement was finalized on transferring the management responsibility for this mission and the personnel spaces to support it from US Army Computer Systems Command to DARCOM. Transfer of function was effective 1 October 1981.

(U) Computer Resource Management. The Army participated with other Agencies and Services in the Department of Defense, as well as industry and other countries, to develop a high order computer programming language, identified as Ada. Ada was expected to become the long-term standard high order language for embedded computer resources within the Department of Defense. The Army had a development program to provide an Ada Programming Support Environment (compiler and associated software programming tools) for use in software development by January 1983.

(U) The Ada Joint Program Office (AJPO) was established in January 1981 to provide for management of the total Department of Defense effort to implement, introduce and provide life-cycle support for Ada. The AJPO would assure that validated Ada compilers and associated software development and support environments were available to support a policy of using only accredited support software on DOD programs. The AJPO initiated the process of making Ada an American National Standards Institute (ANSI) standard. The Army supported development of a standard family of military computers (MCF) which would reduce logistic and training costs, and improve commonality between systems on the battlefield. The MCF development would utilize a single Instruction Set Architecture (ISA) and would take advantage of the parallel efforts in software. In fiscal year 1981, MCF production hardware was expected by the 1986 timeframe. Advanced Development Contracts for the MCF were awarded to four contractors (IBM, GE/TRW, RCA, and Raytheon) on 10 April 1981; and these 30-month contracts with an Advanced Development model would be delivered on 10 January 1983.

Communications and Electronics

(U) During fiscal year 1981, one major program, Standoff Target Acquisition System (SOTAS) experienced a major realignment when program cost growth in 1980 led to a special Army Systems Acquisition Review Council (ASARC) in April 1981, and a Defense System Acquisition Review Council (DSARC) in May 1981. The DSARC directed an indepth program review aimed at reducing program costs and the fielding of a capability in 1984. Hardware fabrication continued with the demonstration of a portion of the operational software in July with a 95% completed ground station. Work on the radar was stopped in July pending the results of the DSARC directed review, which was completed in September with a recommendation to continue with Motorola on a reduced program. Failure to reach an acceptable cost/risk sharing arrangement with the contractor resulted in termination of the radar portion of the contract in late September 1981.

(U) A firm fixed price (FFP) contract for six Automated Staff Message Processing Systems (ASMPS) and spare parts for first year fielding support was awarded to Martin Marietta Aerospace on 29 September 1981, for $6,040,557. Delivery to USAREUR was scheduled for two ASMPS each in December 1982, January 1983, and February 1983.

(U) An FFP contract for 90 each, Digital Data Generators SG-1139( )/G with an option for 90 additional equipments, including documentation necessary for materiel release, training and fielding, and sufficient data to allow follow-on competitive procurement was awarded to Raytheon Company on 30 September 1981 for $4,263,494. Delivery of models for initial production test was scheduled for March 1983.

(U) An FFP contract for an additional 597 Communications Terminals AN/UGC-74A(V)3 was awarded to Honeywell, Tampa, on 30 September 1981 for $5,058,381. In addition a power and signal cable contract modification was awarded to Honeywell on 30 September 1981 for $1,200,000.

(U) Clothing and Equipment. Other highlights in equipment developments during fiscal year 1981 included the Individual Micro Climate Cooling suit for the M1 tank and the Army Combat Vehicles entered advanced development. The system was designed to protect Combat Vehicle crewmen from the uncertainty of becoming heat casualties and significantly reduce water requirements when operating in the desert.

(U) The new flame protective finish for the Chemical/Biological (CB) over garment was developed to provide the armor and helicopter CVC with both CB and flame protection.

(U) A new helmet and armor vest which was expected to reduce ballistics casualties by 25 percent was purchased for the Rapid Deployment Force (RDF).

(U) Development of new airdrop equipment such as the staged parachute system and the Wedge Bundle System designed to reduce the vulnerability of troops and aircraft to ground-to-air weapons by up to 50 percent because of high delivery speeds at lower altitudes and capabilities to drop troops and equipment in one rather than two passes over the drop zone.

(U) Water Related Equipment. The results of a user/market survey on availability on non-develomental equipment for water production, transportation, storage, and processing was presented at a General Officer Materiel Acquisition Decision Process Review. Acquisition of NDI for water for the RDJTF was approved. Acquisition of water related equipment for the RDJTF was initiated and contracts for first production were let for every item except the small unit water chiller. An estimated savings of $13.16 million was made when competitive rather than the planned single source procurement contracts were let for 14 each 150,000 gallons per day reverse osmosis water purifying units.

(U) Mobile Electric Power Equipment. A program was initiated to determine feasibility of developing a computer model which could be used to determine the correct size of generator set or sets needed to provide cost-effective electrical power to any installation.

(U) The required operating capability (ROC) for the 10 Kw 28VDC aviation ground support power unit was revised to eliminate gasoline as a required fuel, thus eliminating the need for a gas turbine engine and permitting the use of a diesel engine. This could result in projected savings of approximately $20,000 per unit for 1,727 units or a total of $34.54 million.

Fighting Vehicle System

(U) Development Summary. An Army Systems Acquisition Research Committee (ASARC) was held on 1 October 1980 to establish the Army's position on the Fighting Vehicle System (FVS) competition strategy and cost reduction program. In addition, the competitive production of vehicle subsystems and the FVS TOW PIP were discussed. A DSARC was held on 16 October 1980 to address the question of establishing a second source for FVS production. As result, the following actions were directed: award of production analysis contracts relative to requirements for FVS production; initiation of actions to breakout principal subcontractors for the IFV prime contractors; and initiation of a competitive developmental program to result in a TOW II PIP ISU.

(U) Three contracts for the analysis phase of potential second source vehicle production were awarded on 4 June 1981 to Bowen-McLaughlin-York, Pacific Car and Foundry and LTV Corporation. These studies would review the feasibility of second source assembly using direct procurement from Ford Motor Corporation subcontractors.

(U) A contract was awarded on 11 June 1981 to Honeywell, Incorporated, as the second source ammunition supplier. This was a firm fixed price contract for prove-out quantities of each 25mm round, with an option to acquire 3,000,000 additional of each round on a firm fixed price (FFP) basis.

(U) New items considered and approved for breakout in fiscal year 1982 were track and engine; and TDS, transmission, and TOW subsystem in fiscal year 1983.

(U) The fiscal year 1980 Infantry Fighting Vehicle (IFV)/Cavalry Fighting Vehicle (CFV) initial production letter contract, issued on 1 February 1980, was made definite on 25 February 1981 in an amount of $152,550,000. The fiscal year 1980 MLRS initial production letter contract, issued 1 August 1980, was made definite on 7 April 1981 in an amount of $19,080,000. A letter contract was awarded to FMC on 23 December 1980 for fiscal year 1981 production of 172 IFVs, 128 CFVs and 32 MLRS Carriers at an estimated value of $399,312,000.

(U) During the period of this report, a total of four production IFVs were delivered by FMC and accepted by the Government. No CFVs were scheduled. A strike at FMC caused a two-and one-half month delay in deliveries between the first vehicle and the second. The MLRS delivery schedule slipped four months due to the strike.

(U) A Development Acceptance (DEVA) IPR was held on 4 June 1981, which resulted in the recommendation to type classify standard, the ammunition shipping and storage container, 25mm, XM621, plastic. The recommendation was approved by the Director, D&E, DARCOM, on 9 June 1981. This was the only TC action in FY 1981.

M1 Abrams Tank

(U) The Abrams Tank System passed a major milestone on 15 September 1981, when the Office of the Secretary of Defense (OSD) Management Review III authorized full production.

(U) During fiscal year 1981, the M1 completed Operational Test (OT) III. The Fort Knox Phase of OT II, conducted from 15 September 1980 to 29 May 1981, tested four vehicles organized as a Division 86 Platoon. The Fort Hood Phase, which also ran from September 1980 through May 1981, involved a battalion size organization. DT III continued throughout fiscal year 1981; and as of September 1981, DT III had accumulated 29,000 miles and 6,000 rounds; the OT III tanks had been driven 48,000 miles and fired 10,000 rounds.

(U) The Lima Army Tank Plant completed installation of Industrial Plant Equipment and Special Tooling facilitization projects required to produce 60 tanks per month. As of 30 September 1981, the Lima Army Tank Plant had produced 164 M1 Abrams Tanks for Government acceptance.

(U) In July 1981, the New Equipment Training Team deployed to USAREUR and began to conduct cadre training. Initial Operational Capability (IOC) for the Abrams M1 in Europe was scheduled for second quarter fiscal year 1982.

(U) The Vice Chief of Staff of the Army (VCSA) issued a Decision Memorandum in March 1981 directing the initiation of an interim program for M1 improvements which included Hybrid Nuclear Biological and Chemical (NBC) Protection, Auxiliary Power Unit Improved Armor and Weight reduction efforts. On 18 September 1981, the VCSA signed a Decision Memorandum which approved the delay of first production of 120mm gun tanks for one year from August 1984 to August 1985. The same memorandum approved the simultaneous introduction of the M1 improvements. The designation M1E1 referred to a 120mm gun tank which included Improved Armor and Hybrid NBC with crew cooling.

(U) Personal Defense Weapon, M9, 9mm. In 1978 the House Appropriations Committee (HAC) completed a study of handguns and handgun ammunition used by the Military Services, and reported that a proliferaation of more than 25 different makes, models and types had caused problems with regard to supply, maintenance and repair, training, and stacking of ammunition.

(U) The Office of Under Secretary of Defense for Research and Engineering tasked the Services to determine the minimum number of types of handguns needed to meet essential Service requirements and determine if the US should adopt the NATO standard 9mm handgun cartridges. The Joint Service Small Arms Committee recommended that the 9mm family be adopted as the standard handgun. OSD thereafter directed the Army to define an acquisition strategy for this procurement.

(U) On 23 April 1981, DARCOM provided a competitive acquisiton strategy to DA which reflected a May 1982 contract award date. On 16 April 1981, the Acting Under Secretary of Defense for Research and Engineering (R&E) approved the proposed competitive acquisition strategy, but disapproved the milestone schedule and requested a schedule with resulted in a January 1982 contract award. On 6 May 1981, the Acting ASA(RDA) forwarded such a schedule to USDRE and at the same time directed that the Army exert "best efforts" to achieve the January 1982 contract award date. Commander, ARRCOM, was subsequently designated as source selection authority.

(U) An acquisition plan for a fixed price competitively negotiated five-year multi-year contract for 217,439 weapons was approved by SARDA on 14 June 1981. The plan provided pistols to the Coast Guard in fiscal year 1982 and for all Services from fiscal year 1983 through fiscal year 1986.

(U) A Joint Service Operational Requirement for the Personal Defense Weapon was staffed and approved, effective 10 June 1981.

(U) Based upon a Test Working Integration meeting held on 11 August 1981, and in view of conflicting TECOM tests, DARCOM message on 27 August 1981 assigned test responsibilities as follows: Armament Research and Development Command (ARRADCOM) would conduct endurance testing using five weapons per candidate firing 10,000 rounds each. The US Army Infantry Board (USAIB) would conduct hit probability testing. Test and Evaluation Command (TECOM) would conduct the remainder of the tests. Human Engineering Laboratory (HEL) would perform human factors evaluation based on TECOM, ARRADCOM and USAIB testing.

(U) Division Support Weapon System (DSWS). DSWS requirements were established by the Mission Element Needs Statement (MENS) for Heavy/Brigade Division Weapon System, and approved in late 1980. The need for improvements was delineated in four major areas: responsiveness, survivability, terminal effects, and RAM--to cope with Warsaw Pact Surface Threat elements.

(U) The Enhanced Self-Propelled Artillery Weapon System (ESPAWS) was the cannon alternative for DSWS, and included Maxi-PIP M109 and a new Howitzer. The Maxi-PIP involved increasing rate of fire to 7-10 rounds per minute and range to 30 km. The new Howitzer concept embodied a casemated, full-tracked, auto-loading, air-transportable, self-propelled Howitzer with full NBC protection, and land navigation and fire control systems.

(U) HQDA and Fort Sill felt that rocket and missile concepts for DSWS were unsuitable for the close support role. Consequently, in August 1981, the decision was made to use cannon alternatives to fulfill brigade fire support obligations. Still to be resolved in fiscal year 1981 was how to cover the area from maximum cannon range out to 70 km (mid-range) and beyond.

(U) As of fiscal year 1981, DSWS was in the Concept Definition phase of development, leading toward an ASARC/DSARC in first quarter fiscal year 1983. During 1981 plans were completed for investigating three cannon program alternatives for the close support role. A contract was negotiated for management support through the ASARC/DSARC I. The first TIWG meeting was held in November 1981.

(U) MPG-N, LASC, LAR. The US Army and US Marine Corps engaged in a joint project managed program to develop a family of highly mobile, readily deployable, light armored vehicles for forward area use. The project, given the name Light Armored Vehicles (LAV), was being developed at Tank-Automotive Command (TACOM), and staffed by a Marine Corps Project Manager (PM), an Army Assistant PM and Army Civilian personnel. The primary user would be the Army's light divisions.

(U) In fiscal year 1981, the program, which was basically nondevelopmental, involved testing four candidate vehicles from three contractors (three wheeled candidates and one tracked candidate) to determine which best satisfied the separate but similar Army and Marine Corps ROCs. Selection of a winner and contract award was scheduled for mid-July 1982. In the meantime, firm fixed prices were solicited from the contenders for production quantities of their vehicles where this number was known. The entire program was timed to a severely compressed acquisition schedule.

(U) The program called for developing a number of varients within the family, all however, having the same chassis and automotive systems. The Army varients were: a light assault vehicle known as the Mobile Protected Gun-Near Term (MPG-N), a Light Armored Squad Carrier (LASC), and a Light Armored Recovery Vehicle (LAR). The MPG-N was designed for a crew of three and mounted the M242, 25mm chain gun in a turret as its main armament. The LASC was planned to carry a combat squad of between 9 and 11 soldiers including driver and gunner. The main armament would be the MK 19 40mm grenade launcher. The LAR would have space for a minimum of five persons including driver.

(U) As of the close of fiscal year 1981 the program had an approved MENS, a signed Memorandum of Agreement between the Marine Corps and Army and the applicable Army ROCs in the latter stages of coordination.

(U) Mobile Protected Gun Systems (MPGS). By memorandum of 15 September 1981, Subject Mission Element Need Statement for the Army Mobile Protected Gun (MPG), the Deputy Secretary of Defense approved the MENS and directed that only one vehicle with varients would be procured for the Army's Mobile Protected Gun-Far Term (MPG-F) and the Marine Corps Mobile Protected Weapon System (MPWS). Accordingly, a joint project managed program was established called the MPGS, having an Army PM located at Tank-Automotive Command (TACOM).

(U) The Project Manager was responsible for the development, test, acquisition, and logistical support of the system which included the vehicle, main gun and ammunition. The MPGS would be a prime candidate for the Rapid Deployment Force and the Army's light divisions. It differed from the Light Armored Vehicle (LAV) Program in that it was oriented toward the 1988-1989 timeframe versus the 1983-1986 timeframe for LAV. In a briefing on 11 September 1981, the Vice Chief of Staff, Army (VCSA) approved the plan of a joint development as the main armament for the MPGS.

(U) 81mm Improved Mortar (L16A1). In fiscal year 1981 the United States Army was evaluating this system for possible procurement, primarily to realize the 5600 mile maximum range which was approximately 1,000 meters greater than the 81mm mortar in use at that time.

(U) Testing revealed two major problems associated with the United Kingdom mortar--excessive blast overpressure and wet efficiency. The first problem involved crew subjection to blast overpressure in excess of that allowed by the Surgeon General. Wet efficiency problems involved drastically reduced range if the UK rounds were fired when wet. A contract was negotiated with UK in mid-August 1981, for development effort to solve the problems related to blast attenuation and a water-resistant propulsion/ignition system. Subsequent effort yielded apparent solution to the problems and the improved hardware was scheduled for February 1982 delivery for DTII. The contract also had provisions for royalty-free license to US after procurement of 4,000 mortars and 2,000,000 HE rounds, plus technical manufacturing data after negotiation of production contracts.

(U) Acquisition strategy for the improved 81mm mortar included fielding when sufficient HE, smoke and illumination rounds were available, and development of an on-shore HE ammunition capability was to be rapidly established. In fiscal year 1981, IOC was scheduled for second quarter FY 1986, with the UK mortar and HE ammunition, and existing US illuminating and smoke rounds.

(U) M16A1 Rifle. The Marine Corps through the Joint Service Small Arms Committee funded an evaluation of an improved M16A1 rifle. Features of the rifle included: a barrel providing increased rigidity and strength and rifled one turn in seven inches to accommodate the heavier NATO 5.56 bullet; improved handguards, buttstock, buttplate and pistol grip; adjustable rear sight; square configured front sight; muzzle compensated flash suppressor, and three-round burst control device replacing the automatic firing feature. The operational test was initiated by the Marine Corps Development and Education Command using Fleet Marine Force and Army personnel to provide information to evaluate user acceptance, operational effectiveness and suitability for the improved rifle as compared with the standard M16A1 rifle. The Development Test (DT) was to be conducted by TECOM beginning during the first quarter of fiscal year 1982.

(U) Squad Automatic Weapon (SAW) System. The XM 249 was selected for the Maturity Phase Program together with 556mm ammunition which had origins in the Belgian SS109 (Ball) and SS110 (Tracer) ammunition and were identified as the XM855 (Ball) and XM856 (Tracer). The principal objectives of the Maturity Phase Program were: To establish and confirm the design of the 556mm SAW ammunition, in full conformity with applicable NATO standardization agreements (STANAG 4172) and user requirements; to establish and confirm the design of 556mm metallic belt links; to correct the design shortcomings of the XM249 weapon identified in DTIa/OTIa testing; to conduct system verification tests of the weapon/link/ammunition system to provide a basis for the Development Validation In Process Review (DEVA-IPR); to initiate development of supporting equipment for the system including ammunition packaging, load carrying equipment, blank firing attachment and weapons rack; and to establish and implement an Integrated Logistic Support (ILS) Program.

(U) Four new XM249E1 weapons were procured under contract with Fabrique Nationale d'Armes de Guerre (FN) and seven M249 weapons were modified by FN to conform with the improved XM249E1 configuration to support verification testing. Owing to the extensive evaluation conducted under DTIa/OTIa in the previous phase of the program and generally satisfactory performance of the XM249 gun in these tests, it was decided by the Test Integrated Working Group (TWIG) that a Development Verification test supplemented by a Human Factors Evaluation of improvements, would suffice.

(U) VIPER. In August 1981, the VIPER lightweight man-portable anti-tank rocket was type classified standard. The initial procurement contract was signed on 2 December 1981. Congress appropriated funds for fiscal year 1981 and fiscal year 1982 procurement, but placed language with 1982 Appropriation Bill that required the Army to conduct tests of alternative systems by July 1983 and report the results to Congress. Future year procurement appropriations would depend upon results of above tests.

(U) 155mm Artillery Ammunition. The COPPERHEAD, semi-active laser artillery guided projectile, production facility was placed in operation, and 30 complete projectiles were produced on the production line as part of the initial production facility prove-out. These items were manufactured between February and August 1981. First production deliveries of COPPERHEAD projectiles for stockpile and issue to the field, began in November 1981. Following first article testing, COPPERHEAD was to be issued to the using units in 1982, and production rate was expected to be maintained at or below 200 rounds per month until the required reliability of 0.80 was met, in accordance with the DSARC decision of 1979. A product improvement effort continued to improve warhead effectiveness against projected threat armor.

(U) DARCOM and TRADOC (Training and Doctrine Command) prepared a development plan concept for initiation of development of a 155mm artillery fire and forget projectile, which was briefed to HQDA General Officer Review and approved in December 1981. This plan required ARRADCOM and PM-CAWS to evaluate alternative technical proposals while the Artillery School conducted a mini-COEA (Cost and Operational Effectiveness Analysis) of alternative system concepts. Above efforts were expected to be completed in 1982.

(U) A Letter of Approval (LOA) was approved by DARCOM and TRADOC for the initiation of advanced development of a 155mm artillery extended range inter-continental missile (ICM) projectile using the base bleed concept. Development was conducted by PM-CAWS with technical support from the Large Caliber Weapon Systems Laboratory ARRADCOM.

(U) An LOA was approved by DARCOM and TRADOC for initiation of advanced development of a 155mm artillery modular propelling charge. This charge was to replace existing bagged charges, and be compatible with Howitzers in use as well as the DSWS (Division Support Weapon System) under development. The modular charge would use a rigid combustible case to facilitate automatic loading, have modular increments to facilitate more flexible zoning solutions and reduce waste by eliminating unused charge increments. Development was being conducted by PM-CAWS with technical support from the large Caliber Weapon Systems Laboratory, ARRADCOM.

(U) 8-Inch Artillery Ammunition. The Sense and Destroy Armor Munition (SADARM) continued in advanced development. A 30-month competitive advanced development contract was signed in September 1980, awarding contracts to Aerojet Electro Systems and Honeywell, Incorporated. The 1981 effort was concentrated on resolving the seeker requirements and characterizing seeker performance, and was being managed by Armament System Division at Armament Research and Development Command (ARRADCOM).

(U) 120mm Tank Ammunition. Honeywell, Incorporated (prime system contractor) delivered 138, XM827 cartridges to Aberdeen Proving Ground for safety testing in fiscal year 1981. These cartridges were US versions of the German DM13. Honeywell also delivered 270 XM831 cartridges, identical to German DM18, to APG in September for safety tests. A validation IPR was held in December 1981 for the XM829 cartridge which completed validation phase testing.

(U) 105mm Tank Ammunition. In August 1981, the restriction against the upper operational temperature for the M774 cartridge was removed. Initial Operational Capability (IOC) quantities were delivered to the field in April 1981, which was the first fielding of a tank main armament round using staballoy. The XM833 cartridge entered a 22-month full scale engineering development phase and initiated production and procurement activities to provide for an early IOC in 1983. The XM815 improved High Explosive Anti-Tank (HEAT) cartridge entered advanced development in March 1981.

(U) Mine and Counter Mine Program. Highlights for the Mine and Counter Mine Program included the following items for fiscal year 1981: Ground Emplaced Mine Scattering System (GEMSS) was type classified standard in March 1981. An International Materiel Evaluation Program determined that the Giant VIPER, the British line explosive charge was unacceptable for adoption by the US Army. The 155mm Artillery Area Denial Artillery Munition (ADAM) and Remote Anti-Armor Mine (RAAM) projectiles were approved for production in September 1981. MERADCOM developed and demonstrated the M-60 Tank mine roller adapter for the M1 tank in December 1981.

(U) US ROLAND. The fiscal year 1981 hardware production contracts were awarded to the prime associate contractors, Hughes and Boeing on 10 December 1980. The US ROLAND Reliability Evaluation Test Program at Fort Lewis, Washington, was successfully concluded on 15 December 1980, and was conducted to satisfy a DSARC III (Defense Systems Acquisition Review Council) requirement to demonstrate a level of reliability and maintenance capability prior to entering full scale production. The first four limited production missiles were delivered on schedule to the Government on 26 June 1981. The first ROLAND production fire unit was completed on 1 October 1981, 30 days ahead of schedule.

(U) STINGER. The IOC for the basic STINGER was achieved 27 February 1981, with initial deployment of hardware to Europe. The First Unit Equipment Delivery (FUED) of basic STINGER hardware to the US Marine Corps was accomplished 10 November 1981. As a result of the STINGER POST, Government Test Vehicle (GTV) flight test program, hardware design for the Production Qualification Tests (PQT) was frozen and fabrication of hardware initiated.

(U) PATRIOT. The confirmation test program units 1, 2, and 3 were conducted in compliance with the Office of the Secretary of Defense (OSD) guidance. Results clearly indicated significant improvements in system capability and maturity. A diagnostics improvement program was established to address the maintainability shortfall. A second engineering services contract, a third initial production schedule (IPS) contract, and two second production contracts were awarded to the Raytheon Company during the fiscal year. International operations continued in NAPATMO, and the Japanese government showed increased interest in the PATRIOT system.

(U) DIVADS Gun. Competition DT/OT II testing of the Ford Aerospace and Communications Corporation (FACC) and General Dynamics (GD) prototypes was successfully completed by the Government in November 1981. Source selection efforts were completed in April 1981; and on 9 May 1981, the Army selected the FACC to proceed into the production phase. The FACC contract provided for manufacturing of production prototypes; continued development of the Integrated Logistics System (ILS) package; completion of technology, transfer, and fabrication of first of the BDFORS L70 guns and ammunition; finalization of producibility, engineering, and planning; procurement of long lead materials to support the production set forth in Option #1 of the contract; and the acquisition of initial production facilities. The contract contained three yearly options for the manufacturing of a total of 276 fire units and associated ammunition and support equipment. The first option was expected to be exercised in early May 1982, following milestone three decision review scheduled for March/April 1982.

Aircraft Systems

(U) The AH-64A OTII was successfully completed in August 1981, and a contract was awarded in February 1981 for Long Lead Time Items. A fixed price incentive (FPI) production contract was awarded for the CH-47D on 24 October 1981 to Boeing Vertol for the fiscal year 1981 procurement of nine aircraft, required support, and Long Lead Time Items for the fiscal year 1982 procurement of 19 aircraft. Prototype completed RAM growth/maturity testing and environmental testing.

(U) The UH-60 External Stores Support System program was initiated during 1981. This program was expected to qualify the UH-60A to accommodate four auxiliary fuel tanks for an extended range capability.

(U) A firm fixed price multi-year production contract was awarded for five AH-1 Flight and Weapons Simulators to the Singer Company, Link Division on 15 April 1981.

(U) Source selection was conducted on the AHIP program beginning on 9 April 1981, with Bell Helicopter Texitron (BHT) selected over Hughes Helicopter Incorporated. On 21 September 1981, a development contract

(fixed price incentive) was signed with BHT for $148 million, in which BHT agreed to negotiate a cap to the "design to unit cost" for the first two years production.

(U) The HELLFIRE prototype system qualification test was completed in September 1981. A total of 62 missiles were tested in the AH-64 DT/OT II program.

Cooperative Research and Development

(U) Cooperative Research and Development arrangements with allied and friendly nations continued to increase in fiscal year 1981. Congressional, Presidential, and DOD influence was exerted in the area of NATO Rationalization, Standardization, and Interoperability (RSI). The governing policy documents were DOD Directive 2010.6 and AR 70-41, the latter having been published in June 1981 with an effective date of 1 July 1981. One of the provisions of the Culver-Nunn Amendment, Public Law 94-361, stated that "it is a sense of Congress" that RSI would be facilitated by greater reliance on licensing and coproduction agreements among NATO signatories.

(U) A general MOU was concluded with Portugal on 28 March 1979, covering Principles Governing Mutual Cooperation in Research, Development, Production, Procurement, and Logistics Support of Defense Equipment. This MOU was negotiated and signed at the Secretary of Defense level.

(U) Specific MOUs concluded during fiscal year 1981 were: (1) US/Belgium/Canada/Italy/Netherlands - Cooperation in Electronic Countermeasure (ECCM) Aspects of the Interface Control Working Group and Test Integration Working Group of the US (SINCGARS-V) Single Channel Ground and Airborne Radio Subsystem Program, 5 December 1979. (2) US/Canada - A Collaborative Research Project on the Radiation Shielding Capabilities of Armored Combat Vehicles, 19 February. (3) US/France/Germany/United Kingdom - Exchange of Information Regarding Improvements to Second Generation Anti-Tank Guided Missiles, 7 April 1981. One specific MOU negotiated with Germany received Under Secretary of Defense for Research and Engineering (USDRE) redelegated authority on 2 October 1981 to conclude under the provisions of DOD Instruction 2050.1 at HQ DARCOM (Asst. Dep/Int'l RD&S) level. This MOU covered US/Germany Cooperation within the area of Army Artillery Command and Control Systems for the purpose of interoperability. The Asst Dep/Int'l RD&S signed the US version on 2 October 1981 and copies were given to German representatives on the same date; available information as of 23 October 1981, indicated that Germany was staffing the MOU for signing which was expected in fiscal year 1981.

(U) Three specific MLRS (Multiple Launch Rocket System) MOU Draft Supplements were reviewed, staffed and coordinated at the HQ DARCOM, DA, and OSD levels for multilateral negotiations (US, UK, Germany, France) as follows:

MLRS Terminal Guidance Warhead (TGW) Concept/International Program Definition (C/IPD) Draft Supplement to MOU on a Cooperative Program for an MLRS, dated 14 July 1979. This Supplement was signed by the US (OSD/USDRE) on 24 August 1981, and signed by Germany, United Kingdom, and France during the first week in September 1981.

MLRS Procurement Phase Draft Supplement to the MOU on a Cooperative Program for an MLRS, dated 14 July 1979. This Procurement Phase I and II, Supplement was scheduled for US, United Kingdom, Germany, France negotiations in Paris during 17-20 November 1981.

MLRS MOU Draft Supplement to Provide for Participation of the Republic of Italy on a Cooperative Program for MLRS, dated 14 July 1979. This Supplement to provide for Italian participation in the MLRS Program was staffed and coordinated at HQ DARCOM level and was expected to commence staffing and coordination at DA/OSD level commencing 26 October 1981. This Supplement was scheduled for US, UK, GE, FR negotiations during November 1981.

(U) A Catalog of International Agreements Affecting Department of the Army Cooperative Research and Development Projects was distributed to cognizant organizations on 27 October 1980, with updated page changes to be distributed in early October 1981.

(U) US/Canadian Defense Development Sharing Program (DDSP). During fiscal year 1980, the DOD/Department of Industry, Trade and Commerce (DITC) Steering Committee convened in Ottawa to discuss the tri-Service aspects of the DDSP in June 1981; and in fiscal year 1981, the DARCOM/DITC Steering Group held two meetings during November 1980 and May 1981, in Washington and Ottawa respectively. DARCOM representatives also participated in the annual High Technology Conference sponsored by DITC in Ottawa in March 1981, and DARCOM and DITC representatives provided briefings on the DDSP at TACOM and CECOM.

(U) International Materiel Evaluation (IME) Program. In fiscal year 1981, the IME program was sponsored by the Department of Defense as part of its tri-Service Foreign Weapons Evaluation Program. Program responsibility was transferred from the DARCOM Development and Engineering Directorate to the Office of International Research, Development and Standardization. The purpose of the program was to provide a means of evaluatinng foreign-developed military items for possible adoption by the US military in lieu of establishing a new development program for the item in the United States.

(U) Some items adopted by the US Army as a result of evaluations under this program were: United Kingdon developed Combat Support Boat; German developed NBC Contamination Marking Set; German developed 5.56mm Plastic Training Ammunition (for use in Europe only); Canadian developed Helicopter-mounted Wire Cutter; Norwegian developed LAW. Some items under evaluation in fiscal year 1981 were: Norwegian developed Lightweight Decontamination System; German developed 4.2 inch Mortar Sub-caliber Training System; German developed Inflatable Decoy System for the US HAWK Air Defense System; German developed DM82 Grenade Fuse; and German developed personal Dosimetry System.

International Research, Development and Standardization

(U) Mutual Weapons Development Data Exchange Program and Defense Development Exchange Program. A total of ten new Data Exchange Annexes (DEAs) were completed during fiscal year 1981, including four with France, two with Germany, one with Israel, one with Japan, and two with the Netherlands. Five DEAs were terminated including three with France, one with Germany and one with the Netherlands. At the end of the fiscal year, DARCOM was monitoring 221 DEAs involving sixteen countries. In addition, 19 DEAs were pending during fiscal year 1981--five with France, three with Germany, two with Israel, two with Japan, three with Korea, one with Norway, two with the Netherlands and one with a country whose participation in this program was confidential. DARCOM also participated in thirty DEAs sponsored by the US Navy and seventeen DEAs sponsored by the US Air Force.

(U) International Professional Scientists and Engineers (S/E), Exchange Program. During the reporting period a total of twenty-four scientists and engineers (S/E) were assigned to Army activities under this program. Twelve were representatives of the Federal Republic of Germany, ten were representatives from Korea and two were from Israel. In fiscal year 1981, the cumulative total of scientists and engineers assigned to DARCOM activities since the program began in 1964 was 394, of which 311 were from Germany, 80 from Korea, and three from Israel. During the fiscal year, two US S/Es were placed in Germany on one year assignments.

(U) Bilateral efforts with Germany were ongoing during fiscal year 1981 as RSI possibilities continued to improve. The fiscal year 1981 goal to attain bilateral commitment of resources toward cooperative materiel development or toward hardware standardization, interchangeability or interoperability of six systems was achieved.

(U) International Military Standardization Agreements (STANAGS), (QSTAGS), (ASCC Air Standards) and (ABCA Navy-NAVSTAGS). During the period 1 October 1980 through 30 September 1981 the International Research Development and Standardization Office processed 224 STANAGS; 113 QSTAGS; and 160 ASCC Air Standards for a total of 497. During fiscal year 1981, 86 STANAGS; 30 QSTAGS and 18 ASCC Air Standards for a total of 135 agreements, were ratified. Forty eight agreements were not ratified for various reasons.

(U) Loans of Army Materiel to Foreign Nations. During fiscal year 1981, 35 loans for US equipment, 13 loans for foreign equipment and seven loan extensions were processed.

(U) Military Agency for Standardization. The Army Board MAS convened 18 working party meetings in fiscal year 1981. DARCOM provided representatives to seven of the meetings; principal US representatives to five meetings; technical support to the principal US representative at two meetings. DARCOM was instrumental in further NATO Standardization efforts by assuming US administrative and action office responsibility for the Laser Interoperability Interservice Working Party; introducing a proposal that the Land Forces Logistics Working Party establish a Supply Sub-Committee; and producing the first draft for AOP-9 Fire Control Matrices for the Land Force Ammunition Interchangeability Working Party.

(U) DARCOM (DRCIRD) continued in fiscal year 1981 to be the Administrative agent for US Army for all Military Agency for Standardization (MAS) working parties under the aegis of the Air and Navy Board.

(U) NATO AC/225 Panel III, S.P1 - (NATO Small Caliber Ammunition). This panel held a meeting in Ottawa in May and Brussels in September, with significant development of STANAG 4172 on the Standardization of 5.56mm ammunition for NATO. The US was expected to ratify this STANAG when complete, in June of 1982.

(U) NATO AC/225 Panel XII (Meteorology). This panel met in Brussels in September, 1981, continuing its efforts on testing of smoke and electro-optical equipment, atmospheric effects on radar tracking and remote temperature measuring systems.

(U) NATO AC/310 - (Rationalization of Design Principles, Tests and Safety Criteria for Explosive Materials and Explosive Stores). This action committee, which met along with its four technical subgroups in February and September, developed a number of STANAGS aimed at standardizing the test and design principles for explosive materials. These principles eliminated costly retesting and providing countries with a simple way of evaluating explosive materials for various uses.

(U) American/British/Canadian/Australian Armies (ABCA) Standardization Program. During fiscal year 1981, the following Quadripartite Working Groups (QWG) met: Electrical Power Sources (EPS); Electronic Warfare (EW); Combat Communications; Surface-to-Surface Artillery (S-S Arty); Army Operations Research (AOR); Engineers; Collaborative Training (CT); Logistics; Engineering Standardization (ES); Armor; Nuclear, Biological and Chemical Defense (NBCD); Command and Control; Automation Interoperability (AI); Air Defense (AD); Combat Developments (CD); Proofing, Inspection and Quality Assurance (PIQA); Aviation; Infantry. Of these meetings, the US was host country for QWG/EW, QWG/S-S Arty, QWG/CT and QWG/Armor.

US Army Research, Development & Standardization Group - Canada

(U) In fiscal year 1981, this organization's activities continued to be impacted by major political, economic and defense policies and programs of Canada, because its mission was to represent the US Research and Development community to Canada. Furthermore, it acted as the liaison between Canada's R&D defense establishment and US defensive involved organizations.

(U) The importance of US/Canadian relations was well demonstrated during President Reagan's and Secretary of State, Haig's visit to Ottawa in March 1981. An area discussed with the Canadian government was the need for continuing cooperation between the US and Canada in meeting mutual defense needs. The NORAD Agreement was formerly reviewed and added emphasis given to defense production sharing. A highlight for members of this organization and their families was the opportunity to meet and shake hands with President Reagan.

(U) President Reagan's July visit to Canada, while participating in the Economic Summit, served to once again stress the influence both nations exert on each other's economic and political decisions. The President's steadfast position on his initiatives to fight inflation resulted in high US interest rates, attracted Canadian investors, and negatively impacted upon the Canadian dollar's value, resulting in very high interest rates in Canada. All of this slowed the Canadian economic growth to an undesirable rate.

(U) Prime Minister Trudeau kept the major political issue of the transfer of the British North American Act to Canada for modification and adoption as a formal constitution in the forefront of his party goals. A central issue was the division of revenues from the oil resources of Western Canada. United States energy companies had major investments in Alberta; thus the United States was affected by the despute between the Federal and Provincial governments. Relationships were strained over natural gas and oil supply and their price. During fiscal year 1981, this political issue was intensifying in Canada, and was believed, could impact on the resources available for defense.

(U) In April, Prime Minister Trudeau appointed General Ramsey M. Withers as Chief of the Defense Staff. He was continuing the goal of modernizing the Canadian Forces. McDonald Douglas Corporation had been awarded the contract to produce Canada's new fighter aircraft, the US F-18 Hornet. Also, the competition for the Canadian Patrol Frigate Program was narrowed to two industrial finalists to enter into negotiations for the contract definition phase of the program. This brought the Canadian Forces Navy a step closer to acquiring six new warships to replace the oldest class of destroyers.

(U) International Cooperation. In fiscal year 1981, Canada's population was one-tenth of that of the United States, and had Armed Services of 85,000; whereas the United States expended about 10 percent of the US defense budget for R&D, while less than one percent of the Canadian defense budget went to R&D. Therefore, their defense R&D funding did not allow a go-it-alone approach, and cooperation with the British and US became a necessity. Canada fully supported the ABCA agreements and the principle of Rationalization, Standardization, and Interoperability (RSI).

(U) To assist the US and Canada program under RSI, this group established a systematic procedure for identifying potential candidates for standardization early in the development cycle. The group briefed many DARCOM subordinate commands of Defense Development Sharing Program (DDSP) and aided in standardization loan agreements of equipments. More activity had been observed in the International Material Evaluation program at TECOM, which had shown increased interest in Canadian items to meet US requirements. Examples of IME interest (Internation Materiel Evaluation) were: heated handware, EOD body armor, an automatic digging/cutting tool and a missile forklift.

(U) Cooperative Development. The XM30 protective mask which was being jointly developed by the US and Canada progressed to the test stage in fiscal year 1981, and the Canadians provided canisters for DTII/OTII testing.

(U) US and Canada were working together on another program, the wire strike protection system. Bristol Aerospace (Canada) received a contract for over 1400 kits for the OH58A Helicopter. Kits were expected eventually to be required for the OH58C and UH-1.

(U) General Motors was awarded an R&D contract to produce a prototype Light Armored Vehicle, and produced an 8x8 wheeled version of the MOWAG Pirana vehicle mounting a mock-up of the 75mm ARES high velocity gun.

(U) During fiscal year 1981, the Canadian Forces were contracting for the replacement of over 2,100 1/4-ton trucks and three firms provided test vehicles, one of which was the Canadian firm, Bombardier, offering a version of the US AM General Vehicle.

(U) Defense Development Sharing Program (DDSP). DDSP was a bilateral agreement between the US and Canada whereby the Canadian government shared the cost of developing US items or systems. When produced, the item was produced by Canadian industry. This not only provided the US with funds to help defray the cost of developing new items or systems, but expanded the North American industrial base from which it could draw support.

(U) The group presented DDSP briefings to DARCOM subordinate commands in order to identify more US requirements that could be satisfied under the DDSP.

(U) The one DDSP program completing its R&D phase after more than seven years of effort was the contracting between the US and Canadian governments for production of the 20 liter plastic gas can. Other ongoing DDSP efforts were the Fibre Optics Development for the Fibre Optics Transmission System and the GUIDAR, a subsystem of the US Facility Intrusion Device System (FIDS).

(U) Standardization. Continuing the process of standardization in fiscal year 1981, there were 17 US to Canada standardization of equipment loans approved, and four Canadian to US loans of equipment were processed. Examples of equipment loans included US Meals Ready-to-Eat, the AQUILA RPV FLIR system, the Armored Cannon Vehicle Turret and Tank Periscope M32E-1 with mount M118E1.

(U) The US Army requested the loan of 16 Armored Vehicles General Purpose (AVGP) for use as a test vehicle for the Squad Carrier concept test to be conducted by the 9th Infantry Division High Technology Test Bed. The vehicles were dispatched and received.

(U) The US provided the Canadian Forces an AQUILA type FLIR for the CL-227 Rotary RPV under development and tested by Canadair. During the TEAL meeting on 15 October 1981, the CL-227 RPV was demonstrated to the US Army Vice Chief of Staff and party, as a flyable system. The free flight test was expected to take place in November 1981.

(U) Conference Visits. Dr. Richard DeLauer, US Under Secretary of Defense for Research and Engineering visited Canada 8-10 September 1981, to review Research and Development (R&D) programs and procedures.

(U) The US Army DDSP Steering Group met once in the US and once in Canada. The meeting stressed the importance of Defense Development Sharing Program (DDSP) and directed briefings to subordinate commands of DARCOM to encourage more sharing projects.

(U) The Eleventh Quadripartite Working Group on Aviation was held in Canada from 14-15 September 1981. The major effort addressed the ABCA Armies' aircraft interoperability and the exchange of operational and technical information. Agreement was reached to produce a concept paper stating ABCA Tactical Aviation requirements to the year 2000.

(U) The Commander, COL Bleecker, participated in Exercise Holly 19-26 October 1980, an annual exercise conducted by 1st Canadian Brigade Group. Exercise Holly was an eight day reconnaissance of the Northwest Territories, the Yukon Territory, and Alaska aimed at familiarizing participants with their area of operational responsibility in Northern Canada and with the US Army in Alaska.

(U) Summary. In 1981, the political leaders of the United States and Canadian Government again stressed the importance of maintaining and improving the North American Industrial base for an enhanced defense capability. The bilateral defense agreements, giving great importance to RSI were reemphasized. The US Army Research, Development and Standardization Group - Canada, due to this restatement of defense cooperation, became the US Army's central focal point to directly implement and drive the provisions of the agreed-to programs. DDSP, Equipment Loan programs and technology exchange agreements were the keys to RSI between US and Canadian defense enhancements.

US Army Research, Development and Standardization Group (UK)

Activities

(U) Fiscal year 1981 was characterized by a continuation and consolidation of those RSI programs which were in early stages of development in 1980. These included the procurement program of the Combat Support Boat and development of the 81mm mortar system. On a broader collaborative scale, the decision to proceed with the multilateral Multiple Launch Rocket System (MLRS) program was a clear indication that a system could be successful if driven by a concerned level of management willing to pursue a project to successful completion. Programs such as these gave significant encouragement as preparations were finalized for the Quadripartite ABCA TEAL XXIII scheduled to be held in Canada in October 1981. ABCA priorities for interoperability, well defined and indorsed by the NATO community, affected the entire spectrum of collaborative programs.

(U) Concurrent with these activities was the emergence of an initiative by the US which provided industry with excellent opportunities to take the lead in collaborative programs. This change in emphasis provided a suitable framework within which both Government and industry could work together in the identification, development and production of equipment which not only improved the readiness posture of both countries but was cost effective in terms of resources expended.

(U) Scientific activities supported by the group in furtherance of the Army's research program, included the administration of $3 million for the conduct of a comprehensive research program throughout Europe and the Middle East. This program consisted of administering 181 active research contracts with academic and research institutions in 17 European and Middle East countries. Also, 62 scientific conferences were supported in Europe and 140 US and European scientists interfaced by visiting laboratories and technical institutions in the USA and Europe.

(U) United States/United Kingdom cooperative programs were initiated through a variety of means such as bilateral talks, ABCA discussions, command

initiatives, and efforts of the standardization representatives. Each system or item of equipment identified as a possible candidate, became the subject of an information exchange between the US and the UK. This was augmented by counterpart meetings, which involved over 400 DOD representatives visiting the UK during fiscal year 1981 in support of these and other NATO projects. Subsequently, the equipment was normally referred for US test and evaluation through the International Materiel Evaluation (IME) Program. This was the principal means by which potential UK equipment candidates were evaluated.

Armored Fighting Vehicle Systems

(U) During fiscal year 1981, US and UK cooperative efforts continued to be focused on present and future main battle tanks; armored personnel carriers and infantry/cavalry fighting vehicles; light armored vehicles; armor technology and armored vehicle working groups; armored vehicle subsystems; and gunnery training devices. The UK MBT-80 tank program was terminated and the Challenger Project Management Office formed to continue development of a UK main battle tank. The well established dialogue between the offices of the US Program Manager for Abrams Tank System and UK Challenger Program Manager (old MBT-80) continued toward enhancing cooperative data exchange and standardization and interoperability of tank components. The UK 4030/2 and KHALID programs were comparable to the US M60 program while the UK 4030/3 and Challenger programs were more aligned to the M1 Abrams program. They had completely redesigned hulls and turrets because of the move from conventional to Chobham-type armor.

(U) The UK decided not to procure the US M2 fighting vehicle. The MCV 80 Program Management office continued its efforts to develop the MCV 80 vehicle in accordance with General Staff Requirement (GSR) 3533. Three prototype vehicles were built by the prime contractor, GKN Sankey, which underwent test and user evaluations at the Military Vehicles and Engineering Establishment (MVEE) and the Infantry Trials Unit, Warminster. In addition to this program, two alternatives were considered to meet the GSR: modification of the Scorpion APC variant and upgrading the APC which was in use in fiscal year 1981. Within the APC/Infantry fighting vehicle programs, specific items and subsystems were examined by a US/UK AFV Working Group to surface opportunities for standardization and interoperability.

(U) As a result of the short term phase of the USMC Mobile Protected Weapons System (MPWS) and the USA/USMC Light Armored Vehicle (LAV) programs, there was increased US interest in several UK items. The UK had historically had a light armored vehicle within the Combat Vehicle Reconnaissance (CVR) family. The Scorpion, a member of the CVR family of light tracked vehicles, had been upgraded in an attempt to be competitive for the LAV vehicle procurement and an expanded Scorpion chassis incorporating APC capabilities was selected for participation in the MPWS. Other UK light armored wheeled vehicles considered to have some application in this program included the AT 105 (armored personnel carrier) and the FS100 Simba fighting vehicle family.

(U) The UK/US Armored Fighting Vehicle Working Party (AFVWP) and the Armor Technology Working Group (ATWG) met in UK during October 1980. The significant outcomes from this second meeting were: agreeable "method of work" at the working party level; tentative agreement to roll up two UK/US draft MOUs (tank guns/ammo and ACVT) into the AFVWP; establishment of a baseline for on-going bilateral and multilateral cooperative AFV efforts; and outlined desirable areas of component interoperability for the MCV 80/FVS (M-2, M-3) vehicles. The 4th ATWG met in UK during October 1980 in accordance with the established procedure of holding the ATWG concurrent with the AFVWP.

(U) Significant discussions included physical protection and security of the Abrams and Challenger tanks in the field, and future procedures for downgrading/declassification for special armor vehicles and targets. The third meeting of the US/UK AFVWP and the fifth ATWG were held during May 1981 in the United States. These discussions included possible areas for exchange of armored vehicle technology, prioritization of component areas for investigation, and explanation of respective Life Cycle Management Models. In addition to the AFVWP efforts, emphasis centered around improving road wheel and track life, examination of suspension system technology and vehicle air cooling equipment. The next ATWG/AFVWP meetings were scheduled to be held at UK MVEE during October 1981.

(U) Armored and missile training systems generated interest during the fiscal year. Considerable expertise was developed in the area of training devices by UK MOD and British industry. As a result of the UK philosophy toward training management and resource constraints, major items of equipment identified during the year included Aquilina (Simulaser); a low-cost tank crew gunnery system; on-board trainer, a software modification to the Improved Fire Control System (IFCS); SIMFIRE/SIMFICS, laser designator and detector equipment that could be fitted on board vehicles to train force on force; and Tank Gunnery Missile Target System (TGMTS), a tank gunnery missile target system designed by DETRAS, UK. TGMTS was in service in USAREUR and was undergoing evaluation at Fort Knox, Kentucky.

Aviation Systems

(U) For future helicopter requirements, the UK Future Family of Helicopters (FFH) and the US Family of Light Helicopters (LHX) showed potential progress toward program commonality. While both programs were still in the concept stage, the following parallels existed: a compatible development cycle and a similar initial operational capability (IOC) in early 1990; common thoughts on developing a family of systems for a scout, attack and utility versions; mutual interests in stressing commonality of dynamic systems; capitalization of new technology that were expected to be available in the mid-1990s; and mutual emphasis on controlling cost. In an attempt to build a structure that would support this bilateral effort,

the UK MOD Procurement Executive expressed a desire to enter an information exchange program. The Director of Future Air Systems was pursuing this effort with an initial proposal anticipated sometime in mid-1982. The British Army Air Corps had a continuing requirement for information on US Army studies or documentation that supported attack and support helicopters and their integrated use as part of the Combined Arms Army.

(U) The UK/US Chaff trials conducted during July-September 1981 at the UK RAE Larkhill Range were part of TRIAL MACE II Joint NATO Chaff Trials. As a result of these trials the UK could possibly be able to determine their LYNX and GAZELLE requirements. The US could be able to determine if additional aircraft survivability equipment (ASE) was required on Army aircraft. US support provided through ASE PMO at AVRADCOM consisted of hardware and personnel to conduct the trials using AH-1 and U-21 aircraft.

Weapons Systems

(U) In March 1981, the UK 81mm mortar system passed a major test in proving the wet effeciency of the ammunition. A twelve-month UK/US co-development program was to start in August 1981 to finalize the configuration of the system to meet overpressure, standards and production criteria. DTII would start in April 1982 and continue through September. The DEVA IPR was scheduled for November. Fiscal year 1981 plans called for the procurement of 4,000 systems and two million high explosive (HE) munitions from the UK Royal Ordnance Factories.

(U) Interest was expressed by the 82nd Airborne in the UK 105mm L118/L119 light gun, with the possibility that a requirement for a new 105mm Howitzer would be established in the near future. The advantage of this particular gun was that in the L119 version, it could fire US 105mm ammunition, hence it needed no further development. Further, the UK planned to use this gun far into the future; therefore a great deal of the development of the 105mm round was emerging, while 155mm technology continued in fiscal year 1981.

(U) Multiple Launch Rocket System. Development continued on the Multiple Launch Rocket System. The Quadrilateral (US/GE/FR/UK) MOU was revised to permit Italy to participate in certain aspects of the program. Phase I, the basic carrier and general purpose round, was undergoing developmental testing. Phase II, anti-tank mine warhead, was unilaterally pursued by Germany. The RFP for Phase III, terminally guided warhead, was released to industry on 31 July with a reply scheduled for 29 September. The winner would be selected in January 1982.

(U) The 155mm SP 70. The 155mm SP 70 was a possible candidate for the self-propelled Howitzer requirement expressed in the Division Support Weapon Systems (DSWS) concept. DSWS was briefed to the NATO

nations at the NAAG Panel IV meeting held in April 1981. The UK procured over fifty US 109A3 155mm Howitzers in 1981 to bolster its forces until the development of the SP 70 was complete and fielding could begin in 1985. The SP 70 was designed using the provisions of the Quadrilateral MOU on Elements of 155mm Howitzer and ammunition, and would have operational parameters similar to the M109, M198 and FH70,

(U) The 9th Quadrilateral Working Group (QWG)/Air Defense (AD) met in Woolwich, England during the period 22-26 June 1981. Progress was made following the previous meeting in reviewing concept papers to bring them in line with CD Guide 2000. During the meeting agreements were made in the following areas: A new working paper entitled "Potential Areas for Air Defense Standardization" which examined the many potential areas of work undertaken in the air defense field by other QWGs enabling QWG/AD to concentrate on those subjects not covered elsewhere; A working paper on "Control of Air Defense Weapons" to rationalize under one nation (the US) the work in this field done by QWG/Command and Control and QWG/AD; An agreement to develop a QSTAG on "Aircraft Recognition Training"; A first draft working paper on "Rules for Engagement for All Arms Air Defense" was prepared in response to a request by QWG/Infantry; The need for an ABCA "Glossary of Terms".

(U) Another major interface during this period was on second and third generation anti-tank guided weapons (ATGW) and light anti-tank weapons (LAW). The US/UK ATGW program was part of the Four Power ATGW MOUs. The four Power ATGW working group met in Huntsville, Alabama, during November 1980 and in London during June 1981. The UK and its European partners conducted a long-range ATGW Feasibility Study for third generation ATGW which would contain both long and medium range ATGW solutions. This study effort was expected to be completed in late 1981 which would allow project definition to begin in mid-1982. As a result of the cancellation of the US IMAAWS development contracts, further US studies were ongoing to examine the broad spectrum of ATGW in an effort to determine the mix and balance of US ATGW. The future for the ATGW international program was largely dependent on these studies. Should the US establish a requirement for a third generation medium range ATGW, the way ahead could be in accordance with the MOU which existed in FY 1981. If not, the United Kingdom, in cooperation with their European partners, would likely develop their own medium range weapon.

(U) In accordance with the second generation ATGW MOU, procedures for the exchange of information dealing with present systems was presented by the UK at the June 1981 meeting. A United Kingdom/United States/France meeting was scheduled for September 1981 in the UK to exchange information on TOW and MILAN improvements.

(U) In the area of light anti-tank weapons, the UK LAW 80 was developed in accordance with GSR 3658 and IEPG agreements. The program was on schedule with final design "lock-in" anticipated in December 1981 with acceptance/approval expected in July/October 1982. The UK in-service date remained June 1983.

Munitions

(U) Munitions interoperability and/or standardization was considered a very achievable goal in fiscal year 1981. Even though several European nations were no longer dependent upon the US for their artillery systems, various agreements and MOUs were insuring that munitions development provided for interoperability. NATO countries were very interested in the family of 155mm rounds and charges. A coproduction agreement was signed with the Netherlands to produce the M483A1 improved conventional munitions round. Germany purchased a sample quantity of the M549A1 rocket assisted projectile which was to be tested by the UK under a trilateral arrangement. The M712 COPPERHEAD received a favorable report from RARDE and the UK was awaiting the first shipment of rounds for test. In the area of propelling charges, there was interest in the US M203 and the UK cartridges 2 and 3. The UK cartridge 2 was a potential replacement for the US M3A1 and M4A2 charges. Cooperation continued in the development of improved 105mm tank ammunition and the complete range of 120mm tank munitions.

(U) During the past two years efforts were made to review test procedures used by the US and UK with a goal of harmonization of new test procedures acceptable to both countries. In July 1980, an MOU for the Development and Mutually Acceptable Technical Test Procedures for Munitions and Explosive Ordnances was signed, resulting in a revision of both US Test Operating Procedures for Safety of Munitions and UK Ordnance Board Proceedings. The concepts in this document were submitted to NATO Sub-Panel AC/310 for eventual consideration as a NATO agreement. An MOU for mortars along the same line was also under consideration.

(U) Ongoing programs in artillery ammunition development addressed blast overpressure of the new extended range munitions, terminal ballistics, and stick propellants. Under the Quadrilateral MOU on Elements of 155mm Howitzer and Ammunition (Germany, Italy, United Kingdom, and United States) all new 155mm munitions which were developed had to be interchangeable with the M198, M109A3, FH70 and SP70 weapons systems. The 8th Quadrilateral Ballistics meeting held at Yuma Proving Ground in January 1981, generated a requirement for a working group to expand this MOU by adding annexes for firing table computations and configurations and configuration control.

(U) With regard to other special-type munitions, a Special In-Process Review was conducted in May 1981 to determine if the UK Giant Viper Mine Neutralization System should be accepted for US Army use. It was concluded after the review of extensive US and UK test data that the system could not be type classified standard A because of fuze safety and other technical problems. US evaluation of the UK Giant Viper was terminated.

(U) US and UK cooperation continued on the Ranger Anti-tank Mine System (RATS). The UK Prime contractor and MOD personnel continued periodic meetings with US DOD and contractors. An MOU for cooperative

development of this system was in the final stages of staffing. RATS would provide the UK with a scatterable, high technology anti-tank mine based on the US FASCAM system to be dispensed from a UK developed launcher. The US showed interest in a similar system. Potential existed for additional future cooperation in this area.

Command, Control, Communications and Surveillance Systems

(U) The US/UK RPV MOU Steering Group meeting was held at the UK RAE during April 1981. A report on the UK Phoenix Program, which included an assessment of candidate systems to meet the UK RPV requirement was given. The final report was to be released in late 1981. The US RPV Program Manager presented an update on the AQUILA Program. Other topics of discussion included the terms of reference for the working groups and status reports from various working groups. The next RPV MOU Steering Group Meeting was expected to be in the US at either Fort Huachuca or St. Louis during October 1981.

(U) The Advanced Battlefield Artillery Engagement System (BATES) began full scale development in 1981. BATES was similar to the US TACFIRE system but used hardware and software, micro technology, and distributive processing. BATES was expected to interface with 13 other UK projects to include the WAVELL and PTARMIGAN Systems. A bilateral agreement between BATES and TACFIRE was approved in 1980, and was expected to interface at battalion/regiment level through Corps. The Interface Management Plan (IMP) and Technical Interface Requirements (TIR) were approved by the projects in 1980, and revised in 1981. A tactical concept for interoperability, an interface operating SOP, a test guidance package, and a test battlefield scenario was scheduled for completion in 1982. Interoperability testing at the battalion/regiment level was scheduled for June to December 1984, ending with a live fire functional interoperability demonstration at the Royal School of Artillery at Larkhill, England. An operational systems interoperability demonstration up through Corps level was scheduled for 1988 in Germany.

(U) US and UK continued to hold talks on the interoperability of UK WAVELL and US SIGMA. WAVELL was a mobile vehicular mounted ADP system designed to aid commanders in battlefield command and control, which was deployed to UK Forces in Germany in February 1978. To assist in the accomplishment of the interoperability objectives, a draft MOU for a program of exchange of information on command and control ADP systems for Army tactical use was developed by the US PM, OPTADS and UK PM, WAVELL/BATES. Long term UK objectives included US/UK interoperability trials at a future date.

Nuclear, Biological, and Chemical Defense

(U) Cooperation under the MOU for Collaborative Development of an Individual Radiation Dosimeter and Reader System continued in fiscal year 1981. The US was expected to complete testing by the end of the fiscal year with a decision on a production model to be made in the first quarter of fiscal year 1982. A draft production MOU was prepared and coordinated. The UK accepted the system and let a contract for preproduction models.

(U) In a search for an improved, safer smoke pot, the Test and Evaluation Command (TECOM) procured 300 UK Smoke Generators, No. 24 Mk5 for Phase II IME. The IME was expected to evaluate several candidates for an improved smoke pot. The US and UK continued to collaborate in the search for technical solutions to a multi-spectrum smoke.

(U) An MOU for United States/United Kingdom/Canada collaboration on chemical and biological defensive matters was agreed upon, which called for cooperative efforts in phases of development from research through production. This MOU was somewhat unique in that it involved three nations and covered the full spectrum of development and fielding. Efforts continued toward the identification of key areas for consideration, assigning lead country responsibilities, and cooperation within the Quadrilateral Working Group (QWG). The MOU was expected to provide a means for accelerated cooperative efforts in CB (Chemical and Biological) defense. Formal meetings were held every six months, with the next meeting scheduled for October 1981 in the United Kingdom.

(U) The UK Chemical Agent Monitor (CAM) development elicited considerable interest from the United States during the fiscal year. Early testing of the prototype model showed great promise for providing significant capability for chemical monitoring, CAM being much simpler and easier to use than detector kits. US developers observed UK testing, and exchange of technical information was expected to continue.

(U) US use of UK-developed items continued with the chemical training device (SPAL) and the smoke grenade (L8A3). Use was expected to continue for several years to come.

(U) The QWG/NBC Defense meeting in May 1981 focused on collaborative efforts in NBC defense materiel items and on information exchange programs across a broad spectrum. With renewed emphasis on NBC and increased funding in research programs, it was expected that cooperative efforts in the NBC Defense arena would expand. Key actions of the QWG included: Agreement on a standardized requirement for a general service respirator for the 1990s; Acceptance of a policy paper prescribing the need for chemical survivability in addition to nuclear survivability; Insuring that the CB MOU efforts did not conflict with the QWG.

Combat Support Systems

(U) US interest was expressed in UK airborne equipment and training as a result of visits from personnel of the 82nd Airborne Division and the President of the Airborne Board. As a result, the 82nd Airborne built a facility at Fort Bragg containing the British Swing Land Trainer, and a similar facility was to be constructed at Fort Benning. Also in fiscal year 1981, there was the possibility that a Fan Descent Trainer might be constructed at Fort Bragg, and considerable interest was expressed in a nine compartment parachute; a weighted rope bag containing a repelling rope to be used for descending from high tree entanglement (US interest would be for use in repelling from helicopters); a round disposable cardboard container used for dropping sleds or other medium weight items where disposal of the containers, after use, might be required.

(U) During August 1980, the US type classified the UK Combat Support Boat (CSB) standard for use as a bridge erection boat with the Ribbon Bridge Production contracts were finalized in November 1980 with Fairey-Allday Marine Limited, Hamble, Hampshire, England. First article test took place in the UK in December 1980. Four boats for initial production tests were air lifted to the US in March 1981. MERADCOM, TSARCOM, TECOM, the Engineer School, and the Armor Engineer Board were active in production, testing, and preparations for fielding. A Production Acceptance IPR was expected to be scheduled for January 1982. During early 1981, Fairey-Allday was engaged in several major modifications to the boat in an effort to improve its capabilities. These included a keel cooler, new waterjet nozzles, and a different exhaust system. A user/developer team visited the UK in April 1981 for a demonstration of the modified boats. In May 1981, two modified boats were airlifted to the US for further testing. Meanwhile, production of CSB continued on schedule. The US exercised its option for 47 additional boats. Additional FY 1981 procurements were planned.

(U) Three QWG/Engineering Groups met in London 19-28 January 1981, the major achievement being the establishment of a framework which could be used to identify shortfalls in QWG/Engineer efforts. Concern was expressed over the apparent lack of coordination on delivery systems, command and control, and concepts on the use of scatterable mines. Future in-depth emphasis was to be placed on the highest priority items with detailed matters resolved out-of-session. This was a joint QWG/Engineer and QWG/CD action.

(U) The US/UK Combat Engineer interface moved closer in fiscal year 1981, with a visit in February 1981 to the Royal School of Military Engineering by the Commandant of the US Army Engineer School. This meeting was followed in June 1981 by a visit to the UK by the Director of Combat Development, USAES. Key issues discussed, included: mine/countermine equipment, future bridging, and earthmoving equipment.

(U) In April 1981, the Engineer Standardization Representative attended the Mobility/Countermobility/Survivability Systems Program Review

at Fort Belvoir, Virginia. The review provided an excellent and necessary overview of future directions for the US. This information coupled with a similar review of UK activities allowed the Office of R&D(UK) to be more effective as a catalyst in achieving RSI goals.

(U) The US continued testing of UK Inflatable Water Tank in fiscal year 1981. The first tank was provided under standardization loan in June 1980. Subsequently, a second tank and bellows were provided to MERADCOM in February 1981. The United Kingdom contractor visited the US in March 1981, to discuss the technical aspects of the water tank. Nine additional tanks in desert sand color were procured to assist in US tests on new prototype water supply and distribution systems.

(U) The UK manufacturer of the Shrike L3A2 Exploder, a demolition firing device, provided two items with accessories to the US Army Institute for Military Assistance. Testing was completed and the item was found not to be suitable for US proposed application.

(U) MEXEFLOTE/UNIFLOTE, a UK item with the potential to meet US draft requirements for a readily deployable knockdown barge and harbor pontoon equipment, remained in the IME program until June 1981. The US, having tested this item in 1970 and again reviewed its capabilities in 1976, found results favorable. Two UK companies maintained a capability to produce this item. TECOM terminated IME activity until approval of the requirements document.

(U) United Kingdom had actively monitored the US MLC 70 trials on Ribbon Bridge. Early in 1981, however, the UK decided to take actions to extend the life of their M2 assault bridging. Simultaneously, the US was notified that the UK was no longer interested in procuring Ribbon Bridge.

(U) The UK completed development of their mine plow and initiated limited procurement. The plan was to field these items to selected units and obtain comments before larger quantities were procured. FY 1981 there were US inquiries concerning the UK plow.

(U) The Materials Handling Trials Unit (MHTU) at the Central Ordnance Depot at Bicester tested the US rough terrain forklift against a UK requirement during the fiscal year. MHTU was also in the process of developing UK storage and handling procedures for the MLRS rocket pods.

(U) In May 1981, the US purchased three slightly modified UK MEXE shelters from the manufacturer for use in the 9th Infantry Division high technology testbed (HTTB). This project offered an excellent opportunity for tactical innovation and equipment testing. Items were airlifted to the US to meet testing schedules. A battalion-level exercise was conducted which included the use of MEXE. A brigade-level exercise was scheduled.

(U) In the area of AFV recognition training, a comprehensive system was proposed for use throughout the UK Army. The system was more comprehensive than the one being implemented in the US although both systems used a similar approach. The TRADOC exchange officer to the UK Army School of Training Support was the prime developer of the system.

Product Improvement

Joint Review

(U) The Product Improvement (PI) Program Joint Reviews for the fiscal year 1983 Program Objective Memorandum (POM) and Budget were hosted by DARCOM in December 1980 and June 1981, respectively. As result of the fiscal year 1983 program reviews, there were 804 Army PIPs approved for fiscal year 1983 funding (all types) in the total amount of $2.114 billion.[1]

(U) The Surgeon General and the Army Communication Command Product Improvement Proposals (PIPs) were reviewed along with the DARCOM PIPs. The latter comprised over 95 percent of its Army Program in terms of both number of PIPs and resources required.

(U) To encourage action officer coordination prior to the actual JR, the fiscal year 1983 Budget Review was rescheduled from the traditional first week of June to the last.[2] Since the due date for receipt of PIP submissions in this Headquarters was not changed, the review participants had approximately 40 days prior to the JR to develop and staff their positions. The results were an apparent improvement in TRADOC coordination and an obvious decrease in the issues remaining for formal JR resolution.

(U) The anticipated effect of this rescheduling, coupled with the successful abbreviation of the previous June session and a personal letter to each of the DARCOM MSC commanders,[3] allowed our confidence in shortening the June JR to three days. The event subsequently justified this confidence. Future Budget JRs were expected to be three days in length, although the POM (December) session, which was to see new start proposals, would continue to be scheduled for the usual five days.

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1 DRCPI letter, 21 July 1981, Subj: Minutes of the Product Improvement Program Joint Review for the FY83 Budget.

2 DRCPI letter, 27 Feb 1981, subj: Product Improvement (PI) Program Joint Review for the FY83 Budget.

3 DRCPI letter, 27 Feb 1981, subj: Product Improvement (PI) Program Joint Review for the FY 1983 Budget.

Priorities

(U) The continued assignment of a DCSOPS priority to each approved PIP was of increasing value in the efforts to obtain fiscal and other resources for improvement from initial engineering to installation of the last modification kit and evaluation of data collected to determine the adequacy of the PIP.

(U) The semi-annual JR Minutes indicated the priority assignment for each approved Product Improvement Proposal (PIP) and served as the means of disseminating this information. TRADOC strongly influenced these priority assignments which were based on their own rigerous review of active PIPs. Increasing emphasis was placed upon the elimination of "nice to have" or nonessential improvements and the concentration of all efforts and resources toward the most urgent requirements. This philosophy was clearly urged in the TRADOC policy letter to their subordinate organizations, dated 14 May 1981.[4] The letter stressed the hard reality that additional improvements would require a trade-off with previously approved PIPs. This concern of the combat developer with the limitations of funding refuted the often made statement that TRADOC had no interest in fiscal programming and budgeting. Their interest did make for a closer PI partnership between the combat and materiel developers.

Coordination

(U) As the number and complexity of product improvements increased so did the necessity of coordination, not only to identify and validate the requirement, but also to identify all interfaces and impacts with other materiel and upon logistics. An example of the latter was the effect of modification on the transportability of the weapon or materiel. Any change in the weight or dimensions of an item might well have jeopardized its established transportability. At the invitation of the Executive Secretary, Mr. R. Dienes of the US Army Military Traffic Management Command made a presentation on the DOD transportability program to the June session of the Joint Review (JR).[5] The presentation stressed the responsibility of the PIP proponent in obtaining AMTMC concurrence on PIPs that affected transportability. To facilitate this and other vital communications, this office updated and published its US Army Point of Contact List for Product Improvement Coordination.[6]

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4 TRADOC letter, 14 May 1981, subj: PIP Priority List.

5 DRCPI letter, 9 June 1981, subj: Product Improvement (PI) Program Joint Review for the FY 1983 Budget.

6 DRCPI letter, 29 Jan 1981, subj: Product Improvement Coordination.

(U) TRADOC revised and greatly expanded their earlier internal PIP coordinating procedures in comprehensive guidelines issued on 27 April 1981.[7] The coordination of new PIPs for the JR was especially delineated and should substantially benefit the essential combat/materiel developer interface.

Independent Evaluation

(U) In fiscal year 1981, an updated listing of PIPs for which the Army Materiel Systems Analysis Activities (AMSAA) was the independent evaluator of test data was published by the DARCOM Office of Product Improvement (DRCPI).[8] This action continued the precedence established five years before, whereby all PIPs required an independent evaluation of test data for consideration prior to the decision to procure the modification. These PIPs, not specifically identified as the independent evaluation responsibility of AMSAA, were evaluated by TECOM. The evaluation assignments were determined jointly between TECOM and AMSAA. TECOM and AMSAA were furnished copies by this office of all PIPs to be reviewed by the semi-annual Joint Review. This procedure kept the evaluators aware of all PIP activity, especially new proposals. It also promoted communication between the evaluators and the PIP proponents which the proponents were otherwise prone to neglect.

(U) Automatic Data Processing (ADP). The fiscal year 1980 historical summary for DRCPI stated that an automated Product Improvement Management Information Report (PRIMIR) submission from the PIP proponents would begin in the second quarter fiscal year 1981. Some commands made complete or partial submissions throughout the year by this means. Various difficulties and procedures were resolved and all fourth quarter and subsequent PRIMIRS were expected by way of the system described above. Although not completely on schedule, a Product Improvement data base was established at the North East Computer Center (NECC), Fort Monmouth, New Jersey. In anticipation of closing out operation of the existing system at Fort Belvoir, Virginia, operation of a data base at NECC was initiated to provide more efficient and economical PIP management and would begin during the first quarter of fiscal year 1982. Input to the data base would be accomplished by cards provided by the Major Subordinate Commands (MSC) and Project Managers (PM) of DARCOM, negating the requirement for typing and submitting the DA Form 3701-R PRIMIR. Both the DA Form 3701-R and the Direct Automated Information Update use the same two-page format required by AR 70-15, Product Improvement of Materiel.

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7 TRADOC ltr, 27 Apr 81, subj: Product Improvement Proposals (PIP) Coordinating/Processing Procedures (RCS CSCRD-162).

8 DRCPI ltr, 9 Apr 1981, subj: Independent Evaluators of Product Improvement Testing.

(U) Policy. Preplanned Product Improvement (P^3I) continued to receive a great deal of attention, especially with industry. Defense and Service Secretariats,[9] and GAO. This attention was shared in the trade journals and was best summarized in the 21 May 1981 issue of Aerospace.[10] However, those PIPs originally exemplifying P^3I, the future modification to the M1 Abrams Tank, were cancelled by the Project Manager and were pursued as normal development with no modification of field assets.[11] P^3I, the planned future modification of developmental weapon systems, is not addressed in the Army product improvement regulation, AR 70-15. The expenditure of funds for the product improvement of a weapon system prior to type classification was not authorized.

(U) A list of changes to AR 70-15, which grew out of several months' experience and representing a composite of interested DARCOM staff element recommendations, were of sufficient importance to merit consideration even though the regulation was less than a year old. The recommendations were made to the DA proponent in April 1981.[12]

Realignment Impact

(U) In mid-year, DARCOM Headquarters' Realignment Team, convened by Major General Bergquist, confirmed an earlier study finding that the Office of Product Improvement would be merged with the Development and Engineering Directorate. DRCPI actively participated in this and subsequent efforts toward developing the missions and functions of the resulting new organization and assuring that the intent of the Product Improvement Mission would continue to be served even though the DRCPI office would disappear as an entity.[13]

Manufacturing Technology

(U) Organizational. During fiscal year 1981, the Office of Manufacturing Technology (OMT) prepared to become a Directorate, DMT, as part of DARCOM's general reorganization to strengthen and give increased visibility to the productivity enhancing aspects of the Manufacturing Technology program. This step was consistent with the emphasis and support given to ManTech by OSD and DA in the memoranda of the Deputy Secretary of Defense, Mr. Frank C. Carlucci; the ASA(RDA), Dr. Jay R. Sculley, and Deputy Chief of Staff for Research, Development and Acquisition (DCSRDA), LTG J. H. Merryman.

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9 The Deputy Secretary of Defense Memo, 6 Jul 81, subj: Improving the Acquisition Process Through Preplanned Product Improvements.

10 Aerospace Daily Issue, 21 May 81, subj: Preplanned Improvement, Design-to-Cost Conflict Possible, Says GAO.

11 PM, Abrams Tank System, DARCOM ltr, 9 May 81, subj: Cancellation of PRIMIRS.

12 DRCPI ltr, 17 Apr 81, subj: Recommended Changes to AR 70-15, 15 Jun 80, with Change 1, 1 Aug 80.

13 MG Sheridan ltr, 10 Sep 81, subj: Letter of Commendation.

(U) Mission and Functions. While fiscal year 1981 saw no basic mission change, OMT undertook a new initiative, Industrial Productivity Improvement (IPI), to improve the identification and prioritizing of ManTech projects supporting the production of major weapons systems.

(U) Personnel. In fiscal year 1981, the Senior Executive Service position of the Chief, OMT, remained vacant with one of the GS-15 team leaders acting in that capacity. Personnel changes during the year included the addition of a General Engineer and the replacement of a General Engineer lost due to retirement.

Highlights

(U) Manufacturing Methods and Technology (MMT). The tapering off in MMT dollar value of fiscal year 1980 was recouped in fiscal year 1981, with a $6 million increase in project funding. The number of active projects was reduced by four percent as a result of OMT efforts to close overage projects. Contractor funding increased 13 percent over fiscal year 1980, while in-house funding fell by about three percent. The contractor/in-house ratio increased from 55/45 in fiscal year 1980 to 60/40 in fiscal year 1981.

(U) The technical success rate of 85 percent and an implementation rate of successfully completed MMT projects of 62 percent was slightly higher than fiscal year 1980, as was the spread of savings/investment ratio. Aviation and missile projects had somewhat higher success rates than ammunition, weapons, and troop support projects but shared nearly equal implementation rates. Seventeen successfully completed MMT projects are shown at figure 1. A complete summary listing of MMT Project Accomplishments and Implementations along with respective anticipated and actual savings/benefits are shown at Figures 2 and 3. The downturn in the number of MMT projects funded, (Figure 4) together with a modest increase in funding level (Figure 5) reflects inflation rather than any significant growth in project dollar levels.

(U) During fiscal year 1981, OMT significantly increased the number of briefings regarding MMT and IPI thrusts to industry, government groups and to higher headquarters personnel and executives at DCSRDA, DA, and OSD.

(U) The OMT initiated master planning for the Industrial Improvement program wherein the emphasis was on "top down" factory analysis. The most promising MMT programs were expected to be identified for priority funding in the formulation of the MMT program. It was anticipated that this approach would result in higher return on investment rates versus the older cost driver analysis, as well as, a substantial increase in productivity for the manufacture of weapons systems selected for the program.

ACCOMPLISHMENTS SUMMARY

PROJECT NUMBER	ANTICIPATED BENEFITS $ SAVINGS	ANTICIPATED BENEFITS OTHER	ACTUAL BENEFITS $ SAVINGS	ACTUAL BENEFITS OTHER	REMARKS
7 72 3501		INCREASED CAPABILITY			AVAILABLE FOR IMPLEMENTATION
7 74 3567		REDUCED TEST TIME			TWO PROTOTYPE SIMULATORS WERE BUILT
2 76 9773	$2 MILLION				SOFTWARE IS AVAILABLE FOR IMPLEMENTATION
2 74 9523	$175/UNIT	INCREASED LIFE & PERFORMANCE			
2 75 9525		REDUCED LABOR & INCREASED PROCESS YIELD			A PRODUCTION RATE OF 200/MONTH WAS ACHIEVED
H 75 9665	$700,000/YEAR				LASER TRIMMING FOR FINAL TUNING
2 75 9738	$1.7 MILLION				IMPROVED PROCESSING
2 75 9741		REDUCED DESIGN VERIFICATION TIME			AVAILABLE FOR IMPLEMENTATION
4 75 4561		REDUCED DIE DESIGN TIME			INTERACTIVE COMPUTER ASSIST
T 77 4589		ASSURES INTEGRITY OF DESIGNS			COMMAND CONVERSION PLAN WILL IMPLEMENT
4 77 5019	$3.0 MILLION	LOWER MAINTENANCE			FOLLOW-ON PROJECT IS COMPLETING THIS EFFORT
1 75 7055	$225,000	LIGHTER & LESS EXPENSIVE UNIT			FOLLOW-ON PROJECT IS COMPLETING THIS EFFORT
1 72 8036	NONE				UNDESIRABLE SIDE EFFECTS
1 74 8091		80% REDUCTION IN PROCESSING COSTS			
1 74,75,76 8109	$14 MILLION	MORE ENVIRONMENTALLY TOLERANT UNIT			
3 76 3147	$4.7 MILLION	REDUCES UNDESIRABLE CHEMICAL DISCHARGES			FOLLOW-ON PROJECT IS COMPLETING THIS EFFORT
R 77 3168	$10 MILLION	INCREASED PERFORMANCE			PRODUCTION RATE OF 50/HOUR ACHIEVED
3 76 3224	$1.5 MILLION	REDUCED FIELD FAILURES			ADDITIONAL EFFORT IS PROPOSED
3 76 3225	$760,000/YEAR				FOLLOW-ON EFFORTS ARE REQUIRED
3 76,77 3228		ELIMINATES BATCH OPERATIONS			FOLLOW-ON PROJECT IS COMPLETING THIS EFFORT

Figure 1

ACCOMPLISHMENTS SUMMARY (CONT)

PROJECT NUMBER	ANTICIPATED BENEFITS $ SAVINGS	ANTICIPATED BENEFITS OTHER	ACTUAL BENEFITS $ SAVINGS	ACTUAL BENEFITS OTHER	REMARKS
S 73 1139		REDUCED EXPLOSIVE HAZARD			TWO MACHINES WERE FITTED WITH FLUIDIC CONTROLS
S 73,75 1248		SAFETY ENHANCEMENT			AIR VENTILATION SYSTEMS DESIGN CRITERIA
S 74 1301		INCREASED CAPABILITY			PROTOTYPE SYSTEMS ARE IN USE
S 72,77 1357		PROVIDED PRODUCTION CAPABILITY			PILOT PLANT WAS CONSTRUCTED
S 74 3049 & S 76 3142	$200,000/YEAR				LAMINATED FLUIDIC DEVICE
S 73 3051	$250,000/YEAR	INCREASED TESTING CAPABILITY			
S 71,74 4041		AUTOMATED LINE			FOLLOW-ON PROJECTS ARE COMPLETING THIS EFFORT
S 73,74,77,78 4139	$2.9 MILLION/YR	INCREASED CAPABILITY			FOLLOW-ON PROJECTS ARE ENHANCING CAPABILITIES
S 74 4161	$1.29 MILLION/YR				CONTINUOUS AUTOMATED PROCESSING
S 71,72 4171	$2.0 MILLION/YEAR				MINI PILOT PLANT WAS CONSTRUCTED
S 72,75 4220		INCREASED PRODUCTION CAPABILIT			AUTOMATED BATCH EQUIPMENT WAS CONSTRUCTED
S 74 4255		INCREASED PRODUCTION & TEST CAPABILITY			INSUFFICIENT PRODUCTION REQUIREMENTS
S 76,77 4280		AUTOMATED FINAL ASSY & CALIBRA-TION			MACHINES ARE BEING INTEGRATED INTO PRODUCTION
S 77 4288		SAFETY STANDARDS			WILL BE INCORPORATED INTO SAFETY REGULATIONS
S 76 4289		SAFETY STANDARDS			WILL BE INCORPORATED INTO SAFETY REGULATIONS
S 77 4288		SAFETY STANDARDS			WILL BE INCORPORATED INTO SAFETY REGULATIONS
S 76 4291		EXPLOSION RESISTANT STRUCTURES			WILL BE INCORPORATED INTO SAFETY REGULATIONS
S 77 4341	$1.2 MILLION/YR				CONTINUOUS PURIFICATION PROCESS
S 77 4416	$1.6 MILLION/YR				SIMPLER AND LESS EXPENSIVE FABRICATION

Figure 1 (Cont'd)

ACCOMPLISHMENTS SUMMARY (CONT)

PROJECT NUMBER	ANTICIPATED BENEFITS $ SAVINGS	ANTICIPATED BENEFITS OTHER	ACTUAL BENEFITS $ SAVINGS	ACTUAL BENEFITS OTHER	REMARKS
5 72 4457	$1.5 MILLION/YEAR				INCREASED THE CAPABILITY OF EXISTING HARDWARE
5 72 6325		IMPROVED MATERIAL PROPERTIES			COMMERCIAL EFFORTS ARE IMPLEMENTING
5 72 6388		PURCHASE DESCRIPTION			ADDITIONAL EFFORTS ARE NEEDED
5 73 6550		REDUCED PERSONNEL & ELECTRICAL POWER REQUIREMENTS			
6 72,73 6684		LIGHTER CANNON TUBE			NO REQUIREMENT
6 72 6786	$450,000/100K BBLS	REDUCED OPERATOR REQUIREMENT			INSUFFICIENT PRODUCTION REQUIREMENTS
6 72 6838		IMPROVED PROPERTIES & DECREASED COST			IMPLEMENTATION WILL BE UNDER PROJECTS 6 XX 7419
6 73 7056		DOUBLED THE OPERATIONAL LIFE			UNIT IS NOW A REPAIRABLE ITEM
6 73 7124		IMPROVED & MORE CONSISTENT PROPERTIES			PROCESS SPECIFICATIONS ARE AVAILABLE
6 72 7220		REDUCED TAPE PREPARATION COSTS			USED PRIMARILY FOR PROTOTYPING
6 72 7226		INCREASED MEASURING CAPABILITY			LASER OPTICAL SYSTEM
6 76 7236	$57/TUBE	REDUCED FURNACE TIME FROM 70 TO 20 HOURS			
6 73 7242			$110,000/YEAR	PARTIAL IMPLEMENTATION	ADDITIONAL IMPLEMENTATION IN PROCESS
6 73 7261		LOW COST MIRRORS			INSUFFICIENT REQUIREMENTS
6 73 7265			$19,000		FACILITY CLOSURE TERMINATED IMPLEMENTATION
6 74 7411		INCREASE PERFORMANCE UNIFORMITY			PROCESS DATA IS AVAILABLE
6 74,75 7419	$85,000/YEAR				INSUFFICIENT REQUIREMENTS
6 74 7455		PROCESS INFORMATION			END ITEM NO LONGER IN PRODUCTION
6 74 7524		7% SAVINGS IN LABOR & TOOL COST			BORIDE COATED TOOLS
6 74,75 7550	$500/TUBE				NO REQUIREMENT
6 75 7571		50% REDUCTION IN REQUIRED TESTS			SHOCK TEST METHODS & SPECIFICATIONS
6 75 7572		50% REDUCTION IN PRODUCTION TESTS			DETAILED ENG. SPECIFICATIONS

Figure 1 (Cont'd)

IMPLEMENTATION SUMMARY

PROJECT NUMBER	ANTICIPATED BENEFITS $ SAVINGS	ANTICIPATED BENEFITS OTHER	ACTUAL BENEFITS $ SAVINGS	ACTUAL BENEFITS OTHER	REMARKS
7 7X 3524			$13.28 MILLION/YR		EQUIPMENT AT USE IN TWO FACILITIES
2 74 9744				PROVIDED PRODUCTION CAPABILITY	REPLACED HAND PRODUCED ITEMS
2 74 9750	$3.2 MILLION				EQUIPMENT UPGRADING
2 75 9836	$2.45 MILLION			PRODUCT QUALITY IMPROVEMENT	QUALITY ASSURANCE POLICIES AND PROCEDURES
T 7X 4329				NEW PRODUCTION CAPABILITY	JOINING OF DIFFERENT TYPES & HARDNESSES OF ARMOR
1 XX 7103			$60 MILLION	PROVIDED PRODUCTION CAPABILITY	TURBINE ENGINE MACHINING
1 77 7112				IMPROVED PERFORMANCE	KAMAN AEROSPACE CORP IS IMPLEMENTING
1 7X 8046			$2.0 MILLION/YR	REDUCED CRITICAL HATL USEAGE	IMPLEMENTED AT GE
1 75 6154			$10,000/YR (AIR F	ICE APPLICATION)	INTERACTIVE COMPUTER SYSTEM
3 75 3157	$10.24 MILLION			REDUCED WT & INCR RELIABILITY	HIGH RATE PRODUCTION CAPABILITY
R 7X 3170				PROVIDED PRODUCTION CAPABILITY	IMPLEMENTED AT LONGHORN
3 7X 3232				39% REDUCTION IN PROCESS PLANNING	COMPUTERIZED PROCESS PLANNING
5 7X 1248				REDUCED EMISSIONS	INSTALLED AT SEVERAL LOCATIONS
5 7X 1260			$0.056/GRENADE.	IMPROVED SAFETY	IMPLEMENTATION AT PINE BLUFF ARSENAL
5 7X 1277				IMPROVED SAFETY	IMPLEMENTED AT TOOELE ARMY DEPOT
5 7X 4032				TWO MILLION FUZES PRODUCED	IMPLEMENTED AT HONEYWELL FOR THE M739
5 XX 4114-P06				REDUCES POLLUTANTS	INSTALLED AT RADFORD, OTHERS PLANNED
5 74 4205			$11,000/YEAR	PROCESS IMPROVEMENT	IMPLEMENTED AT HOLSTON
5 73 6522				INCREASED YIELD & REDUCED OPERATOR REQUIREMENTS	SEVERAL APPLICATIONS
6 7X 7248	$176,000/YEAR			INCREASED EFFICIENCY	IMPLEMENTED AT WATERVLIET ARSENAL
6 73 7305			$21,000/YEAR		IMPLEMENTED AT ROCK ISLAND ARSENAL

Figure 2

IMPLEMENTATION SUMMARY (CONT)

PROJECT NUMBER	ANTICIPATED BENEFITS $ SAVINGS	ANTICIPATED BENEFITS OTHER	ACTUAL BENEFITS $ SAVINGS	ACTUAL BENEFITS OTHER	REMARKS
6 74 7481			$1.3 MILLION		IMPLEMENTED AT WATERVLIET ARSENAL
6 74 7484				FASTER & LESS EXPENSIVE N/C TAPE VERIFICATION	

Figure 2 (Cont'd)

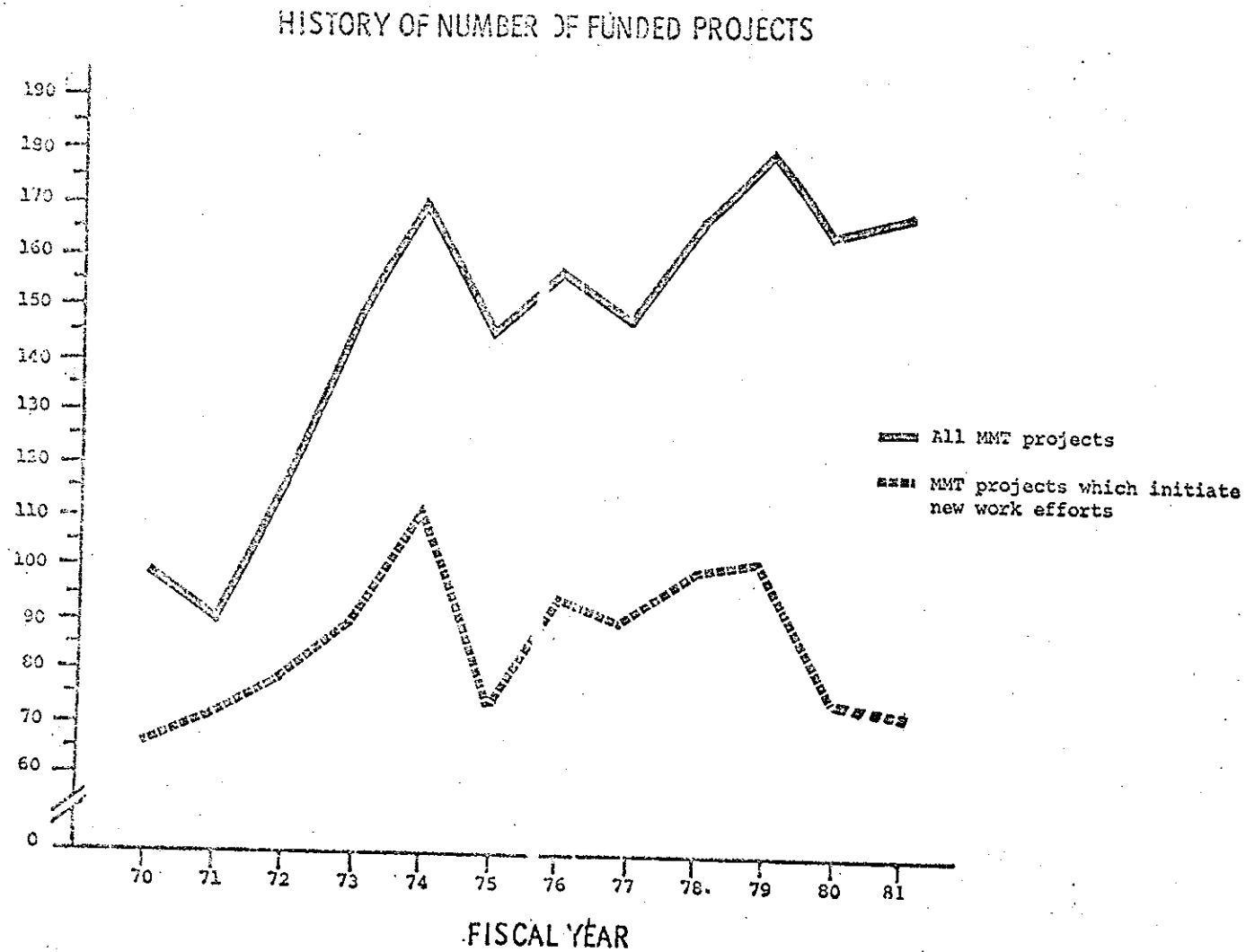
HISTORY OF NUMBER OF FUNDED PROJECTS
NUMBER OF PROJECTS
190
180
170
160
150
140
130
120
110
100
90
80
70
60
0
70
71
72
73
74
75
76
77
78
79
80
81
FISCAL YEAR
All MMT projects
MMT projects which initiate new work efforts

Figure 3

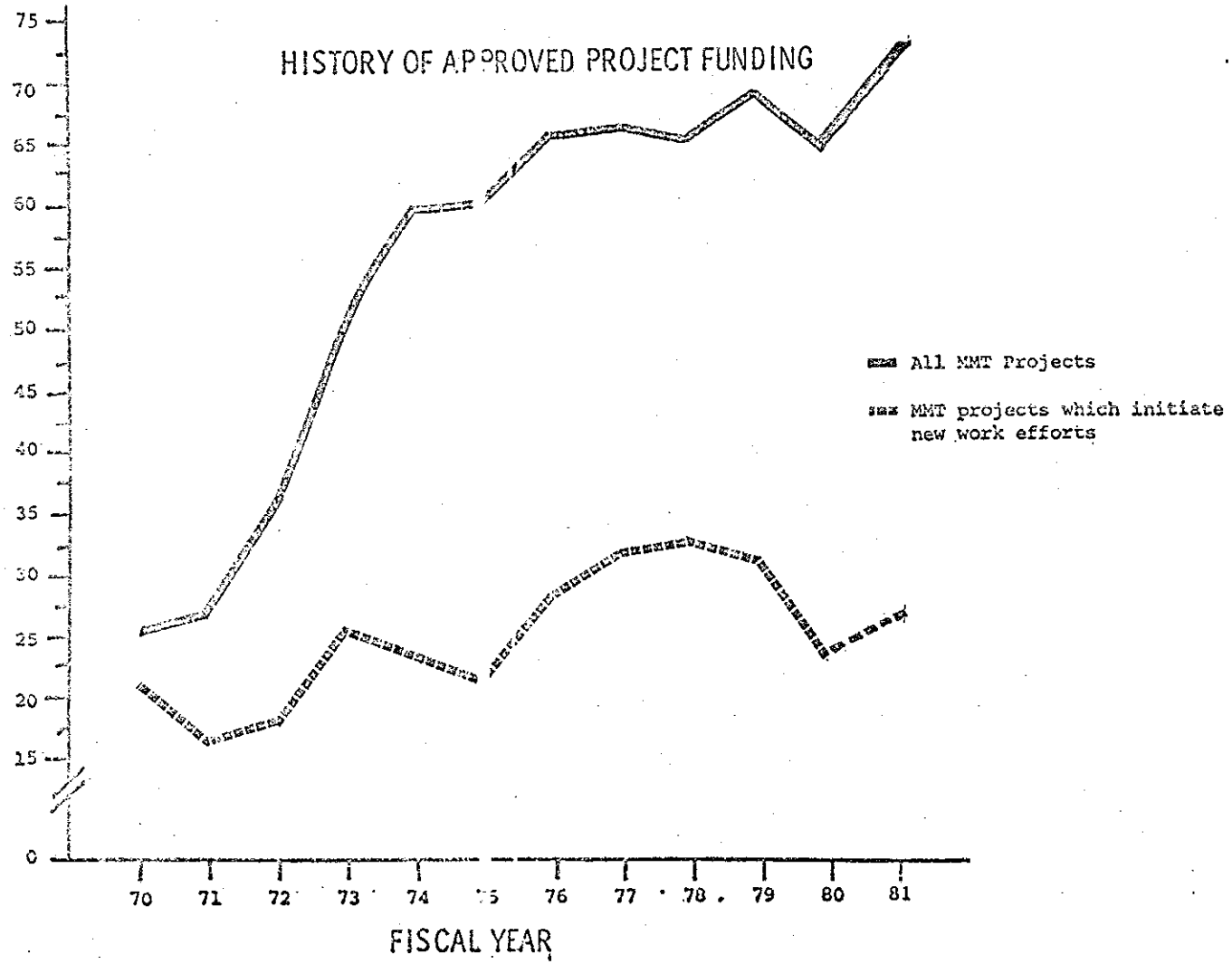
HISTORY OF APPROVED PROJECT FUNDING
DOLLARS (MILLIONS)
75
70
65
60
55
50
45
40
35
30
25
20
15
0
All MMT Projects
MMT projects which initiate new work efforts
70
71
72
73
74
76
77
79
80
81
FISCAL YEAR

Figure 4

(U) Also, during fiscal year 1981 increasing emphasis was placed on implementation planning prior to project approval. This emphasis was particularly applied to the areas of computer aided inspection and testing, as well as to Computer Aided Design (CAD) and CAM, thus fostering a Computer Integrated Manufacturing approach including such techniques and technologies as group technology, flexible manufacturing systems, and robotics.

(U) OMT participated in the Army-hosted 1980 Manufacturing Technology Advisory Group (MTAG) Conference at the Sheraton Bal Harbour Hotel, Bal Harbour, Florida in October 1980. OMT also chaired the CAD/CAM (Computer Aided Manufacture) Subcommittee meetings throughout the year in addition to active participation with all the other MTAG subcommittees.

Producibility Engineering and Planning (PEP)

(U) During fiscal year 1981, the Office of Manufacturing Technology (OMT) continued reviewing a number of projects as to the adequacy of their PEP performance. On-site Production Readiness Reviews at prime contractor/subcontractor facilities, RDTE spring/summer reviews, and one-on-one visits to project offices were conducted. To facilitate PEP tracking, a computer printout was extracted from the Modernization Army Research and Development Information System (MARDIS) program identifying all RDTE projects with their planned PEP dollar allocations. These reviews, along with the computer printout, served to surface and identify a number of fundamental inadequacies with the DARCOM PEP program. For example, prime contractors were not committing their subcontractors to PEP contractually; Project Officers were scheduling PEP on an untimely basis or not at all; accountability and assessment of PEP was vague and in some instances unidentifiable; reporting MARDIS planned PEP dollar allocations was on a voluntary basis. As a result of the above, OMT, in close coordination with the Development and Engineering Directorate, initiated a PEP improvement program which initially would provide PEP educational briefings and significantly increase the scrutiny of R&D projects for PEP accomplishment. In addition, a DARCOM PEP Regulation was expected to be drafted in fiscal year 1981 to formalize guidance that would produce a meaningful and productive PEP program.

Value Engineering (VE)

(U) The Value Engineering program had another productive year in fiscal year 1981. It was the first year that validated savings crossed the $300 million level. Savings amounted to $360 million as compared with $215 million in fiscal year 1980. Contractors submitted 600 Value Engineering Change Proposals (VECP) during the year for a decrease of two percent from fiscal year 1980, and in-house personnel submitted 1,374 Value Engineering Proposals. Ninety-nine percent of the DARCOM in-house VEP goal was met, 97 percent of the VECP goal was met, and the dollar savings/cost avoidance goal was over-subscribed by 217 percent. OMT provided considerable support to the Program Manager, Bradley Fighting Vehicle System in conducting a VE Task Force and Decision Board to reduce the cost of the BFVS. Forty in-house VEPs and 11 contractor VECPs, were

identified with an estimated savings/cost avoidance of $240 million over the total buy through 1986. The Value Engineering Awards Program recognized 30 Army contractors, nine major subordinate commands and two project managers through the presentation of appropriate plaques and certificates proclaiming their outstanding achievements.

(U) Design to Cost. The quarterly Design to Cost Report, RCS DRC 809, continued to mature during fiscal year 1981. The Report, required by AR70-64, Design to Cost, provided selected DTC information on 39 items/systems. While some difficulties still existed in getting selected field elements to make the required reports, there was significant improvement over fiscal year 1980 efforts and the quarterly reports were supplied to HQDA on schedule. A copy of the report was provided for the first time to the Cost Analysis Division of the DARCOM Comptroller for utilization. The Office also furnished copies of the DTC reports on a one-time basis to the Army Audit Agency, which initiated a DTC Survey during fiscal year 1981.

(U) A representative of OMT participated in the DOD Ad Hoc Working Group established in January 1981 for the purpose of revising DODD 5000.28, Design to Cost, scheduled for publication in fiscal year 1982. The same representative also served on the DOD Working Group which prepared guidance for Recommendation 22, DTC Contract Incentives, of the Deputy Secretary of Defense's Memorandum, dated 30 April 1981.

(U) In a separate but related area, Industry comments received on Data Item Description (DID) for DTC were reviewed by the Tri-Service Group and a revised DID was prepared. The DID was not circulated for final industry comment pending the expected publication of DODD 5000.28 and the MIL-STD on DTC early in fiscal year 1982.

(U) APESO. During fiscal year 1981, APESO participated in Production Readiness Reviews for Advanced Attack Helicopter (AAH), Division Air Defense (DIVAD), HELLFIRE, PERSHING II, Conduct-of-Fire Training for M1, M2, M3, M60A2 and A3, TADS/PNVS, Airborne Laser Tracker AN/AAS-32, AN/AVS6 Night Vision System, 5.56mm machine gun, and AN/APR-39 Radar Signal Detector.

(U) Other services furnished included participation in should cost and proposal evaluation for the Conduct-of-Fire Trainer (COFT); consultation on M9 Armored Combat Earth Mover; Fighting Vehicle System (FVS) cost reduction; XM795 Production Readiness Evaluation; M509 Producibility Analysis; M549 production yield evaluation; setting up the Production Readiness Review (PRR) course at AMETA; Staff Study on shortage of production engineers and participation on realignment team.

Technological Advancements

(U) This excerpt contains highlights of the key projects in process during fiscal year 1981, which were conspicuous because of either technological advancements, cost reductions, or safety.

(U) Automatic Optical Inspection for Printed Circuit Boards and Components. An automated, computer-controlled inspection system for populated printed wiring boards was designed and fabricated as a production prototype. The prototype laser scanner had the capability of inspecting boards for most of the defects commonly encountered in PCB (Printed Circuit Boards) manufacturing at rates of 25 components per second.

(U) Automated Process Control for Machining. This project established a computerized metal cutting matrix for machining operations and workpiece characteristics, according to general size and finished tolerance. A fundamental machinability equation was tested on this project, and programs were written to optimize tool life. Another program was developed using the fundamental machinability equation. Based on analysis of machining operations at Rock Island Arsenal, processing time was reduced from 10 percent to 33 percent for a variety of workpieces.

(U) High Power, Fast Switching, Silicon Controlled Rectifier. Prior to this project, production techniques were nonexistent for high current (300 AMP), high voltage (1200 volt), 400 Hz, PNPN silicon controlled rectifiers (thyristors) capable of operating at high switching speeds. Project achievements were demonstrated by a pilot line with a production rate of 20 units per eight-hour shift.

(U) Automatic In-Process Evaluation of Thick Film Printing and Hybrid Circuit Assembly. It was demonstrated that an electro-optical system could be used for automatic quality control inspections of thick film networks for military hybrid microcircuits. The technique demonstrated that automatic inspection of substrates was feasible and had the potential to replace visual inspection of hybrid microcircuits with microscopes which was slow and fatiguing. This new technique could inspect hybrid substrates at a rate of 750 per hour and its efficiency allowed for 100 percent inspection.

(U) Transcalent High-Power Transistor. Semiconductor switches used in high current power conditioning equipment required large heat sinks with fins to conduct the heat away. This project developed specialized fixtures and procedures for rapid fabrication of heat pipes and for bonding the bases of two heat pipes to opposite sides of a silicon transistor wafer. High temperature brazing of the heat pipe body, sintering of porous wicks, and ceramic-to-metal sealing were production engineered to permit volume manufacture. Plating, lapping, and soldering methods were tailored to obtain blister-free, void-free metal joints between the heat pipes and the transistor wafer.

(U) Digital Fault Isolation of Printed Circuit Boards. The objective of this project was to establish an automatic test and fault diagnostic system for complex digital printed circuit boards (PCB) containing microprocessors, RAMs, and ROMs. Goals were functional-tested to 95 percent comprehension--ability to detect all faults--and fault isolation to the pin level of LSI devices or hybrid modules. The project results were expected to be used for testing 218 different types of digital PCBs in five military systems.

(U) Infrared Testing of Printed Circuit Boards. This project produced an inspection system, using infrared sensing and scanning techniques to locate PCB flaws such as poor solder joints, marginal components, electrical overloads, circuit imbalances, and neglected or improper heat sinking. It produced a thermal map of the printed circuit board during normal operation, and a comparison of the thermal characteristics of the board being tested with those of a prerecorded standard. The location of the faults were then read out by a computer.

(U) Production Testing of Control Systems for Guided Weapons. This project produced a modular automatic test station with the capability of performing PPVT tests--shaft lock backlash, potentiometer null, shaft rotation and phasing, stall torque, angular rate, position gain, frequency response, step response, duration/duty cycle, shaft lock activation and cutter resistance. The use of the automated test station reduced inspection time to 10 minutes per guided weapon during fiscal year 1981.

(U) Ultrasonically Assisted Machining for Superalloys. An ultrasonic lathe cutting system was designed and constructed in fiscal year 1981, with ultrasonic cutting tests conducted on 9,310 low-carbon steel, 4,340 medium-carbon steel, 17-4 PH stainless steel, ESR 4,340 electroslag refined steel, three titanium-aluminium alloys, and refractalloy 26. The Office of Manufacturing Technology concluded that ultrasonically assisted machining greatly improved the metal removal rates on high hardness steels.

(U) Production Controls to Prevent Plated Through Hole Cracking. This project's objective was to correlate optimum copper plating baths and multilayer board laminate material which would eliminate plated through hole (PTH) cracking. A formalized bath qualification procedure that significantly reduced PTH fractures was established.

Cost Reductions

(U) MMT Measure for Mechanization of Ceramic Chip Capacitors. Processes mechanized included mixing, electrode screening, stacking, laminating, and sheet casting. Yield increases were attributed to better electrode registration from the screening and stacking machines and the improved material quality from the casting machine. Direct labor costs

were reduced 17.5 percent and 33.5 percent for the two different capacitors that were used to prove out the system. Annual cost savings based on 1980 production quantities was estimated at $2.7 million.

(U) Flexible Printed Circuits With Integral Molded Connectors (FLEXICON). This project's objective was to establish high speed, low cost automated processes for terminating flexible printed wiring to connectors. Optimum processes and materials were selected for integration with an automated facility to produce 500 units per 8-hour shift. The cost advantage of the FLEXICON technique was estimated by comparing the present practice with that of a fully automated FLEXICON production facility.

(U) Investigation of Hot Parting Approach to Billet Separation. The hot shear concept of billet separation involved heating steel billets, about 20-feet long, to forging temperatures, and hot shearing to mult-length. These were immediately transferred to the forging press and forged into a projectile. A significant finding of this study was that, in terms of tolerance on length and weight and overall quality of the parted surface, hot sheared mults equalled or exceeded the results achieved using the band saw method of billet separation. Estimated cost savings were 34 and 51 cents each for the 105mm and 155mm projectiles, respectively.

(U) High Speed Chromium Plating Technique. With this project was developed a new high-speed chromium plating process for gun tubes. Equipment and procedures were developed for plating chromium inside 1.2-meter sections of rifled and smooth bore gun tubes using a moving anode, high current density, and high velocity solution flow. It was estimated that the application of this new process to the 155mm, M185 cannon tube would require only 3.3 hours processing time. Production procedures required 9.5 hours.

(U) Advanced Technology for Pyrotechnic Mixtures and Munitions. This project improved the producibility of the AN-M8 and M18 grenades. It provided technical information which would improve the quality of the grenades, reduce production costs, and increase safety. The cost reductions associated with the AN-M8 amounted to $.082 per pound of HC mix produced. Cost reductions for the M18 grenade varied according to the color producing ingredients, but ranged from $.26 to $.41 per grenade.

(U) Vehicle Mounted Road Mine Detector System Antennas. This project investigated production techniques for the antenna assembly module. It included an evaluation of metalworking, foaming, fiberglass, and plastic molding fabrication techniques. Manufacturing techniques and procedures were developed that reduced the cost of the antenna modules. The estimated cost using the developed method to fabricate antenna modules was $95 as compared with the unit cost of approximately $350 in fiscal year 1981.

(U) Safety. The Explosive Safe Separation and Sensitivity Criteria Project determined the safe spacing or shielding that was necessary to prevent propagation of an explosive chain. Some of the products thst were the objects of this investigation included the 155mm, M483 projectile; flake TNT (168 pounds in a tote bin); 8" M106 HE projectiles; and molten and solid TNT charges.

Laboratory and Development Command Management

(U) Mr. James A. Bender was named to the SES position of Chief, Office of Laboratory and Development Command Management in July 1981, after serving as Acting Chief since March 1980. Mr. Tamio Shirata represented the office on the HQ DARCOM Realignment team, and a major expansion of size and responsibility was approved, as outlined below, to be implemented in fiscal year 1982.

(U) In fiscal year 1981 it was anticipated that the new organization would be the Directorate for Technology Planning and Management with the mission of establishing and of supervising the execution of command policies and plans in three areas: The development and utilization of Research, Development and Acquisition (RDA) Planning, which included the Science and Technology Base, Advanced and Engineering Development of systems and components, and procurement of Army Materiel assigned to DARCOM. The health, welfare, and vitality of the Research and Development (R&D) commands, laboratories, and research offices and the overall direction of quality and responsiveness of the science and technology base program, which was essential to maintaining and improving the Army's capability across all assigned commodities and enabling it to be an intelligent buyer. The conduct of special activities, including the management of the civilian Engineer and Scientist Career Program, the Independent Research and Development (IR&D) Program, the research and development Military Construction, Army (MCA), the Special Purpose Equipment (SPE) and Automatic Data Processing Equipment (ADP) programs, DA Scientific and Technical Information Program, and the Technical Industrial Liaison Program.

(U) DRCLDC was assigned primary responsibility for a new Joint Logistics Commanders (JLC) Panel on Guayule Rubber, which was established as a result of Defense concern about the shortage of natural hevea rubber in the stockpile of critical materials. Dr. Gordon Bushey organized DARCOM's participation in sub-panels on military evaluations and characterization of guayule as a substitute for hevea in military equipment. The problem of obtaining sufficient materiel for these tests led to a request by the JLC to the Office of the Secretary of Defense (OSD) for approval of Title III guarantees to industry for prototype production facilities. A final decision had not been made at yearend, fiscal year 1981.

Project Management

(U) During fiscal year 1981, the Office of Project Management was the Headquarters DARCOM proponent for the project management community which included Program/Project/Product Manager (PM) offices, to keep the DARCOM Command Group and Army staffs apprised of progress and problems associated with the development and readiness programs under PM management. During the course of the fiscal year, this office arranged for the conduct of approximately 20 Review and Command Assessments of Projects (RECAPs), 10 Logistic Command and Assessments of Projects (LOGCAPs), and five Department of the Army Program Reviews (DAPRs). In addition, quarterly Selected Acquisition Reports (SARs) were submitted on 16 PM managed development programs which Congress and DOD chose to keep under special surveillance.

(U) PM Terminations and Additions. Fiscal year 1981 began and ended with 54 chartered PMs. During the course of the year, two PMs were terminated, and two were originated or established provisionally. Projects terminated were PM ARTADS on 26 March 1981, and PM NAVCON on 22 May 1981. Projects originated were the Joint Tactical Fusion Program, provisionally established on 22 December 1980, and the Modular Integrated Communication and Navigation System on 23 June 1981.

(U) Funding. During fiscal year 1981, DARCOM PMs guided the expenditure of approximately $6.5 billion in Research and Development (R&D) and procurement funds. This represented approximately 50 percent of the total DARCOM budget in these categories for fiscal year 1981. The work force assigned to the PMs at the end of fiscal year 1981 averaged about 3,426 people or about 3.1 percent of the total DARCOM work force.

(U) ASARC/DSARC Decision. In fiscal year 1981, many significant Army Systems Acquisition Review Committee (ASARC)/Defense System Acquisition Review Committee (DSARC) decisions and other milestones were reached. These included the CH-47 modernization production contract awarded on 18 December 1981; the HELLFIRE ASARC III, conducted on 18 November 1981; the US ROLAND first production fire units delivered; and the fighting vehicle system, which was formally named the Bradley Fighting Vehicle at the 20 October 1981 dedication ceremony.

(U) Eleventh Annual PM Conference. Improving and sustaining excellent lines of communication and rapport between command headquarters and the PMs, and among the PMs themselves, always ranked high on the list of Office of Project Management priorities. Toward this end, the 11th Annual PM Conference was held in Orlando, Florida in November 1981. Presentations included an address by the Assistant Secretary of the Army for Research, Development and Acquisition, Honorable Jay R. Sculley; Commanding General, DARCOM, Donald R. Keith;

and other high ranking officials within HQDA, industry, and the Congressional staff. During the conference, the fifth annual Secretary of the Army Award was presented to the outstanding project manager, COL Monte J. Hatchett, PM, Multiple Launch Rocket System (MLRS). Noting that there were three nominees for the award, Secretary Sculley said that the choice had been extremely difficult. Therefore, an unusual step was being taken by the provision of a letter of congratulations from the Secretary of the Army, John O. Marsh, Jr., to COL Charles C. Adsit, PM, Division Air Defense Gun (DIVAD), and to COL William P. Farmer, PM, Nuclear Munitions (NUCMUN).

(U) Training. The Defense Systems Management College trained a substantial number of Army and DA civilians in program/project related courses. In the Executive Refresher Course, three weeks in duration, 15 officers and nine civilians were trained; in the Contract Finance for Program Managers Course, a two weeks course, eight military personnel and 23 civilians were instructed; and in the Contractor Performance Measurement Course, a one week course, 30 military and 111 civilians were enrolled. In the Program Managers Course, the capstone DSMC course, 95 officers and 14 civilians were taught the skills necessary to manage defense systems programs.

(U) The Army Logistic Management Center was instrumental in preparing military and civilian personnel to assume their roles in program/project management. In the six week Program Managers Development Course, 22 DARCOM military personnel and 27 DARCOM civilians were taught; and in the one week Research and Development Managers Course, 12 DARCOM military personnel and 62 DARCOM civilians were trained.

(U) Reorganization. On 15 October 1981, the Office of Project Management ceased to exist as a separate office in the Headquarters. On this date, under the Headquarters DARCOM Realignment, it was reduced from 28 to 12 spaces and became the Policy and Project Management Division of the Directorate for Development, Engineering, and Acquisition.

CHAPTER IV

PROJECT MANAGEMENT: WEAPONS SYSTEMS

Introduction

(U) Fiscal year 1981 began with an aggregate of ten chartered Projects and Project Managers (PM), and ended with nine PMs reporting to DARCOM. The loss, during the fiscal year, of one PM occurred when the supervision of PM Smoke was transferred from Headquarters DARCOM to US Army Armament Research and Development Command (ARRADCOM) by DARCOM Permanent Order 99-4, 3 November 1980, effective 30 December 1980. The remaining weapons systems project managers covered in this history include those for the Advanced Attack Helicopter (AAH), BLACK HAWK (BH), Fighting Vehicle Systems (FVS), PATRIOT, Nuclear Munitions, and the M1 Abrams Tank System.

(U) Overall in fiscal year 1981, there were 54 chartered program managers. Two PMs were established, and two were terminated. Projects originated included the Joint Tactical Fusion Program, provisionally established on 22 December 1980, and the Modular Integrated Communications and Navigation System on 23 June 1981. Projects terminated included the PM for Army Tactical Data Systems (ARTADS) on 26 March 1981 and PM for Navigation/Control Systems (NAVCON) on 23 June 1981.

(U) During fiscal year 1981, DARCOM Project Managers managed the expenditure of approximately $6.5 billion in research and development and procurement funds, representing approximately 50 percent of the total DARCOM budget in these catagories for fiscal year 1981. The work force assigned to PMs at the end of fiscal year 1981 averaged about 3,426 people or about 3.1 percent of the total DARCOM work force.

Highlights

(U) The Advanced Attack Helicopter achievements for fiscal year 1981 included signing of a long lead time contract for production of aircraft with Hughes Helicopters Incorporated on 20 February 1981. Also in February 1981, the Army approved incorporation of the General Electric T700-GE-701 engine for production in the AH64 aircraft; and operational testing began on time with delivery of three aircraft to Fort Hunter -Liggett, California on 1 June 1981.

(U) The 1981 Department of Defense Appropriations Act provided $396.5 million for procurement of BLACK HAWK aircraft and advanced procurement in support of follow-on procurement. This brought the total BLACK HAWK procurement to 337 aircraft. Through fiscal year 1981, a

total of 192 UH-60As were delivered, including 112 aircraft delivered during fiscal year 1981. Also, during the fiscal year, an urgent requirement surfaced for modification of fielded aircraft to be equipped with the improved Anti-Ice/De-Ice System to meet deployment schedules.

(U) Initial fill of aircraft was completed at Fort Campbell in January 1981, and first unit was equipped at Fort Bragg in March 1981, at Fort Lewis in June 1981, at Fort Stewart in August 1981, and at Fort Benning in September 1981.

(U) In the PM Fighting Vehicle Systems program, the office of the Assistant Program Manager for Test Measurement and Diagnostic Equipment (TMDE) was established to oversee TMDE development and production for this program.

(U) During the fiscal year a strike, which began on 4 April 1981 at the FMC Corporation caused a two-and one-half month delay in deliveries between the first vehicle and the second. However, the manufacturer planned to regain the required cumulative quantity delivered by February 1983. Also in the fiscal year, Saudi Arabia requested technical proposals from FMC for cost programming and review.

(U) Although limited production was approved for PATRIOT with the issuance of the Secretary of Defense's Decision Memorandum of 10 September 1980, a four-phase confirmation test program was required to insure that the problem found during Phase II of the Development Test and Operational Test (DT/OT) had been corrected. In August 1981, the PATRIOT Project Office awarded Raytheon its second production contract for five units and 130 missiles.

(U) Fiscal year 1982 appropriations for nuclear munitions were $31.5 million for procurement, $27.207 million for Research, Development, Test and Evaluation (RDTE), and $12.398 million for operations and maintenance (OMA) for a total of $71.105 million. This money was apportioned to the XM785 and M753 nuclear projectiles, the LANCE (Mod 3) and PERSHING II, the M454, M422, PERSHING 1A and other nuclear projects and programs.

(U) In organizational matters, the Washington Liaison Office, which had provided official liaison between the Project Manager for Nuclear Munitions and agencies in the DC area since 1975, was closed.

(U) Highlights during the year for the M1 Tank System included new operational tests which were run from September 1980 to June 1981. These were made with four tanks at Fort Knox, Kentucky and 41 at Fort Hood, Texas. Tentative results, reported by the General Accounting Office, indicated that the M1 fell short of achieving its reliability, durability, and maintainability goals. However, on 15 September 1981, as a result

of a review by the Office of the Secretary of Defense, the Secretary authorized full production of the M1 Abrams Tank. Through 20 September 1981, production totaled 164 tanks. In anticipation of unit fills in Europe, the New Equipment Training Team was deployed to begin training of US Army, Europe (USAREUR) Cadre.

(U) Also during the fiscal year, the Swiss government evaluated two M1s and the PMO established a Liaison Office in Bern.

Advanced Attack Helicopter

(U) In fiscal year 1981, the Advanced Attack Helicopter (AAH) Program Office was a multilevel program responsible for AAH development and acquisition; Target Acquisition Designation System/Pilot Night Vision System (TADS/PNVS) development and acquisition; and the development and type classification of the 30mm ammunition for the installed 30mm gun. It was developed by Hughes Helicopters--a twin engine, rotary wing aircraft designed as a stable, manned aerial weapon system. It was expected to be capable of defeating a wide range of targets, including armored vehicles, and was also expected to provide responsive direct aerial fires as an integral element of the ground units and be capable of performing its mission at night and under adverse weather conditions. Armament included the HELLFIRE Anti-Armor Missile System, 30mm Automatic Gun, and 2.75" rockets. The TADS/PNVS would provide day and night acquisition and laser designation of targets and HELLFIRE and other laser guided munitions. The AAH would become the Army's primary attack helicopter, complemented by the AH-1 Series Attack Helicopters.

(U) Program Management Structure. The AAH was one of the Army s top priority programs, structured under the DARCOM multi-level project concept. Major General Browne, the Program Manager, reported directly to the Commanding General, DARCOM. The Project Manager for the TADS/PNVS and the Product Manager for the 30mm development, reported to the Program Manager, AAH, and used elements of the AAH staff to assist them in their program efforts.

(U) Developmental Testing and Contracting. Government testing (flyoff) was completed on 30 September 1976 and the resulting AAH DSARC decision resulted in full scale Engineering Development of the AAH System. Hughes Helicopters was awarded a $317.4 million development contract on 10 December 1976.

(U) Target Acquisition Designation Sight (TADS)/Pilot Night Vision Sensor (PNVS). By the end of third quarter fiscal year 1980, all test aircraft were configured with the winning TADS/PNVS design offered by Martin Marietta. On 9 April 1980, Martin Marietta was awarded a Maturity Phase contract with production options for first and second year procurement.

(U) 30mm Ammunition (XM788/789/799). The XM799 projectile was type classified as limited production in May 1980 and a contract was awarded in May 1980 for 20,000 rounds. Initial deliveries were begun in October 1980. Pre-qualification testing for the XM789 High Explosive Dual Purpose (HEDP) projectile was successfully completed in June 1980. Initial qualification testing was completed in October 1980.

Program Development

(U) During fiscal year 1981 Research Development Testing and Engineering (RDT&E) continued on schedule with major accomplishments achieved during the period. Army procurement appropriations (APA) funds were received and obligated for Long Lead Time Items. Operations and Maintenance, Army (OMA) funds were received, and obligations began in February 1981.

(U) On 20 February 1981 a Long Lead Time Contract for production aircraft was signed with Hughes Helicopters Incorporated. The Test and Evaluation Master Plan was also completed in February.

(U) Also, in February the US Army approved incorporation of the General Electric T700-GE-701 engine for production AH-64 aircraft. Later in the period this engine was successfully run up to Intermediate Rate of Power and in September 1981 a contract was awarded to General Electric for engine spare parts and six spare T700-GE-701 engines.

(U) Operational testing from June to August 1981 started on time with delivery of three systems aircraft to Fort Hunter-Liggett, California, on 1 June 1981. All planned training of Army "User" troops to support both air and ground operations was completed on time. The Operational Test was completed on time.

(U) An in-depth Production Readiness Review (PRR) was completed in September 1981 at the prime and subcontractor's facilities. The review report, dated 1 October 1981, stated that the AH-64A weapon system was ready to proceed into production with an acceptable level of risk. The results of the PRR indicated that all subcontractors except one had completed their assigned tasks and the prime contractors had established that level of management necessary to reduce identified risks and assure a smooth transition into production.

Target Acquisition Designation System (TADS)/Pilot Night Vision System (PNVS)

(U) In January 1980 a Long Lead Time Production Contract was awarded to Martin Marietta to support TADS/PNVS procurement effort, and a critical design review of automatic test equipment was completed in July.

(U) Operational Testing from June to August 1981 was completed on time. The Production Readiness Review was completed at the contractor facilities in September 1981.

(U) 30mm Ammunition. The XM788 Target Practice (TP) projectile material was changed to 1018 steel to eliminate the potential for projectile breakup. Testing of the new steel was completed in May 1981. The development of the High Explosive Dual Purpose (HEDP) and TP rounds was completed with final qualification testing completed in August 1981.

(U) Under the Rationalization, Standardization, and Interoperability (RSI) program 5,000 TP rounds were furnished to the British and French for interoperability testing during the first quarter of fiscal year 1981.

(U) Projections. Minor milestones leading to production of the AH-64 were scheduled for completion throughout 1981: DARCOM Command Review, 30 October 1981; Preliminary Army Systems Acquisition Review Council (ASARC), 3 November 1981; ASARC, 9 November 1981; and Defense Systems Acquisition Review Council (DSARC), 3 December 1981. These actions were expected to lead to a full scale production decision in early 1982.

(U) The Program Manager was responsible for overall program management of the AAH System including the aircraft and its related mission equipment and subsystems. In fiscal year 1981, he directed and controlled all phases of research, development, procurement, production, distribution, and logistics support involved for the AAH and its sub-projects.

(U) Organization and Staffing. Personnel strength, both authorized and assigned, for the AAH PMO is shown in the following table:

Personnel Strength

ADVANCED ATTACK HELICOPTER PROGRAM MANAGER'S OFICE

	CIVILIAN		MILITARY		TOTAL	
DATE	AUTH	ASSIGN	AUTH	ASSIGN	AUTH	ASSIGN
30 Sep 80	91	101	14	14	105	115
31 Dec 80	97	105	14	13	111	118
30 Apr 81	97	106	14	13	111	119
31 Jul 81	97	109	14	14	111	123
1 Oct 81	96	108	14	13	110	121

VIII. Program Cost Estimate

The total AAH Program Cost Estimate as of 30 September 1981 was $1139.4 Development and $4820.7 Procurement for a total of $5960.1 as reported in the AAH SAR, dated 30 September 1981.

BLACK HAWK

(U) The BLACK HAWK was designed to replace the UH-1 Huey as the primary air carrier of infantry squads for the 1980s. It was a twin engine single-rotor aircraft with a crew of three, capable of carrying up to 14 combat equipped troops or an equal load into all intensities of conflict in all expected geographical environments. It could carry external loads up to 8,000 pounds including the 105mm Howitzer and the Gamma Goat. The helicopter's greatly enhanced survivability plus significant technological RAM improvements gave it a staying power for combat and combat support missions never before achieved in a helicopter.

(U) In fiscal year 1981, preparations were completed for transition of BLACK HAWK Project Manager's Office from a DARCOM Project Manager to a TSARCOM Project Manager, effective 1 October 1981.

(U) Fiscal Year 1981 Funding. As of 30 September 1981, the BLACK HAWK RDT&E Program was $12,925,000. Fiscal year 1981 funding for the T700 Component Improvement Program was $5,880,000, of which $5,691,902.04 or 97 percent had been obligated and $5,775,700.00 or 98 percent committed.

(U) As of the end of the fourth quarter, fiscal year 1981 funds released by Department of the Army for the External Stores Support System (ESSS), UH-60A Feasibility Demonstration was $7,045,000.00, of which $6,944,316.79 or 99 percent had been obligated and $6,961,080.00 or 99 percent committed.

(U) Fiscal Year 1981 Army Procurement Appropriation (APA) Funding. As a result of the fiscal year 1981 Department of Defense Appropriation Act, funds in the amount of $396.5 million were received for procurement of BLACK HAWK aircraft and Advance Procurement in support of planned follow-on procurement. This brought total BLACK HAWK procurement to 337 aircraft. Through fiscal year 1981, a total of 192 UH-60As were delivered, including 112 aircraft delivered during fiscal year 1981.

(U) During the fiscal year an urgent requirement emerged for modification of fielded aircraft to accept the improved Anti-Ice/De-Ice system to meet deployment schedules. A product improvement effort was approved by Department of the Army and Congress; however, no funding was received. To cover this requirement, $1.1 million was reprogrammed from the BLACK HAWK Program Activity I to Program Activity II. This reduced the procurement of the BLACK HAWK from $396.5 million to $395.4 million.

Operations

(U) Production Validation Testing. The following actions represent the highlights of the BLACK HAWK Project Manager's Office in fiscal year 1981. The Production Validation Tests, both contractor and government,

were completed in 1981, and all reports were received and approved. The United States Army Aviation Research and Development Command (AVRADCOM) drafted the Final Airworthiness Qualification Report, which in fiscal year 1981 was expected to be released in 1982.

(U) The Government Development and Operational Testing (II) was successfully completed on the Medical Evacuation Kit. De-Ice Kit Development tests were also completed in 1981; and the type classification of the kit was expected to be completed in 1982.

(U) Maturity Phase Ground Testing. All testing was completed in 1981; however, five reports were in the approval process. These should be resolved in 1982.

(U) Product Assurance. The warranty coverage of the T700 engine and the UH-60A aircraft expired 30 September 1981. Repairs were still in process and the final results on these two experiments in contracting would possibly not be known until 1983. A program was initiated to save costs on armored seat production quality destructive testing. The approach was to use coupons rather than complete seats. Results were expected in 1982.

(U) Reliability, Availability and Maintainability (RAM). The first award in the amount of $30,000 was made to Sikorsky under the Reliability Engineering Performance Award Fee Program. The second award was in process and was expected to be finalized in 1982.

(U) The last BLACK HAWK Government Scoring Conference of the fiscal year was held in September in St. Louis on the sixteen LOT III aircraft under controlled/intense sample data collection. The assessment of the data revealed a Mean-Time-Between-Failure of 4.9 flight hours, which is slightly less than the 5.1 achieved by the LOT II aircraft. However, both maintenance manhours per flight hour and mission reliability were better on LOT III aircraft than LOT II aircraft. Thus, on balance, LOT III aircraft showed improvement over LOT II aircraft.

(U) The RAM-D aircraft (7822976) at Fort Rucker completed the programmed 1,500 flight hours in June 1981. The tester also released a preliminary report in 1981 of the experience through 1,200 flight hours. An update to reflect the full 1,500 flight hours was expected to be released in 1982. Continued testing of the 7822976 aircraft through 1982 was authorized for logistic evaluation.

(U) Value Engineering. Four Value Engineering Change Proposals (VECPs) were received during fiscal year 1981. Three were approved and one was deferred to complete a test prior to the decision to implement. Two of the VECPs gave savings of over $100,000 and total savings over four years for these two VECPs was $5 million. The Government's share was 50 percent or $2.5 million.

(U) Retrofit Programs. During 1981, the contractor shut down the retrofit program at Fort Campbell. After months of negotiations, the program was restarted using a Government supplied hanger and four maintenance personnel to supplement the contractor's depot team. Completion was expected in 1982.

(U) Aircraft Deliveries. A total of 192 aircraft were contractually accepted by the Army through September 1981. These aircraft had accumulated approximately 54,500 flight hours in all environmental conditions from tropic to arctic.

(U) Materiel Fielding. Materiel Fielding personnel were on site at Fort Bragg, Fort Stewart, Fort Benning, and Fort Lewis and an initial visit was made to Europe by Materiel Fielding Team personnel. At least one additional visit was to be made prior to actual receipt of aircraft in Europe in fiscal year 1982.

(U) Technical Data. All GE-T700 Engine Depot Maintenance Work Requirements (DMWRS) and all but two airframe DMWRS were placed on contract. The remaining two airframe DMWRS were being negotiated.

(U) Special Missions/Exercises. During fiscal year 1981 the UH-60A BLACK HAWK participated in additional special aircraft deployment exercises, including "Potent Charge II" and "Bright Star".

(U) Problems/Solutions. Spare parts posture was significantly affected by reduction of funds and excessive draw-down of parts for unprogrammed special missions/exercises and additional units to be deployed. However, receipt of supplemental funding in third quarter fiscal year 1981 allowed for additional procurement actions for expedited replenishment. Also, expedite action was taken against existing dues-in from prior procurement actions.

(U) UH-60A Helicopter Production. A letter contract was awarded to Sikorsky Aircraft on 23 December 1980 for 75 ship sets in support of the fiscal year 1981 BLACK HAWK helicopter requirement. On 5 May 1981 that letter contract was definitized for 80 aircraft on a Fixed Price Incentive Firm (FPIF) basis. The definitization also included an option for five UH-60As for the United States Air Force. This option was exercised 31 August 1981 with deliveries to be made in March and April 1983. Lot III (fiscal year 1979) aircraft deliveries were completed in July 1981. TSARCOM Procurement issued a Request for Proposal (RFP) to Sikorsky Aircraft in June 1981 for a multi-year proposal for 300 aircraft for fiscal year 1982, 1983, and 1984 with associated support and technical data. Pending Congressional approval, it was proposed that the contractor would be permitted to procure hardware for the entire 300 aircraft immediately upon award of the contract. Additional funds required for manufacture of the aircraft would also be obligated to the contract at the

beginning of fiscal year 1983 and 1984. If Congressional approval for the foregoing was not obtained, award of a multi-year contract for expanded economic order quantity Long Lead Time (LLT) funding in fiscal year 1982 for fiscal year 1983 and 1984 was anticipated. The contractor's proposal was received in October 1981 and was subjected to a Should Cost Study in October 1981. Negotiations were to be conducted in November 1981 with award anticipated on or about 31 December 1981. The quantity of 300 aircraft included 12 for the United States Air Force. This number was subsequently changed to six.

(U) Engineering Development of the YEH-60B Helicopter for SOTAS. In the Stand-off Target Acquisition System (SOTAS), a successful first flight of the YEH-60B occurred on 21 October 1981. The contractor flight testing for airworthiness qualification was expected to continue in fiscal year 1982.

(U) T700 Engine Component Improvement Program. A contract was awarded to General Electric Company in January 1981 for the T700 Engine Component Improvement Program.

(U) T700 Fifth Year Production Engine Contract. The fifth year T700 engine contract was awarded to General Electric in February 1981. The contract included 114 each installed engines to support 75 aircraft, 20 advance procurement engines, 19 spare engines, and an option for 10 each installed and 12 each spare engines. The option for 10 additional installed engines was exercised on 29 May 1981 and the option for 12 additional spare engines was exercised on 21 August 1981. On 18 September 1981, an additional 16 each advance procurement engines were added to the contract.

(U) External Stores Support System (ESSS). A contract was awarded to Sikorsky Aircraft in February 1981 for design and development of the ESSS. The contract included installation of the ESSS on a UH-60A helicopter, qualification testing, and a ballistic missile firing demonstration to assess the feasibility of employing HELLFIRE missiles on the UH-60A. The ESSS contract was modified to include the design and development of a new auxiliary fuel gauging system for the UH-60A ESSS-equipped helicopter. The system was to be suitable for use when auxiliary fuel was carried either internally and/or externally on the aircraft, which would accommodate external fuel tanks having a major diameter ranging from 20 inches to 30 inches. A Secretarial Determination and Findings was forwarded for approval in September 1981 to expand the ESSS program to modify a second UH-60A helicopter to accommodate the ESSS.

(U) Delivery of the 500th T700 Engine. A ceremony was held on 2 July 1981 in Lynn, Massachusetts, to highlight the passing of a significant milestone in the Army BLACK HAWK program: delivery of the 500th T700 engine. Representatives from the BLACK HAWK Project Manager's Office, Fort Rucker, Sikorsky Aircraft, and General Electric were present.

(U) NAVSTAR/GPS. It was determined by the NAVSTAR/GPS Project Manager in August 1981 that installation of the Global Positioning System (GPS) in the BLACK HAWK would be implemented by retrofit only. Because of this determination, it was decided that the requirement for integration and testing by Sikorsky no longer existed.

Crew Seats. A two year multi-year contract was awarded to Aerospace Research Associates (ARA) Incorporated, of West Covina, California, in August 1981. The contract was for Crashworthy Armored Crew Seats for the BLACK HAWK, and resulted from two step formal advertising. The first program year quantity was for 72 each and included an option for an additional 30 each for the Army and 10 each for the Air Force. Both first year options were exercised in September 1981. The second program year quantity was for 196 each with an option for 24 each for the Air Force. The second year requirement was to be funded in December 1981.

(U) ESSS Tank Modification. A contract was awarded to Sargeant Fletcher Company of El Monte, California, in September 1981 for the modification of Government Furnished 450 gallon fuel tanks to be provided to Sikorsky Aircraft in support of the ESSS contract. This was a competitive procurement.

Fighting Vehicle Systems

(U) The Infantry Fighting Vehicle (IFV), the key to the Army's evolving mechanized infantry doctrine, was approved for fall production by contract in May 1980, with the first full production model delivered in May 1981. It would eventually replace the M113 Armored Personnel Carrier.

(U) The fiscal year 1980 contract specified 100 vehicles, and a fiscal year 1981 contract specified 400. Contracts for fiscal year 1982 and 1983 were each expected to specify 600 vehicles. The 100th vehicle of the 1980 contract was expected to be delivered by 31 July 1982. By early 1983, the Army expected to be accepting delivery of 50 vehicles a month, with the 400th vehicle of the fiscal year 1981 contract being delivered by April 1983.

(U) For the first time, the IFV (M-2) and also its companion, the Cavalry Fighting Vehicle (CFV M-3), would enable infantry and armored cavalry to keep pace cross country with the main battle tank (M-1). The vehicle's turret-mounted (M242) 25mm cannon, which was gyro stablized, could fire with pinpoint accuracy night or day, while stationary or on the move.

(U) In fiscal year 1981, the 9-man IFV was also equipped with a dual tubed TOW missile launcher, a Mag 58 coaxial machine gun, and six M231 firing port weapons.

Background

(U) The Office of the Project Manager, Mechanized Infantry Combat Vehicle was established by the Army Materiel Command (AMC) in January 1968, and was reorganized and redesignated in July 1975 as the Office of the Project Manager, Mechanized Infantry Combat Vehicle Systems. At the close of fiscal year 1978 it was located at Michigan Army Missile Plant, Sterling Heights, Michigan. Brigadier General Stan R. Sheridan was designated the Army Project Manager for the Mechanized Infantry Combat Vehicle Systems (MICVS), effective 14 July 1975. In May 1977, DA approved the change in above titles to Program Manager, Fighting Vehicle Systems (PM-FVS). The MICV TBAT II for infantry and scout was also redesignated Project Manager, Fighting Vehicle Armament Systems (PM-FVA).

(U) General Sheridan's Charter was approved by the Secretary of the Army on 13 March 1978. Brigadier General Philip L. Bolte was designated by the Department of the Army, Program Manager Fighting Vehicle Systems, 10 January 1979. General Bolte's Charter was approved by the Secretary of the Army on 5 April 1979. Brigadier General Donald P. Whalen was designated by the Army, Program Manager, Fighting Vehicle Systems on 1 July 1980, and General Whalen's Charter was approved by the Secretary of the Army on 22 December 1980.

(U) The Program Manager was delegated full line authority of the Commanding General, DARCOM, for centralized management of the FVS Program. Necessary facilities and support continued to be provided by US Army Tank-Automotive Materiel Readiness Command (TACOM), other organizations with DARCOM, and other participating organizations. In fiscal year 1981, the Office of Program Manager, Fighting Vehicle Systems was located at the Detroit Tank Arsenal in Warren, Michigan. To facilitate program execution, personnel assigned to the office were located in San Jose, California, Washington, DC, and Aberdeen Proving Ground, Maryland.

Mission

(U) In fiscal year 1981, the Program Manager (PM) was responsible in accordance with Department of Defense (DOD) Directives 5000.1 and 4100.35; AR 1000-1, 700-127, and 70-17; DARCOM-R 715-2 70-1 and 11-16; and other pertinent regulations for program management of the FVS including the Infantry Fighting Vehicle (IFV) M2, the Cavalry Fighting Vehicle (CFV) M3, and other derivative vehicles. He managed the overall FVS Program which would provide the Army with lightly armored full tracked fighting vehicles with two variants--an infantry version and a cavalry version. The vehicles would have improved cross-country mobility, mounted firepower, a swim capability, and would be air transportable, with communication and protection for the infantry and cavalry squad in mounted combat. The PM was directly responsible for life cycle management of the FVS and would centrally coordinate, integrate, and support the materiel development and acquisition activities of the subordinate PM. This PM was responsible for Fighting Vehicle

Armament (FVA) Systems. This manager was responsible for the XM714 Fuze Series for all applications, the FVS firing port weapon, and the Vehicle Rapid Fire Weapon System.

(U) Personnel/Organization. At the end of fiscal year 1981, the authorized strength for the FVS Office was 26 military and 122 civilians, with an onboard strength of 24 military and 123 civilians.

(U) During fiscal year 1981, the Office of the Assistant Program Manager for Test Measurement and Diagnostic Equipment (TMDE) was established to manage TMDE development and production of the program. The CONUS and OCONUS fielding teams were authorized for the projected vehicle fielding in fiscal year 1983; however, they were not staffed.

(U) As of 30 September 1980 the strength figures were:

	Authorized	Assigned
Military Officers	23	21
Warrant Officers	1	1
Enlisted	2	2
Civilian	122	123
Total	148	147

As of 30 September 1981 the figures were:

Military	26	24
Civilian	122	123

(U) Fighting Vehicle Systems Description. The same basic vehicle was used in both the Infantry Fighting Vehicle (IFV) and the Cavalry Fighting Vehicle (CFV) roles, and the vehicles were virtually indistinguishable when viewed externally. The interiors, however, were unique and configured to best accommodate the personnel and equipment for each particular role.

(U) The IFV (M2). In fiscal year 1981, this vehicle provided optimum arrangement for the 9-man infantry squad to most effectively fight from the vehicle while mounted. The location of the commander in the turret provided him all-round vision and permitted him the greatest capability for command and control. The six personnel in the crew compartments each had a unity vision device with an associated firing port weapon which gave them visual orientation within the battlefield, as well as the capability to suppress enemy ground troops. Stowed within the vehicle interior was a quantity of ammunition to support the needs of both the vehicular and individual weapons, as well as a mixture of TOW, Dragon and LAW missiles.

(U) CFV (M3). The arrangement of the CFV (M3) was likewise optimally suited for the 5-man cavalry squad so that they too could most effectively operate while mounted. The commander had an optimum location within the turret. The CFV, however, carried 900 more rounds of 25mm ammunition than the IFV, and stowed a total of 10 TOW missiles. Seating arrangements for the two crewmen in the rear compartment provided for maximum comfort and safety while in transit, as well as an optimized viewing capability while performing reconnaissance under way.

(U) Operation and Firing. The two man turret, identical for both IFV and CFV applications, was occupied by the commander and gunner. Each had control of the turret through separate control handles, although the commander had an override capability. The turret was powered by an all-electric, stabilized drive system developed by General Electric (GE) and permitted the 25mm primary gun and 7.62mm coaxially mounted machine gun to be accurately fired by either crewman while moving cross-country. The same power control system was used for employment of the TOW missiles. The drive system had two speeds: a slow, extremely accurate rate for laying and tracking of targets, as well as a high speed slew rate for rapid engagement of alternate targets. The 25mm gun was dual fed and could selectively fire either armor piercing (AP) or high explosive (HE) ammunition. A new integrated day/night sight developed by Hughes Aircraft Company (HAC) used the modern thermal imaging componency developed for the TOW ground mount system in the night portion of the sight to allow effective employment of all turret mounted weapons during both day and night operations. The two-missile TOW launcher, which had both a travel and firing position, could be reloaded through the crew compartment hatch which provided a degree of overhead protection.

(U) Performance. The IFV/CFV was designed to operate with the M1 tank in combined arms operations. Its automotive and suspension systems were continuously improved to meet this requirement. The 500 horsepower Cummins turbocharged diesel engine, combined with the very responsive GE hydromechanical transmission, provided the IFV/CFV with a top speed of 42 miles per hour. Performance evaluations during cross-country operations at Aberdeen Proving Ground demonstrated that the redesigned suspension system--using high strength torsion bars and high performance shock absorbers--did provide a mobility capability comparable to the M1.

(U) Armor. The IFV and CFV, unlike the lightly armored M113A1 Armored Personnel Carrier were fighting vehicles and required significantly increased armor protection. This protection was provided at a minimum weight to insure vehicle mobility. Increased armor was achieved through the use of a unique, spaced laminate armor system combining both aluminium and steel materials.

(U) The Multiple Launch Rocket System (MLRS). This weapon system was developed to provide a low cost, multiple launch, unguided rocket system. It was designed to be a quick reaction, non-nuclear system and was intended to supplement existing field artillery. As such, it was designed to engage mid-range targets, deliver large volumes of fire, and defeat lightly armored targets.

(U) To improve the survivability of MLRS, it combined the use of armor protection, quick reaction, and "shoot and scoot" tactics.

(U) In fiscal year 1981, the MLRS was being developed under the direction of the Project Manager, MLRS located at Redstone Arsenal, Alabama. A TRADOC Systems Manager was also established and was located at Fort Sill, Oklahoma.

(U) The MLRS Carrier, developed as a derivative of the Infantry Fighting Vehicle, required a support agreement between the Project Manager, MLRS and the Program Manager, Fighting Vehicle Systems.

(U) The vehicle was a cab-over-transmission configuration and provided space for the three-man crew with necessary fire control equipment. Sufficient armor was provided to permit the completion of a fire mission without dismounting from the vehicle. It should be noted that the launcher, rockets and associated fire control equipment were being developed separately from the vehicles.

Technical Characteristics Comparison

	Infantry Fighting Vehicle	Cavalry Fighting Vehicle
Crew	Commander, Gunner, Driver plus 6 Squad Members plus 2 Observers	Commander, Gunner, Driver
Combat Weight	49,000 pounds	48,600 pounds
Ground Pressure	7.5 PSI	7.4 PSI
Width (Operating)	126"	
Height (Operating)	117"	
Ground Clearance	17"	
Maximum Speed	41 mi/hr	
HP to Ton Ratio	20.62 hp/ton	20.85 hp/ton
Acceleration (0-20 mph)	8.6 sec.	

	Infantry Fighting Vehicle	Cavalry Fighting Vehicle
Sustained speeds		
60 percent slope	3.5 mi/hr	
10 percent slope	18.2 mi/hr	
Obstacle Crossing		
Vertical Wall	36"	
Horizontal Trench	106"	
Power package	500 hp 4 cycle Turbo charged Diesel/Automatic Hydro mechanical Transmission with 3 forward and 1 reverse speed	
Fuel	175 gal.	
Reduced Visability Capability		
Sight Gunner	Thermal Imagery	
Sight Commander	Optical Relay from gunner's sight	
Smoke Generation	M257 Smoke Grenade Launcher Integral Engine Smoke Generator	
Ammunition Stowage	Ready/Stowed	Ready/Stowed
25mm (Armor Piercing & High Explosive)	300/600	300/1200
7.62mm M240C	800/1540	800/3740
7.62mm M60	2200	3200
5.56 M231 Firing Port Weapon	4200	---
5.56 M16A1 TOW Missiles	2/5 (Any combination of TOW and Dragon Missiles)	2/10
LAW M72A2	3	3

Characteristic is the same as the IFV except as indicated.

	Infantry Fighting Vehicle	Cavalry Fighting Vehicle
Operating Range	300 mi.	
Water Speed with Barrier Erected	4.5 mph	
Armament Primary	25mm Dual Feeding Automatic Externally Powered Gun M242	
Coaxial	7.62mm M240C Machine Gun	
Secondary	TOW Missile Launcher	
Turret	Electric Stabilized (Elevation and Deflection) 360 degree continuous traverse	
Elevation 25mm Cannon and Coax Machine Gun TOW Missile	+60 deg to -10 deg	
Launcher	+30 deg to -20 deg	
Deflection Slew Rate Maximum (Elevation) and Traverse	60 deg/sec	
Tracking Rate minimum	0.05 mil/sec	
Squad Weapons		
Machine Gun M60 7.62mm	1	1
Rifles M16A1 5.56mm	9	5
Firing Port Weapons M231 5.56mm	6 ball mounted	

(U) FVS Significant Events during FY 1981:

Oct 1980	ASARC/DSARC initiate a Second Source of production evaluation were conducted by PM-FVS.
Nov 1980	First MLRS prototype completed IROAN and furnished rocket prime contractor (Vought Corporation, Dallas, Texas).
Dec 1980	Second Year M2/M3 and MLRS Production Contract signed with FMC Corporation.
Jan 1981	First Production Contract for 25mm M790 Series Ammunition awarded to Forward Aerospace Command Center (FACC).
Feb 1981	First production deliveries of M240C 7.62mm Coaxial Machineguns delivered to support M2/M3 production.
Apr-Jun 1981	FMC the prime vehicle contractor was out on strike, vehicle production was halted.
May 1981	First production Infantry Fighting Vehicle delivered.
May 1981	DARCOM IG Inspection of PM-FVS.
Jun 1981	FVS Program Offices movedfrom the Michigan Army Missile Plant to the Detroit Tank Arsenal in Warren, Michigan.
Jun 1981	Commencement of first article preproduction test contractor at Camp Roberts.
Jun 1981	Second Source contract awarded to Honeywell Incorporated for M790 series ammunition production.
Jun 1981	The M621 shipping and storage container (for 25mm ammunition) was type classified standard.
Jun-Aug 1981	M242 25mm gun first article test - contractor was completed.
Jul 1981	The office of the APM-Logistics was established with the primary mission to develop a detailed milestone schedule for achieving the initial fielding, and to coordinate the implementation of all activities required to meet initial fielding.
Aug 1981	Second Year production contract awarded to Colt Industries for M231 Firing Port Weapon production.
Sep 1981	First Production M242 25mm gun delivered.

(U) Armament Engineering. Producibility Engineering and Planning (E&P) was continued on the M242 Gun by the developer, Hughes Helicopters, Incorporated (HHI), Culver City, California. The end production, which was essentially completed in fiscal year 1981, was a complete Technical Data Package (TDP) suitable for competitive procurement. Production deliveries of the first option of 310 guns started, with five guns delivered in September 1981.

(U) Three production configuration M242 guns were provided by the contractor for a First Article Test - Contractor (FAT-C). This 50,000 round test was conducted at Culver City, California and Aberdeen Proving Ground June to August 1981. Although all requirements were not met, conditional production approval was given in September 1981. Improvements were incorporated into the Government First Article Test (FAT-G) guns for testing from November 1981 to January 1982.

(U) Vehicle integration tests continued by FMC Corporation, the IFV/CFV system contractor. Refurbished XM242 R&D guns and FAT-C guns were used to successfully fire 12,000 rounds from June to September 1981 in a Production Test - Contractor (PT-C) on the first production vehicle (S/N 001). Two more production vehicles were to be tested in early fiscal year 1982, using new production 25mm guns.

(U) Development of the 25mm M790 series of ammunition by FACC was successfully completed and a three-year first production contract for 3.1 million rounds awarded to FACC in January 1981. The M790 series ammunition was an Americanized, production engineered and improved version of Oerlikon 25mm ammunition. It was anticipated that the form, fit, and function M790 series TDP would be validated during the first production contract.

(U) A second source M790 series ammunition contract was awarded to Honeywell Incorporated in June 1981. The ammunition produced by the second source was expected to be qualified during government testing scheduled to begin in October 1982. The Government had an option to purchase an additional 900,000 rounds under the second source contract. Subsequent production buys would be competitive.

(U) Development of the M621 Shipping and Storage Container was completed and type classification achieved in June 1981. Production tooling was being procured and initial production would be produced by FACC under the ammunition contract.

(U) The XM794 Dummy was in development with PQT-G testing scheduled to begin in November 1981.

(U) The NATO STANAG for 25mm ammunition was expected to be completed in December 1981. The NATO working party for the STANAG was being chaired by the Netherlands with the participation of the US, Belgium, Germany, and France. France was not an official member.

(U) M231 5.56mm Submachine Gun/Firing Port Weapon. The initial production contract for the M231 Submachine Gun (SMG) was awarded to Colt Industries in May 1980 for 1,600 SMGs. This contract contained a Pre-production Evaluation provision to maximize the practical producibility of the TDP (Technical Development Plan). The improved TDP provided improvements for both the initial production contract and the follow-up contract awarded for 4,000 SMGs in August 1981. The M231 SMG completed First Article Tests in August 1981 and first production deliveries were expected to begin in November 1981.

(U) M240C 7.62mm Coaxial Machine Gun (MG). The M240C MG underwent additional contractor IFV/CFV integration testing at APG during August-December 1980. FMC had redesigned the feed chutes and the firing solenoid system for a better performing system. The first production deliveries of M240Cs arrived at a US Depot in February 1981 to support IFV/CFV production. FMC further redesigned the M240C MGs installation during the initial FMC tests on the production vehicles, and testing was expected to continue on these refinements to fiscal year 1982.

(U) 714 Fuze Program. M758 - Development of the fuze was completed and type classified standard along with the M792 HEI-T cartridge (25mm) in December 1979. A three-year multi-year contract was signed in March 1980 with Honeywell to produce 1.375 million M758 fuzes. The first year production was completed; and the XM759 development for the 30mm high explosive incendiary (HEI) and high explosive dual purpose (HEDP) rounds for the Advanced Attack Helicopter (AAH) continued with Honeywell. The automated assembly line, bifurcated with the M758 line, was completed. The fuze was type classified limited production (LP) for the Marine Corps HEI cartridge, and the PQT-G (Prototype Qualification test - Government) for the HEDP cartridge. These began in October 1980 with type classification scheduled for December 1981.

(U) Development of the XM757/20mm fuze was completed and type classification action was pending. The COBRA Program was evaluating this fuze for its application to their weapon system in conjunction with M50 series ammunition and the M197 gun.

(U) The initial government phase of development of the AM760/35mm and XM761/40mm was concluded with a demonstration test. Development of the XM761 was continued under the DIVAD system contract awarded in April 1981 to Ford Aerospace Communications Center (FACC). XM760 development was discontinued in fiscal year 1981.

Logistics Management

(U) During fiscal year 1981, efforts continued to translate Integrated Logistics Support planning into actual support. Provisioning documentation led to initial orders and repair parts orders; technical

manual schedules were met and delivery of draft manuals begun. The Depot Maintenance Support Plan was finalized and initial Depot Maintenance Work Requirements completed. Fielding plans were finalized and additional detailed coordination accomplished. Training requirements were definitized and specific classes scheduled. A critical path, integration of test set hardware and software into the rest of the program was identified, and detailed integrated logistics support (ILS) efforts were intensified and integrated into the vehicle effort.

(U) Supply. During fiscal year 1981, stock number assignments to items being bought on the FMC Basic Ordering Agreement continued. All Major Readiness Commands (MRC) were preparing to run the first Support List Allowance Cards (SLACK) deck for support of the early TRADOC vehicles. MRCs were requested to take required action to insure availability of all stocked items that would be a part of the Statement of Quality and Support (SOQAS) warranty support for hand-off. RBL support was expected by 1 November 1982 for both simplified test equipment (STE) and DSESTS. Both ARRCOM and TACOM placed RBL orders on FMCs Basic Ordering Agreement prior to 1 May 1981. Logistic Support Analysis (LSA) data for the M242 was delivered to ARRCOM by HHI on 8 April 1981. ARRCOM used work-arounds to offset the problems caused by this slippage.

(U) Maintenance. The schedule for technical manual (TM) development was finalized in fiscal year 1981, and allowed for availability of soldier-verified manuals to support Start-Up Handoff (SUH). TM development was staying within all schedule constraints. First drafts were delivered for the operator and direct/general support maintenance for the engine, transmission, integrated sight, the TOW subsystem, and the vehicular portion of the IFV/CFV. The validation of technical manuals was initiated on the engine, transmission, and the operator TMs, with engine and transmission validations completed. Both validations were highly successful. Plans were in the final stages to support the verification of the TMs using target audience soldiers. It was anticipated that the verification process would be initiated on 1 March 1982.

(U) The Depot Maintenance Support Plan (DMSP) was finalized and approved by all Major Readiness Commands (MRCs) and the Depot Support Command's (DESCOM) assigned depots. The plan provided the data base for timely completion of planning, acquisition, scheduling, training requirements, and necessary plan equipment, facilities. It also included the data for other resources needed to develop and implement the capability to repair/overhaul to specific Depot Maintenance Work Requirements (DMWR) and return the serviceable end item/component to the supply system for both CONUS and OCONUS.

(U) Materiel Fielding. Training, administrative and logistics support requirements were further refined in preparation for fielding the

Fighting Vehicle at TRADOC locations in fiscal year 1982, and FORSCOM and USAREUR sites in fiscal year 1983. Materiel Fielding Plan definitization and coordination efforts continued while increased emphasis and monitoring were given to Materiel Fielding Team authorization, requisitioning, and manning requirements. Fielding intensity was expected to begin early in fiscal year 1982 with vehicle delivery being programmed in the second quarter of fiscal year 1982 for initial production testing and the training base.

(U) Training. The outset of fiscal year 1981 planning consisted of coordinating New Equipment Training (NET) requirements for USAREUR, TRADOC schools and the Major Readiness Commands. Memorandums of Agreement were developed with each agency/activity to insure proper identification of requirements. Contractor New Equipment Training for multiple launch rocket systems (MLRS) testing was accomplished in August-September 1981. The remainder of the fiscal year was spent determining instructor and key personnel (I&KP) and new test measurement disgnostic equipment (TMDE) Test Training dates to coincide with projected system fielding delays brought about by a contractor strike. Actual MOS 35H training began in October 1981.

Product Assurance Test and Evaluation

(U) RAM Data Collection. Reliability, Availability, Maintainability (RAM) Data were collected during PQT-G and OT II for comparison with the IFV/CFV RAM requirements. The OT II RAM data base consisted of four vehicles which ran for over 8,900 miles while the DT II vehicles accumulated over 12,000 miles. The vehicles were run according to the IFV/CFV mission profile and all data were scored according to the IFV/CFV Failure Definition/Scoring Criteria (FD/SC). The vehicles demonstrated 289 Mean Miles Between Failures (MMBF) which was well above the 195 MMBF DT/OTII requirement.

(U) Vulnerability Test. The Vulnerability test was being conducted in fiscal year 1981 to determine the protection provided by the FVS against conventional weapons to include the effects of small arms attack artillery shell fragmentation, mine blast, and anti-armor high explosive anti-tank (HEAT) attack. The test would also determine the degree of crew protection during chemical/biological attack, assess vehicle survivability characteristics and human factors engineering aspects, and gather limited repair parts and component damage data during enemy threat engagement. This test began on 15 November 1980 at Aberdeen Proving Ground (APG) and was completed on 7 November 1981. The final report was due in January 1982.

(U) M621-25mm Plastic Ammunition Box Test. From 15 November 1980 through 1 March 1981, a 25mm plastic ammunition box test was conducted at APG to evaluate a plastic ammunition box in lieu of a steel ammunition box for the IFV/CFV. During this timeframe a user evaluation was also

conducted at APG. An IPR was conducted on 4-5 June 1981, and DARCOM type classified the plastic ammunition box standard on 9 June 1981. A sympathetic detonation test was planned in December 1981 at APG to determine the effects of a round inadvertently exploding within the box.

(U) First Article Test-Contractor (FAT-C) for the M242 25mm Gun. A total of three 25mm guns were tested at Hughes Helicopter Incorporated (HHI) and APG between 27 April 1981 and 13 August 1981. The high rate (450-600 shots per minute), barrel life, Electro-Magnetic Interference (EMI), durability, accuracy and dispersion were conducted at HHI, and the environmental and ammunition compatibility/attitude tests were completed at APG. An interoperability problem with Oerlikon Armor Piercing Discarding Sabot Tracing (APDS-T) ammunition and a link tab/link stripper guide interference fit were reported as deficiencies.

(U) First Article Pre-Production Test (Contractor) (FA-PPT(C)) for the M2. The first of five production vehicles began FA-PPT(C) at Camp Roberts, California, on 23 June 1981 and achieved 6,000 miles on 8 October 1981. In addition, the first vehicle after completing the 6,000 miles, would undergo safety, human factors, and any tests not performed by the specification compliance vehicles. The second vehicle began FA-PPT(C) testing on 29 September 1981. Of the five production vehicles, the first three were expected to accumulate 6,000 miles and fire 12,000 rounds of 25mm ammunition according to the contractor's RAM test plan. The last two vehicles were to be tested for specification compliance.

(U) MILLRACE. Project MILLRACE was a large-scale, high-explosive field test sponsored by the Defense Nuclear Agency on 16 September 1981, at White Sands Missile Range, New Mexico to assess the effects of a simulated blast and shock of a one kiloton nuclear bomb. One infantry fighting vehicle (IFV) participated in the test. Cursory inspection revealed that no significant damage occurred in the vehicle. A final report was expected to be submitted in November 1981.

(U) Component Qualification Testing. Qualification testing was completed on 35 key vehicle components with the results incorporated in the product specifications.

(U) Product Specifications Component Testing. Product Specification Component Testing (PSCT) started on 25 items and was completed on four items out of total of 36 key vehicle components. The PSCT test program was expected to be completed early in 1982.

Procurement and Production

(U) IFV (M2) and CFV (M3) Production. During fiscal year 1981, a total of four production IFVs were delivered by FMC and accepted by the Government. No CFVs were scheduled. A strike at FMC caused a two and one-half

month delay in deliveries between the first vehicle and the second. FMC, however, planned to regain the required cumulative quantity delivery by February 1983.

(U) MLRS Carrier Production. The MLRS delivery schedule slipped four months due to the strike by FMC from December 1981 to April 1982. Contractor planned to regain cumulative quantity delivery by March of 1983.

(U) Test Measurement and Diagnostic Equipment. Simplified Test Equipment (STE)-M1/FVS integration program was developed with minor adjustments to be made. A production delivery schedule was formulated for STE-M1/FVS to commence in February 1982.

(U) 25mm Automatic Gun (Production). Five automatic guns (M242) were delivered as of 3 September 1981. The Hughes Helicopters' production was delayed from June 1981 due to manufacturing start-up problems. However, no impact on vehicle deliveries occurred due to the offsetting FMC strike.

(U) 25mm Ammunition. The first program year was funded for 685,000 rounds of ammunition. As of 30 September 1981, 438,000 rounds had been delivered. In addition, tooling was completed for the start of second year production.

(U) M758 (25mm) Fuzes. The fiscal year 1981 multi-year contract (FY 1980-1982) for initial production was for 1,375,000 (25mm) fuzes. The last information received was that there were 147,142 fuzes delivered during the fiscal year.

(U) Firing Port Weapon (M231). Twenty-two M231s were delivered to APG for FAT-G. An initial production contract for 1,600 M231s was awarded. During the period of 1 October 1981 to 30 September 1981, no deliveries were made, but all 1,600 M231s were tentatively scheduled for delivery by mid-November 1981.

(U) Government-Furnished Property (GFP). GFP to FMC for the IFV/CFV/MLRS carrier had no delays in meeting delivery dates. GFP in support of the 25mm gun and fuze also was received on schedule, but there were GFP propellant problems that caused delays in delivery of APDS.

(U) Breakout Items. New items considered and approved for breakout in fiscal year 1982 were track and engine. New items considered and approved for breakout in fiscal year 1983 were TDS, transmission, and TOW subsystem. Fiscal year 1983 component breakout plan was established and approved by the Project Manager's Office (PMO).

(U) The fiscal year 1980 IFV/CFV initial production letter contract, issued 1 February 1980, was finalized on 25 February 1981 in an amount of $152,550,000. The fiscal year 1980 MLRS initial production letter contract, issued 1 August 1980, was finalized on 7 April 1981 for $19,080,000.

(U) Fiscal Year 1981 Production for IFV (M2), CFV (M3) and MLRS Carrier (XM993). A letter contract was awarded to FMC Corporation on 23 December 1980 for production of 172 IFVs, 128 CFVs, and 32 MLRS carriers at an estimated value of $399,312,000. The contract also included fiscal year 1981 requirements for IFV/CFV and MLRS carriers peculiar special tools, IFV/CFV and MLRS carriers peculiar support and test equipment, and IFV/CFV classroom peculiar spares. It also included FY 1981 requirements for IFV/CFV suspension restraint kits for depot stock, and IFV/CFV special test and inspection equipment.

(U) Systems Technical Support (STS) IFV/CFV. A request for proposals (RFP) was issued on 19 June 1981 for conduct of STS concurrent with the fiscal year 1982 production contractor in the amount of 440,000 man-hours. The proposal was received on 1 September 1981, with award planned for 1 December 1981. The estimated total cost was approximately $25,000,000.

(U) 25mm Ammunition. A production contract was awarded 9 January 1980 for a total of 3,128,000 rounds of the 25mm, M790 family of ammunition. The award was a fixed-price incentive, three-year, multi-year contract to Ford Aerospace and Communications Corporation. The second program year was funded for 1,212,000 rounds of ammunition on 9 January 1981.

(U) Second Source. A contract was awarded on 11 June 1981 to Honeywell, Incorporated, as the second source ammunition supplier. This was a firm fixed price contract for prove-out quantities of each 25mm round, with an option to acquire 300,000 additional of each round on an FFP option basis.

(U) Systems Technical Support (STS) 25mm Ammunition. Contract DAAK 30-80-C-0037, with Ford Aerospace and Communications Corporation, was awarded in May 1980 for STS services for initial production of a 25mm ammunition system. The contract was supplemented in July 1980, increasing the program hours by 4,652 for a total of $444,184.

(U) Contract DAAK 30-79-C-0018, with Hughes Helicopters, Incorporated, for the M242 guns, was supplemented to provide for the second production option for 480 guns in the amount of $10,449,924.

(U) M758 (25mm) Fuzes. A three-year, multi-year contract for initial production of 1,375,000 M758 (25mm) fuzes for fiscal year 1980-1982 requirements was awarded to Honeywell, Incorporated, Defense Systems Division, on 1 April 1980. The total contract amount was $13,950,000 on a firm-fixed-price basis, of which amount the fiscal year 1980 requirement of $2,232,000 had been awarded. An award was made on 2 November 1980 (Modification P00003) for the second program year in the amount of $4,311,800.

(U) Systems Technical Support (STS) M758 Fuze. A contract for fiscal year 1980 STS of the M758 fuze was awarded to Honeywell Incorporated, Defense Systems Division, on 4 June 1980. The $294,530 award of Modification P00001, dated 11 September 1981, added 4,000 hours and extended the performance period by eight months.

(U) Firing Port Weapon (M231). A second production contract was awarded to Colt Industries on 2 August 1981. This contract, awarded on an FFP basis for $2,579,207, provided for the delivery of 4,000 weapons.

(U) A full-scale development contract for STE-M1/FVS and DSEST-M1/FVS was awarded on 29 October 1980. The prime contractor was FMC with RCA and Chrysler Huntsville Electronic Division as the major subcontractors. The effort called for the fabrication of three prototypes of each configuration. The prototypes would be tested by the contractors and the Government.

(U) An initial production contract for a quantity of 25 each STE-M1/FVS and 15 each DSESTS-M1/FVS was awarded to FMC Corporation on 21 January 1981. The lead time for test set hardware necessitated the early award in order to support vehicle fielding.

(U) Israeli Demonstration of the M242 25mm Automatic Cannon. A 2,000 round in-country firing demonstration was completed in Israel during July-August 1981 against various armored vehicles. Observers were highly impressed with the range and terminal effects of both the HEI-T and APDS-T rounds. Interest was high and some type of proposal such as coproduction or outright buy, appeared highly probable during fiscal year 1982. There was no real interest in total vehicle.

(U) Munitions Case FR-UXA (ARRCOM) Request for 5,000 Rounds of 25mm TP-T (Linked) Ammunition. A request from France for the purchase of 5,000 rounds of TP-T (linked) 25mm ammunition for an interoperability test was approved on 25 August 1981. There appeared to be no interest in the M242 gun or the IFV/CFV.

(U) German Study of IFV Turret for Marder. This study was cancelled in mid-1981 and the German effort was directed toward their 1990 vehicle requirements. There was no action to indicate their position would change.

(U) Saudi Arabian Interest in the Purchase of IFV/CFV. Saudi interest in the purchase of IFVs and CFVs first surfaced during an April 1980 review of FMS requirements for Phase II of SANG modernization program. Tentative requirements in fiscal year 1981 were 165 IFVs and 264 CFVs. Action had been to request technical proposals from FMC for cost programming and review on 16 September 1981. Although the information was second hand, it appeared Saudi Arabia had asked for quotes from other countries and industries, a sign that they might become serious buyers.

Program Management

(U) The combined fiscal year 1981 programs managed by this office totaled $771.16 million of which $616.1 million or 79.9 percent were obligated at fiscal year end. These resources covered three appropriations: Procurement Appropriations, Army; Operations and Maintenance, Army; and Research, Development, Test and Evaluation.

(U) Program and Fiscal Resources. Status of allotment reports as of 30 September 1981 for fiscal year 1978 through 1981 were reviewed, their accuracy verified, and reports certified. The results of this review for fiscal year 1981 are summarized below:

Research & Development	Program Authority ($000)	Obligations	Percent of Obligation
IFV/CFV (644616.258)	$41,651	$41,254	99.1
Multiple Launch Rocket Sys (694000.564) - MLRS	10,952	8,392	76.6
Other Reimbursables (694000.258.340)	575	480	83.5
	$53,178	$50,126	94.3
Procurement Appropriation Army			
Infantry Fighting Vehicle	627,700	497,457	79.3
25mm Gun, M242 (3211.16)	21,700	13,367	61.6
25mm Ammo, M790 Series	60,300	49,045	81.3
Firing Port Weapon (3211.16)	5,400	3,300	61.1
	715,100	563,169	78.8
Operations and Maintenance, Army			
Program Manager's Office	3,323	2,812	84.6
TOTAL	$771,601	616,107	79.9

(U) Joint reviews were conducted with the TACOM Comptroller's Office, of all unliquidated obligations against their source documents. Updated budgets were prepared and submitted via the following programs and systems. RDT&E - Modernized Army Research and Development Information System (MARDIS) for fiscal year 1981 through fiscal year 1987 on

the IFV/CFV and PIP projects; PAA - P-Forms for fiscal year 1981 through fiscal year 1987 for IFV/CFV, FPW, 25mm gun, 25mm ammunitions, and training devices budget lines; and O&MA - Command Operating Budget Estimate (COBE) for fiscal years 1982-1983.

(U) Cost Information and Analysis. The cost portion of the December 1980 Systems Acquisition Report (SAR) was forwarded to DARCOM with the differences between the use of OSD and contractor indices specifically identified and categorized as an estimated change. This resulted in a threshold breach or rollaway cost. DARCOM unsuccessfully attempted to obtain approval for the PM to use contractor indices. Use of contractor indices in lieu of OMB (Office of Management Budget) indices became an on-going Program Management Office (PMO) project.

(U) Application of the February 1981 OSD indices (Reagan) to the FVS Program resulted in an overall decrease of $1,017.5 million.

(U) FMC Corporation provided the PMO with a rebaselining effort in January 1981. These data were evaluated and cost changes determined.

(U) PMO was tasked by DARCOM/DA to provide a new baseline cost estimate for the IFV/CFV carrier.

(U) Assessment of IFV/CFV Program cost using the FMC contract/proposals was presented to FMC personnel on 9 September 1981. Specific analysis for fiscal year 1981 (S) and fiscal year 1982 was furnished with a projection of the cost impact of fiscal year 1983 through fiscal year 1988.

(U) Baseline cost estimates were developed for the Multiple Launch Rocket System (MLRS) carrier in the AFARV and electronic warfare roles, to include operating and support costs.

(U) Estimates were developed for the 25mm gun and ammunition, including alternative procurement strategies and second source. Inquiries were received from other services and foreign governments on procurement of guns and ammunition; including Navy, Marine Corps and other Army uses.

(U) Plans and Analysis. An ASARC was held on 1 October 1980 to establish the Army position on the FVS competition strategy and cost reduction program. In addition, the competitive production of vehicle subsystems and the FVS ITOW PIP were discussed. A DSARC was held on 16 October 1980 relative to the potential establishment of a second source for FVS production. As a result of the DSARC, the directed actions were: award of production analysis contracts relative to requirements for FVS production; and initiation of actions to breakout principal subcontractors for the IFV prime contractors; also initiation of competitive developmental program to result in a TOW II PIP ISU.

(U) Program Reviews. In excess of forty major briefings were presented during this reporting period to OSD, DA, and DARCOM Senior Managers and Army Commanders. Special briefings were given to ICAF and the Army War College.

(U) Type Classification. A DEVA IPR was held on 4 June 1981 which resulted in the recommendation to type classify standard, the shipping and storage container, 25mm, XM621, plastic. The recommendation was approved by the Director, D&E DARCOM on 9 June 1981.

(U) External Reviews. The DA Inspector General (DAIG) conducted an inspection of the PM, FVS during 18-22 May 1981. There were no significant findings and one commendatory action.

(U) House Appropriations Committee Surveys & Investigations (HACS & I). The HACS&I began a survey of FVS, as part of a major investigation of the DOD and its components. FVS was one of the major programs under review. This survey covered the period May to July 1981, with the report to HAC originally scheduled for the end of July 1981. At yearend 1981, the report had not been issued.

(U) GAO began a study of FVS on 21 September 1981 to consider cost, funding, and the procurement aspects of this program. A series of questions was submitted to FVS and responses provided before the end of the reporting period. The study was continuing in fiscal year 1981.

(U) Defense Audit Service (DAS). DAS visited the Plans and Analysis Office on 11 June 1981 in relation to a review of the requirements for armored tracked vehicles in the Army and Marine Corps. Information was provided to the auditor, but no report had been received in fiscal year 1981.

(U) Army Audit Agency (AAA). As part of the DA Cost Discipline Advisory Committee (CDAC) review of Army programs, AAA was tasked to support the CDAC by identifying the cost growth in FVS. Completion of the fact finding was due by 21 October 1981, with the report scheduled to be completed at DA by 29 October 1981.

(U) DA Inspection of Training Devices. The DAIG conducted an inspection of the status of training devices during 1-5 December 1980, at the direction of the Chief of Staff, Army, to determine whether the Army was receiving the right kind of training devices and that it was providing the necessary training support. The DAIG conducted the study to obtain different perspectives from the developer and user, to assess existing problems, and any choices that may have been available and to present recommendations to CSA (Chief of Staff, Army). No report had been received at yearend fiscal year 1981.

(U) Internal Review of TACOM. Internal Review, TACOM, examined the FVS control of funds and obligations as they interfaced with Finance and Accounting Records, with satisfactory findings.

(U) Quarterly SAR reports were submitted for processing to the Congress through DARCOM, DA and OSD.

(U) DARCOM Program Cost Control System (PCCS). DARCOM began to develop and implement PCCS in October 1980, to establish causes for program "costs being out of control" and to establish discipline and control over costs. The purpose of this program was also to define the approved program and cost baseline, establish an audit trail and to establish a formal change control process. FVS submitted comments to the draft circular on three occasions and submitted "Strawman" reports to DARCOM, which included the Program Directive Document and the Monthly Tracking Report. On two occasions, the documents were used as samples at the Commander's Conference in May 1981 and at DARCOM Headquarters, in briefing DA Personnel. At yearend FY 1981, final implementation direction had not been received.

(U) Development Plan. A revised PM, FVS Development Plan was prepared and distributed to recipients in December 1980.

(U) Mobilization Plan. Staff work began on preparing an abbreviated FVS Mobilization Plan for input to the TACOM (host) plan which was expected to be updated in fiscal year 1982.

(U) Management Information. From 1 October 1980 to 1 May 1981, the Management Information Control System (MICOS) continued to assist in the management of the many aspects of the Fighting Vehicle Systems. The monthly MICOS meetings closely monitored the progress being made by the major contractors in production of the FVS. These meetings also monitored the progression of Product Specification Component Testing (PSCT), First Article Testing, and program actions generated as a result of development testing.

(U) From 1 May 1981 to 1 September 1981, the MICOS format was changed. During this period, it still retained the informational briefing and tracked milestones. Once each quarter, the divisions would present their areas of concern. PM Division would present MICOS information relative to attaining Start of Unit Hand-off (SUH), and there would be a management review by the contractors. During this period, FMC had an eleven-week strike which impacted vehicle deliveries. The MICOS emphasis was on alternate schedules to accomplish training, validations, and verifications. Because of the lack of production vehicles, many milestones were missed and ultimately resulted in a change of SUH from January 1983 to March 1983. The first production vehicle was delivered in May 1981 as required, and by the end of fiscal year 1981, a total of four production vehicles was delivered.

(U) Cost Schedule Control System (C/SCS). During fiscal year 1981, contractor cost reports were analyzed on a monthly basis and monthly briefings were presented to the PMO, APMs, and Division Chiefs. Briefing content included contract cost and schedule status, projections of cost and schedule trends, contract estimates at completion and evaluation of problem areas. In addition, monthly analyses on selected contracts were provided HQ, DARCOM and quarterly analyses were prepared for the Selected Activities Report (SAR).

(U) The evaluation and validation of contractor production phase C/SC systems were underway during fiscal year 1981. One contractor received tri-service validation of a C/SC system for production. In addition, the Plans and Analysis Office provided support for two other demonstrations, two readiness reviews, a SAR, and an assistance visit. Two FVS personnel successfully completed the Evaluation of Cost/Schedule Control Systems Criteria (C/SCSC) (Sys 360) course at Wright Patterson AFB; and both participated in C/S validation activities.

(U) An in-house mini-computer capability was established in fiscal year 1981. Its use in support of C/S report analyses during the fiscal year was limited; but the conversion of a mi-com provided C/S report analysis software package for use by the Plans and Analysis Office was underway. This package was expected to assist in trend analysis, cost and schedule projections, and graphics preparation. In addition, this office was supporting two other PMOs by computer preparation of cost/schedule variance trend charts.

(U) Because of PMO constant concern for escalating costs, cost management continued to receive major emphasis and attention. Contractor cost performance data, from FMC for the IFV/CFV and from Hughes Helicopters for the 25mm gun system in accordance with CS^2, were monitored on a monthly basis through the receipt of the Cost Performance Report (CPR) and the Cost Schedule Status Report (CSSR). The analyses of these reports reflecting the evaluation of contractor performance were then briefed to the PM, APMs, and Division Chiefs.

(U) Automatic Data Processing Equipment (ADPE). During fiscal year 1981, the PMO took delivery of two Hewlett Packard 9845B desktop computers and a Hewlett Packard four-color plotter. This equipment was used primarily for the preparation of a large number of briefing charts and similar graphics. Using in-house developed software, charts were interactively created, edited, and drawn. Other systems developed in-house were used in support of PMO budget and fiscal requirements, merit pay computation for TACOM, and analysis of contractor Cost and Schedule performance data. Efforts were underway to develop an in-house PERT system with Gantt chart graphics capability to assist in the management of the initial fielding plan and on conversion of a mi-com supplied C/S analysis software package. Additional hardware was procured, with delivery expected early in fiscal year 1982, to provide access to systems operated by PM, M1 by FVS activities on the east and west coasts. The equipment consisted of terminal/printer work stations.

PATRIOT

(U) In fiscal year 1981, PATRIOT was an advanced surface-to-air missile system, which was expected to replace the Army's high and medium altitude systems, NIKE HERCULES and HAWK, and provide air defense for the field Army in the 1980s and beyond. PATRIOT used a multifunction phased array radar, controlled by digital computer, and a command midcourse guidance followed by track-via-missile terminal phase. The missile housed a blast fragmentation warhead, and was designed to meet the sophisticated air threat of the 1980s. During confirmation testing in fiscal year 1981, the system demonstrated that significant improvements had been made in capability and maintainability.

(U) Program Highlights. The Secretary of Defense Decision Memorandum of 10 September 1980, which approved limited production for PATRIOT, required a four phase confirmation test program to insure that problems found during DT/OT II had been corrected. This test was begun in fiscal year 1981.

(U) Test Unit I combined component and subsystem testing and was held primarily at the contractor's facility. The test was successfully completed in February 1981.

(U) Test Unit II was conducted by the Project Manager to verify that the system was ready for formal test and evaluation by the testing community. The test included software checkout and endurance; a series of large scale search/track missions; missile transportability and handling; and three missile firings. The test was successfully completed in June 1981.

(U) Test Unit III was conducted by the Army Test and Evaluation Command (TECOM), and was evaluated by the Army Materiel Systems Analysis Activity (AMSAA). It included a demonstration of multifunction capability, multiple simultaneous engagement, four missile firings, and a reliability and maintainability demonstration. The results of this test, nearly completed by the end of the fiscal year, clearly indicated that significant improvements had been made in system capability and maturity.

(U) A Production contract in August 1981 was awarded by the PATRIOT Project Office to Raytheon for five fire units and 130 missiles. At yearend 1981, the Government had contracted for a total of 10 fire units and 247 missiles at a cost of $485 million.

(U) To complement the earlier two initial production facility contracts which led to the initial production rates, a third facilities contract was awarded in April 1981 for $11 million to provide the tooling and test equipment for new starts. This included funds for establishing the production line for the antenna mast set.

(U) PATRIOT Project Support. The PATRIOT Project Office continued to support the NATO PATRIOT Management Office (NAPATMO). This support included participation in the Program Steering Committee (PSC), Group for Industrial Matters for PATRIOT, NAPATMO Industrial Survey, and Technical and Logistics Working Group (TALWOG). The final report of the acquisition survey was presented to the PSC in September 1981. The charter for NAPATMO was extended to October 1982.

(U) In August 1981 representatives from the PATRIOT Project Office visited Japan at the request of the Japanese government to discuss methods by which Japan could acquire the PATRIOT system as a replacement for NIKE HERCULES and HAWK.

Nuclear Munitions

(FOUO) The mission of the Office of the Project Manager for Nuclear Munitions (PM-NUC) was outlined in the Project Manager's Charter as well as other Department of Defense (DOD), Department of the Army (DA), and DARCOM regulations. The PM-NUC exercised full line authority and responsibility for planning, directing, and controlling the allocation and utilization of authorized resources, in all phases of research, development, procurement, production, distribution, logistical support, and stockpile safety and reliability testing programs of assigned nuclear munitions programs.

(FOUO) Organization. An Assistant Project Manager located in Albuquerque, New Mexico served as the principal representative in the Albuquerque, Los Alamos, and Las Vegas areas in all nuclear matters within the PM-NUC's area of responsibility. This assistant PM was the Army member on all DRAAG activities. The Albuquerque Field Office (AFO) also provided the Army member to the Air Force B-61 Project Officer Group (POG) also on the Navy and Air Force W76, W80, B83 weapon system POGs as well as the Air Force Nuclear Weapon Air Logistics and PAL/CD Controller POGs. The AFO also provided the Army's official observer to the Air Force and Navy Phase 1, 2, and 2A study group activities.

(U) An Assistant Project Manager located at ARRCOM, Rock Island, Illinois, served as the principal representative of the Project Manager (PM) in all nuclear munitions life cycle activities involving ARRCOM support functions.

(U) A West Coast Liaison Office located at Livermore, California, functioned during the fiscal year as the interface between the Nuclear Project Office and the Lawrence Livermore National Laboratory (LLNL), and the Sandia National Laboratory Livermore.

(U) The US Army Missile Command (MICOM) Liaison Office, located at Redstone Arsenal, Alabama, served as the PM-NUC's agent for interactions with Ballistic Missile Defense System Command (BMDSCOM), MICOM, and the Weapon System Project Managers located at MICOM.

(U) It was learned that the Washington Liaison Office, established in 1975, would be closing. This office provided official liaison between the Project Manager for Nuclear Munitions and organizations within the assigned geographical area that were involved in nuclear munitions activities. The space was transferred to the DARCOM headquarters.

(FOUO) Strength. PM-NUC authorized strength in fiscal year 1981 was 40 civilians and 10 military. An overhire, added in fiscal year 1980 through the Veterans Readjustment Act proved to be a valuable asset. At the beginning of fiscal year 1981, there were 45 people on board, including 38 civilians, and seven military. This figure increased to 46 by the close of fiscal year 1981 and included 38 civilians, and eight military. Action was initiated to fill all positions and to increase the office staff in order to keep abreast of an ever-increasing workload. Manpower utilization in fiscal year 1981 was approximately 38 civilian manyears and eight military manyears at a cost of $2.0 million.

(FOUO) Nuclear Munitions Programs Appropriations
($ Thousands)

Appropriation	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
Procurement	31,500	32,395	49,186	79,845	81,700
RDTE	27,207	44,723	34,967	51,643	37,848
OMA	12,398	15,456	15,119	15,610	14,997
Total	71,105	92,574	99,272	147,098	134,545

(FOUO) XM785 Nuclear Projectile. An informal design In Process Review (IPR) was conducted by correspondence dated 12 January 1981. IPR members concurred that the XM785 full scale engineering development program should continue in accordance with the detailed plans as specified in the updated Acquisition Plan. The Programmatic Life Cycle Environmental Assessment for the XM785 projectile was approved on 19 June 1981, and the sixth and final nuclear underground test event was successfully conducted.

(FOUO) A number of methods were flight tested in June 1981 to determine the best method for attaching the copper rotating bands to the titanium bodies. Two options were selected for final evaluation: a three ring swage and improved diffusion method with Niobium interfoil. These options were successfully tested in September 1981.

(FOUO) The following key design decisions were made for the XM785 nuclear projectile during fiscal year 1981. Electromagnetic countermeasures (ECM) fuzing backup was incorporated into the fuze design to provide the desired level of protection against postulated ECM environments. Engineering development testing of the high energy elastomeric propellant using an eight percent aluminium composition was to continue, and longitudinal restraint of the projectile in its container would be at the rear end extractor thread rather than at the use denial lock (UDL).

(FOUO) M753 Nuclear Projectile. The final DRAAG was held on the W79 warhead during fiscal year 1981. The DRAAG recommended DOD acceptance of the W79 as a standard stockpile item and its continued production.

(FOUO) As a result, a system Development Acceptance in progress review (IPR) was held at which the M753 nuclear projectile was type classified standard. Also type classified during the year were the M174 type W projectile trainer assembly, M64 EOD trainer, M622 dummy container, M173 type X projectile trainer assembly, H4280 warhead LLC assembly and associated Department of Energy (DOE) developed hardware. M753 training initial operational capability (IOC) for Europe was accomplished on schedule in August 1981.

(FOUO) Development of the XM990 van, a special purpose environmentally controlled (EMR and relative humidity) van for limited life component exchange, was continued under contract with Southwest Truck Body Company. The XM990 van with associated equipment would be fielded as the XM21 semi-trailer mounted shop equipment. Also being developed was the XH4283 stand for exchange of rocket motor grains if that should be required during the life of the M753 projectile. Development of these items was expected to be completed during fiscal year 1982.

(FOUO) Production of M735 fuzes, M38 fuze setters, M613 container rocket motors, and associated components continued during the fiscal year 1981. A Load, Assemble, and Pack (LAP) facility for the M753 projectile was established at Armament Research and Development Command, Dover, New Jersey.

(FOUO) Materiel Fielding Plans (MFP) and signed Materiel Fielding Agreements (MFA) were completed for both Europe and Pacific Theaters, and certain DARCOM activities within CONUS. TRADOC and FORSCOM MFP/MFA were to be completed in fiscal year 1982.

(FOUO) LANCE (Mod 3). Type classification of the M238A3/4 Adaption Kit (AK) was approved on 18 March 1981; and funding was received for the fabrication of additional M238A3/4 AK required to satisfy the revised LANCE protected period. The first M234E3 Warhead Section New Materiel Flight Test was successfully conducted. Three successful stockpile firings were also conducted on the M234E1 warhead section during FY 1981.

(FOUO) The theater field artillery and ordnance support units (with M234E3 Warhead Section mission) and school were equipped with the required support equipment, trainers, technical data and repair parts to satisfy training IOC. All other theater units designated to have an M234E3 Warhead Section mission were also equipped.

(FOUO) The final DRAAG was held on the W70 Mod 3/4 and a recommendation was made for acceptance as a standard stockpile item and continued production. Logistical provisioning reviews were conducted to assure that logistical milestones were met. The Product Improvement Proposal (PIP) to develop a method to simplify the mating and improve the reliability of the AK cable to warhead connector was cancelled. This resulted from the users reevaluation of the need for this PIP.

(FOUO) PERSHING II. In fiscal year 1981 the Initial Engineering Development warhead section hardware was delivered for joint testing between DA and the Department of Energy (DOE) concurrently with preparation of the Request for Quote for initial production.

(FOUO) The electrical and mechanical interfaces between the warhead section components (W85 warhead, XM267 Safing, Arming, and Fuzing System (SAFS) and Ballistic Case) were verified in a series of joint tests conducted at Sandia National Laboratories (SNLL) and Martin Marietta Company. Procedures for assembling WHS (Warhead Systems) were developed using prototype WHS handling equipment. The Design Review and Acceptance Group (DRAAG)chaired by the PM-NUC Office and composed of members from the Air Force and Navy, conducted a preliminary review of the DOE W85 warhead. The DRAAG recommended that DOE continue with the design as presented, and that DOE continue testing and analysis to evaluate the lightning/abnormal environmental issue.

(FOUO) In support of the requirement to initiate a contract for long lead procurement in December 1981, two in-depth reviews of the XM267 SAFS were conducted: Critical Design Review and Initial Production Readiness Review. Based on the preliminary data available, both reviews recommended continuing with the designs and production process as presented.

(FOUO) A request for proposal was released to AVCO, the Safing, Arming, Fuzing System (SAFS) contractor, in August 1981 for procurement of long lead items to support initial production. The contract was expected to be signed in December 1981.

(FOUO) DA approved FBOIP/FQQPRI in September 1981, based upon data submitted by ARRCOM. Draft MFPs were furnished MACOM in June 1981 and comments were received in August. Initial negotiations with USAREUR began in September 1981.

(FOUO) During the fiscal year 1981, initial MIPRs for DOE reimbursable trainers and ancillary equipment were issued. Also, an initial submission of the Integrated Logistics Support Plan (ILSP), including Logistic Support Analysis (LSA) and Maintainability Demonstration Plans were made by the contractor. Periodic government reviews were held to assess LSA data base development.

(FOUO) M32 Timer Investigation. Investigation of M32 timer cold temperature sensitivity was continuing. Three timer lots were suspect and efforts were ongoing to identify the cause of the problem and to ascertain if there was any impact on the stockpile.

(FOUO) M454/M198 Compatibility Program. Manufacture of the test projectiles to support this program was completed in September 1981 by the US Army Materials and Mechanics Research Center (AMMRC). They were shipped to Yuma Proving Ground with testing to be completed in early fiscal year 1982. Armament Research and Development Command (ARRADCOM), under the supervision of PM-NUC, provided engineering support to AMMRC for the manufacture of the test projectiles. The compatibility test plan was prepared, coordinated with TECOM, YPG, BRL, PN-CAWS, and PM-NUC and forwarded for accomplishment.

(FOUO) M454/M109A2 and A3 Compatibility. In May 1981, the DOE laboratories concurred with the Army that the M454 could be fired with the A2 and A3 versions of the M109 self-propelled Howitzer. They issued an updated major assembly release reflecting this. PM-NUC subsequently took the actions necessary with ARRCOM and NWSSC to reflect the capability in all appropriate documentation.

(FOUO) M422 Program (8 inch). As a result of the Naval Weapons Station/Fallbrook Annex report on the M424 projectiles, the T Series and the M Series fuzes for the M424 and M424A1 projectiles, the Army/Navy successfully completed the M424 fuze reliability program; they completed a program to ascertain the effects of corrosion on fuzes for this projectile; and they developed a structural integrity program of the M424 projectile model relative to the M110A1 Howitzer.

(FOUO) The Army and Navy also redesigned a telemetry package for the full-function test round which successfully passed ground qualification tests. The first stockpile firing test cycle was scheduled for the last quarter of calendar year 1981.

(FOUO) Atomic Demolition Munition (ADM). A joint DOD/DOE study group, chaired by PM-NUC completed studies which identified alternatives to modernize the B54/SADM and W45/MADM by enhancing reliability, safety, security, command and control, and operational utility without substantially changing the characteristics of the warhead. Final reports, with alternatives considering benefits, implementation time, operational and logistical impacts, and total resources required, were distributed. In fiscal year 1981, HQDA was considering proposed alternatives.

(FOUO) PERSHING 1a. During 1981, PM-NUC concluded deliveries of PERSHING 1a (P1a) M15 warhead section subassemblies begun in 1978. This follow-on procurement added 28 M15s to the US assets and 16 items were provided the Federal Republic of Germany under a Foreign Military Sales (FMS) case. This warhead section hardware would offset the annual flight test losses for the remainder of the P1a system life.

(FOUO) In 1981, seventeen P1a flight tests were conducted at the Eastern (nine) and McGregor (eight) test ranges. Four of the flight tests had joint DOD/DOE warhead sections stockpile evaluation objectives in addition to missile system objectives. Results of these stockpile flight tests and of the ARRADCOM stockpile laboratory tests had indicated that there may have been an aging problem associated with a particular production lot of M1103 inertial fuzes. A failure analysis was being conducted at ARRADCOM to establish the root cause of the problem. Results of the analysis would be used by PM-NUC to determine WR reliability impact and need for future remedial actions.

(FOUO) Line of balance studies to support management decision to discontinue rebuild/recertify fuzes with a cost savings of approximately ten to fifteen thousand dollars annually were completed.

(FOUO) Permissive Action Link (PAL) Equipment. On 28 April 1981, an Interagency Agreement, formerly called a Memorandum of Understanding, was signed between the DOE Albuquerque Operations Office (ALO), and PM-NUC. This agreement permitted the Army, subject to certain restrictions, to design, develop, or procure power supplies for the T1533 and T1554 PAL decoders. Consistent with the Interagency Agreement, the Operator's Manual for the M753 8-inch projectile system showed the G76 hand cranked generator as an alternate power source for the PAL decoders.

(FOUO) NIKE HERCULES/HONEST JOHN. The Military Liaison Committee directed the product improvement of the W31 warhead to provide significant improvement in the level of predictable nuclear safety under abnormal environments. The DOE generated a planning summary for delivery of warhead modification kits. HQDA requested PM-NUC to convene a W31 Project Officers' meeting to accomplish the W31 warhead modifications. The planned retrograde program for HONEST JOHN was completed ahead of schedule, with intensive management resulting in a savings to Army of approximately $4.5 million. The CONUS portion of this operation was managed by the PM-NUC Rock Island Field Office.

(FOUO) Ballistic Missile Defense (Low Altitude Defense). In fiscal year 1981, OPM NUC was chairing the Phase 2 Joint DOD/DOE study group for the Low Altitude Defense (LoAD) System. Tentative completion date for the Phase 2 study effort was expected to be in the spring of 1982. The system would be developed with the options to protect either MX or Minutemen in a variety of basing modes.

(FOUO) Corps Support Weapon System (CSWS). A CSWS Special Task Force (STF) was established to evaluate corps support indirect firepower requirements and conduct exploration, analyses, and recommendations of alternative system concepts to meet the Army's future needs. A Joint DOD/DOE Phase 1 concept study group was formed to select a best technical approach to satisfy the DOD approved CSWS Mission Element Need Statement. In addition to supporting the STF, the PM-NUC office was chairing the Phase 1 Concept Study Group.

(FOUO) Stockpile Reliability Program. All joint Army/DOE test schedules were satisfied in fiscal year 1981. A contract was placed for modernization of the LANCE Stockpile Laboratory Test equipment; and a proposal was made to and accepted by USAREUR to conduct a MADM Field Test in Europe in fiscal year 1982. A permanent joint DOE/DOD Working Group on Assessment Methodology was also established, chaired alternately by PM-NUC and DOE-ALO, to develop/improve reliability/safety assessment methods. Finally, a procedure was instituted to streamline the method for materiel selection to support the Stockpile Reliability Program.

(U) The Value Engineering Program for fiscal year 1981 is summarized in the figures below:

	Goal	Actual	% of Goal
Value Engineering Proposals Initiated	8	9	112.5%
Dollar Savings Validated	$1,000,000	$2,368,000	235.8%

(FOUO) Achievements. It was apparent in fiscal year 1981 that the M753 improved 8-inch nuclear projectile and the M234A1 LANCE improved nuclear warhead sections (LANCE Mod 3), both enhanced radiation weapons, would achieve Initial Operational Capability (IOC) on schedule and within budget. Development of the PERSHING II (XM266) nuclear warhead section remained on schedule, within budget. The first flight was scheduled third quarter fiscal year 1982. The XM785 improved 155mm nuclear projectile rotating band problem, caused by inadequate 6.2 program, was successfully resolved and that program remained on schedule. However, the probability of a program slip remained high due to Congressional action on the DOE budget. Readiness of the Army nuclear stockpile remained around 99.9 percent for the fiscal year.

(FOUO) Concerns. The PM's principal concern remained the relatively low level of effort in the nuclear technical base area and the attendant consequences on readiness of the nuclear stockpile in fiscal year 1984 and beyond. For the Army to maintain a viable in-house nuclear munitions engineering capability, the Army labs would have to win the competition

with the DOE laboratories for development of the non-nuclear components of the Low Altitude Defense (LoAD) System (defense of MX). With LANCE Mod 3 and M753 fielded in fiscal year 1982 and PERSHING II fielded in December 1983, the only significant nuclear munitions engineering task remaining would be the XM785. Engineering design problems with LANCE Mod 3, M753 and PERSHING II (if any) were expected to surface in stockpile years 2-5. A single program in engineering development (XM785) would not provide a viable engineering base to address potential problems.

(FOUO) Further compounding the long term readiness problem in fiscal year 1981, was an adverse trend in the loss of key nuclear expertise due to pay cap (retirements) and design engineers and logisticians leaving the nuclear area for lack of promotional opportunity.

(FOUO) Army nuclear programs tended to be on-again/off-again resulting in management inefficiencies. International and domestic political considerations impacted nuclear programs (LANCE Mod 3, M753, PERSHING II, XM785, LoAD) more than conventional programs. Before an Acquisition Plan could be updated, the program was changed again, because of DOE or DOD budget constraints.

Abrams Tank System

(U) The Abrams Tank System was a full-tracked combat vehicle specifically designed as an assault vehicle to meet the projected threat of the 1980s and beyond. It was expected to provide increased performance over tanks in the Army inventory in fiscal year 1981 in the areas of survivability, tactical mobility, fire-on-the-move capability, hit probability, and night fighting capability. The M1 would also provide increased reliability, availability, maintainability and durability. The Abrams M1 Tank coupled a 1500 horsepower regenerative turbine engine with an automatic hydrokinetic transmission and improved suspension system to achieve speeds in excess of 30 mph cross-country and 45 mph on hard surfaces. The first round hit probability was enhanced by the tank's fire control system, which integrated a 105mm cannon firing a new, improved family of kinetic energy ammunition, laser rangefinder, full solution solid state digital computer, and stabilized day/thermal sights. Its stabilization system permitted accurate firing-on-the-move. The turret structure was designed to accommodate the German 120mm smoothbore gun system without any major structural modifications. Survivability was improved by the use of advanced armor techniques, the separation of the crew fighting compartment from the fuel tanks and on-board main gun ammunition storage by armor bulkheads, sliding armor doors, and an automatic Halon fire extinguisher system.

(U) Tank Main Armament Systems (TMAS). PM, TMAS managed the development, technology transfer, RDT&E funded product improvement, production planning, initial production and fielding of 105mm and 120mm tank main armament systems (weapon and ammunition) for M60 series and XM1 series tanks. The 105mm system was based upon the standard M68 cannon and included the XM774 and XM833 kinetic energy (KE) rounds; XM797 KE training rounds; and XM815 high explosive antitank, multipurpose (HEAT-MP) round. The 120mm system consisted primarily of a technology transfer from the German-developed Leopard 2 main weapon and ammunition with US development of high-technology follow-on ammunition. It included the XM256 cannon; XM827 and XM829 KE rounds; XM832 KE training round; XM830 HEAT-MP round; and XM831 HEAT training round. PM, TMAS was also responsible for NATO rationalization, standardization, and interoperability (RSI) programs associated with its assigned systems and for coordination of facility planning to assure satisfaction of system mobilization base requirements.

(U) Program Manager highlights for the Abrams Tank System in fiscal year 1981 included a 15 September 1981 OSD Management Review on the basis of which the Secretary of Defense authorized full production of the M1 Abrams Tank. The PMO expanded greatly its Management Information System (MIS) needs with the Prime Computer System. Testing (OT III/DT III) continued during fiscal year 1981 with tests at Fort Knox, Fort Hood, Yuma Proving Ground (YPG), Aberdeen Proving Ground (APG), and White Sands Missile Range (WSMR). Three updates were made to the Technical Data Package. Also during the fiscal year the Swiss government evaluated two vehicles which were delivered to Switzerland for testing, in addition to the PMO establishing a Liaison Office in Bern. The 120mm ammunition was reoriented toward initial production in fiscal year 1984; and the New Equipment Team (NET) was deployed to Europe to begin training USAREUR Cadre.

(U) Tank production through 30 September 1981 totaled 164. Efforts to bring the Detroit Arsenal Tank Plant (DATP) on line continued on schedule and initial vehicles were scheduled for delivery in March 1982.

(U) Organization. During fiscal year 1981, the Office of the Program Manager, Abrams Tank System, continued as a Class II activity of Headquarters, US Army Materiel Development and Readiness Command. The Abrams Program Office was located at the US Army Tank-Automotive Command, Warren, Michigan with Field Offices located in Washington DC; Bonn, Germany; Aberdeen Proving Ground, Maryland; Fort Knox, Kentucky; and Fort Hood, Texas. A Bern, Switzerland Office was established in June 1981. The Project Manager for Tank Main Armament System was located at Picatinny Arsenal, Dover, New Jersey, and the Lima Army Tank Plant was located in Lima, Ohio.

(U) Mission. The Program Manager continued to be responsible for the development, procurement, production, testing, distribution, and logistical support of the Abrams Tank System and related ancillary equipment. He was also responsible for the 105mm tank main armament/ammunition development program, the 120mm gun/ammunition/integration development programs, and product improvement programs.

(U) Personnel. To accomplish the assigned mission, the Program Manager's authorized strength was increased from 269 to 293 during this reporting period. The increased authorization included 61 military and 232 civilian positions. Key personnel changes took place in March 1981 with the appointment of LTC Joseph H. Mayton, Jr. as Commander, Lima Army Tank Plant (LATP), who replaced LTC George Telenko. In July 1981, COL William R. Sowers, Jr. as Deputy Program Manager, Abrams Tank System, replaced COL Herman J. Vetort.

(U) Program Review. The Abrams Tank System continued in fiscal year 1981 as a high visibility program, with considerable effort expended to keep the principals in the chain of command and Congress informed of the status of the program's progress.

(U) OSD Management Review. On 15 September 1981, the Secretary of Defense conducted a review to determine if the Abrams Tank would enter full production. It concentrated on the durability, supportability, producibility, and cost of the Abrams Tank. Other topics of discussion were the M1 Diesel Engine, the Government Accounting Office (GAO) draft report 11 September 1981, the M60 production status, and status of M1E1 (120mm) program. Upon completion of the review, the Abrams Tank was authorized full production. This authorization resulted in the release of an additional $278.1 million for obligation for 209 additional tanks for a revised fiscal year 1981 program of 569 tanks.

(U) Congressional Hearings - House Armed Services Committee. Major General Ball appeared before the House Armed Services Committee on 18 March 1981, to discuss the delivery schedule, the 120mm gun program, funding and cost considerations, testing, and RAM-D parameters. Major General Ball again addressed the House Armed Services Committee in July 1981, with particular emphasis on fiscal year 1981 testing results, specifically on meeting the required RAM-D parameters. Powertrain durability and track life were of significant importance in RAM-D testing.

(U) General Accounting Office (GAO). The General Accounting Office conducted four reviews during the period of 1 October 1980 to 30 September 1981. A draft report, "The M1 Tank's Power Train Should Meet Army Requirements Before Tank Production is Allowed to Increase" was published in September 1981.

(U) Other GAO reviews completed during the fiscal year included a final report entitled "Army's Decision Not to Contract for Penetrator Production at the Feed Materials Production Center, Fernald, Ohio, Was Justified" (950600), 13 November 1980; and a final report, "Logistics Planning for the M1 Tank; Implications for Reduced Readiness and Increased Support Costs" dated 1 July 1981. (B-20224).

(U) Army Audit Agency (AAA). During fiscal year 1981, the Army Audit Agency initiated two reviews, which were multi-location audits which included the Abrams Tank System. The first was "DARCOM Acquisition Workload Management," conducted during the period 11-28 August 1981, and the second was "Army's Ad Hoc Cost Discipline Advisor Committee (CDAC)", still being conducted during fiscal year 1981.

(U) Defense Audit Service (DAS). During the fiscal year, the Defense Audit Service (DAS) gathered information for the following reviews: "Review of DOD Systems Reliability - Army" (Project IAD-109); "Review of DOD Requirements for Armored Tracked Vehicles"; and"Survey of Government Property Provided to Contractors and Grantees" at Lima Army Tank Plant (LATP).

(U) Management. Effective 28 July 1980, Major General Duard D. Ball was designated Program Manager (PM) for the Abrams Tank System. Colonel David A. Appling was designated Project Manager, Tank Main Armament Systems, effective 20 December 1979. LTC Frederick J. Mehrtens was assigned Assistant Project Manager, 120mm Systems in April 1980.

(U) During fiscal year 1981, the expanding MIS needs of the PMO were met by a mix of Automatic Data Processing Equipment (ADPE) acquisitions and software implementation, both purchased and developed in-house. This equipment was intended to provide user-friendly, multi-purpose information processing facilities that could integrate growing narrative and data processing requirements using the PMO Prime Computer System. Central to this effort was the September 1981 purchase of ten Office Automation System (OAS) cathode ray tube (CRT) terminals and ten letter quality printers to be located throughout the PMO, at the Lima Army Tank Plant, and at the Washington Field Office. These CRT printer stations were fully compatible with fiscal year 1981 PMO data processing utilities and also provided text creation/text processing capabilities comparable to that of the best "stand-alone" word processors. An additional four wide-screen CRTs and four high speed printers were acquired in fiscal year 1981, which brought the total of PMO computer terminals to 55, including two CRTs dedicated to TACOM Commodity Command Standard System (CCSS) processing.

(U) Support of these terminals was made possible by a September 1981 upgrade of the original 1979 minicomputer configuration, which featured

a faster processor and a total of nearly one billion characters of random access storage. The upgrade configuration featured additional communications that would also allow up to 64 simultaneous users and connection of the PMO Computer System to a packet-switched network that could provide fast, clean, local-dial access from key locations in CONUS and Europe. The latter capability was particularly important because it was anticipated that data communications requirements with the PMO Liaison Office (LNO) in Bern, Switzerland, the European Materiel Fielding Team in Vilseck, Germany, and the PMO LNO in Bonn, Germany, would increase during fiscal year 1982 and the future years. The Swiss furnished the Bern LNO Chief a complete CRT/printer system and he had been accessing the PMO Prime Computer System on a daily basis since July 1981. Target dates for operational ADPE in Vilseck and Bonn were December 1981 and February 1982, respectively.

(U) Activities planned for fiscal year 1982 included installation of ADPE in the Detroit Army Tank Plant (DATP) as it joined in M1 Production and use of high level graphics software; and further integration of narrative and data processing and electronic mail/management communications facilities were planned to enhance the ability of the Abrams Program Manager to manage the Army's most important and complex program.

Product Assurance and Test

(U) Low Rate Initial Production (LRIP) Testing (DT III/OT III). Although both Development Test III (DT III) and Operational Test III (OT III) began in fiscal year 1980, most of the LRIP testing was performed in fiscal year 1981. As of September 1981, DT III had run 29,000 miles and fired 6,000 rounds. OT III had accumulated 48,000 miles and 10,000 rounds.

(U) DT III. Although the principle portion of Production Verification Test-Contractor (PVT-C) was completed at Fort Knox, Kentucky on 10 September 1980, one tank, which underwent contractor cold room testing at Eglin AFB Florida, was not completed until 30 October 1980. Testing focused on starting performance using a prototype winterization kit, fire control performance, and hydraulic system performance. Test results were generally favorable with the exception that the low temperature main gun oscillation problem experienced in previous Eglin testing recurred.

(U) Two tanks ran 3,125 miles and fired 506 105mm rounds performing desert testing at Yuma Proving Ground (YPG) from 10 June to 23 December 1980. The planned high altitude subtest of DT III at YPG was not performed due to schedule slippages. The desert test was continued at YPG beginning on 27 April 1981 and was scheduled to be completed on 20 November 1981. Testing included high altitude main gun accuracy, cooling, secondary armament, dust, and other tests not completed in 1980.

(U) At the Cold Regions Testing Center (CRTC), one tank was tested from 5 November 1980 to 17 March 1981, which ran 2,126 miles and fired 245 105mm rounds. Testing scheduled to run until 31 May 1981 was terminated due to unseasonably warm weather. Plans were to continue arctic testing during the 1982-1983 CRTC test season in order to complete those portions not completed during the 1980-1981 test. The final decision was being deferred until TRADOC clarified their requirements for the winterization kit.

(U) The Ballistic Hull and Turret Testing (BH&T) was conducted from 20 April to 14 November 1980 at Aberdeen Proving Ground. It was performed to verify that previously determined survivability characteristics had not been degraded by the production process and to accomplish appropriate testing deferred from DT II. Changes to the production configuration made in the second year were tested on a BH&T which was scheduled for completion in mid-November 1981. Human Factors Engineering (HFE) testing and automotive functions were performed to complete subtests deferred from, or not satisfactorily completed in DT II and to conduct checks of the automotive performance determined in DT II. This test was completed in September 1981. Another test consisted of three tanks being used primarily for RAM-D testing, although other testing, such as hit probability, was integrated into the RAM-D testing. Another tank was dedicated to weapons testing. This tank was completing deferred DT II subtests, conducting limited checks of performance established in DT II, and conducting limited instrumented hit probability testing. All of these APG tests were scheduled to be completed in November-December 1981.

(U) One vehicle was used for a dedicated maintenance evaluation at APG. The purpose of this was to get data on priority tasks not performed or fully documented at that time from ongoing or anticipated testing. This test began on 5 January 1981 and was expected to be completed in January 1982.

(U) At White Sands Missile Range (WSMR), a test was performed to analyze electromagnetic radiation effects (EMR) and nuclear blast testing in the anechoic chamber. This testing included frequency sweeping and modulation aspects not addressed in DT II. Also, on 16 September 1981, this tank was subjected to a simulated nuclear blast test along with one Full Scale Engineering Development (FSED) pilot. Some nuclear radiation testing deferred from DT II was also conducted. Testing was expected to be completed in December 1981.

(U) OT III. The Fort Knox phase of OT III was conducted from 15 September 1980 to 29 May 1981 by the US Army Armor Engineering Board (USAARENBD) under the management of US Army Operational Test and Evaluation Agency (OTEA). All four tanks, based on production delivery schedules,

underwent an initial 300 to 1500 miles "shakedown" by the contractor between 10 June and 16 September 1980. Based on initial run-in, modifications were applied to the tanks as required. The vehicles were then grouped as a Division 86 Platoon for Operational Testing. Stage One was initiated in September 1980 with four "D" configured LRIP tanks going 1,500 miles, followed by another tank which went an additional 250 test miles, and a modification period accomplished by the contractor. Stage Two was initiated with other LRIP tanks in January 1981. Stage Two testing was a repeat of Stage One.

(U) Fort Hood Phase. The Fort Hood phase of OT III was a three-phase test conducted by Training and Doctrine Command (TRADOC) Combined Arms Test Activity (TCATA) under the management of OTEA from September 1980 through May 1981. The test was dependent on tank delivery and started based on the incremental issue of tanks with three in September and continuing until 41 had been issued by 5 February 1981.

(U) Phase I (transition training) included transition from the M60 to the Abrams Tank for a tank battalion by company increments. This training was conducted by the US Army Armor Center Mobile Training Team (MTT) at Fort Hood, Texas, and included an orientation course for staff personnel, individual and collective tank crew skill training, and organizational maintenance personnel training. Training for DS/GS (Direct Support/General Support) maintenance personnel was accomplished by the US Army Ordnance School at APG. Phase I was terminated when each company completed gunnery training.

(U) Phase II included both controlled live firing exercises and non-firing field training exercises. Live firing included Individual Tank Precision Fire (ITPF) in accordance with a TRADOC/OTEA developed matrix, and a Platoon Battle Run, using nine platoons. Non-firing tactical field training was conducted by each company. Selected exercises required maneuver and/or defense against opposing force elements in which both sides were instrumented to enhance realism.

(U) Phase III involved up to a tank battalion force engaged in non-firing exercises against an aggressor force (up to a brigade size). Data were collected over a series of field training exercises including offensive, defensive, and retrograde operations. Field Tactical Exercises (FTX) were conducted in a realistic combat environment such as day, night, smoke, and natural prevailing environmental conditions, and included maintenance and tactical resupply. Friendly and aggressor forces were instrumented to provide realism. Data collected during this phase primarily addressed the issues of logistical supportability, training, and fightability. The tanks used at Fort Hood accumulated 34,000 miles and 7,600 rounds.

(U) Testing Concurrent with LRIP. One LRIP engine underwent 1,137 hours of laboratory testing from 15 February to 20 September 1981. This test nominally consisted of a 400 hour durability test to a modified NATO cycle and 600 hours of mission profile testing. One thousand hours equated t about 17,000 - 21,500 miles of vehicle operation. Improvements recommended by the Blue Ribbon Panel were incorporated into the engine. A 4,000 mile vehicle durability test at Aberdeen Proving Ground on two tanks, beginning in October 1981, was tentatively scheduled.

(U) Automatic Test Equipment. During the period from July to August 1980, the contractor conducted limited validation testing on the Simplified Test Equipment (STE)-M1 and Direct Support Electrical Test Set (DSESTS). These functional tests were to verify the "Go" and "No-Go" routines which were in the test sets at that time. Problems identified in this test resulted in software and manual changes that had been incorporated in fielded test sets.

(U) The Initial Production Test (IPT) for the STE-M1 and DSESTS was conducted on initial production units to verify that the specified en ironmental and Electromagnetic Interface (EMI) requirements delineated in the prime item production specification had been met. These tests were conducted by the contractor during the period August to September 1980. To eliminate redundant testing by the Government, a representative from TECOM witnessed and monitored these tests.

(U) The PMO, in conjunction with Chrysler, initiated a complete validation of STE-M1 software routines. The validation effort was expected to run from June 1981 to June 1982. In conjunction with this effort, Chrysler was conducting Task Adequacy Checks (TAC) of the troubleshooting manuals. Upon completion of TAC, the manuals would be sent to APG and Fort Knox for validation and verification. The test sets would be used during validation/verification (val/ver) and plans were to have TRADOC monitor and provide an independent assessment of this activity. The validation of the STE-M1 software, TAC of the troubleshooting procedures, and the val/ver of the manuals would verify the test sets' capability to perform fault isolation of malfunctioning tank components/modules using applicable manuals/troubleshooting procedures and personnel.

(U) The STE-M1 and DSESTS were being used in support of DT/OT III. The utility of the test sets would be evaluated on actual tank failures which occurred during testing and would not include induced failures. In addition, TECOM was conducting a maintenance evaluation in which faults were induced and the ability of the test sets to diagnose those faults were being evaluated.

(U) Automatic Testing Equipment. The TSTS was under development with the first prototype to be delivered to the Government in the first quarter of fiscal year 1982. Plans were being made to conduct an evaluation of

this test set by the USAOCCS during the first part of fiscal year 1982. In addition, the contractor would conduct a validation test of the TSTS during the last quarter of fiscal year 1982. TSTS testing would be similar to the STE-M1 and DSESTS in that it was planned to have TECOM observe the IPT which was planned for the fourth quarter of fiscal year 1982.

(U) Field Reports. The contractor established a field reporting system to obtain detailed information on test set problems which were experienced in every day field usage. Contractor test set representatives were located at Fort Knox, Fort Hood, and APG, and problems identified at these locations were written up in a Test Set Incident Report (TSIR). The TSIR included test set hardware/software problems, manual/troubleshooting problems and perceived training problems. Corrective action was taken to resolve problems and recommended necessary changes. Periodic updates of test set software and manuals would be made to improve the performance of the diagnostic equipment in fiscal year 1981. It was planned to provide a test set contractor representative in Europe to continue the gathering of field data on TMDE (Test Measurement & Diagnostic Equipment). Contractor support in Europe and CONUS, as well as the TSIR and periodic updates, would continue until the TMDE was of such maturity that these actions could be terminated.

(U) Special Transmission Test. During DT/OT III there were 21 transmission replacement actions some of which contributed to not meeting the mandated powertrain durability requirement.

(U) In March 1981, Detroit Diesel Allison (DDA) performed laboratory tests seeking to duplicate field problems. In April, vehicle tests were performed at the Detroit Tank Plant to verify the suspected failure modes. In April, May and June, potential corrective action design improvements were sought in the DDA laboratory tests and in vehicle tests at the Detroit Tank Plant and at Chelsea Proving Ground. In addition, the feasibility of the selected modifications were evaluated in a laboratory durability test and in vehicle testing at Chelsea Proving Ground and at Aberdeen Proving Ground. In late June, the adequacy of the design improvements were confirmed in Army vehicle tests at Fort Hood.

(U) Quality Assurance. The major milestone for fiscal year 1981 was Chrysler Defense Incorporated's (CDI) reorganization of its quality organization. The quality function became centralized under a Vice Presidential position, independent of production. The quality assurance effort continued to be production oriented. Quality assurance provided assistance to modification and deprocessing programs through on-site representation in Germany, APG, LATP, and Chrysler Center Line Facility. Corrective actions on deprocessing defects were tracked on PMO Prime Computer.

PQAP assistance and calibration services were provided to Lima and Detroit Tank Plants. Technical Data Package quality assurance documentation, such as drawings, specifications, and quality assurance requirements, were reviewed for format at CDI, content and inspectability at major subcontractors.

(U) Other activities included negotiation of contract quality assurance clauses for Systems Technical Support (STS), production, and component spares; issuance of delegation letters and Quality Letters of Instruction for Procurement Quality Assurance; continuing Government Source Inspection; and coverage of the component Initial Production Testing. In addition, the AR 700-34 Release for Issue was coordinated and a conditional release was approved on 20 August 1981 by DARCOM.

Technical Activities

(U) Configuration Management. During fiscal year 1981, three updates were made of the initial Tech Data Package (TDP). The first, XM-A3400, 30 September 1980, was used for procurement of second year production. The second, XM-A6500, was on 1 April 1981. This TDP was intended for the third year production. Due to the volume of changes occurring after it was issued, the third TDP, CC-H-8620 was made on 17 August 1981 and was used for the third year production.

(U) Control of all engineering changes was assumed for third year and all subsequent years of production. The Configuration Management Regulation was rewritten as was the Configuration Management Plan, bringing both up to the level concurrent with the FY 1981 activities and responsibilities of the Configuration Management Office (CMO). In addition, two Configuration Control Boards (CCB), Senior and Junior, were established, and CCB meetings were held in fiscal year 1981 for review and evaluation of all changes impacting on the third and subsequent years' production of tanks.

(U) Other events which impacted Configuration Management during the year were the establishment and implementation of a computer based status accounting system for tracking all engineering changes. A plan for a Configuration Item Verification Review (CIVR) was developed with funds provided for its implementation and performance. Only those items of which a Quality Assurance Requirement existed would be subject to the CIVR activity inspection. The Configuration Management Office completed full staffing by July 1981. Two additional spaces were expected for fiscal year 1982.

(U) Product Improvement Program (PIP). Fiscal year 1981 was the first year of RDTE funding for improvements to the Abrams Tank. The program structure was established during this time and many key decisions were made by HQDA.

(U) In November 1980, the Abrams PMO briefed HQDA on the Abrams Product Improvement Program and the consequences in terms of performance and cost of concomitant weight growth. The PMO established 63 tons, combat loaded, as an upper weight limit for the Abrams Tank, stating that any substantial weight growth beyond this limit would cause drastic redesign of the Abrams Tank at extremely high cost.

(U) On 15 January 1981, the Deputy Chief of Staff for Research, Development and Acquisition (DCSRDA) and the Acting Secretary of the Army were briefed on a proposed Abrams Tank Product Improvement Program. DCSRDA provided guidance at that briefing which significantly modified program plans. As a direct result of this briefing, a program including the Hybrid NBC System, Auxiliary Power Unit (APU), improved armor, and weight reduction improvements was briefed to the Vice Chief of Staff, US Army (VCSA) on 29 January 1981. A decision was then signed by the VCSA in March 1981, providing guidance to initiate an interim program for these improvements in order to retain the option of introducing the improvements to Abrams production in 1985. In June 1981, the DARCOM Joint PIP Review terminated retrofit plans for 16 proposed Abrams improvements in accordance with the foregoing decision.

(U) Automotive. In response to recommendations of the Office of the Secretary of Defense (OSD) Blue Ribbon Panel published in January 1980, two 1,000-hour engine durability tests were scheduled for fiscal year 1981. However, due to numerous difficulties, this test was terminated in May 1981 after 250 endurance hours. The 1,000-hour durability test, without IPT (Initial Production Tests) requirement, was restarted in June 1981 and completed in September 1981. While the test demonstrated maturity of most production engine components, several components were identified as requiring additional improvement efforts. The second 1,000-hour engine test, which would incorporate hardware modifications based on the first 1,000-hour test and field experience, was expected to be in March 1982.

(U) During the period June-August 1981, Department of the Army convened a Blue Ribbon Panel to independently assess the status of the Abrams powertrain durability which consisted of the engine, transmission and final drives. The panel estimated that the powertrain would likely exceed the required durability and attain 8,500 Mean Miles Between Durability Failure (MMBDF) in units delivered in March 1982, the third year of the initial production program.

(U) Final training exercises at Fort Hood, Texas at the end of OT III revealed a serious transmission deficiency. After an intensive development program, changes were made to correct the transmission deficiency, which were incorporated into the start of third year production. A depot level retrofit program was to be conducted on all first and second year transmissions.

(U) Ballistic Protection. The contractor continued to demonstrate satisfactory performance as evidenced during ballistic testing of the second LRIP Ballistic Hull and Turret (BH&T) to be completed in November 1981. Two structures, including a full Ballistic Turret, were delivered for government testing and analysis. The Armor Improvement Test Program successfully demonstrated all performance objectives on schedule and within cost constraints. As a result, the VCSA approved incorporation of the Armor Improvement Program into Abrams and M1E1 120mm gun production. Compartment testing to develop ammunition compartment designs for the M1E1 (120mm gun) continued, and final designs were firmed up for incorporation into the Technical Data Package (TDP). An ammunition compartment (120mm DU) test program was developed and performed at the Nevada Test Site to address several survivability issues associated with the integration of the German 120mm weapon system into the Abrams Tank. The program was successfully executed and completed to the satisfaction of the Army.

(U) Night Vision System. The production configuration Thermal Imaging System was tested at White Sands Missile Range (WSMR) from November 1979 to January 1980. The system was installed in FSED vehicle #1 and exposed to 100 rounds of main gun firing and 300 miles of secondary road operation. System performance was evaluated by viewing both resolution targets and vehicle targets at specified ranges. Minor problems resulting from vehicle mobility operation were found and corrective design changes were implemented for LRIP.

(U) Nuclear, Biological Chemical (NBC). The M1E1 Product Improvement Program was initiated during fiscal year 1981. Transient radiation effects (TRE) tests on piece parts and circuits were continued where no previous data existed. These tests were being used to resolve marginal situations and establish the required approved parts list. The M1E1 completed DT III EMR and EMP tests, and tested in the "Mill Race", a 600 ton detonation of ammonium nitrate-fuel oil (ANFO) mixture which was approximately equivalent to the detonation of a one kiloton nuclear device.

(U) Automatic Test Equipment - M1. Fiscal year 1981 was significant in terms of M1 Automatic Test Equipment in that it marked the transition from development to production and support. The primary development of the Simplified Test Equipment - (STE-M1) and Direct Support Electrical System Test Set (DSESTS) had taken place in fiscal 1980 with first production delivery being completed in fiscal year 1981. Thirty-one STE-M1s and twenty-two DSESTS were delivered in this first procurement. The majority of these units were deployed to schools and in support of DT and OT III.

(U) Due to a shortage of funds in fiscal year 1980, second year production was not awarded until November 1980. Two contracts were awarded in November, both using Chrysler Defense Incorporated as the

prime contractor and RCA and Chrysler Huntsville as the subcontractors. Fifty-four STE-M1 test sets and ten DSESTS were ordered with lead times of 15 and 14 months respectively. To make up the shortage in test sets caused by the delay in ordering until fiscal year 1981, supplemental procurement funds were requested from and granted by DARCOM to procure an additional 56 STE-M1s and 10 DSESTS. Delivery orders for those supplemental quantities were issued directly to RCA and Chrysler Huntsville in September 1981. Also in September, a contract was awarded to Hughes for the initial production of the Thermal System Test Set (TSTS). Twenty of these test sets were ordered with first delivery scheduled for September 1982.

(U) Both the STE-M1 and DSESTS received considerable exposure to field and troop usage during DT and OT III of the Abrams Tank System. Late in fiscal year 1980, it was evident that troubleshooting of the Abrams was a major problem and that a substantial portion of those problems were associated with the test sets, STE-M1 and DSESTS. To resolve these problems, a system of Test Set Incident Reports (TSIR) was used to collect and analyze test set operational data and a special Troubleshooting Task Force, comprised of Army and Industrial members, was formed to address the broader problem of troubleshooting. Through the TSIR system, software problems were identified and corrections fielded. The STE-M1 was updated to revision five in March and to revision six in July. Full capability in the DSESTS was deployed in May with the addition of Gun-Turret Drive (GTD) and Electronic Control Unit (ECU) tests. This software was subsequently changed to revision 3.2 in June and to revision 3.3 in July. The latter revision corrected a problem in the ECU test which caused the field to fault these units.

(U) The Troubleshooting Task Force recognized that too many problems were surfacing from the use of the STE-M1 in DT and OT III and that the TSIR system was neither a systematic approach nor was it turning around problems fast enough to get a substantial improvement in troubleshooting accuracy. As a result, the Task Force was instrumental in obtaining an Abrams tank in order to conduct a complete validation of the STE-M1 software. This program, which began in June 1981 and was scheduled for completion in July 1982, would exercise diagnostics in areas which might show up in the field for a year. The first update as a result of this program was scheduled for January 1982. In fiscal year 1981, the Task Force was concentrating on longer range corrections to troubleshooting involving manuals, training and hardware redesigns. Other activity during the fiscal year was the receipt of drawings and specifications for both STE-M1 and DSESTS and the issuance of a delivery order in September 1981 for long lead hardware to convert all STE-M1s to an STE-M1/FVS configuration.

(U) RAM-D Growth. In fiscal year 1981, the RAM-D program had two objectives. The first was to obtain RAM-D required by the 13 Reliability, Availability, Maintainability - Durability (RAM-D) requirements identified in the Materiel Need (MN). It was targeted for accomplishment during the Low Rate Initial Production (LRIP) phase. The second objective was to exceed the MN and achieve the goals projected in the DCP. These goals were higher than the MN values.

(U) In fiscal year 1981, efforts were directed toward the establishment of candidates for redesign, which were the main contributors to degradation in RAM-D as well as crew/organizational maintenance tasks. These candidates were selected based on re-evaluation of configuration not pursued to design to cost considerations/restraints; redesigns required due to changes in duty cycle from original design guidelines; and improvement of items which were only marginally acceptable.

(U) A Basic Ordering Agreement (BOA) type contract was signed with Crysler in September 1981, to develop the selected RAM-D Growth Areas. The general scope required redesign, laboratory and facility vehicle testing, and installation of redesigned hardware on five production tanks. The five tanks would be tested at Fort Knox for 4,000 miles each, starting in March 1983.

International Programs

(U) International Responsibilities. In fiscal year 1981, the International Operations Office had the principle staff responsibility for all international matters affecting the Abrams Tank Program. Among these were the continued efforts to maximize harmonization with the Leopard 2 Tank System in accordance with the US/Germany Harmonization MOU of 1974; implementation of a statement of accord with Switzerland for the evaluation of the Abrams Tank; discussions and briefings with the United Kingdom and Saudi Arabia; and monitoring Chrysler Defense Incorporated's activities with regard to the Republic of Korea indigenous tank.

(U) Standardization Efforts--US/Germany. In June 1981, the Executive Harmonization Group met at Aberdeen Proving Ground. Germany informed the Program Manager of the Abrams Tank Program of a newly optimized Diehl track which they believed could be used on both tanks. This track was to be investigated by the technical subgroup to determine if testing and modification of an Abrams Test Vehicle could be justified for further investigation. Interchangeability of track would be pursued along with the feasibility studies for an interchangeable sprocket.

(U) Standardization Efforts--Switzerland/US. The major portion of the Abrams Program's International activities centered on Switzerland's evaluation of the Abrams Tank. In July 1981, two vehicles were delivered

to Switzerland through a lease/bailment arrangement, and the Program Manager's Office also established a Liaison Office at Thun, the Swiss government's Weapons Testing Center. Chrysler Defense Incorporated also established a four man technical team at Thun for the purpose of providing technical assistance and training to the Swiss government. The test programs were expected to end in June 1982, and the Abrams International Office, concurrently included as part of the negotiating team, would establish the conditions by which Switzerland would procure the M1E1 tank if a decision were made. That team was headed by the Assistant Deputy Chief of Staff for Research, Development and Acquisition.

(U) Standardization Effort--US/United Kingdom. Since the British government moved to cancel its main battle tank 80 program, little was accomplished in furthering standardization or interoperability. The Program Manager's Office hosted numerous visits at the technical level to the Lima Army Tank Plant, including that of the Master General of Ordnance, Sir Peter Leng; however, in fiscal year 1981, cooperation with the British on any sort of tank development or tank improvement program seemed remote.

(U) Standardization Effort--US/Saudi Arabia. The Program Manager's Office briefed the head of the Saudi Arabian National Guard in October 1981 on the Abrams Tank, with indications that follow-on inquiries by the Saudis could be expected within twelve months.

(U) Standardization Effort--US/Korea. The Republic of Korea embarked on a tank development program with the aim of producing a vehicle very similar to the Abrams Tank. Chrysler Defense Incorporated advised the Koreans under contract and State Department License concerning technical aspects of the design. Although the Program Manager, Abrams Tank System, was not directly involved, the International Operations Office monitored Chrysler's activities for any impact on the Abrams Program.

Tank Main Armament Development and Production

(U) 120mm Tank Main Armament. During the period from October 1980 to September 1981, Watervliet Arsenal fabricated eight XM256 cannons and fourteen spare tubes using the US technical data package translated from the German (GE) documentation. All dimensional requirements for US/GE interoperability were met but none of the domestic suppliers were able to satisfy in all respects the difficult combination of physical properties specified by the Germans.

(U) Technology transfer, fabrication, and test (TTF&T) of these German rounds (DM12, DM13, and DM18) by Honeywell continued during the fiscal year.

Phase 1, which included translation of the German design to a US design, fabrication, and contractor evaluation to assure critical requirements were being met, was completed. Of the 240 total required, Honeywell delivered 138 XM827 cartridges in August 1981 to Aberdeen Proving Ground for safety tests. These cartridges were the translated version of the German DM13. Honeywell also delivered 270 XM831 cartridges in September 1981 to Aberdeen Proving Ground for safety tests. These cartridges were identical to the German DM18. Improvements to the fuzing for the XM830 continued to be studied, and in January 1981, the baseline fuze design was decided.

(U) In October 1980, lack of US-produced combustible cartridge cases was a problem. In January 1981, after receiving the proper resin formula from the Belgian manufacturers of the case, the US producer (ARMTEC), Coachella, California (a desert area) successfully manufactured cartridge cases, meeting the German physical strength requirements.[1]

(U) In March 1980, the Germans advised the US of its "firm intention" to change over to press load of the DM12 cartridge, after delivery of 20,000 castcharge rounds.[2] In April 1980, press loading was selected for the XM830.[3] By October 1981, safety qualification tests of the German press load were essentially completed and the explosive safety was being evaluated by the Explosive Qualification Board.

(U) The System Contractor, in conjunction with the many 120mm subcontractors, developed and provided to the Government the first draft Production Manufacturing Plan for the three cartridges.[4]

(U) Relative to production in the US, lack of the technical data package for the German DM1106A1 Igniter was a major issue. Pursuant to the License Agreement, Rheinmetall declared it did not have the right to license the DM1106A1; however, sufficient technical information would be provided by Rheinmetall so that equivalent items could be obtained from a US source. A dialogue between US and GE on rate, equipment and cost was established,[5] and a meeting was to be held in October to resolve the issue.

(U) In February 1981, the XM829 cartridge was completing validation phase testing; and by July 1981 DT I testing of 150 cartridges was scheduled to be completed.[6] Several problems which were discovered in rough handling tests were being worked out as of September 1981 with the objective of conducting the Validation IPR in December 1981.

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1 HI-Interim Scientific and Tech Report XM827, June 1981.

2 DRCPM-TMA msg 172100Z Mar 80 subj: Explosive Charge for Ctg, 120mm MZ,DM12.

3 DRCPM-TMA msg 232030Z Apr 80 subj: Charge Loading Methodology-Cartridge, 120mm, XM830.

4 HI-Production Manufacturing Plan - 27 Feb 81 - Data Item A008.

5 DRCPM-TMA Ltr, 13 Jul 81 subj: DM1106A1 Igniter Cap (Anzuendhuetchan).

6 DRDAR-LCU-CT Ltr, 19 Feb 81, subj: Cartridge, 120mm, XM829 Development Test - I (DTI).

(U) Progress of the German LKL kinetic energy training round was monitored by on-site observation of German tests. In July 1981 a meeting was convened at PM TMAS office and actions short of contract award were initiated to transfer the German technology for the LKL, which was to be designated XM865.[7] This action was preparatory to the planned selection decision in first quarter FY 1982 between the XM832 and the LKL. Development of the XM832 was dormant pending resolution of the XM797 status discussed below.

(U) Other Accomplishments. In fiscal year 1981, the manufacturing process for JA-2 propellant was carried out during fiscal year 1981, using a four-inch press at Radford. At the end of fiscal year 1981, the process was being evaluated using a 15-inch press to increase production.

(U) The recovery system for handling DEGON spent acid was successful in a bench scale and design criteria for a full scale unit being planned; and the carts required for the Loading, Assembly, and Pack operations for 120mm KE and HEAT rounds were designed and fabrication initiated.

(U) Pre-production planning for 120mm ammunition was reoriented toward initial production in fiscal year 1984 based upon type classification (TC) of the XM829, XM830, and XM865 cartridges in December 1983. The XM827, XM831, and XM256 cannon would be type classified in June 1983. Fiscal year 1984 procurement was to provide initial ammunition in August 1985 instead of 1984 as previously planned.

(U) 105mm Tank Main Armament. In October 1980, type classification standard, LCC-A was approved "subject to an upper operational temperature limit of 126°F until such time as assurance supporting a higher limit had been demonstrated by test."[8] A test providing the desired assurance to lift the 126°F restriction was completed and in August 1981 removal of the upper operational temperature limit of 126°F was approved.[9]

(U) Ammunition Development of the XM833 Cartridge. The XM833 program was reviewed by the VCSA and a general acceleration of the program directed. The validation In-Process Review (IPR) was held in November 1980. It was agreed that the cartridge, 105mm XM833 having successfully completed its Advanced Development Phase, should enter Full Scale Engineering Development (FSED).

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7 DRCPM-TMA-TM Ltr, 28 Jul 81, subj: TTF&T of 120mm TPCSDS-T, XM865.

8 DRCDE-DW Ltr, 21 Oct 80, subj: In-Process Review Results Cartridge, 105mm, APFSDS-T, XM774.

9 DRCDE-DW Ltr, 7 Aug 81, subj: Removal of 126°F Temperature Restriction from Cartridge, 105mm, APFSDS-T, M774.

(U) It was agreed that an FSED schedule of 22 months should be pursued, with type classification planned for September 1982.

(U) Finally, it was agreed that a production facility and initial production quantity of XM833 cartridges would be procured during fiscal years 1981-1982 so that an Initial Operational Capability (IOC) date of September 1983 could be attempted.[10]

(U) Ammunition Development - XM797 Cartridge. During late November 1980, it was agreed in principle to support additional effort to perfect a reliable XM797/XM832 break-up device via analytics, design studies, and laboratory work supported by a bare minimum of full-up firing.[11] A special IPR was planned for September 1981 to establish the future course of the program.[12]

(U) Ammunition Development - XM815 Cartridge. In August 1980, the Conceptual IPR for the XM815 Cartridge was proposed to be conducted as a correspondence IPR, to be concluded during the latter part of October 1980.[13] The DARCOM Pre-IPR was held on 29 October 1980, where it was agreed that "The XM815 should enter the 6.3 Advanced Development Phase."[14] The IPR results recommended that the XM815 enter Advanced Development, and were approved in March 1981.[15] Fiscal year 1981 funds of $2.0 million were not received until February 1981. In August 1981, the anticipated type classification date was revised from fourth quarter fiscal year 1984, but not later than fourth quarter fiscal year 1985.[16]

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10 DRCPM-TMA Ltr, 21 Nov 80, subj: Letter of Transmittal for In-Process Review Results (Cartridge, 105mm, APFSDS-T, XM833).

11 DRCPM-TMA-TM Ltr, 8 Jan 81, subj: XM797/XM832 Program Plan.

12 DRCPM-TMA-TM Ltr, 18 Aug 81, subj: XM797 Facility Planning.

13 DRCPM-CAWS Ltr, 19 Aug 80, subj: Conceptual IPR for 105mm Cartridge XM815 HEAT-MP-T.

14 DRCPM-TMA-105 MFR, 29 Oct 80, subj: Minutes of the Pre-IPR for the XM815 Conceptual IPR.

15 DRCDE-DW Ltr, 10 Mar 81, subj: Minutes of Conceptual IPR for 105mm Cartridge, XM815 HEAT-MP-T.

16 DRCPM-TMA-TM, Msg, 7 Aug 81, subj: Revised Program - Ctg 105mm HEAT-MP-T XM815

(U) Ammunition Production - M774 Cartridge. In October 1980, the pacing item for delivery of M774 cartridges was production of staballoy (depleted uranium) penetrators from Nuclear Metals Incorporated (NMI), the sole commercial source. During fiscal year 1981, this contractor delivered a total of approximately 31,000 M774 penetrators. In April 1981, NMI reported an increased contract cost of $7.8 million, raising the total contract cost to $15.0 million. An audit was conducted by an ARRADCOM and DCAS (Defense Contract Administration Services) (Boston) team and actions were taken to control future costs. The Initial Operational Capability (IOC) quantity of M774 cartridges was delivered to the field in April 1981, and was the first fielding of a tank main armament round using staballoy. A contract for staballoy penetrators was awarded to Aerojet Ordnance Corporation (AOC) in February 1981.[17] Phase I was removal of GFE at NL Industries, Albany, New York. Phase II for facility installation, and Phase III for production of 20,000 M774 penetrators were awarded in May 1981. As of September 1981, AOC was active on all three phases and was planning to submit a first article sample in December 1981.[18]

Integrated Logistics Development

(U) Maintenance Allocation Chart Revisions (MAC). An Army-wide conference was held in April 1981 to assess future changes to the Abrams MAC. A list of candidates for revision was developed and the PM was expected to contract with Chrysler Defense Incorporated (CDI) to investigate the changes.

(U) Supply Support. During fiscal year 1981, the major accomplishments in the supply areas included the Transfer/Supply and Support switch from the contractor to the Materiel Readiness Commands (MRCs) on 1 July 1981. The "Pull Packages" concept, which allowed parts to be consolidated at a depot and shipped in a single package, was approved for Authorized Stockage List (ASL)/Prescribed Load List (PLL) for initial fielding in Europe. A "Parts Allocation Board" for distribution of critical assets was developed and implemented during the fiscal year. The initial batch of "pull package" requisitions for the PLL and Direct Support (DS)/General Support (GS) authorized stockage lists, including additional stockage at GS level, were 92 percent satisfied. The remainder would be on hand prior to First Unit Equipped (FUE).

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17 Contract DAAK10-81-C0097

18 AOC Ltr, 16 Oct 81, subj: Contract DAAK10-81-C-0097 Monthly Performance and Cost Report Period 1 September thru 30 September 1981.

(U) Depot. Depot highlights during the fiscal year included four items. Contractor support was transferred to organized support in July 1981. Transition of responsibility would be made as capability developed. Extensive efforts continued to insure Depot Maintenance Plant Equipment (DMPE) was in place as required. Initial efforts began to develop Depot Maintenance work requirements. In addition, a study indicated that considerable interim depot repair capability already existed. A major Depot Systems Command (DESCOM) effort was mounted to maximize this capability, especially in support of USAREUR.

Production/Facilitization

(U) Lima Army Tank Plant (LATP), Ohio. During the period 1 October 1980 to 30 September 1981, the Lima Army Tank Plant emphasis switched from initial facilitization to production. Approximately 98 percent of Industrial Plant Equipment (IPE) and associated Special Tooling was on hand and installed, virtually completing facilitization required to support 60 tanks per month production rates on a three-shift, eight-hour, five-day basis. Initial construction projects were completed, to include sound barrier fencing, press room, and cafeteria projects.

(U) Production rates continued to climb, ramping toward 30 tanks per month in the second quarter of fiscal year 1982, with production operations fully loaded throughout the plant. In addition, incremental shipments of hull and turret structures for Detroit Army Tank Plant co-production efforts were fabricated, machined, and shipped as scheduled. As of 30 September 1981, the Lima Army Tank Plant had produced 164 M1 Abrams Tanks for Government acceptance and deployment to various CONUS locations, to include Fort Knox, Fort Hood, test sites, and initial USAREUR training requirements. Two additional tanks were delivered to Switzerland for Swiss government testing evaluation.

(U) On 26 March 1981, LTC Joseph H. Mayton, Jr. assumed command of the Lima Army Tank Plant, which in fiscal year 1981 was an OPMS-recognized command position. He replaced LTC George Telenko, who had served as Chief, Lima Tank Plant Office, during initial facilitization and production start-up.

(U) The Lima Army Tank Plant government staff increased from 57 to 65 during fiscal year 1981. Additional staff increases were under consideration, which would bring the Lima Tank Plant to a projected strength of 99.

(U) Increasing production rates and program visibility generated extensive high level interest and significantly increased visits to LATP. LATP hosted 1,225 visitors in fiscal year 1981, to include the Secretary of the Army, Mr. John Marsh; Israeli Defense Forces Chief of

the General Staff, General Eitan; Korean Minister of Defense, Mr. Choo; as well as numerous Congressional staff representatives, DOD, DA, and DARCOM senior managers.

(U) Detroit Arsenal Tank Plant (DATP), Michigan. Efforts to bring DATP on line continued as scheduled in fiscal year 1981. Ninety percent of assembly lines were completed during the reporting period. Items remaining to be installed would not influence or hamper production of initial vehicles scheduled for delivery in March 1982, as part of the third year production.

(U) Production Schedule. Throughout the year, tank deliveries were hampered by the availability of engines or Chrysler's inability to manufacture tanks at Lima. First year delivery requirements of 90 vehicles were satisfied on 30 April 1981, four months behind contract schedule. From that date to 30 September 1981, 83 tanks had been accepted which demonstrated an improvement in the supply pipeline and in Chrysler's production line at Lima. As of the end of the reporting period, Chrysler had not ramped up to 30 tanks per month. The principle problem appeared to be in the final test and adjustment area. Intensive management of this bottleneck area was expected to bring production on line soon afterward.

(U) The Avco AGT 1500 engine was one of the major contributors to delinquent tank deliveries. Many of the problems associated with the engine included supply pipeline, quality and quantities of vendor supplied items. Intensive management by Government and contractor personnel had alleviated some of the Avco bottlenecks resulting in improved engine deliveries during the fiscal year.

(U) DX Ratings. The applied DX ratings benefited schedule performance at all levels. Related Special Priority Assistance (SPA) was exercised as required.

(U) Production Planning. In fiscal year 1981 progress was made in the areas of facilitization, production estimation and mobilization planning. The percentage of fill of machines and equipment bought with Government funds for manufacturing for the tank and components level of facilitization reached 100 percent for a 60 tank per month production capacity, and reached 98 percent and 92 percent for 90 and 150 tank per month capacity respectively during the fiscal year.

(U) Several employees created an innovative capacity study which continued to allow the Abrams PMO to estimate production capacities at various plants. Machine characteristics were placed in a computer program, which allowed the production planning specialist to hypothetically

evaluate requests for more facilities/equipment. The computer model demonstrated that some manufacturer's requests for additional equipment were not valid and monies were saved by convincing the requestor that he already possessed the capacity to produce at the required level.

(U) Mobilization Planning. A study was initiated which was expected to be completed in March 1982, to determine the feasibility of producing 390 tanks per month. Prime and subcontractors and other potential sources were queried as to types, amounts of equipment, and facilities required to attain this 390 tank per month mobilization capability.

(U) Procurement. Functional procurement responsibility began phasing over to TACOM Procurement and Production Directorate in August 1981, and the Abrams PMO procurement function began transitioning to planning, monitoring and management. The third production year featured breakout procurement of vehicle track, final drives, engines and transmissions, therefore TACOM PCO's effected contracting activities for these items, as well as the tank, during fiscal year 1981. Full functional contract responsibilities were expected to be transferred to commodity command procurement directorates by January 1982.

(U) Production Contracts. First and second year tank production--90 for the first year and 309 for the second--was procured under options in the FSED contract. The second year procurement of 309 was planned to be completed in May 1982. Negotiations to complete the second year production contract were ongoing as of the end of fiscal year 1981. Correction of Deficiencies (COD) items were identified for Chrysler correction during fiscal year 1981; COD rights for the Government were purchased for only the first and second year production; and a coordinated modification program was continued to implement COD changes. The third year tank contract negotiations for 569 vehicles were completed as of the end of fiscal year 1981 and a contract definitization was executed on 15 October 1981. Engines for the third year would be bought as Government furnished equipment (GFE) from Avco. A Government Should Cost effort was conducted at Avco during fiscal year 1981 in connection with this procurement.

(U) System Technical Support (STS). The fiscal year 1981 STS effort was awarded on 1 October 1980 for the period ending 30 September 1981. This was a Cost-Plus-Fixed-Fee level of effort contract with an award fee for performance of specified logistics tasks. Fiscal year 1981 funds were obligated in the amount of $68,785,862 with $59,224,460 for Acquisition, Procurement, Army (APA), and $9,561,402 for Research, Development, Test and Evaluation (RDT&E).

(U) Manufacturing, Engineering, Tooling, Special Test Equipment and Facilities Procurement Program (METSFPP). The METSFPP contract was ended as of 30 September 1981. Similar efforts/activities were continued by work directive controlled capacity engineering services on production contracts.

(U) M1E1 (120mm Gun) Tank Development. A letter contract was definitized in August 1981 for approximately $55 million covering Full Scale Engineering Development (FSED) of the 120mm gun version of the Abrams.

(U) The Block Improvement Program (BIP) modification to this contract which was awarded in May 1981, would initiate development work on an NBC system, tank weight reduction, improved armor protection, and a microcooling system.

(U) Automatic Test Equipment - Second Generation Tests. The fiscal year 1981 procurement of the Simplified Test Sets (STE-M1) was for 54--initially $8.2 million, and 56--fiscal year 1981 supplemental budget of $5.6 million, for a total of 110 sets. The fiscal year 1982 procurement was expected to be for 120 sets at an estimated cost of $12 million. A letter contract was signed in November 1980 to procure 10 Direct Support Electrical System Test Sets (DSESTS) for $2 million and the fiscal year 1981 supplemental budget added 10 more DSESTS at another $2 million estimated cost. A Basic Ordering Agreement (BOA) was signed in July 1981 at ARRCOM to provide 20 Thermal Systems Test Sets (TSTS) at an estimated cost of $6 million.

(U) Reliability, Availability, Maintainability and Durability (RAM-D). RAM-D efforts were funded in fiscal year 1981 as a part of the STS contract. The fiscal year 1982 effort was estimated at $8 million under a Basic Ordering Agreement contract awarded 30 September 1981.

(U) Contractor Depot Support (CDS). All but three contract lines (CLIN) of this letter contract were finalized during fiscal year 1981. Difficulty in obtaining bilateral agreement delayed the total definitization. Commodity commands were to let replacement DCS contracts with prime and subcontractors such as BOAs as the CDS contract expired.

(U) Long Lead Procurements. Contracts were placed during fiscal year 1981 for long lead items and components to support fourth year tank production. Engine long lead items were contracted in April 1981 for $25 million; transmissions in October 1981 for $6 million; tanks in March 1981 for $55 million; and fire control by ARRCOM in March 1981.

(U) Abrams Fire Control. The PM decided in fiscal year 1981 to pursue a second source for components of the fire control system. These included the Commander's weapon site and gunner's auxiliary site by Kollmorgen; the ballistic computer by the Canadian Defense Corporation; the thermal imaging system and laser range finder by Hughes Aircraft; and the line of site data link by Singer-Kearfott. RFPs were expected to be released in early fiscal year 1982 for an educational buy of 150 sets for delivery starting August 1984. A contract award was expected early in the first quarter of fiscal year 1983. This action was a joint Abrams PMO/ARRCOM action.

(U) Abrams Turbine Engine. Actions began this fiscal year to find a qualified potential second source for the turbine engine. A two step process was programmed which included the procurement of production analyses with supporting price data from up to seven other sources. The Project Manager would proceed with step two if the results of step one indicated that a second source would be beneficial, then step two would involve contracting with the source at a fixed price for 110 engines in an educational buy.

Financial

(U) Research, Development, Test and Evaluation Appropriation (RDTE). The 105mm Abrams fiscal year 1981 program authority in the amount of $51.5 million was provided to finance contracts for System Technical Support, RAM-D growth, Depot Maintenance Work Requirement (DMWR) Development, Armor Improvement, and the continuation of development of test sets and training devices as well as related in-house effort including the conduct of DT/OT III.

(U) The Vice Chief of Staff, Army (VCSA) approved the Block Improvement Development Program and redesignated the M1E1 tank system nomenclature to include those improvements (Improved Armor, Nuclear, Biological and Chemical (NBC), Crew Micro-Cooling, Weight Reduction, and Suspension and Transmission/Final Drive Upgrade). Of the $16.0 million program authority received by the PM, $15.3 million was released to Chrysler Defense Incorporated for the concept design phase of the incorporation of product improvements into the M1E1 tank system. The remaining funds supported related in-house government requirements.

(U) The fiscal year 1981 Tank Gun Integration Program authority received by the PM was $31.8 million. Of this amount, $16.2 million was released to Chrysler Defense Incorporated for FSED. The remaining program was released to Honeywell International for ammunition procurements and to various government activities for required program support.

(U) Army Procurement Appropriation (Weapons and Tracked Combat Vehicles). The fiscal year 1981 program authority totaled $1.6 billion, which included a supplemental authority of $437.0 million. This amount consisted of $1,105.1 million for vehicles, BII, STS, and Auxiliary Services; $178.7 million for Initial Production Facilities (IPF); $133.9 million for Advance Procurement of hardware items in support of fiscal year 1982 vehicle requirements; $8.4 million for training components; and $159.0 million for Production Base Support (PBS). During fiscal year 1981, the PMO received permission to begin full scale production. A production contract for 569 vehicles for third year procurement was completed with Chrysler Corporation. The System Technical Support (STS) contract with Chrysler Corporation was funded for $155.4 million for 29½ months in accordance with the full funding concept. The on-going IPF and PBS contracts were increased by $151.8 million and $139.5 million respectively.

(U) Operation and Maintenance Army (OMA) Appropriation. The fiscal year 1981 Approved Operating Program (AOP) was $9.7 million. During fiscal year 1980, $.6 million was contractually awarded to procure repair parts that would support the vehicle hand-off warranty period. Another $4.8 million was awarded to Chrysler Corporation for depot type operations under a Contract Logistics Support Concept. The remaining AOP for $4.3 million paid for 130 manyears with PM, Abrams which was used to support program mission.

CHAPTER V

EQUIPMENT AND MANAGEMENT

Communications Systems

Introduction

(U) The US Army Communications Systems Agency (USACSA) Project Manager, Defense Communications Systems (DSA) (Army) was established in 1967 as a joint US Army Materiel Development and Readiness Command/US Army Communications Command (DARCOM/USACC) project management activity at Fort Monmouth, New Jersey, with the full-line authority of Commanders of both DARCOM and USACC.

(U) In fiscal year 1981, the USACSA Commander, as the Project Manager DCS (Army), reported directly to the Commanding General, DARCOM, concerning management of those functions derived from AR 10-11. These functions included research and development planning, product assurance, configuration management, and type classification. They also included materiel management, integrated logistics support, engineering, initial production facilities, procurement and production, and distribution. As the Commander of USACSA, a major subcommand of USACC, he reported to the Commanding General, USACC, concerning management of those functions derived from AR 10-13, such as system engineering, programming and budgeting, overseas contract administration, installation and on-site test and acceptance.

(U) A DA-directed study in 1972 resulted in the triple-hatting of the USACSA Command/Project Manager as the Commander, US Army Communications-Electronics Engineering Installation Agency (USACEEIA). In this capacity, he was responsible for system engineering; installation; test and acceptance of worldwide systems; Army-wide telecommunications automation development and maintenance; worldwide radio propagation engineering services; and Army-wide electromagnetic compatibility engineering services.

Mission

(U) The mission of USACSA/PM DCS (Army), was stated in its charter, signed by the Secretary of the Army, 19 August 1981, and is briefly paraphrased as follows:

> It is charged with the centralized management of specified communications systems development and/or acquisition tasks assigned by DARCOM; and tasks assigned by USACC which include Defense Communications Systems (DCS) projects assigned to the Army, projects that relate to purely Army requirements, to requirements for other US military departments and non-military US Government agencies, as well as requirements for allied armies and governments.

(U) The Product. Essentially, the agency's product was nontactical telecommunications projects assigned to the Army for acquisition. These were of two types: research and development (R&D) projects and systems/equipment acquisition.

(U) Research and Development (R&D) projects were assigned to the agency by DARCOM, which also provided the appropriate RDT&E funds. These projects usually consisted of feasibility studies and similar undertakings assigned to this agency's Deputy Project Manager for Research and Development Systems.

(U) Systems/Equipment Acquisition. These projects represented about 95 percent of the agency's workload, and nearly all of these tasks were assigned to Deputy Project Managers for centralized management. They ranged from the acquisition of a single piece of equipment to the acquisition and installation of an inter- or intra-country, or even global telecommunications system.

(U) Practically all systems or equipment acquisition tasks were assigned to the agency by USACC, which also provided the appropriate funds such as procurement, Army funds. It was normal USACSA practice to acquire, deliver, and install these systems or equipment through contracts with US industry using the existing DARCOM procurement office organizations, as well as other DOD procurement offices as the peculiarities of an individual task might dictate. The acquisitions were fulfilled by what was called off-the-shelf equipment, such as existing equipment in industries or the Government's inventories, or by modifying existing equipment for a specific telecommunications system or purpose.

(U) USACSA did not own any telecommunications systems or equipment assets. Instead, it had acted as an agent in the sense that it acquired and installed systems and equipments, and when accepted, turned the systems or equipment over to the local O&M commander. The system or equipment then became part of his inventory.

(U) Sensitive to its life cycle responsibilities for the equipment it acquired and fielded, the agency managed all matters pertaining to integrated logistics support. In addition, USACSA operated an Inventory Control Point for OPA and APA principal items peculiar to USACSA centrally managed systems, projects and tasks.

(U) During fiscal year 1981, 209 new tasks were received and 144 tasks were completed. At the end of the fiscal year, 300 active tasks were on hand, of which 98 were classified as major, requiring intensive management.

(U) In the course of implementing these many tasks, all disciplines in the communications-electronics field were used. This was because USACSA

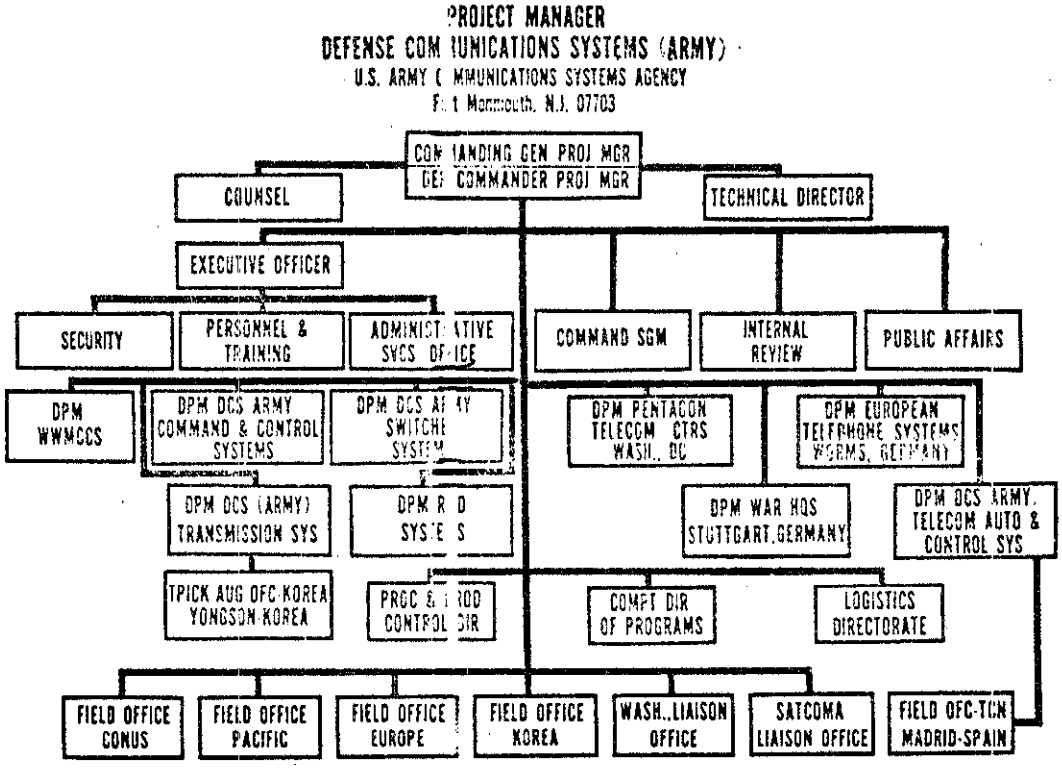
was involved in virtually every area for which USACC was responsible, except the operation and maintenance of facilities. Practically all means of transmission were employed, such as microwave line-of-sight, tropospheric scatter, satellites, land and sea cables, and high frequency radio. These means were used to furnish all modes of communications--voice, data, etc. Computer processor controlled automatic switches and terminals were also employed in many subsystems; and the agency was deeply involved in the improvement of Army Air Traffic Control facilities at airfields worldwide.

(U) Organizational Structure. During fiscal year 1981 the agency's organizational structure, except for minor adjustments, remained relatively unchanged. Organization strength at the end of FY 1981 was as follows:

Personnel Strength

	DARCOM				USACC				TOTAL			
	O	E	C	T	O	E	C	T	O	E	C	T
Authorized	14	7	130	151	31	53	163	247	42	60	293	398
Actual	9	9	127	145	25	42	159	226	34	51	272	357

O - Officer E - Enlisted C - Civilian T - Total



Fiscal Year 1981 Achievements

(U) In his 1980 White Paper, Army Chief of Staff, General E. C. Meyer stressed that equipping and modernizing the Total Force was one of his key objectives. Within this context the following USACSA/PM Defense Communications Systems (DCS) accomplishments contributed to this goal by acquiring and providing modern equipment to the Army.

(U) USACSA/PM DCS began and completed the elements of the Combined Forces Army Command and Control Communications Bunker required for the Ulchi Forces Lens exercise; and it completed Project Kunia. The performance assessment of the Territorial Command Network in Spain was completed, and also the acquisition actions for the Fort Hood Telephone Switching System Upgrade.

(U) In the area of Army Airfield Upgrades, USACSA/PM DCS completed the Giebelstadt Air Field and started many more. Project Indocom actions were finished, and it began a number of research and development projects such as the Korean Fiber Optics Risk Analysis and the DSN Access Area design alternative analysis. The ECCCS Upgrade Project was essentially complete as was the contractual portion of the Near Term European United Command (EUCOM) High Frequency (HF) Upgrade Program.

(U) A number of initiatives were made to ensure delivery of actually available commercial equipment instead of new developmental items from contracts for commercial equipments.

(U) In fiscal year 1981 USACSA achieved the highest OPA funds obligation rate in its history.

Functional Elements

(U) Obligation of the USACSA Funding Programs. During fiscal year 1981 the USACSA Comptroller/Director of Programs controlled funds in excess of $200 million covering the four separate appropriations of OPA, APA, RDTE, and OMA.

(U) The Other Procurement, Army (OPA) Program remained the major funding program of USACSA. In fiscal year 1981, the total Army and Customer Program was $137 million. The Army Procurement Appropriations (APA) for Army airfields amounted to an additional $3 million, while direct citation of customer funds added $37 million for a total procurement program of $177 million. The USACSA RDTE program exceeded $9 million in fiscal year 1981, with over 94 percent of this program awarded, which exceeded by 3.7 percent prior year's obligation rate.

(U) Management of Operations and Maintenance, Army (OMA) contractual requirements accounted for $15 million. Once again over 99.9 percent of the OMA program was obligated.

(U) Seventy-seven percent of the OPA-APA program was awarded during fiscal year 1981. This marked the second consecutive fiscal year in which USACSA achieved the highest rate of obligation in its history.

(U) The OPA program incurred turbulence in major areas such as the Digital European Backbone (DEB), new ESS Dial Central Offices (DCO) Fort Hood, Transmission Media, and Worldwide Military Command and Control Systems (WWMCCS). Late definition and program realignment in the Philippine Communications Upgrade efforts further restricted the agency's ability to obligate.

(U) The OPA program for the next five fiscal years indicated a continuation of major items such as the European Telephone System, Transmission Media, Worldwide Technical Controls, Army Telecommunications Automation Program (ATCAP) and Command and Control Projects.

(U) Management Improvements. During fiscal year 1981, the primary purpose of the FEP program was to establish a common baseline for the development of the Technical Requirements Package and the Acquisition Package, and to identify significant problem areas that might affect their preparation.

(U) As part of this FEP a unique milestone reporting system was developed. Major milestone data was entered into a data bank and its resultant output provided a separate Command Report identified as the "Command Front-End Progress Report."

(U) Also during fiscal year 1981, management representation at bid evaluation conferences was provided to insure correct interpretation and evaluation of the management requirements contained in acquisition related documents. During fiscal year 1981, two such evaluations were performed.

(U) In conjunction with US Army Materiel Development and Readiness Command headquarters, the Management Information Control Officer initiated a study of management systems, procedures and reports that had outlived their usefulness but were still consuming DARCOM dollars and resources. Eighteen potential candidates were selected to be considered for elimination or merger with other DARCOM systems or reports. These candidates were submitted to DARCOM in January 1981; and DARCOM initiated an intensive review of all reports as of yearend fiscal year 1981.

(U) The following management information requirements were defined with systems implemented during fiscal year 1981: (1) Implementation of a task inventory system which received ADP information summarized into major USACSA organizational elements. This effort was made possible by a successful analysis of the agency which was tasking flow and the design of pertinent standard tasking Disposition Forms (DF) formats. (2) Expansion

of the Other Procurement, Army (OPA) status report to provide standard worksheets for the Commander's monthly OPA reviews; a specialized Project TPICK Report and several other modifications and additional products were designed to increase command visibility. (3) Acquisition and installation of FIVOT/DIVOT, an on-line interactive procurement work directive creation system operation, directly into the CCSS (Commodity Command Standard System). (4) Utilization of the Harris terminals in the full screen environment to generate tasking and responses and concurrently update the master task inventory file. (5) Software was developed to permit individual action officers to build PMS PERT networks at Harris terminals using local minicomputer programs. The data could then be transmitted to an IBM host for processing; and finally, the results could be displayed on the Harris operating as an IBM 3270 terminal.

(U) During the last quarter of fiscal year 1981, a complete revision of the CSA PERT Manual was completed. This manual included all necessary instructions to create networks, load them to PMS IV, and manipulate the necessary data to generate specialized output products.

(U) The upgrading of hardware and software continued by purchasing principally two items of leased equipment.

(U) First, USACSA became an active user of the Fort Monmouth Message System (FMMS) which was a version of electronic mail. In fiscal year 1981, FMMS was limited to CONUS use with USACSA elements at Fort Monmouth and Fort Huachuca. However, early in fiscal year 1982, the USACSA Deputy Project Manager for European Telephone System would be brought on line to provide a real time data and written word link with agency elements in Europe.

(U) Second, the joint acquisition of an integrated hardware-software system capable of satisfying the agency's word processing requirements was made in fiscal year 1981, and a Research and Development (R&D) need to investigate certain effects of a communicating administrative system on communications circuits was established. The system, one of the significant accomplishments of fiscal year 1981, was state-of-the-art and expandable.

(U) Other planned fiscal year 1982 developments included a System Two Thousand data base, to support all manpower, personnel and training information requirements to include automatic generation of known reporting requirements. In addition, the Master Task Inventory, OPA Status, MILSCAP, and APARS files were merged into one data base to provide one central depositing of workload, financial, procurement and vendor information.

(U) Cost Analysis Program. A large portion of the fiscal year 1981 Cost Analysis Office workload was centered around World-wide Military Command and Control Systems (WWMCCS) projects. These were near term high frequency (HF) upgrade, ECCCS, Joint Crisis Management Capability (JCMC 2/3) and to a lesser extent Mid-Term Regency Net. Activity included development of the Independent Government Cost Estimate, Review and Analysis of Cost/Schedule Status Reports, review and evaluation of the reasonableness of the Near-Term contractor's cost proposal, attendance at Acquisition Requirements Review Committee meetings, and participation in contractor cost negotiations. Although Near-Term and ECCCS were in their final stages, it was expected the JCMC and Mid-Term Regency Net, plus the potential for newly assigned programs, would provide a high level of activity in the WWMCCS areas during fiscal year 1982.

(U) Major activities in which the Cost Analysis Office was involved during fiscal year 1981 were: Cost Estimating and Economic Analysis - Fort Hood Telephone Switch Upgrade; Joint Crisis Management Capability; Fort Ritchie MP Switch; Xerox color copier - lease versus buy. Another major activity of the Cost Analysis Office was in Cost Proposal Evaluation - near term HF; red cloud switch; digital switched network area acquisition; AN/FTC-31 and European Command and Control Console System (ECCCS). Additional involvement included Cost Assessment - DCS facilities prototypes; future DCS LOS radio and multiplex; Army RDT&E support of the DCS. Another activity in which the CAO was involved was Cost/Schedule Status Report - AUTODIN upgrade; European Command and Control Console System; near term HF; MD-918. There was also involvement in Acquisition Requirements Package Review - Joint Crisis Management Capability; DCS orderwire; Visayas-Bicol - DCS Power Systems, 8 GHz antennas, 1.7 to 2.3 GHz antennas; Fort Ritchie EPABX. There were also cost negotiations such as Call Director Sets; Near Term HF; and AUTODIN upgrade.

Logistics

(U) Type Classification Review. The USACSA Type Classification Program, initiated in September 1969, continued in fiscal year 1981, to achieve the objectives of AR 70-61, "Type Classification of Army Materiel." Formal type classification In-Process Reviews (IPR) continued to be scheduled. Written concurrences were received from US Army Communications Command, US Army Logistics Evaluation Agency, and US Army Training and Doctrine Command on 14 type classification actions. Nine systems/equipments were type classified standard (LCC-A) and five were changed from standard to obsolete. In addition, four errata sheet changes were submitted to change National Stock Number (NSN) or downgrade classification from LCC-A to LCC-B.

(U) During the fiscal year, type classification action on two systems was suspended pending guidance from DARCOM on changes initiated during this fiscal year. An IPR was not convened because the problem was recognized to be beyond the ability of the voting members to resolve.

(U) In fiscal year 1981, there were 108 systems/equipments awaiting type classification, 55 of which were technical control facilities affected by the suspended program. Equipments required for major programs or systems such as Digital Radio and Multiplex Acquisition (DRAMA) and Worldwide Technical Control Improvement Program were included in the schedule.

(U) USACSA processed 93 DD-61 actions for nomenclature during fiscal year 1981.

(U) Product Improvement Program. The Product Improvement (PI) Program, established by AR 70-15 provided the procedures for obtaining approval and funding for configuration changes which involved substantial engineering or modification of existing fielded Army/Tri-Service equipment, and were type classified standard or limited production.

(U) The execution of an approved PIP was accomplished by publication of a DA Modification Work Order (DAMWO). In January 1976 Department of the Army directed that all future retrofit actions be accomplished under an approved PIP.

(U) Digital Subscriber Terminal Equipment (DSTE). Under the DSTE Upgrade Program, General Dynamics Corporation was awarded a contract in March 1975 to provide three DSTE product improvements. The three DSTE PIPs were approved by DARCOM for implementation to provide improved tape supply slide for low/high speed paper tape punches scheduled for field application and to provide cooling fans for the low speed paper tape punches. At the close of fiscal year 1981, most field modifications had been completed.

(U) AN/GSQ-166 and AN/MSQ-73 Transportable Technical Control Facilities (TCF). This PI Program combined the two TCFs into a single 26 foot trailer providing a more efficient facility by expanding mission operation, circuit operation, and circuit monitoring capabilities. In fiscal year 1981, application was made by Sacramento Army Depot (SAAD), California, using an engineering implementation plan developed by USACEEIA. Ten systems were scheduled for modification, and development of the prototype was completed and undergoing final system testing at SAAD. USACSA was tasked to evaluate the feasibility of downsizing these critical transportable C-E systems, which was accomplished. However, plans to repackage the TCF into two S-280 shelters were rejected because of time and cost. During the fiscal year the project was in a hold situation.

(U) AN/GTC-29 (V)2 Transportable Automatic Voice Switching Facility (AVSF). This product improvement provided for the installation of line conditioning equipment for 20 circuits in the AVSF , and was expected to improve reliability and quality of transmission with technical controls and other communications facilities located some distance away. Additional funds were reprogrammed from other projects to complete this product improvement at Tobyhanna Army Depot. During the fiscal year, the AVSFs were undergoing final system testing.

(U) AN/TSC-38B Communications Central Housed in a Transportable S-414. The system consisted of four functional subsystems: the radio subsystem; telephone subsystem; voice frequency telegraph subsystem; and teletype subsystem. This product improvement was expected to provide the AN/TSC-38B with a low-level signaling capability to the teletype subsystem to prevent emanating signal transmissions. In addition, recabling and equipment standardization would improve reliability and maintainability. During fiscal year 1979-1981, 16 systems were completed.

(U) AN/TSC-25 Communications Central Housed in a Transportable S-141 Shelter. In fiscal year 1981, this system functioned as a high frequency radio set which provided the transmission media for teletypewriter and voice communications. This product improvement provided low-level signaling capabilities to existing teletype. It also replaced antenna mast AB-746 with the AB-577 antenna mast in order to improve received signal levels at antenna and insure mission operation and capability. SAAD completed 14 systems during fiscal year 1979-1981 with the remaining six systems scheduled for completion during fiscal year 1982.

(U) AN/FTC-31(V) Dial Central Office Switch. This switch was designed and fabricated by Philco Ford in mid-1960. In fiscal year 1981 there were twelve AN/FTC-31 switches installed worldwide, and proposed product improvement was expected to enhance the operational reliability and maintainability of the AN/FTC-31(V). This project was completed in the third quarter of fiscal year 1981.

(U) Expense Versus Investment Realignment. Realignment of 764 USACSA managed items from Procurement Appropriation (PA) funded to either Procurement Appropriation Secondary II, (PA II) or the Army Stock Fund (ASF) was scheduled for 1 October 1981 (fiscal year 1982). Concurrent with the appropriation changes, these items would be transferred to Communications-Electronics Command (CECOM) for item management.

(U) Expanded use of Computer Terminals. In May 1981 USACSA became the first Fort Monmouth activity to successfully use the Data Entry via On-line Terminal (DIVOT) system. This system allowed the entry of Commodity Command Standard System (CCSS) Procurement Work Directives through a remote terminal. It also permitted reduction of keystrokes by about 50 percent, and simplification of input document preparation, which resulted in fewer errors and quicker processing turnaround. By the end of fiscal year 1981, it was anticipated that essentially all USACSA CCSS PWDs would be entered with DIVOT, contingent upon installation of a dedicated terminal.

(U) The Materiel Readiness Branch also acquired a Texas Instrument "Silent 700" portable remote terminal in June 1981, which was used to obtain requisition status from the Logistics Intelligence File (LIF) of the Logistics Control Activity (LCA) at Presidio, California. Near-instantaneous availability of status on USACSA requisitions was available in fiscal year 1981, and action was in process to obtain authorization to access additional data bases with this terminal.

(U) Bill of Material for Telecommunications Development Projects. Telecommunications Development Projects were those projects authorized under the provisions of AR 105-22 for resource acquisition or expenditures for the installation, modification, rehabilitation or removal of telecommunications services, equipment, facilities, networks or systems. USACSA was responsible for acquiring materials required for most of these telecommunications development projects.

(U) In fiscal year 1981, the Logistics Directorate monitored acquisition for 325 Bills of Material comprised of approximately 21,743 line items, which represented worldwide project support. In FY 1981, 404 project Bills of Material were shipped, representing a total of 15,012 line items.

(U) Test, Measurement and Diagnostic Equipment (TMDE). The System Support Division, TMDE Management Branch, provided centralized acquisition management for USACC and USACSA TMDE requirements in FY 1981. TMDE requirements were generated from five basic sources which included: new Communications-Electronics (CE) systems being fielded to USACC by USACSA or other services; upgraded or modified CE systems; new or additional USACC maintenance missions; reconciliation of authorized TDA shortages as directed by USACC; and Foreign Military Sales programs.

(U) TMDE was an integral part of the logistical support concept for all CE systems and projects. During the past fiscal year, 80 taskings, representing 1,000 lines of TMDE costing a total of $4.3 million, were processed.

(U) While formal tasking and follow-on actions constituted a large part of the work load, the TMDE Branch was interactive with other Logistics Directorate and deputy project manager offices on all matters concerning TMDE. In fiscal year 1981, documents reviewed by the TMDE Branch included Material Fielding Plans, type classification IRP, TMs, new equipment introduction plans, and other ILS documentation. USACC TMDE excess lists were screened for items which had been known for future forecast requirements.

Procurement and Product Control

(U) Product Assurance. The Product Assurance Division (PAD) provided support in the areas of quality assurance, test and evaluation, reliability, maintainability, system safety, production engineering and human factors during fiscal year 1981. It was also responsible for coordination of all materiel release activities.

(U) Primary PAD involvement began with the review of the project tasking Communications-Electronics Mission Orders and continued through the materiel acquisition cycle to government acceptance of the contractor's supplies and services.

(U) The major activities involved technical specification; statement of work and purchase description reviews; acquisition requirements package preparations; and contractor technical proposal evaluations. Each of these emphasized the quality assurance provisions, Reliability and Maintainability (RAM), and testing requirements. Continuous coordination was maintained, including pre-solicitation and post-award conference participation.

(U) During the contract administration phase, contractor submitted inspection test procedures and RAM predictions were evaluated, first article inspection results were analyzed, and appropriate plant and site contacts were made to survey the contractor's quality assurance (QA) efforts as a joint effort with the delegated Contractor Administration QA representative.

(U) All but a few USACSA assigned projects involved the Product Assurance Division. The following projects required and received extraordinary emphasis: DRAMA, Low Speed Time Division Multiplexer, Air Traffic Control (ATCCSS, TVOR, Radomes), AN/FTC-31 Enhancement, MD-918 MODEM, Fort Hood Telephone Systems, Electronic Private Automatic Branch Exchanges, (Site R, KATS, Red Cloud Bunker, BASCOM 82), NICS-TARE and several major sub-projects of the WWMCCS Program.

(U) Prior to 1978, materiel acquired for the US Army Communications Command was exempt from the DARCOM Materiel Release Program. When the exemption was withdrawn, management of this effort within the agency was assigned to the Logistics Directorate. Late in the previous fiscal year, the management was transferred to the Procurement and Product Control Directorate (P&PC) and assigned to the Program Analysis (PA) Division, which prepared the required annual forecast and processed each required quarterly update. Each deputy project manager was provided assistance in preparing the forecast input and in preparing Materiel Release Package for local release recommendation and DARCOM release approval. During the year, one conditional release (MX-10107/F) and one full release (AN/TSQ-117) were approved.

(U) Procurement Services Division. The Procurement Services Division (PSD) served as the agency focal point for acquisition management guidance. Department of Defense and Army acquisition management directives and policies were reviewed, implemented, and used as guides in the preparation of Acquisition Requirements Packages. During fiscal year 1981, 25 final packages were reviewed with an estimated value of $99 million. A review of all Sole Source Statements was also conducted and, during the fiscal year, 121 were reviewed having a total estimated value of $17.7 million.

(U) A significant milestone occurred with the writing of the "Development and Review of Acquisition Requirements Package (ARP)," an internal regulation, which provided detailed instructions to agency

personnel on how to process an acquisition package. A major effort was undertaken during the fiscal year to compile and publish a USACSA Contracts List. It provided management with a listing and status of active contracts managed by various deputy project managers and functional directorates. Policies and procedures were also developed for cataloging, accumulating and disseminating lessons learned so that agency personnel could benefit from the experience of others.

(U) Data Management Office (DMO). In fiscal year 1981, the Data Management Office provided advice and support in the area of data management, as well as the application of specifications and standards to USACSA acquisitions. A total of 25 Acquisition Requirements Packages were reviewed and tailored to provide the minimum essential data to the Government and to eliminate cost driving requirements that were non-essential. Each package was reviewed at different stages of development to ensure compliance with necessary directives.

(U) Two classes on Data Management and the Application of Specifications and Standards were taught to agency personnel, which were geared to the practical application of these disciplines to the assembling of the Acquisition Requirements Package. During the fiscal year a major accomplishment was the elimination of the Management Systems Summary List, DD Form 1660, from all acquisitions because it did not serve any meaningful purpose. The action was initiated by the DMO on 16 March 1979, and persistent follow-up action finally resulted in its elimination, saving the Army substantial manhours and dollars.

(U) Configuration Management Division. The Configuration Management (CM) Division provided policy, direction and guidance in the implementation of the USACSA Configuration Management Program during the fiscal year. The judicious application and unique tailoring of CM to each specific project resulted in approval of only those change proposals that provided significant benefit to the Government.

(U) Ten Configuration Control Boards (CCB), chaired by division personnel, were activated for the review and evaluation of miscellaneous engineering change proposals, equipment improvement recommendations, requests for deviations/waivers, and suggestions. The following Configuration Control Boards were active: Automatic Secure Voice Communications Systems, Digital Radio and Multiplexer Acquisition, European Telephone System, Standard Remote Terminal, Automatic Digital Network, USACC Communications-Electronics Transportable Systems, Joint Crisis Management Capability 2/3, and Fort Hood Telephone System Upgrade.

(U) Also in fiscal year 1981, Configuration Management plans for the following projects were prepared, coordinated, and published: Enhancement of the European Command and Control Console System; US/European Command Near Term High-Frequency Radio Upgrade; and Fort Hood Telephone System Upgrade. Previously published CM plans were revised consistent with the development of new data. The revision of CM plans was a continual action accomplished as required during the fiscal year.

(U) Value Engineering (VE). The Configuration Management Division administered the USACSA Value Engineering Program, a technique which proved to be an established and versatile means for controlling or reducing costs. In fiscal year 1981, VE produced significant cost reductions through systematic function/cost analysis of products and services and subsequent elimination or reduction of cost elements not essential to the performance, reliability, quality, maintainability, and safety of the product or service. VE achieved optimum results as a management tool when applied to technical documentation, integrated logistics support, design, test, manufacture, packaging, construction, installation, and transportation.

(U) During fiscal year 1981, individual and group VE efforts resulted in $556,306 validated savings to the Department of the Army. VE orientations consisted of training in the Contractual Aspects/Principles and Application of VE.

(U) Environmental Quality. During fiscal year 1981, the CM Division also implemented the USACSA Environmental Quality Program. The primary function included the review and evaluation of technical requirements and statements-of-work for each major project or task to determine the potential environmental impact on the quality of the human environment. A one-day Environmental Quality Seminar was given to agency personnel and further training was scheduled for fiscal year 1982.

Communications Projects and Equipments

(U) Air Traffic Control Communications Switching System. Each US Army airfield or heliport had to communicate by radio with aircraft enroute or on the ground; communications were also necessary between air traffic controllers, other air services and the Federal Aviation Administration, for coordination and control. It was the function of an Air Traffic Control Communications Switching System to integrate the various communications elements into a centralized facility.

(U) Equipment used for this purpose in fiscal year 1981 was designated the AN/FSW-8 and had been in the field for about 15 years. It did not have the ability to interface and integrate all the communications functions needed for effective air traffic control. Consequently, independent subsystems were used to accomplish the needed communications functions.

(U) In February 1977, the US Army Communications Command tasked USACSA with a program to acquire commercially modified equipment that would replace various subsystems and integrate communications into a single console system. The tasking included the provision for secure voice, which later proved to be too costly and resulted in the cancellation of a solicitation in September 1978.

(U) USACSA was assigned a similar task in April 1979 to buy off-the-shelf consoles without secure voice capability. This procurement action had moved through the product identification stage and during the fiscal year was in the solicitation phase, with contract award scheduled for October 1981. It was anticipated that approximately 60 systems would be acquired over the next five years.

(U) Digital Radio and Multiplexer Acquisition (DRAMA). In fiscal year 1981, the DRAMA Program provided for the acquisition of common digital multiplexers and radios for use by the Army, Navy and Air Force. Three equipment specifications were coordinated with industry. A multi-year requirements contract was awarded to Thompson, Rams Woolridge, Incorporated (TRW) in July 1976 for the first level multiplexer, AN/FCC-98(V), which would accept 3, 6, 12 or 24 channels of voice, and combine these into a single, high-speed digital signal. Acceptance of the first production units was made in June 1978. The equipment was also compatible with the requirement of all three Services and the National Security Agency.

(U) A three-year requirements contract for the second level multiplexer, AN/FCC-99(V) and the radio, AN/FRC-170 series, was awarded to TRW, Incorporated in April 1977. Two option periods for the extension of the contract in two-year increments were priced and contained in the contract.

(U) FULDA AAF (NATO) Project. The FULDA AAF Upgrade modernized the airfield so that it would be capable of instrument flight rule operations. Thus, a control tower, additional radios, radar system, navigational equipment, meteorological equipment, cable distribution system and ETS were required. Also, additional facility construction was required to support the ATC requirements and influx of aviation equipment and personnel.

(U) The upgrade of the FULDA AAF was funded by NATO US Special Programs (USSP), with the funds being released to MOD Bonn 14 June 1979. Because local objection was made to expanding airfield operations, no authority was given to proceed toward contract award. However, the German Courts ruled in favor of the US military construction, and the OFD Frankfurt was instructed on 19 March 1980 to immediately resume actions on the NATO design for construction.

(U) Project requirements were stabilized and CEEIA-Europe was in the process of developing the schedule and Engineering Installation Package (EIP) during fiscal year 1981. In addition, land acquisition needed for the NDB and runway lighting system (ODALS) was in the negotiation stages.

(U) No project schedules had been established by yearend fiscal year 1981.

(U) Giebelstadt Army Airfield (NATO) Project. In fiscal year 1981, the project encompassed building an entire high activity airfield, including hangars, control tower, remote communications building, nondirectional beacon building and a building to house the communications center, dial central office, and space for a future microwave terminal. This field, when activated, was expected to support a battalion of Army attack helicopters and one of the most modern Army airfields in Europe.

(U) Approximately 100 items of major equipments were installed, including the new family of radios, television system, radar, nondirectional beacon, meterological system, and a complete airfield lighting system. Contract had been awarded for TCC building construction and ETS (European Telephone System) acquisition was in process. The project was 99 percent complete at yearend FY 1981.

(U) Low Speed Time Division Multiplexer (LSTDM). The requirement for the acquisition of an LSTDM was established by the Defense Communications Agency in 1977. It was expected to satisfy Tri-Service requirements for a multiplexer/demultiplexer capable of accepting incremental port rates from 36 bits per second (BPS) up to 32 kilobits per second (KBPS); and provide incremental combined channel output rates from 1.2 KBPS to 256 KBPS as a single combined channel rate.

(U) Initial requirements were for 1200 units. The contract for this project was a three-year requirements contract and was awarded in August 1980 to Dataproducts New England, Incorporated.

(U) Minimum Essential Emergency Communications Network (MEECN) Army Phase II. The overall MEECN Program included designated Worldwide Military Command and Control Communications Systems assets used to communicate with US Forces. The MEECN Phase II Program was expected to be a highly survivable low frequency/very low frequency communication system, and provide reliable and secure transmission to designated DOD users.

(U) By fiscal year 1981, the installation at the Alternate National Military Command Center of two teletype modulator interface units and installation of the low frequency buried antenna were completed. The transportable configuration prototype of radio receiver sets were completed and tested; and termination of centralized management was expected to be completed upon installation of the MEECN Message Processing System.

(U) Non-Directional Beacon Program (NDB). This program was expected to provide non-directional beacon facilities to serve Army aviation requirements worldwide in fiscal year 1981. The NDB facilities to be provided consisted of non-directional beacon, Federal Aviation Administration FA-9782, antenna system, monitor alarm receiver, and shelter.

(U) The monitor alarm receiver was installed in the control tower to provide continuous status of the NDB. The unit provided an aural and visual alarm if the NDB failed to meet pre-set standards.

(U) Three contracts were awarded for NDB equipment: One on General Services Administration (GSA) Schedule to purchase transmitters (beacons) ATUs and antennas. The second was a sole source contract for data to support the GSA Schedule items and transmitter changeover units to be used at dual transmitter sites in Europe. The third was a competitive contract for the monitor receivers which included hardware and data. Initial requirements were for 80 sites located in CONUS, Europe, Turkey, and Japan. The CEMO was amended December 1979, increasing the requirements to 90 sites.

(U) All NDB equipments were on contract to Nautel, Maine, Incorporated, and had been delivered to Sacramento Army Depot. In addition to the above, 40 fiberglass shelters were procured and delivered by Grasis, Corporation. Installation with full logistic support was scheduled to start in March 1982 and be completed later that year.

(U) Pilot to Forecaster, Flight Following and Advisor's AAF/AHP Project. In fiscal year 1981, the objectives of this ground C-E/NAVAIDS Project, which consisted of installation efforts at 57 worldwide locations, had three objectives. It would provide for the control of VHF/UHF and FM radio transmitters and receiver equipments from remotely located operators' positions at a given Army airfield or heliport or Flight Control Center (FCC) location and for Pilot Meterological Services at any AAF (Army Airfield), AHP (Army Heliport) or FCC (Flight Control Center) facility. It would modernize some, but not all, Flight Control Centers with new equipment such as radios, table top consoles, a recorder/reproducer, as determined by the CEEIA engineers; and it would provide for the total ground C-E/NAVAIDS modernization of an advisor AAF/AHP facility which would include equipment such as new radios, antennas, recabling, grounding, meteorological services, and recorder/reproducer. The table top console was only a small part.

(U) A General Services Administration contract for the table top consoles, GRM's Model #TTC-8-800, and associated subassemblies was awarded to GRM Corporation, Medford, New Jersey, in September 1979. Subsequently, a provisioning contract for full logistics support was awarded to GRM Corporation on 21 March 1980.

(U) Standard Modular ATC Tower Project. In fiscal year 1981, this project called for the replacement of outdated and/or inadequate control towers with a six-story modular tower plus cab at eight Army Airfields (AAF). Tower construction was an MCA project managed by Corps of Engineers. Installation of communications and electronics equipment had been completed at five AAF facilities which had been commissioned and were operational at yearend FY 1981.

(U) New towers were constructed at Godman and Libby Army Airfields and C-E installation materials were being acquired. C-E equipment, installation, test and acceptance, and commissioning should be accomplished during fiscal year 1982.

(U) Terminal VHF Omni-Range (TVOR) Project. The Terminal VHF Omni-Range (TVOR) Project was expected to provide modern TVOR facilities at 26 sites including 23 in the continental United States, two in Europe, and one in Korea. The TVOR facility consisted of a transmitter, antenna, monitor, shelter, and automatic terminal information service equipment. The system was expected to provide azimuth bearing information to aircraft; transmit assigned call letters for identification in the form of an audible three-letter international Morse Code; and broadcast weather and advisory information without disrupting the navigational signal. The TVOR station would be continuously monitored by a field detector unit.

(U) A contract for the TVOR was awarded to E-Systems in September 1977; and all TVORs and Automatic Terminal Information Service equipment was delivered to the sites. Installation of the TVORs began in June 1979 and was expected to continue as site preparation was completed. Installation of communication and electronic equipment was completed at 23 facilities, 15 of which were commissioned by the Federal Aviation Administration

European Telephone Systems

(U) In fiscal year 1981, the objective of the European Telephone Systems (ETS) Project was to consolidate and upgrade existing telephone switching facilities to modern state-of-the-art electronic digital switching equipment serving US forces in Europe.

(U) In December 1976, the German Minister of Defense asked the Secretary of Defense to consider allowing the Federal Minister of Posts and Telecommunications to satisfy the US ETS requirements. Negotiation between governments at the cabinet level, with the US Army representing DOD, resulted in a Memorandum of Understanding (MOU) formally agreeing to this proposition. The MOU, signed in November 1978, established a ceiling price of 186.2 million Deutsche Marks (DM) for the procurement of 112 US Army switches. The actual agreement to proceed with the ETS Project was signed in Bonn, Federal Republic of Germany, between the two governments on 15 April 1980.

(U) In fiscal year 1981, Siemens AG, Munich, was the prime contractor for manufacture and installation of the switches for the DBP, and KN-101 electronic switch was developed by Siemens for use in the ETS network.

(U) During fiscal year 1981, site surveys were conducted at Frankfurt, Munich, Kaiserslautern, Giebelstadt, Stuttgart, and Heidelberg. In August 1981, the Garlstadt switch was cutover to operation, and the official ribbon-cutting ceremony was held 3 September 1981.

Pentagon Telecommunications Centers

(U) In fiscal year 1981, the Pentagon Telecommunications Centers Project provided for the development, engineering, acquisition, installation, tests, and cutover to operation of a consolidated telecommunications center system. It was designed to support communications requirements of the Joint Chiefs of Staff (JCS) and the headquarters of the Department of the Army, Navy, Air Force in the Pentagon, and the Commandant of the Marine Corps and the Chief of Naval Personnel in the Arlington Annex, plus other subscribers in the National Capital Region. The system would consist of four major elements: a central computer complex (CCC) located in the Pentagon; an alternate central computer complex (ACCC) with capabilities equivalent to the CCC at Site R; four staff service centers (SSC) and remote terminals.

(U) The most recent significant achievements included delivery, installation, and incremental cutover of a Multiple Automated Printing System (MAPS) with final cutover occurring during May 1981. MAPS provided an automated message reproduction and collating capability which replaced existing printing presses, thereby automating one of the most labor intensive areas of message processing and handling. In fiscal year 1981, the capability was expanded to include the Site R locations. The JCS Telecommunications Centers in the Pentagon and at Site R and the ACCC were cutover on 14 December 1980.

(U) Site preparations were completed during May - June 1981 for the ACC and Site R SSC locations. The commercial and auxiliary power upgrade supporting the CCC was completed 18 January 1981. The upgrade of the uninterruptible power supply (UPS) system supporting the CCC and the two SSCs in the Pentagon was completed on 5 June 1981. With these actions, all major site preparation activities were completed.

(U) Transition to Operation and Maintenance (O&M) was expected to occur with the successful implementation of new hardware and associated software upgrades.

Research and Development Systems

(U) Alternate Power Sources for DCS LOS Radio Sites. In fiscal year 1981, the objective of the project was to evaluate the feasibility of using commercially available solar cells, wind and thermoelectric generators, and batteries and control logic to provide a reliable power source for unattended DCS LOS radio sites. A test bed was established at USAEPG, Fort Huachuca, Arizona, and installation of the alternate power sources at the test bed was completed in September 1981. Test and evaluation activities started in September 1981.

(U) Defense Switched Network Access Area (DSNAA). The DSNAA task included the concept formulation and validation of voice and data switching system architectures for the DCS Access Area environment.

The objectives were to provide reduced Operation and Maintenance cost, increased communications survivability, and the provision of evolvable network, which could evolve through technological advancements.

(U) During fiscal year 1981, Western Electric and GTE were awarded competitive contracts for the conceptual development of the Access Area environment. Functional and performance specifications, transition and acquisition strategies, and plans for validation testing were under development. Telephone Management and Distributed Switching equipment was installed and placed into operation to evaluate Automatic Message Accounting/Least Cost Routing Techniques and the extent to which distributed switching could be implemented by placing Remote Subscriber Units near the telephone subscribers. In addition, acquisition of two Demand Assignment Multiple Access (DAMA) satellite terminals was initiated for evaluation of this network alternative for DCS.

(U) DCS Facilities. In fiscal year 1982, this project was expected to develop design recommendations to enhance the survivability of selected DCS facilities. As Project Manager, USACSA tasked the Huntsville Division of the US Army Corps of Engineers to perform the site analysis/recommendations task. USAEDH developed a Program Management Plan for this project which was coordinated with all MILDEPs. It was expected that the selected DCS site analysis phase would begin in October 1981.

(U) Digital Data Modem MD-918/GRC. This project comprised the development, fabrication, test and evaluation of eight Engineering Development (ED) models of a Digital Data Modem MD-918/GRC for transmission of digital signals over DCS tropospheric scatter radio transmission links.

(U) Based upon DCA requirements, a contract was awarded in August 1979 to the developer, GTE Sylvania, Incorporated, to modify the previously developed ED models so they would interface with Digital Radio and Multiplexer Acquisition (DRAMA) equipment on two operational tropo links in Europe as part of the DEB transmission system. The ED models were modified, tested, and accepted in August 1981.

(U) In Germany, on-site user testing was to be performed using the ED models in an operational environment operating over the Bocksberg to Berlin tropo link prior to cutover as operational units on this link.

(U) Future DCS Line-of-Site (LOS). In fiscal year 1981, the future DCS LOS project had as its objective the development of a digital LOS radio family which would be survivable/reconstitutable, tuneable, jam-resistant, spectrum efficient and cost-effective to build, buy and own for the DCS in the 1990s. The program would also be evolutionary, with two phases: development of a DRAMA compatible reconstitution radio and enhancement of the DRAMA radio; and development of the next generation DCS LOS radio family.

(U) Two procurement packages were prepared; a reconstitution radio analysis with TRW Incorporated, and a systems analysis for the next generation DCS radio. Contract awards were made in September 1981. A specification for the engineering development of eight reconstitution radios was coordinated within the DCS community. During the fiscal year a procurement package was being prepared for a second quarter fiscal year 1982 contract award.

(U) DCS Multiplexer Family. In fiscal year 1981, the DCS Multiplexer Family Program had as its objective the development of an evolutionary digital multiplexer family for the DCS in the 1990s. There would be two phases; enhancement and development of the next generation DCS multiplexer family.

(U) A two-year system analysis was started with the Institute for Telecommunications Sciences at Boulder, Colorado to define the multiplexing system requirements for the 1990s.

(U) Interconnect Fiber Optics. This project addressed the development of candidate fiber optic technology equipment and systems for implementation in the base, contingency, and Echelon Above Corps (EAC) environments in lieu of metallic cable for communications interconnect applications.

(U) In 1981 Booz, Allen and Hamilton, Incorporated completed an analysis/evaluation of candidate fiber optic technology, associated hardware, and applications to interconnect systems. In addition, a Statement of Work for the installation of a fiber optic transmission link between two DCOs at Fort Monmouth, New Jersey was completed. An invitation for bids was then issued in July 1981 for this 4-Km link having a 700 pair capacity, to provide a digital interoffice trunk capability and to permit R&D testing of the longer wavelength technology.

(U) Theater Nuclear Forces Communications System (TNFCS). In the fiscal year, the objective of the Theater Nuclear Forces Communications System (TNFCS) program was the improvement of command and control communications of theater nuclear forces. The role of the DPM for R&D Systems was one of supporting the program by managing required RDTE efforts.

(U) Fiscal year 1981 RDTE efforts for the TNFCS included the Frequency Management System, Extended Range Communications Investigation, and the Near-Vertical Incidence Skywave Antenna development. The Frequency Management System consisted of AN/TRQ-35, chirp sounder equipments and the PROPHET Frequency Prediction Module, and was being performed by Naval Ocean Systems Center. The Extended Range Communications Investigation, being performed by the Institute of Telecommunications Sciences, was studying the feasibility of using burst transmission at HF and VHF frequencies for transmission of low rate data. The Near-Vertical Incidence

Skywave Antenna project's objective was the fabrication and testing of an Advanced Development Model of an HF antenna suitable for shelter mounting.

Switched Systems

(U) AUTODIN Upgrade Program - FY 1978-79. The primary objective of the fiscal year 1978-1979 AUTODIN Upgrade Program was to replace worn out, obsolete equipments with state-of-the-art items to make AUTODIN automatic switching centers supportable through 1990.

(U) The original concept was modified to include the concurrent development of the OPS-12 software program with an integrated hardware/software approach. The fiscal year 1978-1979 AUTODIN Upgrade Program was separated into two phases due to multi-year funding of the program. Phase I acquired the design and implementation plan. Phase II covered design engineering, software and hardware design verification at the Fort Detrick AUTOFAC installation, test and acceptance at the Fort Gordon Training Facility and the six oversea AUTODIN switching centers. IOC of the last site was scheduled for November 1981.

(U) AUTOSEVOCOM Life Cycle Extension Program (ALCEP). ALCEP was the near term 1982-1985 program to improve and expand narrowband and wideband service within AUTOSEVOCOM. The program consisted of the replacement of existing narrowband terminals and the expansion of subscriber service using the VINSON-based terminal. In addition, five wideband AN/FTC-31 switches would be expanded to accommodate increased trunking and subscriber requirements. The program also called for leasing of two wideband automatic secure voice switches and relocating two AN/FTC-31 switches. A draft Management Engineering Plan (MEP) was coordinated in fiscal year 1981 between the MILDEPS. TCS memorandum dated 27 January 1981 implemented the ALCEP.

(U) Base Telecommunications System Upgrade. This program was expected to upgrade the telephone systems on Army posts with modern subscriber features and services required in the 1980s. The program included replacement of obsolete electromechanical equipment with state-of-the-art electronic digital switches, upgrading cable facilities with digital carrier equipment, and provision of push-button telephones.

(U) The first post to be upgraded was Fort Hood, Texas; and a competitive contract was awarded to CENTEL, Incorporated on 7 August 1981 for that upgrade. Fiscal year 1982 upgrades were being planned for Aberdeen/Edgewood, Maryland; Fort McPherson/Gillem, Georgia; and Fort Bragg, North Carolina. Fiscal year 1983 upgrades were being planned for Fort Riley, Kansas; Fort Huachuca, Arizona; and Fort Gordon, Georgia.

(U) Call Director System CD-134. This system was developed to enable up to six subscribers to use a single wideband secure voice, KY-3. It was sufficiently flexible to permit conferencing all six subscribers, or to provide exclusive use by any one of the subscribers; plus, it had a ruthless preempt capability for the primary subscriber.

(U) The fiscal year 1982 acquisition effort had progressed to a point of placing a fixed price delivery order against a Basic Ordering Agreement with Dynatech for 144 systems and a full complement of support data.

(U) It was decided to enhance the AN/FTC-31 switch by using state-of-the-art design criteria and components, which were intended to achieve a mean-time-to-repair of 30 minutes and a switch failure rate of not more than one hour per year. Power, control logic, and regenerator-repeater subsystems were replaced with state-of-the-art subsystems. Hardware logic, for example, was replaced with redundant microprocessors.

(U) A contract to complete these objectives was awarded to Ford Aerospace Communications Corporation in December 1977. Enhancement of the final switch was completed in June 1980, and residual problems in software/hardware and logistics were being resolved in fiscal year 1981.

(U) C-E Support for Vertical Force Development Management Information System (VFDMIS). In fiscal year 1981, the VFDMIS concept was to provide interactivity between approximately 73 major commands/installations worldwide and two computers within the US Army Management Systems Support Agency (USAMSSA) located in the Pentagon. Each location would be provided with a keyboard video display device titled by the user as an RAD (Remote Access Device). Most of these devices would be located in fixed locations in support of force development activities/offices. Transportable RAD configurations would be employed at corps level.

(U) This MIS would use the AUTODIN II Network for interactive traffic and the future AUTODIN I/II Network for the bulk data which would be forwarded to the local Telecommunications Center (TCC) as normal over-the-counter service traffic.

(U) Initial tasking in January 1980 included the acquisition and installation of 73 RADs and non-standard front-end processors (FEP) to interface the USAMSSA host computer system to insure proper connectivity under the DCA AUTODIN II system. In July 1980, a final CEMO was provided which added the requirement to insure that all dedicated "long line" users of the USAMSSA computer system were connected VIA AUTODIN II and that a Communications Control Unit (CCU) was leased (in lieu of an FEP) to interface the hosts with the AUTODIN II network.

(U) During the fiscal year, Western Union was developing the Host Specific Interface (HSI) which would be used in conjunction with the CCU to establish connectivity to AUTODIN II. Hardware and software/firmware requirements had not been fully defined by the requiring activity. Acquisition action was being held in abeyance pending clarification of requirements.

(U) Dual Frequency Signaling Unit--AUTOVON. In fiscal year 1982, the Dual Frequency Signaling Unit Project was a multi-Service procurement by the Air Force to provide improved signaling equipment for use in the Defense Communications System Overseas AUTOVON System. The units would replace the existing Single Frequency Signaling Units which were prone to faulty signaling.

(U) A procurement contract was awarded by the Air Force to Car Ted Industries for delivery of 5,859 units. The Army was responsible for the site engineering and installation of the units at Army sites.

(U) Korean Administration Telephone System (KATS). This project, designed to replace the manual switchboards at nine sites in Korea with digital EPABX, was expected to reduce personnel requirements by 63 spaces. Contract was awarded to Page Communications Engineers, Incorporated, on 21 December 1979 for EFI and T of nine EPABXs with contractor maintenance for the first year. Follow-on maintenance was contracted with Page Communications Engineers through fiscal year 1982.

(U) Although by fiscal year 1981, eight of the nine switch systems had been installed, the last switch, originally destined for Sihung Ni, had not been installed. Numerous sites had been considered and eliminated due to technical requirements. In fiscal year 1981, a study was conducted at Camp Mercer and at the Headquarters of the 1st Signal Command at Yongsan, to determine if the ninth EPABX could be used at either location.

(U) It was anticipated that additional switches would be installed at the Combined Field Army Command and Control Communications Bunker (CFACCCB) at Camp Red Cloud, Korea, and at Building S-2327, Camp Stanley, Korea.

(U) NICS-TARE AUTODIN Device. This program was expected to provide 12 AUTODIN Interface Devices to interface the AUTODIN I system with the NATO Integrated Communications System-Teletype Automatic Relay Equipment (NICS-TARE) system. The equipment would be state-of-the-art electronic digital devices with programmable logic capability to interface and control messages between the two systems.

(U) The contract award for this competitive solicitation was forecast for early 1982.

(U) Programmable Digital Voice Conferencing Sub-System DCU-AN/FTC-52. The Secure Voice Digital Conferencing sub-system was developed by DCA under an RDT&E contract to meet required operational capabilities for conference calls between wideband subscribers and multiple narrowband subscribers via AUTOSEVOCOM.

(U) DCA developed and installed two systems in Pearl Harbor in November 1977. These systems were operated and extensively tested, and proved to be a viable concept for conferencing digital secure voice signals. A contract was awarded in October 1979 to General Atronics for 15 units which were in production in fiscal year 1981.

(U) Secure Voice Improvement Program (SVIP). SVIP was the long-term program to improve and expand secure voice service in the Defense Communications Systems (DCS). When fully implemented, SVIP was expected to serve up to 10,000 subscribers and provide interoperability between DCS subscribers and other communities, including tactical, civil, government, and NATO systems.

(U) The AUTOSEVOCOM system in use during the fiscal year was expected to be phased out as improved secure voice service, including Automatic Key Distribution, was provided via AUTOVON. The system would consist of a modified version of the civil terminal (STU-II) being developed by NSA. The civil terminal and the DOD terminal (SST) would share the same Key Distribution Center (KDC) also being developed by NSA. The SVIP was not expected to be operational until the 1990s.

(U) Standard Network Front End (SNFE). C3I Memorandum, dated 27 June 1979, directed DCA to develop management and technical approaches to achieve a Standard Network Front End for the near term (1980-1984) and mid term (1984-1988).

(U) The Network Front End was intended to relieve host computers communicating via AUTODIN I from some of the network related processing and to provide alternate network access for terminal users independent of local host computer status. It consisted of a mini-computer interposed between a host computer and a communications network, which would be a tri-Service project restricted to Phase I for the near term (1980-1984).

(U) In December 1979, C3I directed that DCA use the Army as the procurement activity for Phase I; and on 12 February 1980, USACSA was tasked with this effort. The tasking was very limited in scope, and these limitations would hamper program management.

(U) A request for designation of a Lead Military Department (LMD) was forwarded to C3I from DCA on 19 May 1980. C3I met with the Services in July 1980 and tasked the AF to see what resources would be required if they were designated LMD. This agency wrote an acquisition strategy paper and was awaiting further tasking at yearend fiscal year 1981.

Telecommunications, Automation and Control Systems

(U) Automated Multi-Media Exchange (AMME). In fiscal year 1981, the Automated Multi-Media Exchange (AMME) Level Automated Telecommunications Center (ATCC) was a record communications system designed to replace and enhance existing systems at selected locations. In particular, the system would provide faster writer-to-reader service; would provide a store-and-forward message switching system between remote subscribers and AUTODIN; provide automated supervision of communications; and provide the capability to electrically interface AMME and its remote subscribers with local data processing installations.

(U) The AMME-ATCC consisted of four subsystems: AMME subsystem, Patch and Test Facility subsystem, Remote Terminal subsystem, and Data Processing Installation subsystem. These facilities replaced manually operated semi-automated telecommunications systems at eleven sites: Oakland Army Base, California, activated in October 1974; Redstone Arsenal, Alabama, activated in August 1975; Software Support Center, Fort Huachuca, Arizona, activated in 1975; Letterkenny Army Depot, Pennsylvania, activated in July 1976; Bailey's Crossroads, Virginia, activated in December 1976; Yongsan, Korea, activated in August 1978; Baltimore, Maryland, activated in November 1978; Heidelberg, Germany, activated in April 1979; Stuttgart, Germany, activated in April 1980; Atlanta, Georgia, activated in May 1981; and Berlin, Germany, activated in July 1981.

(U) During the fiscal year an AMME was in the installation and implementation phase for Frankfurt, Germany. The AMME contract allowed for acquisition of 27 systems with an option to acquire eight additional systems.

(U) Combined Forces Army Command and Control Communications Bunker (CFA-C3B) Korea. The Combined Forces Army Command and Control Communications Bunker (CFA-C3B) Project, Korea, was assigned by CEMO-B-80-FKS-364, dated 14 August 1980. It enhanced the C3 system including the relocation to a protective underground bunker. The project was expected to upgrade the telephone switch, outside cable plant, message center, AUTOSEVOCOM, AUTOVON facility, and the technical control facility.

Criminal Investigation

(U) Operation and Management Information Systems. The Criminal Investigation Division Operation and Management Information Systems (CIDOMIS) Project was assigned by CEMO B81-F00-194, dated 10 July 1979 and included two phases.

(U) Phase I would provide non-secure remote terminal communications capability through AUTODIN from 36 locations of the US Army Criminal Investigation Division (USACID) Operation and Management Information System directly to a central computer system located at the USACID Crime Records Center, Baltimore, Maryland.

(U) Phase II would provide remote terminal communications through AUTODIN or 35 additional terminals at OCONUS locations in Europe and the Pacific areas.

(U) High Speed Digital Secure Facsimile (HSDSF). The High Speed Digital Secure Facsimile (HSDSF), Phase I and II Project was assigned by CEMO-B-78-FO-0223 on 10 January 1977. The HSDSF Program covered the installation, at 70 CONUS and 34 OCONUS Army sites, of a standard unit capable of scanning and transceiving a page of information in 50 seconds. As a standard system, it would replace the unclassified rotary drum devices installed at numerous sites, and also would be provided to new sites with HSDSF requirements.

(U) Phase I was assigned to the Deputy Project Manager, Switched Systems, Fort Monmouth, New Jersey for completion. Phase II was assigned to the DPM, TACS, for completion based upon DPM designated responsibilities.

(U) The HSDSF equipment was expected to be procured by competitive bid, using HSDSF system specifications developed by USACEEIA and approved by USACC.

(U) Optical Character Recognition Equipment (OCRE). The Optical Character Recognition Equipment (OCRE) Project for Realignment of Resources and Services Program (RORS) was received as a tasking by HQ, USACC by message 142310Z February 1979 and as a major task in accordance with the USACC CEMO B-70-FUS-009, dated 3 May 1974.

(U) The OCRE was expected to reduce personnel levels at selected USACC telecommunications centers by eliminating manual preparation of message tapes. In fiscal year 1981, installation had been scheduled for OCREs at 52 selected locations in Alaska, Hawaii, and Panama. All but four RORS OCREs were installed and operational.

(U) Technical Control Improvement. In fiscal year 1981, the Technical Control Improvement Program (TCIP) was an on-going effort to provide fixed station Technical Control Facilities (TCF) with a means to perform quality assistance monitoring, quality control testing, circuit restoration, and circuit rerouting. It was also a means to perform status reporting necessary to insure that all users of the Army's portions of the Defense Communications System (DCS) receive the communications essential to accomplish their missions.

(U) The program was divided into three separate tasks: The first, Manual Technical Control Upgrade Program, was begun in 1971 and was the primary task of TCIP. It constituted the major portion of the work load resources of the overall program. Under this task TCFs were installed or upgraded to comply with MIL-STD-188-310 during the fiscal year. The program included 108 individual projects worldwide.

(U) The second, DCS Voice Orderwire Program, required the installation of standard Voice Orderwire Equipment at DCS TCFs and radio relays throughout the world to facilitate effective system control. The Army was the Project Manager for Defense Communications Systems for all MILDEPs, and during the fiscal year 141 Voice Orderwire projects were on-going.

(U) The third task, Tactical Interface Program, would provide a standard interface between Tactical Communications Systems and the DCS upon completion of the program. It encompassed selected Army and Air Force sites worldwide, and during the fiscal year there were 82 projects on-going in Europe and one in the Pacific.

Transmission Systems

(U) Defense Satellite Communications System - Phase II, Stage 1c. The purpose of the Defense Satellite Communications System (DSCS) Phase II, Stage 1c was to expand upon and digitize the worldwide Defense Communications System. When completed, Stage 1c would consist of four operational and two standby new families of satellites and approximately 50 earth terminal complexes deployed throughout the free world.

(U) Digital Communications Subsystems (DCSS) would be upgraded with Electronic Counter Counter Measure (ECCM) equipment to protect against jamming conditions. These were installed and Joint System Acceptance Tests (JSAT) were completed at Croughton, Fort Meade, Fort Detrick, Landstuhl, Hawaii, Sunnyvale, Offutt, Berlin, Menwith Hill, Bad Aibling, Augsburg, Iceland, Panama, Camp Roberts, Kwajalein, Song So, Camp Zama, Fort Buckner, Humosa, Northwest, Elmendorf, Guam, and Woomera. In fiscal year 1981, additional installations were scheduled through 1986. Redeployment of existing satellite earth terminals was accomplished at Iceland, Berlin, Augsburg, Coltano and Depus T, and would be at Rosman, North Carolina and Bad Aibling.

(U) Diego Garcia. In February 1980, the US Navy requested that USACSA install an Interim Digital Communications Subsystem (IDCSS) at NAVCOMSTA-Diego Garcia, British Indian Ocean Territory. This installation was accomplished in July 1980, and Diego Garcia was operating a modified AN/TSC-54 interfaced with an interim DCSS van linked with Clark AFB during the fiscal year. Also during the fiscal year the Diego Garcia link consisted of 12 digital voice channels suitable for transmission over a satellite communications link in both the protected and unprotected modes. The installation of the DCSS at Diego Garcia provided compatibility with all terminals associated with the DSCS.

(U) Beginning in calendar year 1982, the AN/TSC-54 and DCSS van was expected to be retired/changed out with an AN/GSC-39 satellite terminal and DCSS in a building configuration.

(U) DOD 500 Kw Generator Program. Nineteen DOD 500 Kw generators were procured for the Army under MERADCOM Contract DAAG-53-76-C-0225 to satisfy power upgrade requirements at DSCS satellite terminal sites. In fiscal year 1981, two generators each had been installed at Song So, Berlin, Landstuhl, Depus T and four at Camp Roberts. Two more were expected to be installed at Landstuhl. The remaining ones were being stored at Seneca Army Depot to await future callouts for Panama and for the contingency purposes.

(U) EWCS-78. This project was designed to upgrade several existing analog microwave radios and multiplex equipments in Europe with new state-of-the-art digital equipment. This project would use the DCS radio set AN/FRC-162 and associated multiplex equipment AN/FCC-97 and TSEC/CY-104. The EWCS Microwave Upgrade was expected to be implemented as an in-house Army effort with major equipment acquisition through US Army Communications-Electronics Command (CECOM) and installation acquisition through Sacramento Army Depot.

(U) Fiber Optic Acquisition and Installation. In fiscal year 1981, a requirement existed to install fiber optic ICFs at selected Army sites. Army requirements, forwarded to NAVELEXSYSENGCEN, Portsmouth, Virginia, were included in a contract that was awarded in March 1981. USACSA Logistics Directorate provided maintenance related inputs to the Navy for inclusion in contract. Deliveries were expected to begin about one year after contract award. Sites to be covered included: Depus F, Fort Detrick, Panama, Augsburg, Depus I, and Bad Aibling.

(U) Fixed Instrumentation Electronic System Transmission Arrangements (FIESTA) Microwave Upgrade. The FIESTA Microwave System was an integral part of the communications-electronics and instrumentation support for the operational and training missions at the US Army Air Defense Center and

Fort Bliss; the US Army Air Defense School; US Army Air Defense Board; McGregor/Orogrande Range Complexes; and the White Sands Missile Range. This project was designed to upgrade the existing FIESTA Microwave System to eight microwave links by replacement of obsolete portions of the system with new solid state microwave and multiplex equipment.

(U) The project, which began in November 1978, consisted of two phases. Phase I was completed August 1980, and Phase II was scheduled to be completed February 1982.

(U) Frankfurt North Phase I and Phase II. This project was being implemented in two increments. Phase I would digitize, using DRAMA equipment and bulk encryption, Frankfurt to Bad Munder and Kotersberg to Berlin. The Bocksberg to Berlin link would use new digital tropo equipment. The Berlin-Templehof and Bocksberg-Drackenberg-Helmstedt microwave would also be digitized. USACSA had the responsibility to EF&I all sites with the exception of Feldberg which would be performed by the US Air Force. Major site preparation as required was to be performed by the responsible O&M command.

(U) Phase II would continue the Northern digitization from Bad Munder to Garlstedt where it would interface the existing digital system between Garlstedt-Bremerhaven. Completion of Phase II was expected to digitize the DCS from Frankfurt to Bremerhaven.

(U) Indonesian Military Assistance Program (Project INDOCOM). Initial planning for Project INDOCOM began in 1970, and was completed in fiscal year 1981. The objective was to provide the Indonesian Government, through the Military Assistance Program, with an effective Military Command and Central System utilizing low cost, commercial HF radio networks. Commercially available communications equipment was selected since procurement of replacement and follow-on spare parts would be available on the world market.

(U) Project INDOCOM was a joint Service project, consisting of 37 sub-projects. From this total, USACSA was tasked with five sub-projects, including KKK (Kodan, Korem, Kodim); Direct Support Maintenance Facility; General Support Maintenance Facility; Radio Cable Switching Integration System; and HF Re-hab.

(U) Jam Resistant Secure Communications (JRSC) AN/GSC-49. In fiscal year 1981, the JRSC supported the National Command Authority (NCA), Joint Chiefs of Staff, and Commanders in Chief (CinCs) during crisis and wartime situations through the use of thirty-two SHF SATCOM terminals, fixed and transportable, one AN/GSC-39 medium terminal, Spread Spectrum Multiple Access (SSMA) equipment and twenty-two SSMA augmented baseline ECCM terminals. The project provided essential secure communications independent of a terrestrial system, insofar as was feasible, in the face of hostile jamming.

(U) This communications network would provide support for three functions; Tactical warning and attack assessment; point-to-point links from the National Command Authority (NCA) to fixed and executing commanders; and Secure Voice and Graphics Conferencing (SVGC).

(U) A contract was awarded to Harris Corporation in September 1980, with the first four terminals scheduled for delivery in January 1983. The Army was expected to receive their first of nine terminals for operation in July 1983.

(U) USACEEIA was scheduled in fiscal year 1982 to update the JRSC (Jam Resistant Secure Communications) site surveys which were done earlier in the program. JRSC "Fixed and Transportable" terminal site criteria had been reviewed and draft site annex information for five ACC responsible JRSC sites had been forwarded to the specific sites for comment. The sixth draft site annex was being finalized. Funds were forwarded to TACOM for procurement of six M928, 5-ton trucks for delivery to the JRSC program in May 1983. TACOM expected to obligate these funds by end of fiscal year 1981; and TACOM would then fund for additional M928 trucks required for fiscal year 1984 and 1985.

(U) Kwajalein-New Boston, New Hampshire. In November 1979, the Ballistics Missile Systems Command submitted a requirement to JCS for validation of a T-1 full duplex digital data circuit from the AN/FSC-78 HT, New Boston, New Hampshire, to the AN/FSC-78 HT Kwajalein, Marshall Islands. This circuit was designed to provide a data transmission capability between MIT Lincoln Laboratory, Lexington, Massachusetts, and the Western Test Range in the Marshall Islands.

(U) JCS validated the requirement and subsequently in January 1980, DCA tasked the Army and Air Force to take action to provide the capability. The ICF on the New Boston end of this link would be a Bell System T-1 data circuit, leased by MIT, from Lincoln Laboratory to the New Boston Earth Terminal Complex. The Kwajalein ETC link would enable Lincoln Laboratory to considerably reduce the processing cycle from two to four weeks to 24 hours for the recorded missile flight data. The New Boston-Kwajalein link establishment and JSAT was performed December 1980.

(U) Long Haul High Frequency (HF) Radio for Rapid Deployment Force (RDF). In fiscal year 1981, this project provided for the acquisition of a lightweight, shelterized, multichannel HF radio system capable of being rapidly deployed worldwide, via a conventional aircraft, such as a C-130 or a C-141 cargo plane.

(U) The system consisted of an S-250 electronic equipment shelter which housed a one kilowatt, four channel, independent sideband radio terminal capable of providing three voice and eight teletype channels. This communication shelter would be mounted on a 1¼-ton truck and be powered by two ten-kilowatt power generators. A second 1¼-ton truck and 3/4-ton trailer would provide lift for the generators and other system support equipment.

(U) Philippines Military Assistance Program (MAP-PHIL). In fiscal year 1981, the MAP-PHIL Fixed Communications Project encompassed the joint communications requirements for all the Armed Forces of the Philippines (AFP). The AFP consisted of the Philippine Army, Navy, Air Force and the constabulary or National Police; and from fiscal year 1977 to fiscal year 1980, approximately $13 million in MAP funds were used to support the Teletype Multiplex Project and the Teletype Relay/Terminal Project, both of which were completed during the fiscal year. Also during the fiscal year the Mindanao Microwave Communications System (MMCS) involved the acquisition of 672 channel digital microwave radios, with ancillary PCM multiplexer (MUX) and antennas. These were to be installed by the AFP at eleven sites as a backbone system on the island of Mindanao. This system also included the radios, mux and antennas; the contracts included in-plant training (completed July 1979); in-country training (completed July 1980); full logistical support; and one man-year of contractor technical assistance to the AFP.

(U) MAP funds also supported Visayas-Bicol Communications System (V-BCS), which spanned 18 locations in the Visayan Archipelago from the largest island of Luzon in the northern terminus of the Philippines to the second largest island of Mindanao in the southern terminus. The V-BCS involved the same commercial 672 channel digital radio and ancillary PCM mux equipments, with full logistical support, delivered to the AFP in the MMCS acquisition during the fiscal year.

(U) Mindanao-Visayas Spur Links (MVSL) also received MAP funds which would provide local subscribers at 29 sites with toll quality communications when integrated into the digital MMCS and V-BCS backbones. This acquisition was expected to include two GHz radios and ancillary PCM mux equipments, with full logistical support, training and contractor technical assistance for one year.

(U) Future projects were expected to include Western Visayas Spur Links, Technical Control Facilities Phase I, and small HQ EPABX (30 line).

(U) Project Kunia Quick Reaction Capability. In fiscal year 1981, the Project Kunia Quick Reaction Capability effort consisted of provisioning a digital microwave wideband radio link, three Defense Satellite Communication System links, fiber optic cabling, and secure and non-secure telephone service.

(U) All of these capabilities were provided by the Project Manager within ten months of tasking and receipt of funds, and required the combined efforts of tri-Service and other government agencies.

(U) Telecommunications Plan for Improvement of Communications in Korea (TPICK). In fiscal year 1981, the TPICK was expected to provide for the upgrade and integration of US and Republic of Korea (ROK) communications systems, which would become survivable and capable of

supporting US/ROK forces under normal, crisis, and wartime conditions. The project consisted of a number of sub-projects to be completed in four phases over six years, and would provide a system employing the latest state-of-the-art digital transmission and integrated switching networks including fiber optic transmission subsystems.

(U) The USACC communications-electronic mission order was issued in March 1981. Due to the Department of the Army providing program funding earlier than anticipated and allocating funds for specified projects, a portion of the Phase I effort was expected to be implemented in fiscal year 1982. The remainder was scheduled for implementation in fiscal year 1983.

(U) The portion of Phase I to be implemented in fiscal year 1982 was the Fiber Optic Cable and digital multiplex between Uijongbu, Seoul, Tango, and Osan, with digital switches at Seoul, Tango, and Osan. The digital switches would provide an integrated transmission, switching, and tech control concept, and the PDSK cable system would be expanded also. A priority two project, the system would be implemented with fiscal year 1982 funds.

(U) Phase I, fiscal year 1983, implementation required procurement, engineering, installation and test of the fiber optic cable and digital multiplex between Uijongbu, Seoul, Tango, and Osan; digital switches at Seoul, Tango, and Osan; new DCS digital radio connectivity to three USAF bases (Kwangju,Kimae and Sachon); and multi-pair cable connectivity between ROKAF and DCS sites.

(U) Phase II, fiscal year 1984, implementation required procurement, engineering, installation and test of a fiber optic cable and digital multiplex between Osan, Pyongtaek, Camp Ames, Camp Carroll and Taegu; digital switch at Pyongtaek; interconnected to the Ministry of Communications system at 15 locations; diverse routing into Taegu Air Base, overbuild of the Peace Fortune System between Tango and Taegu Air Base, overbuild of the Peace Fortune System to satisfy requirements at Chongju; and relocation of Pyongtaek facility.

(U) Phase III, fiscal year 1985, implementation required procurement, engineering, installation, and test of a fiber optic cable and digital multiplex between Taegu and Pusan; digital switches at Taegu and Pusan; close the southern loop between Kwanju and Pulmosan via digital radio, and relocation of Palgongson facility to harden ROKA building.

(U) Phase IV, fiscal year 1986, implementation required procurement, engineering, installation and test of digital LOS microwave to convert the tail segments of the Korean DCS reconstitution asset vans to provide digital restoral capability and provide DCS communications to Pohang, K-58 (Yechon) and K-58 North (Yongdongpo) in support of USMC beddown sites.

(U) Uninterruptible Power Sources (UPS). Three 200 KVA UPS/Battery Systems procured by a Navy contract with Exide, ESB, Incorporated were installed at DSCS sites in September 1981. The first and second UPS units furnished as GFE were contractor installed by TechDyn Systems Corporation at Camp Roberts and Song So. The third UPS was installed at the Coltano DSCS site by the Facility Engineer Support Agency (FESA). During the fiscal year nine additional UPS units were being procured under the same contract for subsequent installation by FESA at the following DSCS sites: Fort Detrick (3 units), Fort Buckner, Camp Roberts (2d unit), Berlin, Fort Meade, Panama and Bad Aibling, Germany.

(U) Washington Area Wideband System. In fiscal year 1981, the Washington Area Wideband System was a high speed digital data system which connected nine sites in the Washington, DC area.

(U) The system consisted of two segments: the digital pipeline connecting the sites, and the Transition and Integration Plan interfacing the users at each site to the pipeline. The first was completed by Western Union and accepted for service by the Government in June 1979, and the Transition and Integration Plan segment installation was completed in December 1979. The programmed expansion of the system by seven more circuits was expected to be scheduled to be completed in 1982.

(U) Worldwide Military Command and Control Systems. In fiscal year 1981, the European Command and Control Console System (ECCCS) Enhancement Project was part of a major ASD C3I directed program to improve the communications capability which supported the Theater Nuclear Forces-Europe. It was designed to provide eleven additional ECCCS Tributary Terminal Equipments (TTEs) at selected sites in Europe to complete the ECCCS's 66 TTEs and five Console Operations Centers. The project also provided for the installation of speech plus half duplex secure record communications at 71 ECCCS sites in Europe to increase connectivity to all fixed detachments and Quick Reaction Alert Units. The contract was awarded to ITT/DCD, Nutley, New Jersey, on 18 September 1979 and work had been completed on installations at all sites. Training, test, and acceptance efforts, resulting in full operational capability, was expected to be completed during October 1981.

(U) Joint Crisis Management Capability (JCMC). In fiscal year 1981, the Joint Crisis Management Capability (JCMC) Project was expected to provide transportable systems with Command, Control, Communications and Intelligence (C3I) capabilities for rapid deployment. These capabilities would be an extension of the Worldwide Military Command and Control System (WWMCCS) and provide communication between a crisis scene and the National Command Authority (NCA) in both airborne and ground modes.

(U) The JCMC functional requirements were defined in a May 1979 Memorandum by the ASD C3I; and in fiscal year 1980 ASD C3I ASD tasked DA to implement a program combining the two capabilities. First, an airborne capability immediately responsive to the unified and specified commanders, designed to collect information and provide a relay between the crisis scene and the appropriate area and the NCA for the purpose of supporting rapid crisis assessment.

(U) Second, an air and ground transportable capability designed to provide C3I for a limited Joint Task Force Headquarters or a crisis action staff, with connectivity to the NCA, while either airborne or on the ground at the crisis scene.

(U) Four complete systems plus additional communications module and support equipment were required.

(U) Work effort during fiscal year 1981 was directed to preparation of the Technical Requirements Package and the Acquisition Requirements Package. The Acquisition Requirements Package was completed and forwarded to the USACECOM for solicitation. The solicitation package was expected to be prepared and released to industry for competitive bids toward a fixed price incentive contract, and contract award was scheduled for April 1983.

(U) Mid-Term HF Upgrade (Regency Net) for the Theater Nuclear Forces Communications Systems (TNFCS). In fiscal year 1981, the Mid-Term HF Upgrade (Regency Net) Project was expected to replace the US operated and maintained HF radio net utilized by the Theater Nuclear Forces in Europe, a project which was part of implementing actions designed to improve the supporting communications. This effort would include procurement of fixed and mobile terminals to provide secure record and voice communications for the transmission of Emergency Action Messages. Acquisition efforts were pending receipt of validated requirements by the Joint Chiefs of Staff (JCS) after MILDEP review and receipt of necessary funding.

(U) US European Command (USEUCOM) Near-Term High Frequency Radio Upgrade. The USEUCOM HF Radio Upgrade was expected to provide, in the near-term (1980-1981), an upgraded HF radio capability at the Net Control Station and Communications Relay Control Stations (CRCS) of the EUCOM cemetery net; and would provide for the implementation of one new CRCS south of the Alps in Europe. This project was part of the implementing actions to improve the communications supporting the Theater Nuclear Forces - Europe.

(U) This upgrade was being accomplished by two contractual actions; a contract let to Harris Corporation to provide HF radios and ancillary equipment along with various antennas to the Government, and assignment of a second contract through the small business administration, 8A set-aside program, to the TechDyn Systems Corporation to engineer, furnish, install, and test both government and contractor furnished equipments at the Net Control Station and CRCS.

(U) US European Command Static War Headquarters (USEUCOM SWHQ). In December 1979, the US Army Communications Command--Resident Office Europe was transferred to the operational control of the USACSA and was redesignated Office of the Deputy Project Manager for Static War Headquarters.

(U) In fiscal year 1981, the Deputy Project Manager for Worldwide Military Command and Control Systems acted as DCSOPS (Deputy Chief of Operations) for the SWHQ Project and acted for that Deputy Project Manager in providing coordination and support from and among the USACSA functional staff, as necessary, when requested. The project was cancelled May 1981.

Field Liaison Offices

(U) USACSA Field Office - CONUS. The Chief, Field Office - CONUS represented the Commanding General in the continental United States and functioned as an extension of the authority of the deputy project managers and functional directorates.

(U) In fiscal year 1981, the office served as liaison between USACSA/PM DCS (Army) and 7th Signal Command, USACEEIA-CONUS and other USACC activities throughout CONUS. The office monitored and coordinated the implementation and installation of major systems and equipments.

(U) A portion of the Field Office's efforts was directed toward logistical coordination and technical assistance required to support the USACSA-LOG unitization of Bills of Material at Sacramento Army Depot for the 7th Signal Command managed projects.

(U) However, the major function provided by the Field Office was "visibility" through the on-site representation of the Project Manager. This visibility provided the two major commands, USACSA and 7th Signal Command, the opportunity to better understand the roles, relationships, and responsibilities of the respective organizations, thereby enabling a unified effort to be directed toward the successful implementation of highly complex communications systems in support of the DCS.

(U) Also, the Field Office provided a substantial amount of assistance to the 7th Signal Command on development and review of Acquisition Requirements Packages, front-end planning for major project TELER development, and provided assistance for follow-on O&M System support.

(U) USACSA Field Office - Europe. The USACSA Field Office - Europe represented the Commanding General in matters pertaining to the management of assigned projects with elements of Headquarters, European Command; Headquarters, US Army Europe; Headquarters 5th Signal Command; Headquarters, USACEEIA-EUR; and Headquarters, DCA-Europe. As executive agent for deputy project managers and functional directorates, the Chief, USACSA Field Office - Europe, acted as the interface between activities and personnel within the wholesale community-- TOAD, SAAD, Readiness Command NMP/NICPs-- and the various activities and personnel of the 5th Signal Command.

(U) Throughout the year Field Office-Europe action officers worked as an extension of the CONUS-based deputy project manager offices in expediting the progress of ongoing Automated Multi-Media Exchange (AMME), European Command, Control and Communications System (ECCS), Near Term HF Upgrade, Technical Control Improvement Program (TCIP) and Air Traffic Control projects. Summaries of these major projects, along with other projects with which the Field Office-Europe was involved, appeared within texts of cognizant deputy project manager offices.

(U) The USACSA Field Office-Europe also served the US Army Materiel Development and Readiness Command (DARCOM) Logistic Assistance Office for the 5th Signal Command. The mission of the Logistic Assistance Office was to represent the DARCOM Commander in all logistic matters involving concepts, doctrine, training and materiel acquisition, and to facilitate the exchange of logistic information between the 5th Signal Command and DARCOM subordinate elements. In this capacity, Field Office logistics specialists worked to foster good customer relations, improve logistics services, and resolve non-routine problems within the DARCOM area of responsibility.

(U) USACSA Field Office-Korea. In fiscal year 1981, the Chief, USACSA Field Office-Korea, represented the Commanding General in Korea in all facets of project implementation and life cycle support. Field Office-Korea action officers provided the primary interface to, and performed active liaison with, the United Nations Command, US Forces Korea, Eighth US Army, 1st Signal Brigade (USACC), and other agencies concerning USACSA projects in Korea.

(U) Action officers of Field Office-Korea worked as extensions of USACSA deputy project managers to ensure coordination and implementation of projects such as: Army Airfield Modernization, Automated Multi-Media Exchange (AMME), Modular AMME Remote Terminal (MART), Combined Field Army Command and Control Communications Bunker, Defense Satellite Communication System, Korean Administrative Telephone System, Technical Control Improvement Program and Telecommunication Plan for Improvement of Communication in Korea.

(U) USACSA Field Office-Pacific. The Chief, Pacific Field Office represented the Commanding General in the Pacific, providing primary interface with the Commander-in-Chief Pacific (CINCPAC), Defense Communications Agency-Pacific, Pacific Air Forces, US Pacific Fleet, US Army Western Command, USACC WESTCOM, US Army Japan, and USACC Japan. In this capacity, the Chief, Pacific Field Office, was responsible for monitoring and coordinating the implementation of major systems and projects.

(U) Field Office-Pacific action officers worked as extensions of the CONUS-based Deputy Project Managers to expedite the progress of on-going projects such as: Army Airfield Upgrade, DCS Voice Orderwire, Defense Satellite Communications System, and Tripler Army Medical Center Upgrade.

Summaries of these and other projects with which the Field Office-Pacific was involved appeared within the texts of cognizant deputy project manager offices.

(U) In fiscal year 1981, the Field Office-Pacific was responsible for monitoring and assisting in the movement of material to the WESTPAC area; and during the fiscal year approximately 550 shipments were monitored.

(U) USACSA Liaison Office - Washington. As liaison between Headquarters, US Army Communications Systems Agency/Project Manager DCS (Army) and other government and non-government agencies in the metropolitan Washington area, this office obtained information to keep the commander informed of trends, proposed policies and directives, plans and programs, that might have had an effect on agency operations; developed agency responses for urgently needed information when time and distance were critical; represented the Commanding General by providing membership or participation on or at designated panels and meetings; and provided information to appropriate staff sections.

Mobile Electric Power

Introduction

(U) Mobile Electric Power (MEP). In fiscal year 1981, MEP was responsible for management and standardization of Mobile Electric Power Generating Sources within the Department of Defense to meet military needs. As such the PM, MEP maintained close coordination with the military departments and the Defense Logistics Agency and provided guidance and direction on matters pertaining to development, contracting, production, product assurance, product improvement, configuration management and integrated logistics support. He also endeavored to provide system managers and field commanders with a family of Mobile Electric Power Generating Sources, 750 kilowatt and smaller, which were mission and cost effective.

(U) Multiple Launch Rocket System (MLRS). PM, MLRS was a structured project management office responsible for the development, procurement, production, distribution, and logistic support of a multiple launch rocket system acting in the interests of the US, UK, GE and FR under the terms of a Memorandum of Understanding. The system was required and designed to supplement cannon weapons available to US divisions and corps commanders for the delivery of a large volume of firepower in a very short time against critical, time-sensitive targets. The MLRS with a dual purpose conventional submunition, consisted of a self-propelled launcher loader (SPLL), two disposable pods, each containing six rockets, fire control system, and azimuth reference units. The carrier was a derivative of the Infantry Fighting Vehicle (IFV). The system had the growth potential to adapt follow-on warheads such as terminal homing munition, scatterable anti-tank mines, and chemical.

(U) The DOD Mobile Electric Power Generating Sources Program requirements for FY 1981 were as follows:

Army	$ 83.1 million
Navy/Marine Corps	17.4 million
Air Force	6.6 million
Total	$ 107.1 million

(U) Standardization (Class 6115 Projects). Overall guidance, initiation, control, review, and approval of class 6115 Projects were accomplished for the following fully coordinated Class 6115 standardization projects in fiscal year 1981:

MIL-G-52884 for 15-200 kW, general specification - 4 March 1981.
MIL-G-52884/1-9 for 15-60 kW, detail specifications - 4 March 1981.
MIL-G-52552 for 10 kW, 400 Hz, power unit - 25 March 1981.
MIL-G-52884/AMD 1 for 15-200 kW, amendment - 9 June 1981.
MIL-G-52889 for 5-10 kW, general specification - 1 July 1981.
MIL-G-52889/1-3 for 5-10 kW, detail specifications - 1 July 1981.

(U) There were 17 active standardization projects at the beginning of the year, five new projects were initiated and 16 completed; and there were six active projects at the close of the year.

(U) SLEEP. Engineering support for the Silent Lightweight Electrical Energy Plants (SLEEP) continued. The design of the 1.5 kW unit was completed in fiscal year 1981 along with fabrication and initial testing of major components; and fabrication of the prototype test units was initiated. Software efforts including ILS also continued, and component testing for the 3 and 5 kW advanced development units continued during the period.

(U) Generator Set, MEP-412A, Gas Turbine Engine-Driven, 10 kW, 60 Hz, Tactical Utility. The Army, through in-process review (IPR) action, decided not to type classify this set; however, PM-MEP accepted the set as a member of the DOD standard family of generator sets for use by other Services.

(U) Generator Set, Aviation Ground Support, 10 kW, 28 VDC. A special IPR was held on 4 March 1981 to type classify the MEP-414A generator set for replacement of the over-aged 7.5 kW sets. Type classification of the MEP-414A was not accomplished because of cost and reliability. As a result, two additional IPRs were held on 15 July and 4 August 1981 to approve changes to the required operational capability (ROC), resolve the market survey, and establish procurement strategy. MERADCOM completed a revised market survey on 18 September which verified that commercial equipment was available which could meet the ROC requirements and could be procured using a non-developmental item approach.

(U) Generator Set, D423A, Gas Turbine Engine-Driven, 10kW, 400 Hz, Tactical Utility. The two sole source production contracts to support the Fire-finder AN/TPQ-36 system were modified the second time in June to increase the total number of sets from 112 to 194. The manuals, drawings, physical configuration audit and new equipment training were completed. The Government stopped accepting production units after the first eight sets, until a low power problem, found during first article testing, was resolved.

(U) Generator Set, Gas Turbine Engine-Driven, 30 kW, 400 Hz, Tactical Utility. PM-Patriot continued to express a need for this generator set as a replacement for the heavier 15 kW DED generator set used on the launcher. PM-MEP evaluated two proposals on the 30 kW set and forwarded recommendations to PATRIOT Funding was requested to start development in fiscal year 1982.

(U) Generator Set, MEP-351A, Diesel Engine-Driven, 12 kW, 28 VDC, Tactical Utility. Testing of two sets fabricated by the Naval Air Engineering Center was completed by TECOM. Additional testing was required prior to certification to MIL-STD-704 requirements.

(U) Generator Set, MEP-354A, Diesel Engine-Driven, 30 kW, 400 Hz, Tactical Precise. The US Naval Air Engineering Center was developing a four wheel, driveable generator set to support Navy and Marine Corps aircraft during the fiscal year.

(U) Generator Set, MEP-009B, Diesel Engine-Driven, 200 kW, 60 Hz, Tactical. A purchase description covering the replacement of the engine in the MEP-009A model set was prepared by the Air Force and circulated to the four Services for coordination.

Aircraft Support

(U) Generator Set, Gas Turbine Engine-Driven, 60 kW, 400 Hz, Tactical Precise. A total of 4700 hours of endurance test time was accumulated on the PIP engine. A second production contract for sets with the new engine was awarded in June 1981.

(U) Multiple Output Ground Power Unit (D360A). The ROC for this electrical, hydraulic, and pneumatic power cart was approved by HQDA on 9 February 1981. A Request for Deviation (RFD) submitted by PM-AAH for 260 sets was approved by PM-MEP on 25 August 1981.

(U) Ground Power Unit (D358A). The first small business set-aside contract to produce the D358A set was awarded to J. R. Hollingsworth on 11 February 1981. PM-MEP sponsored testing for DOD standardization purposes began in July; and the contract for 360 sets included preparation of reprocurement drawings.

(U) Ground Power Generator Set (D361A). A deviation request for 766 D361A sets (formerly generator coupled/air conditioner) was approved by PM-MEP on 25 September 1981. The D361A consisted of a 400 Hz electrical power cart and an air conditioner cart powered by the electrical cart.

(U) Air Start Cart (MEP-356A). The Air Force completed base line tests prior to adding a recouperator to the set. Design and fabrication of the recouperator was initiated.

(U) Thermoelectric Generator (TEG). An independent study of the viability of present thermoelectric technology to meet the requirements of the SLEEP ROC was performed by Arthur D. Little, Incorporated. The study directed by HQ DARCOM was completed in September 1981 and concluded that TEG technology, although less efficient than fuel cells, was a viable alternative.

(U) Replacement of MSE for 0.5-10 kW Gasoline Engine-Driven Generator Sets. A Special Task Force (STF) chaired by PM-MEP was established to study and recommend alternatives for the replacement of the MSE engines used in the 0.5-10 kW GED generator sets. Replacement of the engines was required because the engines had not been produced since the early 1970s. The STF requested MERADCOM conduct a study of available commercial engines, and submit a report on their findings to the STF. The report, completed in September 1981, indicated that commercial engines were available; however, meeting the stringent DOD requirements was questionable. Also noted was a lack of standardization among the various sizes of engines

(U) Power Unit, Auxiliary, Gas Turbine Engine-Driven, 10 kW, 28 Vdc. This unit, being developed in fiscal year 1981 was a winterization kit for the M1/M60 tanks, successfully met the M1 winterization requirements at -25°F, -45°F, and -65°F at both Eglin Air Force Base test facilities and in the Arctic. Continuation of the program was being held in abeyance pending further review by PM-M1 tank.

(U) Generator Set, MEP-029A, Diesel Engine-Drive, 500 kW, 60 Hz, Tactical Utility. Initial fielding problems--principally governor instability and parallel operation--were resolved upon investigation by the developer, MERADCOM. As a result, several Engineering Change Proposals (ECP) were submitted to reconfigure the governor control circuits and automatic paralleling control circuits. A retrofit program plan was established to modify both fielded sets and sets in depot.

(U) Generator Set, MEP-208A, Diesel Engine-Driven, 750 kW, 60Hz, Tactical Utility. The set contractor finalized the design of the set and began fabrication of the two first article sets. The scheduled first article examination slipped because of incorporation of changes resulting from "lessons learned" on the 500 kW set. Thirty-four additional sets were placed on the contract for a total of 54 sets. The PM continued to provide intensive management on this program in an effort to support the major DOD programs that were expected to utilize this set.

(U) MX Missile System. PM-MEP attended several meetings and made recommendations for suitable generator sets in support of the MX missile system. However, because of certain critical system requirements, the use of a DOD standard family member was uncertain in fiscal year 1981. It was possible that should the missile system be authorized, components common to the standard set might be utilized in the assembly of a special set for the MX application.

(U) Engine Failures. PM-MEP directed MERADCOM to initiate an investigation to determine the cause of engine failures on the 60 and 200 kW sets. Damaged engines were made available by the Marine Corps for the investigation. Unused sets were also requisitioned from depot for examination.

(U) 3kW PIP Program. As a result of unsatisfactory field reports from Europe on the PU-625 (two 3 kW generator sets on a trailer) relating to defective replacement ignition points, HQ DARCOM directed that a PIP effort be established to replace the conventional point-type ignition system with a breakerless ignition system. PM-MEP/MERADCOM prepared a PIP to initially retrofit the PU-625 sets and the remaining sets upon satisfactory performance of the system. Also included in the PIP was a larger cranking pulley for easier rope starting.

Acquisition

(U) One issue of the Five-Year Acquisition Plan was published and distributed in February 1981.

(U) The latest Long-Range Acquisition Estimates (LRAE) were disseminated in September. The terminated-for-default contract with Bogue Electronic Manufacturing Company was still in default in fiscal year 1981.

(U) Defense Acquisition Regulation (DAR). A proposed DAR revision was submitted in fiscal year 1981 to alert the materiel acquisition agencies within DOD of the provisions of the DOD Directive 4120.11. This Directive stated that the procurement responsibility for Mobile Electric Power Generating Sources (MEPGS) was assigned to PM-MEP for the submission and approval of a Request for Deviation from PM-MEP prior to initiating a procurement of nonstandard MEPGS. The DAR for fiscal year 1981 Section V, paragraph 5.1201-6 did not identify this point.

(U) Acquisitions for fiscal year 1981 are listed below:

1.5 kW, 28V, Gasoline Engine-Driven Generator Set contract was awarded to John R. Hollingsworth Company.

4.2 kW, 28V, Gasoline Engine-Driven Generator Set contract was awarded to John R. Hollingsworth Company.

10kW, 60 Hz, Diesel Engine-Driven Generator Set contract was awarded to Libby Welding Company.

A second 10kW, 60 Hz, Diesel Engine-Driven Generator Set contract was awarded to Libby Welding Company.

30 kW, 400 Hz, Diesel Engine-Driven Generator Set contract was awarded to Libby Welding Company.

60 kW, 60 and 400 Hz, Diesel Engine-Driven Generator Set contract was awarded to Fermont Division, Dynamics Corporation of America.

60 kW, 400 Hz, Gas Turbine Engine-Driven Generator Set contract was awarded to Libby Welding Company.

72 kW, 400 Hz, Diesel Engine-Driven Generator Set contract was awarded to John R. Hollingsworth Company.

100 kW, 400 Hz, Diesel Engine-Driven Generator Set contract was awarded to Melley Energy Systems.

200 kW, 60 Hz, Diesel Engine-Driven Generator Set contract was awarded to Libby Welding Company.

(U) Configuration Management/Product Assurance. Staff officers of PM-MEP, through the delegated authority of the PM in fiscal year 1981 were chairing 10 configuration control boards for design control of 41 models of DOD standard family generator sets. One hundred sixty-three change proposals, deviations and waivers were evaluated.

Training Devices (TRADE)

(U) Training Devices (TRADE). In fiscal year 1981, as the focal point and repository of expertise for training devices within DARCOM, PM, TRADE worked in close cooperation with PMs and other weapon system developers to produce training devices which best met the requirements of the developer, TRADOC, and the trainee alike. PM, TRADE's role in the program ranged from a minimum of consultant/independent assessor, which was mandatory for all PM directed programs, to total responsibility for developing and fielding the device(s), depending on his written agreement with the weapon developer. All nonsystem training devices and all Synthetic Flight Training Simulators were the direct and exclusive responsibility of PM, TRADE. The project manager coordinated the DARCOM review and comment for all Training Device Requirement Documents originating at TRADOC and, upon request, worked with the training community to develop, produce, and initially support the item. The PM was DARCOM's principal advisor and independent assessor for those portions of the ASARC, DSARC, and IPR packages related to training. In addition, he directed, coordinated, and supported the activities of the Product Manager for Armor Training Devices (ARD).

Organization and Staffing

(U) Colonel Donald M. Campbell continued as the Project Manager for Training Devices. The Project Charter was signed by the Honorable John Marsh Jr., Secretary of the Army and dated 5 October 1981.

(U) At the beginning of fiscal year 1981, the total personnel authorization was 112; 30 officers, 4 enlisted and 78 full time permanent civilians. However, as a result of the reassignment of the Technical Extension Course function to TRADOC during the fiscal year, one officer and five civilian spaces were transferred from PM TRADE.

Armor Training Devices

(U) The Conduct of Fire Trainer (COFT). This trainer continued to generate high level interest as the Army's largest training device program. It received widespread publicity at the Annual Industry Training Conference, competitive prototype during full-scale development, and as a feature article and on the cover of Army R,D, & A Magazine, where it appeared in the November-December 1981 issue. The COFT remained within budget and on schedule with deliveries of test prototypes in July 1981, release of Request for Proposal (RFP) on 19 June 1981, and receipt of proposal on 16 October 1981.

(U) The M1 Maintenance Trainer. Development successfully passed an independent TECOM evaluation following Operational Test II (OTII) and in fiscal year 1981 was expected to conclude with production award in June 1982.

(U) The M1 Driver Trainer. The future of Driver Trainer was doubtful in fiscal year 1981 because lack of support for the requirement and reliability problems had resulted in a reexamination of the requirements.

(U) Non-Systems Trainers. The M180 Subcaliber Device (BREWSTER) was type classified standard in May 1981. An initial production contract was awarded 17 June 1981, and deliveries were expected to start in February 1982. Brackets that adapted the M179 Subcaliber Device (TELFARE) to the Abrams Tank were manufactured and shipped to the field starting in August 1981, completing this program. Tank Weapons Gunnery Simulation System (TWGSS), a contract for a commercial device, was awarded to SAAB in June 1981. The SAAB trainer was expected to be used for a concept evaluation to support requirement definition. The Tank Gunnery and Missile Tracking System (TGMTS) was delivered in January 1981 to Fort Knox, Kentucky. A concept evaluation was started by the Armor and Engineer Board in May 1981.

(U) General. Due to the pinch for manpower resources, PM-Armor Training Devices (ARD) implemented a Management by Objectives procedure which drew maximum commitment from people on hand and forced prioritization of projects to assure the right people at the right places when needed.

(U) Budgets. The aviation programs that encountered funding problems during fiscal year 1981 were the AH-1 Flight and Weapons Simulator and the AH-64 Combat Mission Simulator. Initially the AH-1 FWS budget had a shortfall of $4.2 million, but this was resolved with the approval of the fiscal year 1981 supplemental budget. The funding for the AH-64 CMS, however, remained fluid throughout the period and was underfunded by $4.0 million at the close of the year.

(U) Goals and Objectives. Negotiation and award of a multi-year contract for five production units of the AH-1 FWS were achieved in April 1981. This contract was awarded 15 April 1981 in the amount of $78.7 million, and delivery was expected to be completed in May 1985.

(U) In fiscal year 1981, preliminary government acceptance testing of the initial CH-47C Flight Simulator was completed in preparation for shipment and installation at Fort Campbell, Kentucky.

(U) Training of instructors for the UH-60 Flight Simulator, Development Test II, and the institutional phase of the Operational Test II were completed. The remaining phase of OT II to evaluate the usefulness of the simulator to FORSCOM field sites were expected to be completed in fiscal year 1982.

(U) Development of a new visual system for use in the production units of the AH-1 FWS was completed successfully in fiscal year 1981. This system, which replaced the conventional television camera system used on the prototype simulator, employed a scanned laser to generate the visual scene. It eliminated the requirement for the powerful lighting system used previously and resulted in significant savings in the cost of operations by reducing electricity consumption, reducing required air conditioning equipment and reducing maintenance manhours.

(U) One of the major goals for fiscal year 1981 was to define the training capabilities required of the AH-64 CMS and to establish the physical configuration of the simulator to provide those capabilities. These goals were extremely difficult to achieve because of the complexity of the AH-64 helicopter and because of the constantly changing funding situations. At yearend, these issues had not been totally resolved.

(U) Personnel Realignment. Because of the increasing workload, due in large part to increased AH-64 Combat Mission Simulator activity, Aviation Systems Division manpower authorization was increased by one. This space was filled by an aviation warrant officer eminently qualified to serve as assistant project director. He had flown approximately 600 hours in the AH-64 helicopter and was thoroughly familiar with the complexity of the aircraft and its associated training problems. He had also gained considerable prior experience with flight simulators as the TRADOC technical advisor to PM TRADE during the development of the AH-1 Flight and Weapons Simulator.

Ground Systems

(U) Development of the Multiple Integrated Laser Engagement Simulation System (MILES) was completed in fiscal year 1981 and type classified. Logistics support transitioned to ARRCOM; and production continued to run on schedule. In fiscal year 1981 PM TRADE was in Lot III and final

Basic MILES deliveries were expected to be completed in January 1983. A production contract award for M1 MILES was scheduled for May 1982, and production ECPs for M2 and M3 were being prepared in fiscal year 1981. MILES OPFOR systems for T-72, ZSU, M1974 and BMP were delivered to and were operational at the National Training Center.

(U) Ancillary to MILES was the Blank Fire Adapters (BFA) which would add realism to exercises by providing realistic weapons effects signatures. In fiscal year 1981 the M19 and M20 BFAs for the M2 and M85 machine guns had completed production and deliveries and were transitioned to ARRCOM in fiscal year 1981. Engineering development of M240 BFAs for the complete range of MILES equipped vehicles was also nearing completion during the fiscal year.

(U) In fiscal year 1981, the Air to Ground Engagement Simulation (AGES) and Air Defense Systems would provide a logical extension of MILES to include Aviation and Air Defense in the engagement simulation exercises. The basic aviation offense weapon system was the COBRA with simulation of the TOW, 20mm Gun, and 2.75 rocket systems. The OH-58A and UH-1H acted as targets. The Air Defense Systems included the VULCAN, CHAPARRAL and STINGER. The AGES/AD program completed DT/OT II and the systems were undergoing a two-week check test at Fort Huachuca to assure correction of short-comings noted during OT II. The DEVA IPR was scheduled for May 1982 with a production contract award planned for July 1982.

(U) Development of the Army Training Battlefield Simulation System (ARTBASS) continued as scheduled during fiscal year 1981. The ARTBASS was expected to provide real time, dynamic training in command and control for Maneuver Battalion Commanders and their staffs. The ARTBASS was essentially a conversion and update of the Combined Arms Tactical Training Simulator (CATTS) which was in use at Fort Leavenworth, Kansas. It was planned to convert existing CATTS software from the 1974 large scale computer configuration to multi/mini technology and van mount the system.

(U) PM TRADE successfully completed DT/OT I for the Infantry Remoted Target System (IRETS) and an Engineering Development Phase Contract was negotiated with Sperry Support Services, Huntsville, Alabama. The IRETS program objective was to provide the Infantry and Armor communities with a system of threat oriented targets. Targets were expected to realistically support various small arms marksmanship training exercises as well as tank gunnery training as a result of the defunct Armor Remoted Target System (ARETS) requirements being folded into the IRETS program. IRETS was also expected to feature major components such as a generic automated control device, Infantry stationary and moving targets, hostile fire simulators and night muzzle flash simulators as well as Armor target interfaces and a hostile fire simulator. System components were to be designed to sense and automatically score small arms and main tank gun service ammunition.

(U) A contract was awarded on 19 March 1981 to Hughes Aircraft Corporation for development of two ROLAND Institutional Trainers (RIT) for PM ROLAND. Each trainer consisted of an Instructor's console and six student stations. Each student station had positions for the commander and gunner. The trainer would provide a variety of combat scenarios featuring advanced computer generated imagery. The RIT also included self paced computer managed training with hard copy evaluation of the student's progress for record.

(U) Four Field Artillery Turret Maintenance Trainers were installed and in operation at Fort Sill, Oklahoma. The trainers consisted of self-contained programmable mainframes and interchangeable program panels simulating the hydraulic and electrical systems of the M109 and M110 Howitzers.

(U) The Ground Systems Division awarded a contract to AAI Corporation on 16 April 1981 for development of the Alpha Radiac Training Device (ARTD). Prototype delivery of five units was scheduled for August 1982, and would allow ALPHA and Explosive Ordnance Disposal (EOD) teams to practice radiation monitoring and survey techniques without being exposed to hazardous radiation. The ARTD would represent the operational equipment (AN/PDR-56) in appearance and operation.

Program Management and Requirements

(U) During fiscal year 1981, 20 contracts for Army Training Device requirements were awarded with a face value of $97,457,817.

(U) Establishment of an Automated Resource/Planning Management System. PM TRADE's mission made it imperative that a comprehensive resource planning system be used to project resource requirements for both ongoing programs and to assess the impact of new work assignments and realignment of priorities over an extended timeframe. Due to the number of projects managed by PM TRADE, the use of an Automated System to assist in this critical task was needed. Several government-owned software automated resource planning systems were investigated as to their applicability to PM TRADE's needs. Two systems, Georgia Institute of Technology Project Analysis and Schedule Evaluations Systems (GITPASE) and Automated Five-year Planning Systems were reviewed. The Automated Five-year Planning System was developed by ADP Network Services, Incorporated for the US Army Construction Engineering Research Laboratory (CERL). In fiscal year 1981, CERL used the system to manage approximately 120 ongoing projects and it was determined by PM TRADE that the CERL system would best meet PM TRADE's needs.

(U) The overall Management Information System's mission was transferred from this division to the Financial Division when the Program Management and Requirements Division was reorganized in fiscal year 1981. In addition to this mission being transferred, the Rationalization, Standardization, and Interoperability (RSI) mission was also reassigned to the Special Assistant for Program Management.

(U) Commercial Training Device Requirements. During fiscal year 1981, PM TRADE was tasked with total responsibility for acquisition of Commercial Training Devices for Army-wide training applications. Effective fiscal year 1981, CTDRs with a unit cost of $3,000 or more were investment items and would be procured with PAA funds. Relevant portions of AR 71-9 and AR 350-xxx were drafted and received in January 1981 by the Army Training Support Center (ATSC) and PM TRADE to clarify the new policies and procedures.

Technical Support

(U) The division formulated an acquisition strategy for institutional type training devices which would shorten the cycle by one year. The strategy was placed into a "white paper" which received concurrence by the DARCOM DCGMD and was forwarded to DA for assistance in implementation.

(U) The Technical Support Division formulated new logistics policies which were structured around the unique problems of training devices. These policies, which included requirements for contractor logistic support of sophisticated training devices, were included in the draft AR 350-xx.

(U) A contract was awarded to examine the configuration of all UH-60 BLACK HAWK maintenance trainers vis-a-vis the configuration of fielded aircraft. The results of this review were expected to determine the scope of efforts required to update the trainers.

(U) During fiscal year 1981, the following devices were transitioned to ARRCOM for life cycle support:

Automatic Tank Target System	May 1981
Logistic Support for MILES	May 1981
M179 (TELFARE)	Nov 1981

(U) Fiscal year 1981 was a very active year for PM TRADE and Product Assurance and Test Measurement Branch. The branch assumed the System Safety Engineering function for PM TRADE in addition to its Reliability, Maintainability, Quality Assurance and Test responsibilities. Significant events in the Product Assurance and Test area were as follows:

(U) A Multiple Integrated Laser Engagement System (MILES) follow-on Reliability Evaluation was conducted on MILES production units during initial usage at Fort Hood, Texas. All components of the MILES System exceeded their MTBF requirements.

(U) The M1 Conduct of Fire Trainer (COFT) reached its test and evaluation phase. Competitive Development Tests (DT) were conducted at General Electric and Chrysler Corporations and at Fort Hood, Texas. Based upon system performance, the General Electric COFT system was selected to enter, and successfully completed, Operational Test (OT) II at Fort Hood.

(U) Development Test (DT) II and Phase I of Operational Test II were conducted on the Engineering Development prototype UH-60 Flight Simulator at Fort Rucker. The system performed satisfactorily; however, the building environment could not be maintained within limits and the scored reliability performance of the trainer was less than the requirement. At the end of fiscal year 1981, PM TRADE was reviewing the results and had taken action to re-evaluate these areas during the Phase II to be held in the fiscal year 1982 timeframe.

(U) First Article Inspection Tests were initiated on the first production CH-47 Flight Simulator at Singer Link Corporation. First Article Tests were on-going at the close of fiscal year 1981 with the reliability evaluation still to be conducted prior to shipment of the trainer to Fort Campbell, Kentucky for further on-site evaluation.

(U) In-plant and on-site acceptance testing, to include Reliability, Maintainability and Safety Evaluations, were completed on the Reactive Electronic Equipment Simulator (REES) System which was accepted from Gould Corporation and installed at Fort Gordon, Georgia.

(U) Development Test (DT) II and Operational Test (OT) II were initiated on MILES follow-on systems for Air-Ground and Air Defense Engagement Simulation Systems (AGES/AD). The tests were ongoing at the conclusion of fiscal year 1981. Test sites included the contractor's facility (Xerox Corporation), APG, Fort Rucker, Fort Huachuca and Fort Bliss.

(U) In-plant and on-site evaluations were conducted on the M1 Driver Trainer at Sperry Corporation and Fort Knox, Kentucky. The System exhibited significant problems and future evaluations such as an evaluation by subject matter experts, a concept evaluation, or an Operational Test were under consideration by the DARCOM and TRADOC communities.

(U) A Technical Feasibility Test for Safety was conducted on the Machine Gun AWESS to verify system safety of the system with MAPP or propane gas. The evaluation was conducted at Aberdeen Proving Ground, MD.

(U) The test activities noted above were significant events. However, significant reliability, maintainability, quality assurance, test and safety engineering were expanded on systems such as ROLAND, IRETS, FATMT, AH-64, Alpha Radiac, STAGS, to name a few. This effort, while not identifiable as end products, was essential to the successes of PM TRADE's ongoing systems.

(U) Supply support for non-[illegible] type classified training devices through PM TRADE/Tobyhanna Army Depot continued to be responsive to the field with an excess of 80 percent fill rate for requisitions within 30 days. Consumption of repair parts during this period more than doubled and an excess of $434,000 of replenishment spares were procured.

CHAPTER VI

MATERIEL READINESS

Introduction

(U) Force readiness continued to be a Department of Defense and Department of the Army priority in fiscal year 1981. The organization of the Joint Chiefs of Staff also indicated ". . . The readiness of U.S. military forces to carry out assigned wartime missions is critical to the success of national military strategy." They expressed their concern regarding materiel readiness deficiencies that ". . . combine to limit the readiness of U.S. forces." Among the wide range of existing deficiencies were ". . . shortfalls in unit equipment, shortages of repair parts" and ". . . inadequate maintenance."[1] Secretary of the Army Marsh also expressed his concern in that ". . . Many of the (Reserve components) have significant shortages in essential equipment, or are armed with older, less capable weapons," which evaluation was significant to DARCOM since ". . . approximately two-thirds of the Army's logistic support units and nearly half of their total combat units are in the ready reserve."[2]

(U) First steps had been taken, however, to overcome these problems, as General Guthrie indicated, ". . . The Congress has taken action to increase resources, people, and funds, and DARCOM is pursuing our RESHAPE Program."[3]

(U) In addition, Headquarters Directorates having mission related responsibilities described their activities in great depth under appropriate subjects in the following accounts.

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1 "US Military Posture for FY 82. A Supplement to the Chairman's Overview," Organization of the JCS. 97th Congress, 1st Sess, House Committee on Armed Services, Hearings on Military Posture and HR 2614 and HR 2970, Wash DC, USGPO, 981. Part 1 "Military Posture", p. 145.

2 "Written Statement of Hon. John O. Marsh" 97th Congress 1st Sess. House Committee on Armed Services. Hearings on Military Posture and HR 2614 and HR 2970, Wash DC, USGPO, 1981, Part 1, "Military Posture", p. 1339.

3 "Written Statement of Gen. John R. Guthrie, Commanding General, US Army Materiel Development and Readiness Command," 97th Congress, 1st Sess, House Committee on Armed Services. Hearings on Military Posture and HR 2970 and HR 745. Part 5, "Operation and Maintenance Title III," Wash DC USGPO, 1981, p. 868.

Materiel Management

Organization and Functions

(U) Major General Benjamin F. Register served as Director for Materiel Management from the beginning of the fiscal year through 9 March 1981. Major General James S. Welch served as Director from 10 March 1981 through the end of the fiscal year. Mr. M. I. Hinson served as Deputy Director for Materiel Management from the beginning of the fiscal year through 2 January 1981, when he was succeeded by Mr. Richard E. Heinbach.

(U) The Directorate was organized as follows: Associate Directorate for Evaluation, Associate Directorate for Maintenance, Associate Directorate for Supply and Distribution, Associate Directorate for Materiel Programs, Maintenance Interservice Support Management Office/ Joint Aeronautical Depot Maintenance Action Group, Programs and Projects Office.

(U) The Associate Directorate for Evaluation served as Directorate focal point for preparation of various supply and maintenance performance reviews, coordination and GAO, IG, AAA reports, analysis of systems assessments, maintenance of HQ management information systems, MILSTEP (Military Standard Transportation and Evaluation Procedures), training, and the Supply Career Program.

(U) One of the major accomplishments achieved during fiscal year 1981 was the continued high level of stock availability, reflecting improved receipts and inventory of Army stock funded items. This was especially true at TACOM, where the slump in the automotive industry freed vendors to produce against Army contracts.

Reliability Centered Maintenance (RCM)

(U) In compliance with Department of Defense imposition of Air Transportation Association Maintenance Study Group (MSG2) principals on the three Services, the Army developed the program of RCM in 1976 and directed all commands to consolidate their maintenance planning efforts under the RCM strategy.

(U) Several RCM-related programs were initiated, which had goals in common with RCM (e.g. reducing cost of maintenance while retaining equipment reliability) or which revised a maintenance activity through similar processing methods. Programs such as Preventive Maintenance and Checks and Services (PMCS) Review, Depot Maintenance Work Requirements (DMWR) Scrub, and addition of OCM to tracked vehicles, were initiated after RCM was endorsed by OSD.

(U) During fiscal year 1981, a pilot program was initiated for the M110 vehicle. Ten M110s were overhauled against a revised DMWR applying RCM logic. The results of a one year Sample Data Collection Program had determined that the M110 vehicles overhauled, using RCM, were equal to, or better than the prior overhaul procedure. Other DMWRs which had been, or were in fiscal year 1981 reviewed under the DMWR scrub program included M60A1, M113, M109A1 and VRC-12.

(U) Army and Joint Oil Analysis. During fiscal year 1981, two new laboratories were opened for oil analysis at Fort Ord, California and Fort Knox, Kentucky. The Defense Depot Tracy Laboratory was deactivated, and the workload was transferred to Fort Ord. Action was initiated to open a new laboratory at the National Training Center, Fort Irwin, California. In addition, the transfer of the Army Oil Analysis Program (AOAP) ADP data base from the Corpus Christi Army Depot (CCAD) to MRSA was begun. The ADP system in CONUS was expanded by installing CDC-05M computer terminals at Fort Knox, Kentucky; Fort Bragg, North Carolina; and Hunter Air Field, Georgia. During fiscal year 1981, the number of samples analyzed comprised: aero - 374,427 and nonaero - 520,362, an increase of 4 percent over the total of samples analysed in fiscal year 1980.

Packaging

(U) Logistics Applications of Automated Marking and Reading Symbols (LOGMARS). The LOGMARS study effort was completed with the acceptance of the final report by OASD (MRA&L). The 3 of 9 bar code, with OCR-A, printed above or below the bar code was accepted as the official DOD symbology. Plans were being formulated to implement the new symbology in both retail and wholesale operations using Quick Return or Investment Funds. A LOGMARS group was being formed at the DARCOM Packaging, Storage and Containerization Center to assist in application requirements.

(U) Discrepancy Report Monitoring System (DRMS). The one year test of the DRMS was completed with the analysis of over 13,000 Reports of Discrepancy (ROD). The DRMS yielded valuable information pertaining to MSC responsiveness in completing RODs, actual dollar losses, relationship of RODs to shipments, a breakdown of specific discrepancies reported and the pinpointing of specific areas for further investigation. Plans were to continue the DRMS and to solicit GSA and DLA participation in the program.

(U) Initial Supply Support ASL/PLL. During the 1978 Army Commanders Conference, major commanders expressed concern about the ability of Army units to manage the introduction of the many new end items and weapon systems to be fielded in the 1980s. DARCOM proposed that a procedure for fielding initial ASL/PLL packaged in unit level configurations, be tested as a means to ease the burden on gaining commands.

(U) This packaging procedure was based upon user submission of funded requisitions. Using standard automated supply systems and keying on the assigned project code and unit DODAAC, Army, and DLA managed items were directed from depots or vendors to a centralized package processing point (PPP) for assembly. Management information was provided by the Logistics Intelligence File. This management data enabled the fielding Project Manager or major subordinate command to monitor and control the packaging effort and determine when sufficient items were in a particular ASL or PLL package to support fielding to the unit in question.

(U) Testing of the procedure was successfully completed. The benefits of ASL/PLL packaging to gaining units and commands resulting from this test, justified the resource expenditure required for Army-wide implementation. The foremost benefit was an improved ability to maintain unit readiness during the transition period associated with the introduction of a new weapon or system. Also, packaging afforded the gaining commander the opportunity to better use available personnel since the time required to monitor and control receipt of initial ASL/PLL items would be reduced by approximately 75 percent.

(U) DARCOM letter, dated 21 July 1981, subject: Initial Supply Support ASL/PLL Packaging, recommended HQDA approve Army-wide implementation of ASL/PLL packaging and provide resources for this implementation. Pending final HQDA decision, this headquarters had approved ASL/PLL packaging for fielding of M1 Abrams and UH-60A BLACKHAWK to USAREUR.

Storage

(U) DOD Standard Warehousing and Shipping Automated System (DWASP). OASD (MRA&L) continued to press the development of a DOD-wide standard depot system to perform the receipt, storage, issue, transportation and related management functions for general supplies at DOD distribution depots. As increasing levels of detail for the proposed DWASP program were developed and distributed, the Services became progressively more concerned about the adverse impact they perceived it would have upon their logistics operations and the quality and timeliness of support to the field units. There was a general consensus among the Services that DWASP would increase system costs, reduce system responsiveness and impose additional layers of complexity upon their storage operations without any reciprocal beneficial return.

(U) Responding to this appraisal of DWASP's impact, the Joint Logistics Commanders (JLC) in June 1981 sent memos to the Chiefs of Staff of the Army and the Air Force, the Chief of Naval Operations and the Commandant of the Marine Corps. The JLC memos expressed their concerns, and asked the Service Chiefs to write to their respective Secretaries,

reiterating these concerns, requesting the DWASP program be terminated and the FY 1981 $50,000 limit on improvements to existing systems be lifted. In response, the Chief of Staff, Army wrote to the Secretary of the Army, who in turn sent a memo supporting the JLC requests to the Deputy Secretary of Defense. The other Services reacted in various manners.

(U) In a related action, the Defense Audit Service (DAS) in July 1981 published a draft program survey report of DWASP that largely confirmed the deficiencies of DWASP described by the Services, and recommending that the development effort be submitted to the DOD Major Automated Information Systems Review Council (MAISRC) for Milestone 1 approval and a decision to continue development. The Services in general supported the DAS appraisal.

(U) In October 1981, the DWASP Focal Point Group recommended dispatching a memo to OASD (MRA&L) advising that the fundamental objectives of the DWASP Task Order had been met through inter-Service cooperation to the same degree that DWASP would have accomplished them; that the ultimate standardization concept proposed by the DWASP Task Order could be achieved only at great risk and expense; that the MILS system provided an existing, effective means to implement further standardization; and that the DWASP Task Order, having largely been accomplished, should be rescinded.

(U) Care of Supplies in Storage (COSIS). The requirement to properly care for the $17 billion worth of supplies in storage had been of considerable concern for some time. Stored materiel required periodic inspection to determine its condition and corrective action (processing) if inspection indicated there was evidence of deterioration. Nonetheless, the COSIS program had been woefully underfunded by DA/DOD for a great many years. A formal information briefing was prepared for delivery to the Army Select Committee for Resources Management that made a compelling case for COSIS investment both in terms of economic and readiness ground.

(U) At the start of fiscal year 1981, no funds were provided for COSIS in the budget. Several events changed that situation. The defense sub-committee of the House Appropriations Committee directed the Army to reprogram $12 million for Cosis and another $14.8 million for ammunition rework. Increases contained in the DA fiscal year 1981 supplemental and fiscal year 1982 amended budgets permitted greater attention to completing the necessary cyclic inspections and reducing the processing backlogs which were created during the lengthy period of fund scarcity.

(U) Storage Space in DARCOM Depots. The following table shows available storage space parameters as of 30 September 1981.

Covered Space (millions of square feet)

	Igloos and Magazines	Other Covered Space	Total
Gross Available	22.4	38.0	60.4
Net Available	14.3	21.6	35.9
Occupied	10.2	17.3	27.5
% Occupied	71%	80%	77%

Open Space (Improved)

Net Available	22.3 million sq ft
Occupied	87 million sq ft

Transportation

(U) Over Ocean Cargo Forecasting. The DARCOM Logistic Control Activity was a major contributor at the annual Military Sealift Command Shipper Service Requirements Conference and the Military Airlift Command Worldwide Airlift Requirements Planning Conference. Both conferences were designed to assess cargo forecasting over the previous year and identify needed improvements. In view of continued austerity in transportation funding, the accuracy of these reports, although greatly improved, was found to be wanting. In an attempt to obtain further improvement, the DARCOM Inventory Research Office was tasked to undertake an extensive study of Logistics Control Activity cargo forecasting techniques during fiscal year 1982.

(U) Control of Premium Transportation. Through the efforts of DARCOM shipping activities, ARRCOM, MICOM and the LCA (Army Air Clearance Authority), extensive transportation cost avoidances were realized by the commodity manager, shipper and the LCA/ACA. DOD/DA policy required that certain high priority shipments be challenged for the requirement of premium transportation (airlift). Shipments destined oversea were challenged by ARRCOM, MICOM and LCA while shipments destined to customers within CONUS were challenged by the individual shipping activity/depot. As a result of these challenges, a transportation cost avoidance was realized with Army oversea shipments of $21,009,688, and domestic shipments of $5,355,337.

(U) Commodity Command Standard System (CCSS) - Transportation System. The freight classification system was subject to numerous complaints involving status and validity of the data as well as inadequate update procedures. The Catalog Data Activity in conjunction with the Automated Logistics Management Systems Activity had conducted a comprehensive review of the system resulting in several proposed changes. One of the major changes provided a standard automated procedure for direct contact between the shipping activity (depots) and the MSC for the purpose of freight classification/MILSTAMP discrepancies.

(U) Hazardous Materials Data System (HMDS). The quantity of radioactive and hazardous material managed by the Armed Services had grown rapidly, increasing the possibility and probability of accidents occurring during storage and transportation. This prompted DARCOM to develop the HMDS to provide complete information on the handling and movement of hazardous material. The HMDS was a coordinated effort between the Catalog Data Activity and Automated Logistics Management Systems Activity. The data base was being developed by the user commands and identified the specific items and information needed to legally ship and store hazardous material. CCSS, Release 62, would implement procedures to add, change or delete coded hazardous and radioactive type data elements.

(U) Safe Transport of Munitions (STROM). The STROM study report was briefed to DCGMR, DARCOM, and RADM Catola, NAVSEA, on 25 February 1981. A final report was approved by DCGMR, DARCOM in May 1981 and forwarded to ASA for OSD approval on 3 July 1981 by MTMC. By memorandum of 3 September 1981 the Deputy ASD (L&MM) concurred with the findings and recommendations of the reoprt, and directed that recommendations 1 through 4 be implemented. MTMCTEA distributed the final report to all concerned during October 1981. OSD prepared letters of instructions to implement the four recommendations, one of which DARCOM was to implement.

(U) CONUS Installation Mobilization Outloading and Receiving Capabilities. The completion of the CONUS Installation Mobilization Outloading and Receiving Capability Study was followed by the implementation of some of the recommendations made by the study. Refinement of outloading and receiving capability data was continued. The new report format for these data was submitted to MTMC and approved. ARRCOM and DESCOM began preparation of implementation instructions for the new report. The study also established outloading and receiving capability as a key indicator of readiness. It was included in the revised DARCOM Readiness Evaluation System (DRES) and the ongoing Mobilization Requirements Model (MOBREM) Study. One of the findings of the Conventional Ammunition Special Review (CASPR) was that deficiencies in ammunition outloading and receiving capability had to be corrected. Additional fiscal year 1981 OMA funds were received for repair of igloos, roadways, and railroad tracks at depots. The Military Traffic Management Command Transportation Engineering Agency (MTMCTEA) continued to perform their Rail and Motor Outloading Surveys in order to assist installations in identifying and correcting deficiencies.

(U) MILSTAMP Improvement Program. Efforts to improve the Military Standard Transportation and Movement Procedures (MILSTAMP) continued through a joint Service project, the MILSTAMP Improvement Program. A number of proposed changes to simplify procedures and reduce workload were favorably reviewed; and comments from DARCOM were incorporated into the final changes. A number of changes recommended for MILSTAMP were adopted into the existing MILSTAMP regulation. It was anticipated that changes would gradually be phased in instead of publishing a completely new MILSTAMP regulation.

Conventional Ammunition

(U) Executive Director for Conventional Ammunition (EDCA). The charter for the Single Manager for Conventional Ammunition was signed in August 1981, establishing an EDCA as well as delegation of responsibilities from DA to DARCOM. An ad hoc group had developed an EDCA organization in the National Capital Region which would have representatives from all Services and would manage the SMCA.

(U) A new policy was also developed and published, which managed small lot fragments of ammunition. Revision of ammunition issue and control procedures resulted in a substantial cost avoidance by elimination of inspection, inventory, and accountability actions.

(U) In support of the Rapid Deployment Force (RDF), ENTIPS (Expanded Near Term Prepositioned Ships) were established and approximately 17,000 short tons of ammunition were loaded on a LASH ship to support US Army requirements during the year. A DARCOM briefing on the RDF Ammunition Basic Load was presented to the FORSCOM Logistics Conference on 6 August 1981 to assure FORSCOM that ABL requirements would be supported by DARCOM.

(U) Toxic Chemical Munitions. OPLAN RMT was successfully completed in September 1981, which covered the movements of WETEYE bombs from Rocky Mountain Arsenal to Tooele Army Depot. Newly constructed igloos for toxic chemical storage at Tooele Army Depot were still awaiting acceptance in fiscal year 1981. DARCOM Safety was expected to obtain approval to accept the igloos with rocks in the earth for their cover. Redesign of a lightning protection system had to be completed and installed. Acceptance of these igloos was estimated for March or April 1982.

(U) The Toxic Chemical Maintenance Plan was being revised with a new five-year forecast due to slippage of MCA and exigent minor construction, and should be published by November 1981.

Equipment Management

(U) Assumption of Containerization Mission by DRCMM-ST. On 17 April 1981, the DARCOM Container System Development Office (CSDO) was terminated. The CSDO residual mission to plan, monitor, coordinate and integrate the DOD Containerized Ammunition Distribution System (CADS) development program was assumed by DRCMM-ST. Three personnel spaces were transferred from CSDO to DRCMM-ST to provide support for this mission.

(U) Container Oriented Equipment. The latest status of container oriented equipment at year end 1981, was contained in the DARCOM Container System Hardware Status Report, July 1981. Significant actions which occurred during fiscal year 1981 included award of a contract for 79 additional M878 yard tractors during February 1981 and a contract for 191 additional Mobile Ramps during March 1981. Another significant action was the type classification of the 50,000 pound Rough Terrain Container Handler as standard, logistics control code "A", completed during March 1981. Materiel Fielding Plans were approved for the 50,000 pound Rough Terrain Container Handler, during the period March through August 1981. The 119th Terminal Service Company, under an integrated logistic support waiver, received the first ten 50,000 pound Rough Terrain Container Handlers, at less than full support.

(U) Flat Racks. Reversing their previous position that the commercial industry could not support the depot requirement for flat rack containers, MSC advised that needed containers could be made available from commercial sources. Based on this commercial capability, DARCOM efforts to procure flat racks for shipment of selected materiels from depots were terminated.

(U) Single Service Manager for Department of Defense (DOD) Rail Equipment. In May 1980, a General Accounting Office (GAO) report concluded that improvements in rail equipment management by DOD were needed. The US Army Rail Study, which was prepared by TSARCOM and published in July 1980, also focused on management problems and found that the requirement existed to improve the condition of DOD rail equipment. The rail study recommended that the Joint Logistics Commanders (JLC) establish a single Service manager for rail equipment.

(U) In response to the GAO report, the Deputy Assistant Secretary of Defense (Supply, Maintenance, and Transportation) established, in July 1980, a joint Service ad hoc committee to develop a DOD instruction (DODI) which would outline overall management policies and designate a single Service to act as the DOD focal point for locomotives.

(U) The US Army Rail Study recommendations became the basis for a JLC ad hoc working group for management of rail equipment with DARCOM as the lead secretariat. Development of the draft DODI, which had been initiated by the joint Service ad hoc committee, was provided to the JLC ad hoc working group for further development, staffing with the Services, and approval by the JLC.

(U) The JLC ad hoc working group proposed a management concept that would include an intensified level of joint Service coordination through a JLC chartered single Service (Army) manager with joint Service logistics command representation. A draft DODI and proposed JLC charter were prepared and on 24 September 1981, were submitted for approval to each Service Chief. The draft DODI and proposed JLC charter would be submitted to the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) for final approval.

(U) Inventory Accounting. The DOD Joint Physical Inventory Working Group (JPIWG), a working group chaired by OSD and including members from each Service/agency, was established to develop, maintain, and enhance a program of physical inventory control for DOD supply system materiel. The group was activated prior to 1981 to address specific findings revealed by a Defense Audit Service (DAS) investigation into DOD's policies, procedures, and practices of physical inventory. HQ DARCOM represented the Department of the Army on the DOD JPIWG.

(U) During fiscal year 1981, the DOD JPIWG reviewed DODI 4140.35, Physical Inventory Control for Department of Defense Supply System Materiel, and prepared a final draft for staffing and publication. In addition, a review of the physical inventory procedures in DODI 4140.22M, Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP), was initiated with completion scheduled for fiscal year 1982. When the above analysis was completed, changes were expected to be required to DA/DARCOM regulations and standard automatic data processing systems.

(U) Item-by-Item Count of Toxic Chemical Munitions. An item-by-item count of toxic chemical munitions had been completed at Lexington-Blue Grass Depot Activity, Pine Bluff Arsenal, Pueblo Depot Activity, Rocky Mountain Arsenal, and Umatilla Depot Activity. It was anticipated that the item-by-item count would be completed at remaining installations (Anniston Army Depot and Tooele Army Depot) prior to the end of fiscal year 1983. The item-by-item count required verification of the presence of the ammunition. When the ammunition items were boxed/packaged, the actual presence was verified by removing the materiel from the box/package or through x-ray verification of the presence of the munitions. The count was complicated by the hazardous nature of the munitions and associated safety precautions required.

(U) Revision of Policy on Sets, Kits, and Outfits (SKO). A change to AR 708-1 was published 1 April 1981, effective 1 May 1981, which strengthened controls over SKO. Significant changes included restriction of the changes to SKO, other than those that were safety related or mission essential, to those resulting from a scheduled review. It changed the schedule for review of SKO from once every two years to once every three years for maintenance type SKO and once every four years for non-maintenance type SKO; established a policy that SKO changes would be

mission essential, and/or safety related, be the result of equipment changes or inadequacy due to failure of existing component items, significantly enhance mission accomplishment and be cost effective. A policy that updated SKO would not be fielded until the supply catalog was published. It designated the US Army Equipment Authorization Review Activity to review each proposed SKO change to assure that it complied with policy guidance, was justified, and approved it for DARCOM. In addition, a draft DARCOM regulation was prepared and distributed for comments. When published, this DARCOM regulation would provide further implementing details for the changes included in the Change to AR 708-1.

(U) Inventory Management Reviews (IMR). DARCOM conducted IMRs of inventory control points and depots. The areas of physical inventory receipts, issues, adjustments, logistics management data, and related areas were reviewed. The purpose of the reviews was twofold. It was to find problems that an individual installation was having, and to find problems which had system-wide application. Discrepancies were subsequently resolved and necessary changes made. In fiscal year 1981, the following activities were reviewed: Missile Command, Communications-Electronics Command, Sacramento Army Depot, Lexington-Blue Grass Depot Activity, Troop Support and Aviation Materiel Readiness Command, Tooele Army Depot, Armament Materiel Readiness Command, Crane Army Ammunition Activity, and New Cumberland Army Depot.

(U) Inventory-Property Accountability Seminar. This annual seminar was held 18-20 November 1981, hosted by DARCOM Materiel Readiness Support Activity in Lexington, Kentucky. The seminar provided an opportunity for the inventory community to review the effectiveness/efficiency of the fiscal year 1980 inventory program; discuss the impact of changes planned for the inventory-property accountability area; provide cross-fertilization of ideas and methods for improving the inventory accounting process; and relate common problems/solutions for a mutual exchange of ideas.

(U) There were approximately 60 attendees representing HQ DARCOM, HQ DESCOM, the accountable supply distribution activities, depots, MRSA, ALMSA, ALMC, the Ammunition Center, Catalog Data Activity, and the Packaging, Storage, and Containerization Center.

(U) Equipment Distribution. A Local Purchase Task Group was established by the Materiel Management Directorate to study problems being experienced by FORSCOM related to local purchases. After its formation, the task group met to resolve proposed criteria for initial and post provisioning assignment of the National Stock Number (NSN) and determination of central versus local procurement. The group determined all standard Table of Organization and Equipment, including commercial tactical equipment, should be fielded with an NSN assigned to parts

expected to have a recurring demand rate of three valid demands in 180 days. Post provisioning NSN assignments would also be based upon these criteria, but actual consumption data would be used. It was also determined if an item was essential for stockage at any level, or for war reserve, or if the item was essential for other logistics support requirements, it would have an NSN assigned. Specifically excluded were nonstandard equipment materiel such as Base Level Commercial Equipment, nonmilitary items authorized by Common Tables of Allowances, and unique military items exempt from standard supply procedures.

(U) Integrated Materiel Management. In December 1978, the Office of the Secretary of Defense (OSD) proposed that consumable items be transferred from the Military Services to the Defense Logistics Agency (DLA) for management. DLA mission assumption involved the basic functions of item procurement and item management.

(U) OSD contended that the proposed transfer of functions would generate economies by consolidating these functions at DLA. In contrast, the Army position was that the transfer could degrade supply effectiveness and Army readiness. Moreover, disassociation of consumable item management from total weapon system management and DLA lack of engineering capability and end item visibility systems would have a significant adverse impact on such management.

(U) The Deputy Secretary of Defense, in his memorandum of 7 July 1981, however, directed that an initial increment of 200,000 items be transferred to DLA within six months as a test. After evaluation of the test, OSD would determine the desirability of further transfers. The Army share of the first increment to be transferred was 35,000 items.

(U) The timeframe for the first transfer had been extended from six to 12 months by OSD. Beginning in October 1981, items were to be transferred in seven increments with the completion of the last effective transfer being 31 October 1981.

(U) Nonconsumable Item Program (NIP). The Nonconsumable Item Program (NIP) was established in 1974 by the Deputy Secretary of Defense, to eliminate unnecessary duplication in the management and logistic support of multiused nonconsumable items.

(U) Phase I of NIP established for each NSN, a manager with responsibility limited to single submitter catalog, procurement and disposal authority, and depot level maintenance was completed.

(U) Phase II, which expanded the manager's responsibility to include total wholesale financial and asset control, included a single DOD wholesale stock; sale development of budgeting and funding of depot maintenance requirements; single budgeting and funding of requirements to support wholesale stock; responsibility for effecting credit exchange; critical item management; and determination, budgeting and funding of DOD wholesale war reserve requirements.

(U) Implementation of Phase II was difficult because of major policy issues that had to be overcome. However, in fiscal year 1981, significant accomplishments were achieved.

Funding and Budgeting. A format and procedure for developing and displaying dollar/budget requirements for NIP items was developed by the Army and approved by OSD. This was being programmed into the standard CCSS (Commodity Command Standard System) budget system and documented in the revised DARCOM-R 700-99, Wholesale Inventory Management and Logistics Support of Multiused Nonconsumable Items.

Credit Returns. Procedures for granting credit for NIP were developed and were documented in proposed MILSTRIP change letter 320B and 321B.

Nonconsumable Item Materiel Support Codes (NIMSC). The definition of these management codes was rewritten to provide clarity and facilitate proper management. The new definitions were incorporated in the revised DARCOM-R 700-99 DIDs.

Systems Changes. All systems changes necessary to implement Phase II of the program were documented to ALMSA via system change requests, approved by the Logistic Systems Review Committee (LSRC) and scheduled for implementation in November 1982.

(U) With the accomplishment of the above actions, the NIP program was on schedule. When implemented, the program would result in more efficient item management.

(U) Army Materiel Plan (AMP) Modernization. During fiscal year 1981, considerable effort was expended in working toward development of a modernized Army Materiel Plan (AMP). The AMP modernization project was designed to provide a major step toward automation of the management and analysis of major item data, especially as it related to the Procurement Planning, Programming, and Budgeting System (PPBS). It also provided the necessary data to produce, on a real-time basis, numerous reports which were manually prepared. This included machine produced analyses of interchange (common support items) requirements and procurement programs. Implementation of the new system required the procurement of ADPE equipment at all DARCOM MSCs, plus at many reporting activities such as MRSA and ALMSA. The entire system was to be tied together with modern transmission lines and made secure by dedicated crypto devices. DESCOM was responsible for systems design supported by ALMSA, LSSA, and all interested Headquarters DARCOM elements The overall functional coordination was assigned to D/SMT.

(U) The milestone schedule called for a systems test at TACOM with full implementation at all sites at some future date. It should be noted that precise dates were under review to insure that they were achievable.

(U) Project Cleanup (Data Interchange). Several problems were discovered within the Major Item Interchange of Data program which generated component item requirements into the AMP gross requirements computation.

(U) In an attempt to solve these problems, a series of visits to major subordinate commands (MSCs) was conducted in September and October 1981, in an effort to "clean up" the data base. The DESCOM product, Standard Study Number (SSN) Major Assemblies and Generating Items (PCN K30BBY07340), was used as the base document. This product was the result of DARCOM Form 1275, interchange of PA item data being submitted to DESCOM and contributed to the AMP gross requirements computation.

(U) Each entry in the DESCOM product was checked twice, once with the supporting command and again with the requiring command. Actions taken included 131 line item numbers (LINs) added to the data base, 585 LINs deleted from the data base, and 41 ratio changes. A comparative program was run by RDAISA to show the magnitude of Project Cleanup and a corrected AAO generated.

(U) This review constituted a significant step forward in eliminating data base inconsistencies which detracted from accurate AAO computation. It also provided an opportunity to train the field on data interchange management and to familiarize them with the use of the DESCOM data interchange product. The use of this product as a reconciliation document was expected to provide MSCs with complete date interchange visibility, and was expected to substantially reduce error rates. Also, this review provided a clean data base for the AMP modernization program which was expected to automate the data interchange process.

Management and Budget

(U) Due to a sound fiscal year 1981 stock fund program and management emphasis on program execution, the fiscal year 1981 execution of the DARCOM Division (Wholesale) Army Stock Fund Program continued to improve. The program accomplishment rate was 100.7 percent($1,589.9 million approved and $1,593.6 million actually obligated).

(U) The Procurement Appropriation Program for Secondary Items also continued to grow dramatically even considering the impact of inflation. This is illustrated as follows (table shows dollars in thousands):

Fiscal year 1977 -	$230,484	
1978 -	285,440	
1979 -	317,749	
1980 -	470,566	
1981 -	698,100	
1982 -	1,004,400	(Proposed)
1983 -	1,227,283	(Proposed)

(U) The growth was primarily due to the introduction of new or modified weapon systems such as BLACKHAWK, AAH, CH-47 mods, XM1, M60-A3, FVS, ITV, PATRIOT, PERSHING, plus myriad communication-electronics systems/equipment. Not only were program dollar values growing, but the number of Procurement Appropriation Army financed items also expanded.

(U) Program execution, however, progressed apace with program growth. Although for fiscal year 1981, full program funding was not released until January 1981, the beginning of the second quarter of the fiscal year , a 96.7 commitment rate was achieved. Other disruptions, such as close review and directed program reductions to support other than procurement highest priority requirements for DOD, impacted MSC program managers; nevertheless, the MSCs were still able to achieve a successful commitment rate against fiscal year 1981 funds.

(U) Procurement Appropriation Army (PAA) financed spares/repair parts programs continued under close scrutiny at DA and OSD/OMB levels of management and review. Initial provisioning requirements were subject to extremely critical review both in the budget presentation and in the POM-FYDP reviews. OSD managers adamantly demanded that Army provisioning requirements were austere and that they be computed based on policy given in DODI 4140.40 and under the provisions of DODI 4140.42.

(U) Replenishment or peacetime operating stocks (POS) requirements also were subject to close analysis. OSD/OMB analysts, while still focusing on the Repair Cycle element of the Requirements Objective, were no longer questioning the Army's unserviceable reparable PAA secondary items/repair parts, but were still questioning the continuing Production Leadtime growth and to a lesser degree Administrative leadtimes and inventory transactions.

(U) The three years prior to fiscal year 1981 saw full incorporation of PAA secondary requirements into the POM/FYDP processes. HQ DARCOM staff representatives and MSC personnel prepared and defended requirements for the given FYDP period. These forecasts covered requirements for POS, provisioning and war reserve. Requirements, particularly for the budget year plus one (BY+1) segment of a given FYDP, were developed and defended in almost the complete detail as for the regular Apportionment Year Request - Budget Estimates. Because of this, program development for PAA secondary items was a year-round function.

Maintenance Interservice Support Management Office/Joint Aeronautical Depot Maintenance Action Group

(U) Under the guidance of the Joint Logistics Commanders (JLC) and the Joint Policy Coordinating Group for Depot Maintenance Interservicing (JPCG-DMI), the Maintenance Interservice Support Management Office (MISMO) and the Army segment of the Joint Aeronautical Depot Maintenance Action Group (JADMAG), in conjunction with their counterparts in the other

Services, continued to assure consistent emphasis relating to development, implementation, and coordination of an effective Depot Maintenance Interservice Program and to develop, recommend, and implement policy and actions necessary to assure effective and efficient aeronautical depot maintenance in support of Service missions. On 1 April 1981, the Navy assumed chairmanship of the Joint Policy Coordinating Group (JPCG-DMI) and Major General James S. Welsh replaced Major General Benjamin F. Register as the Army member.

(U) During fiscal year 1981, the JADMAG developed a Prototype Aeronautical Depot Maintenance Master Plan. Data calls to the Army, Navy and Air Force were issued in November and December 1980 for input on aeronautical depot workloads, capacity data, etc., for both peace and mobilization. In some cases the data were loosely structured because of short timeframes, but sufficient to develop the prototype master plan and the May 1981 target date was met. The prototype master plan was approved by the Joint Logistics Commanders, and the office briefed the Service staffs, the Assistant Service Secretaries and Dr. Webster, Deputy Assistant Secretary of Defense, Supply, Maintenance, and Transportation.

(U) The JADMAG initiated preparation of an Operational Master Plan. Tasks addressing validation of depot mobilization planning, the development of a mobilization/combat support base methodology, development of depot sizing methodology, and a comparison of the Services' depot cost procedures would provide input to the Operational Master Plan in fiscal year 1982. The target for completion was May 1982. The JADMAG also initiated a Special Helicopter Consolidation Study at the direction of the JLC with a target for completion in December 1981.

(U) During fiscal year 1981, the Joint MISMOs performed pilot studies on Self-Propelled Artillery and Ground Support Equipment. The findings of the Self-Propelled Artillery Study confirmed that a geographically related support concept could provide significant savings in transportation costs. The JPCG-DMI accepted the findings of this study, but concluded that since Self-Propelled Artillery represented only a small portion of the overall heavy combat vehicle area, the study needed to be expanded to cover tanks and all related vehicle configurations, as well as Self-Propelled Artillery. The MISMOs were directed to initiate this action with a target completion date of the 4th quarter of fiscal year 1982. The Ground Support Equipment Study, however showed no significant interservicing potential in that area and the JPCG-DMI agreed to terminate the study.

(U) With regard to other activities during fiscal year 1981, the MISMOs' draft joint regulation on Depot Maintenance Interservicing was staffed within the Services and the JPCG-DMI and was expected to be published during fiscal year 1982. As of 30 September 1981, the JPCG-DMI had approved 232 new start recommendations, reflecting a potential cost avoidance of $174.4 million.

Air Line of Communication (ALOC).

(U) ALOC provided for resupply by airlift to selected supply support activities (SSA) using the Direct Support System (DSS) procedures. All air eligible Class IX repair parts and maintenance related Class II materiel were routinely resupplied to SSAs by military airlift. Materiel was consolidated using 463L pallets at the area oriented depot for direct delivery to the SSA. Accomplishments by area during fiscal year 1981 were as indicated.

(U) Alaska. The order and ship time (OST) for IPD 09-15, ASL, non-backordered Army materiel averaged 28.48 days during fiscal year 1981 with a low of 22.0 days in August and a high of 33.4 days in November. During fiscal year 1981, a monthly average of 13.48 short tons of materiel was lifted to ALOC-A DODAACs.

(U) Europe. During fiscal year 1981, the number of ALOC DODAACs rose by 4 to 102. The increased dependency caused an increase in tonnage flown by MAC. The fiscal year 1981 monthly average rose to 1,600 short tons, an increase of 374 short tons from fiscal year 1980. DA and DARCOM both agreed that the system was operating at full capacity and was achieving its prime objective of practicing the wartime loading and distribution system. The OST for IPD 09-15, ASL, non-backordered Army materiel averaged 26.9 days during fiscal year 1981 with a minimum low of 23.7 days in November 1981 and a maximum of 32.5 days in January 1981. This variation was caused by systems disruption in Europe when procedural changes were introduced. The OST objective for Europe was revised from 20 to 23 days during fiscal year 1981.

(U) Hawaii. The OST for IPD 09-15, ASL non-backordered Army materiel averaged 24.51 days during fiscal year 1981 with a low of 20.5 days in August and a high of 28.7 days in October. During fiscal year 1981 a monthly average of 45.9 short tons of materiel was lifted to ALOC-H DODAACs.

(U) Korea. The ALOC-K OST objective of 31 days for IPD 09-15, ASL, non-backordered requisitions was met by Army with a fiscal year 1981 average OST of 29.4 days. DLA's average OST of 35.0 days paralleled Army's segment performance with the exception of their depot processing and in-transit to CCP times. These two segments combined accounted for the 5-day difference in Army and DLA OSTs. GSA's average OST of 83.6 days was attributed to low volume (less than 1 percent of the ALOC total) and systems problems. The combined average IPD 09-15 OST for Army, DLA, and GSA, during fiscal year 1981 was 32.5 days. Although ALOC performance was measured by the OST of IPD 09-15 requisitions, all priorities of cargo were eligible for ALOC shipment. The fiscal year 1981 average OST for IPD 01-15, ASL non-backordered requisitions was 30.6 days. The OST breakdown by producer for fiscal year 1981 IPD 01-15 was: Army - 28.8 days; DLA - 31.9 days; and GSA - 75.4 days.

(U) Direct Support System CONUS (DSS-C). This system provided for resupply of materiel direct to CONUS supply support activities from the wholesale CONUS depots using unitized throughput service. During fiscal year 1981, extension of DSS to the National Guard was implemented in 14 states, bringing the total of states receiving support under DSS to 32.

Readiness

Introduction

(U) During fiscal year 1981, the Directorate for Readiness underwent various personnel changes. Upon the retirement of Major General George S. Patton on 31 August 1980, and pending the arrival of Brigadier General (P) Arthur Holmes, Jr., Mr. Henryk J. Bukowski, Deputy Director for Readiness, was appointed Acting Director. BG Holmes reported for duty as Director for Readiness on 13 October 1980. With his arrival, the key organizational positions were filled as follows:

Director	BG(P) Arthur Holmes, Jr.
Deputy Director	Mr. Henryk J. Bukowski
Executive Officer	LTC Laud R. Pitt, Jr.
Administrative Officer	Mrs. Evelyn Plummer
Associate Director for Integrated Logistic Support	COL Robert Reynolds
Associate Director for Force Status and Customer Assistance	COL Pierre Brunelle
Associate Director for Force Modernization	COL Richard Nidever
Associate Director for Equipment Improvement	Mr. Ralph Thompson
Associate Director for POMCUS	COL Philip Haun

(U) In November 1980, Mrs. Plummer was accepted for a growth potential position as a Management Analyst in the Directorate for Personnel, Training and Force Development. Mrs. Bonnie Webb was selected as Mrs. Plummer's replacement, reporting for duty on 26 November 1980. Mr.Bukowski retired from Federal Service in Mid-January 1981, but returned as a reemployed annuitant in the Deputy Director position until 13 March 1981. Upon Mr. Bukowski's departure, COL Philip Haun was appointed as Acting Deputy Director in addition to his assignment as Associate Director for POMCUS. COL Reynolds retired from Federal Service effective 31 May 1981, and COL Robert Morrissey was assigned as Associate Director for Integrated Logistic Support effective 1 June 1981.

Integrated Logistic Support

(U) New Equipment Training (NET) and Training Support Work Group (TSWG) Meetings. HQ DARCOM continued to press its policy regarding NET. During fiscal year 1981, ten TSWG meetings were held, two with each major subordinate command, during which NET plans were closely reviewed for any non-justified expenditures of DARCOM resources. The DARCOM policy was one of maximum cost-effective NET. Otherwise, resource expenditures for NET could easily become cost-prohibitive.

(U) New Equipment Training. DARCOM was instrumental in having AR 350-35 republished so as to contain language which would not contradict established DARCOM NET policy.

(U) QQPRI/BOIP Processing Flow. In the preceding year, a backlog of QQPRI/BOIP was eliminated through the combined efforts of HQDA DCSOPS (DAMO-RQR), HQ TRADOC (ATCD-OS), and HQ DARCOM (DRCRE-I and EARA). This was a labor intensive undertaking that brought the process up-to-date. Efforts continued to build checkpoints into the process to preclude future backlogs of missing documentation. The HQDA, HQ TRADOC, and HQ DARCOM effort was a DEPSECDEF initiative and was being accorded extra emphasis in having the required process changes become regulatory guidance.

(U) Test Program Set (TPS) Project. A data collection effort was initiated in 2d quarter fiscal year 1981 to obtain TPS data as related to interface with the AN/USM-410 Electronic Quality Automatic Test Equipment (EQUATE). Data elements addressed TPS identification, performance, cost, and logistic support. The large amount of data received from MSCs and PMs was used to identify/project resource workloads, TPS funding shortfalls, and MOS 35C training profiles. The data were also provided to gaining MACOMs for their analyses of subsequent resource commitments. Action was also initiated to develop a TPS Index and TPS acquisition guidance documents to promote standardization of TPS development and use.

(U) ILS Lessons Learned Program. In continuation of the ILS Lessons Learned Program initiated in fiscal year 1980, the second ILS Lessons Learned Report was issued in June 1981. This program received DA recognition in fiscal year 1981 and was established as a continuing requirement in the 1 April 1981 revision to AR 700-127 on Integrated Logistic Support.

(U) New Systems Fielded During Fiscal Year 1981. Major systems successfully fielded during fiscal year 1981 for which this Directorate provided ILS staff support included the M1 Abrams tank to FORSCOM (one battalion at Fort Hood), UH-60 BLACKHAWK helicopter to CONUS, AH-1S (Modernized) COBRA helicopter to CONUS, and the STINGER missile system to USAREUR. Other significant fieldings during fiscal year 1981 were the Multiple Integrated Laser Engagement System (MILES), the Lightweight Company Mortar System, and the ITV with TOW Night Sight.

(U) GAO Investigation of Logistic Support of the M1 Abrams Tank. The GAO criticized the Army for what it perceived as inadequate in effective front-end logistics planning and the failure to devote sufficient funding and other resources to support the development of adequate M1 Abrams logistics support capability. The Directorate for Readiness consolidated the total DARCOM position, including recommendations, in response to the GAO allegations. However, most of the major recommendations made by the GAO were implemented by the Army. It should be noted that the original M1 program emphasis, as supported by Congress, was to achieve established design-to-cost objectives and field a tank within a seven year development cycle. The Army made an early decision not to fund both GM and Chrysler ILS packages during prototype development. This decision was made on the basis that it avoided double funding for the same requirement. It was planned that low-rate initial production of the tank would provide sufficient time for ILS and supportability to mature before large quantities of tanks were fielded.

(U) LSA/LSAR Documentation. During fiscal year 1981, the LSA/LSAR Review Team Guide (DARCOM-P 700-11) was revised and upgraded from a DARCOM Circular to a DARCOM Pamphlet. The LSA/LSAR Tailoring Procedures Guide (DARCOM-C 700-4) was extended to February 1982 at which time it would be incorporated into a new ILS Contracting Guide. The modeling documents--The Support Model Reference List (DARCOM-P 700-11) and Logistic Support Modeling (DA Pamphlet 750-21)--were revised and submitted for publication.

(U) DARCOM-R 700-13, ILS Performance Evaluation Reporting. The document was completed and made available for distribution. The revision adjusted completeness and timeliness of the System Support Package reporting to encompass the elements of ILS as defined in DODD 5000.39. Also, changes were made in the ILS Milestone Reporting System (ILSMRS) section of the regulation to reflect the changes in the materiel fielding process contained in the 1 April 1981 edition of AR 700-127 to show the interface between ILSMRS, FMMRS, and MARDIS; and to reflect the fully automated ILSMRS programs.

(U) DOD MIL-STD 1388, Logistic Support Analysis (LSA). A Directorate representative participated as a member of the Joint Service/OSD/Industry Work Group revising the subject MIL-STD, serving on four action committees. The committees were: MIL-STD 1388 revision, LSAR MIL-HDBK, Data Item Description (DID) Redundancy Study,and the Junior Executive Committee overseeing the other three committees. Final draft of the revision was being prepared.

(U) MIL-STD 1552, Provisioning Technical Documentation (PTD). A Directorate representative worked through the DOD work group to explore the possibilities of incorporating MIL-STD 1552 into MIL-STD 1388. In support of this effort, a matrix showing the redundancy among the LSAR, MIL-STD 1552, the draft MIL-STD 1388, and the service addendas to 1552 was prepared.

(U) CCSS Subcell 4M66, Integrated Logistic Support Milestone Reporting System (ILSMRS). The Associate Directorate was responsible for the control of the ILSMRS automated system through the chairmanship of the Functional Coordinating Group (FCC) for the Subcell 4M66. HQ DARCOM and the DARCOM development and readiness commands had a completely automated, terminal access management information system for scheduling and tracking milestone events. The system was planned for use in the DARCOM milestone reporting to the Modernized Army Research and Development Information System (MARDIS). The content, format, and distribution of quarterly printed ILSMRS reports and the covering regulation were all controlled by this office.

(U) CCSS Subcell 4M80, Logistic Support Analysis Record (LSAR). CCSS Subcell 4M80, for which the Associate Directorate for ILS provided the functional coordinating group chairman, was scheduled for CCSS Release 62, December 1981.

Equipment Improvement

General

(U) The DARCOM Equipment Improvement Program was characterized by substantial accomplishments in fiscal year 1981. These accomplishments spanned all activity areas of the program from reports of field problems through corrective action programs to final application of modification kits to fielded materiel to improve readiness/performance as well as related policy.

(U) Improvements in the Equipment Improvements Recommendation (EIR) Program. The culmination of many efforts was brought to completion in the EIR program. Changes to TM 38-750 which provided clarification and simplification of submission procedures were published in May 1981. DARCOM-R 750-3 was also completely revised and published. Major changes involved incorporation of procedures for automated data processing of EIR by the Deficiency Reporting System (DRS) and extending the useful life of the EIR and maintenance Digest to two years. DRS became fully operational at all the MSCs in January 1981. System improvements were initiated to make the output products more easily understood, to reduce error in data presentation and to expand the data display regarding final resolution of the EIR.

(U) Modification Application Program. AR 750-10, Modification of Materiel and Issuing Safety-of-Use Messages, underwent a complete revision in fiscal year 1981. It was brought into compliance with Integrated Logistics Support terminology (AR 700-127) by clarifying the use of Materiel Fielding Plans/MWO Fielding Plans when modifications were implemented. Other major changes were to incorporate policy on Safety Recalls for Commercial Vehicles, to extend the application manhour limit for minor alterations from one to two hours and to extend the time compliance date for limited urgent modifications to 180 days.

(U) A major function of the Equipment Improvement Office was to monitor the modification application performance of the MSCs, and keep the program on schedule. In fiscal year 1981, the MSC modification application performance measure was changed from funding to quantities of kits applied versus scheduled. The use of quantity provided a better measure of readiness than funding expenditures. A total of 60,617 kits were applied throughout the Army and National Guard in fiscal year 1981.

(U) Modification Effectiveness Measurement/Analysis Program. Modification effectiveness analysis was being formalized by other military Services and was supported by OSD. Results were improving but the samples were too small to be valid and a number of deficiencies still existed. A project was established with AMSAA and MRSA to build on AMSAA's experience and to establish procedures for data collection as scheduled and financed in the Product Improvement Management Information Report (PRIMIR).

(U) Readiness Reviews/Post-Fielding Reviews. In late 1981, Readiness Reviews were retitled Post-Fielding Reviews to more clearly define when they were conducted in the materiel life cycle. In fiscal year 1981, three Post-Fielding Reviews were conducted by the DARCOM Materiel Readiness Support Activity (MRSA) on the AH-1S COBRA, M915 series trucks, and the M901 improved TOW vehicle. It was recommended that oversea deployment of the AH-1S COBRA be delayed until the logistic support shortcomings were resolved. The M915 series trucks review surfaced supply, manual, and design problems. Similarly, repair parts and quality assurance problems surfaced with the M901 ITV.

Force Modernization

(U) Effective 15 October 1981, DARCOM's Force Modernization Office was realigned and renamed the Modernization Management Division of the Deputy Directorate for Force Modernization and Integrated Logistic Support, Directorate for Supply, Maintenance, and Transportation.

(U) Force Modernization Milestone Reporting System (FMMRS). During a DARCOM FMO sponsored meeting in April 1980, between elements of the DA staff, MILPERCEN-Europe, FORSCOM, and TRADOC, the FMMRS was agreed upon as a much needed management tool to enhance the modernization planning for new systems throughout the Army. The FMMRS was a standard management information system that integrated and portrayed key milestone events associated with the fielding of new systems. The milestone events were selected by commands and agencies to track development and deployment of new, improved, or redistributed Army materiel.

POMCUS

(U) POMCUS responsibilities included accomplishing and/or coordinating actions required of DARCOM, in support of DA plans to rapidly reinforce NATO through increasing prepositioning of organizational materiel configured to unit sets.

(C) During CY 1979 (FY 1980) and CY 1980 (FY 1981) a large amount of equipment (approximately 5,168 pieces) was withdrawn from CONUS Active and Reserve units to fill shortages in both POMCUS and War Reserves in USAREUR.

The Associate Director for POMCUS was charged with insuring total amounts of equipment were withdrawn, items passed through DARCOM depots for repair/modification/adjustment as required, and requisitioned properly by USAREUR for shipment to Europe. This program was not without problems: Active and Reserve units shipped items not meeting established serviceability standards; permission was requested and granted from HQDA to ship substitute items without informing HQ DARCOM; some requisitions were not submitted in a timely manner to afford shipment; and some equipment was received in DARCOM depots missing BII or COEI. During March 1981, DA suspended all ongoing or planned withdrawals pending outcome of proposed supplemental procurement for POMCUS-type equipment. This suspension on withdrawals did not, however, preclude selective withdrawals at later dates.

(U) Prior to fiscal year 1981, the POMCUS unit sets were made up of different projects known respectively as REFORGER, 2+10, MR. LOGAEUR, MEDICAL Augmentation and Division Set 4. The REFORGER and 2+10 packages were redesignated as follows: Division Set 1 (formerly REFORGER) consisting of equipment for an Army Division with associated combat support and non-divisional combat service support units; Division Set 2 (formerly a part of 2+10) consisting of equipment for an Army Division with associated combat support and non-divisional combat service support units; Division Set 3 (formerly a part of 2+10) consisting of equipment for an Army Division with associated combat support and non-divisional combat service support units.

(C) In the past USAREUR based force planning on a requirement of 22,000 personnel to support each D-Day Division in Europe. The fiscal year 1980 Consolidated Guidance (CG) directed a reduction to 19,000 personnel per division, while the Amended Program Decision Memorandum (APDM) directed a reduction to 16,000 personnel per division. In attempting to comply with the fiscal year 1980 guidance USAREUR undertook a complete detailed analysis of an Essential Force (EF) to support the M+10 (D-Day) force. Based on this analysis, USAREUR submitted an M+10 EF proposal to DA, the major points of which were elimination of the MR LOGAEUR and MEDICAL Augmentation POMCUS packages per se, and realigning these forces into an M-Day package; support requirements for all POMCUS Division sets were identified; deletion of 115 non-divisional CS and CSS units which could not be supported in their analysis; modularization of the Time Phased Force Deployment List (TPFDL).

(U) Based upon the USAREUR plan, the POMCUS Office performed an initial survey of the equipment that would be available for redistribution to other units within POMCUS. Of the approximately 10,000 pieces of equipment authorized, 6,500 were on hand. Most of the equipment was of the type that was in fairly good supply position throughout POMCUS so that most of these excesses would be held for POMCUS Division Sets 5 and 6. CEGE was advised, however, to submit cancellations on all outstanding requisitions for the deleted units. This was expected to result in a savings of OMA transportation funds.

(U) During fiscal year 1981, this office was tasked to review the Draft fiscal year 1982 POMCUS TAADS. The purpose was to review the initial PREPO (Preposition) and exclusion lists to determine the appropriate category in which each LIN (Line Item Numbered) should be placed. Approximately 1,800 LINs were reviewed and responded to with the majority being recommended for inclusion as PREPO items.

(U) During fiscal year 1981 there was an overall 17 percent average increase in units achieving EOH C-1 readiness in POMCUS. Fill of Division Set 4 (NORTHAG) was started during the fiscal year. Enhancement/improvements accomplished during fiscal year 1981 within the Associate Directorate for POMCUS were: Data concerning CL II item requirements for POMCUS were added to the POMCUS LIF Report. This addition provided intransit visability on a greater range of POMCUS assets destined for USAREUR.

(U) The US Army DARCOM Materiel Readiness Support Activity (MRSA) was tasked to develop a program which would project POMCUS unit readiness. This enabled the projection of unit status to be accomplished by machine rather than by the "stubby pencil" method.

(U) Improvements were made in conjunction with HQDA in the computer products regarding readiness/tonnage reports for POMCUS. These improvements were based on realigning previous outputs into 10 different reports which were:

Part I	Executive Summary
Part II	Tonnage Analysis
Part III	LIN Analysis
Part IV	Unit Set Analysis (ERC A)
Part V	Unit Set Analysis (ERC A & B)
Part VI	Unit Set Overage Analysis (ERC A, B, & C)
Part VII	Unit Set Shortage Analysis (ERC A LINS and Sets less than C-1)
Part VIII	LIN Overage Analysis by MRC (ERC A, B, & C)
Part IX	LIN Shortage Analysis by MRC (ERC A, B, & C)
Part X	Shortage Analysis

Procurement and Production

Introduction

(U) Several key personnel changes occurred in the Procurement and Production Directorate during fiscal year 1981. On 18 January 1981, Mr. George E. Dausman accepted a position with the Assistant Secretary of the Army for Research, Development and Acquisition and Mr. William L. Clemons was selected to become Deputy Director in February 1981. Major Ivory J. Fisher was reassigned to the Deputy Chief of Staff for Research,

Development and Acquisition and Major David M. Emling was appointed Executive Officer for the Directorate on 19 April 1981. Colonel Lewis W. Wright retired on 31 May 1981 and was replaced by Colonel Ronald C. Baldwin as Associate Director for Programs on 10 July 1981. Upon retirement of Colonel William F. Williams on 28 May 1981, Lieutenant Colonel John W. Fringer served as Associate Director for Production until 6 August 1981 when he was replaced by Colonel Robert F. Bowers. Lieutenant Colonel Fringer retired on 31 October 1981. Turnover of personnel had no adverse effect on mission accomplishment.

(U) On 4 December 1980, the title of Associate Director for Industrial Base was changed to Associate Director for Production in order to more appropriately reflect the mission of the office. Although this was not a new mission, it was a Directorate function that previously had not been given the required emphasis due to resource constraints.

(U) Several organizational changes which were anticipated during the scheduled realignment of HQ DARCOM included: Change of Associate Directorates to Divisions, establishment of a Procurement Management Division, transfer of Associate Director for Programs to the Directorate for Supply, Maintenance, and Transportation.

Program Guidance Changes in FY 1981

(U) New Legislation included the Critical Materials Act of 1981 (H.R. 4281) and National Materials and Minerals Policy, Research and Development Act of 1980, which provided new guidance. In addition, the Department of Commerce proposed Regulation: "Defense Priorities and Allocations System (DPAS)," intended to replace the Defense Materials System (DMS) Regulation 1 and the Defense Priorities System (DPS) Regulation 1, both dated 1974; also DOD letter guidance "Defense Production Act - Title I: Use of Priority Rating Authority During Contract Solicitation Procedures and Mandatory Extension of Priority Rating on Purchase Orders," changed the operations of this Directorate.

(U) Support of High Level Committees. The National Academy of Sciences, National Materials Advisory Board (NMAB), Committee on Technical Aspects of Critical and Strategic Materials, and the DOD/Inter-Agency Materials Availability Steering Committee had as DA/DARCOM liaison representatives, Mr. Clark Winner and Mr. Charles Peterson. The DOD Priorities and Allocations Council similarly had as DA/DARCOM liaison representatives Mr. Charles Peterson and Mr. Clark Winner.

(U) Mr. Charles Peterson and Mr. Ray Fisher comprised the DA/DARCOM liaison to the DOD/Industry Standing Committee on Diminishing Manufacturing Sources and Materials Shortages (DMSMS), and were members of the DOD/Army/Air Force/Defense Logistics Agency Study Group on Implementation of DOD Directive 4005.16, Diminishing Manufacturing Sources and Materials Shortages (DMSMS).

(U) Mr. Manfred A. Lynch was DA/DARCOM liaison to the Junior Program Budget Advisory Committee (PBAC), which was part of the Program Planning Budget Support (PPBS) at DARCOM. The Committee was composed of key representatives from functional directorates, Comptroller, Personnel Training and Force Development, and Program Analysis and Evaluation. This committee was responsible for balancing program dollars and manpower, and making recommendations to senior PBAC.

(U) Joint Logistics Commanders (JLC) Areas of Interest. The Directorate also provided support to various JLC efforts, such as the Manufacturing/Production Management Panel, its subpanel on Lengthening Leadtimes, the ad hoc group on Forgings and Castings, the ad hoc group on DOD Priorities and Allocations Program, the subpanel on Diminishing Manufacturing Sources and Materials Shortages (DMSMS), the ad hoc group on Long Fiber Chrysotile Asbestos, and the subpanel on Emerging Technologies and the need for a large forging press.

(U) Defense Materials System (DMS), Defense Priorities System (DPS) and Special Priorities Assistance (SPA). As a result of extensively lengthened leadtimes, DARCOM emphasis was concentrated on assuring up-to-date command knowledge on DMS, DPS, and SPA. Briefings, training sessions and technical discussions had been held with field operations personnel on a continued basis throughout fiscal year 1981. In addition, during 1981, DARCOM had, in conjunction with the Department of Commerce, initiated DMS/DPS seminars for industry and staffed information/display booths at industry and trade expositions.

(U) Problems existed in the manpower area due to retirements, reduction-in-force, reorganizations, lack of training and inadequate funding which had eroded DMS/DPS/SPA capabilities. DARCOM had prepared a DMS officer certification instructional program for presentation to MSC designated DMS officers. While the principal effort was directed toward basic familiarization with the DMS/DPS system to include Special Priorities Assistance procedures, allocations and allotments, Bill of Materials computations, Controlled Materials Requirements, etc., emphasis was to be placed on the attendees actively conducting briefings and seminars for industry and government procurement, program, and contracting personnel.

(U) To facilitate training in the DMS/DPS area, video tapes and films were prepared and distributed accordingly to the MSCs and associated activities for familiarization and training for DMS, procurement and contractor personnel.

(U) Action was also initiated with the Defense Systems Management College to update, improve and expand the presentations in the DMS/DPS area. Separate and distinct multi-media presentations would be prepared on the Master Urgency List (MUL), Special Priorities Assistance (SPA), Controlled Materials Requirements, etc., in addition to an all inclusive presentation tailored to the particular requirements of the audience.

Diminishing Manufacturing Sources and Materials Shortages (DMSMS)

(U) The Joint Logistics Commanders (JLC) Subpanel for DMSMS completed all assigned tasks and recommended termination of this effort. The Army implementation was included in the AR 700-90, Army Industrial Preparedness Program, which was being processed for publication. The Defense Electronics Support Center (DESC) continued to experience most of the DMSMS problems due to older electronics technology phase-out. Such technology was required to support aging military equipment and Foreign Military Sales (FMS) requirements.

(U) The DOD/Industry Standing Committee on DMSMS was established to obtain industry thoughts and assistance in alleviating DOD DMSMS problems. Mr. John Osterday - OUSDR&E(AP) was the DOD representative supported by participation from various industrial associations. Military service/ Defense Logistics Agency (DLA) personnel would also support OUSDR&E efforts.

(U) A DOD/Army/Navy/Air Force/DLA Study Group was established to oversee implementation of DOD Directive 4005.16, Diminishing Manufacturing Sources and Materials Shortages (DMSMS). Several meetings were held to discuss specific problems, such as lack of sources for older semiconductors and inability to relate requirements predictions to end item use. These were continuing DMSMS problems which were under investigation for resolution.

(U) Master Urgency List (MUL) Nominations. The revised DOD Master Urgency List (MUL) was published 5 January 1981, superseding the fiscal year 1978 MUL. The MUL provided the relative priority ranking for listed programs and provided the basis for determining the assignment of R&D, production, and test resources. There were two priority categories in the Master Urgency List: BRICK BAT and CUE CAP. The BRICK BAT Category consisted of programs which had been designated by the President as the highest national priority. Programs in the CUE CAP Category were designated by the Secretary of Defense to be of the highest DOD priority. Two additional Army items were approved by the President as items of the highest national priority, thereby qualifying for use of the DX (BRICK BAT) industrial priority rating throughout the commercial contractor, subcontractor, supplier/vendor support structure. The MUL had been amended to reflect this action.

(U) Additional technical evaluation of four DARCOM MUL nominations were performed throughout fiscal year 1981. One recommendation was submitted to higher echelon relative to prioritization in the BRICK BAT (DX) category which was still under consideration.

National Defense Stockpile of Strategic and Critical Materials

(U) As a result of the National Materials and Minerals Policy, Research and Development Act of 1980, there had been extensive activity in the DOD materials functions. The new administration placed emphasis in the materials area which outmoded many aspects of previous operations. The new legislation assigned new responsibilities to the Secretary of Defense, which had not been implemented to the military Services through DOD program guidance at the end of year fiscal year 1981.

(U) A variety of materials studies were performed, however, in direct relation to the newly assigned DOD responsibilities. Most notable was the DOD sponsored Institute of Defense Analysis (IDA) study of Critical Materials which assisted the Secretary of Defense in meeting a Congressionally imposed reporting requirement in October 1981. The IDA study assessed critical materials needs related to National Security and provided a series of policy options for consideration in the DOD Report to Congress.

(U) Extensive analysis of stockpiling requirements was a continuous effort. DARCOM normally performed six to eight special materials studies per year. In contrast, during fiscal year 1981, over 60 studies were conducted as well as a serious evaluation of Army requirements methodology.

(U) ARRCOM had initiated and subsequently had been tasked by DARCOM to develop an expanded automated Bill of Materials to include strategic and critical materials which would facilitate responsiveness to DA or DOD special material inquiries in subsequent years.

(U) Most of this effort related to growing US dependency on foreign sources for many materials, such as cobalt, titanium and chrysotile asbestos in addition to critical shortages of domestically produced hi-purity silicon and ammonium perchlorate.

(U) On-going activities of major interest were: DARCOM fully supported Federal Emergency Management Agency (FEMA) actions to revitalize Title III of the Defense Production Act and actively assisted the General Services Administration (GSA)/FEMA efforts to rotate and upgrade the stockpile; analyses of materials utilization and availability were being conducted on asbestos, chrysotile, ammonium perchlorate and a variety of other materials; reduction of National Stockpile deficits during 1982 were achieved through the acquisition of titanium sponge and other materials, and DARCOM personnel were involved in high level study groups concerned with materials, as the National Materials Advisory Board (NMAB) of the National Academy of Sciences.

Modernization and Expansion of the Ammunition Production Base

(U) Funds in the amount of $267.3 million were released in fiscal year 1981 to continue the Army's effort to modernize and expand ammunition production facilities. The available funds were divided into three major categories: $28.3 million for the establishment of initial production facilities, $194.9 million for expansion of the production base and $44.1 million for modernization of obsolete, antiquated and worn out production facilities.

(U) Modernization of Cannon Producing Facilities at Watervliet Arsenal. Project REARM, the Renovation of Armament Manufacturing was expected to more than double Watervliet Arsenal's production capacity. Construction and renovation began and was scheduled to be completed in 1984, with the third and final phase of the MCA construction to be started in 1982. In addition to the new construction program, $155 million was to be invested over an eight year period to rehabilitate existing equipment or purchase new plant equipment; of which a total of $30.2 million was obligated for that purpose in fiscal year 1981.

(U) Modernization of Rock Island Arsenal (RIA) REARM. REARM at RIA was to begin in fiscal year 1982 with design and other preliminary efforts which would minimize the project's disruption of production. In order to ensure a good start for the project, many briefings and much staff work was done this past year. The estimated total cost for REARM at RIA was $228 million of which $36 million was for MCA and $142 million for the purchase or renovation of equipment. REARM was expected to reduce mobilization preparedness leadtimes by 10 months and provide for increased production rates of approximately 43 percent.

(U) Production Base Support. A record amount of funds, $123.440 million, (OMA direct funds) was obligated for Industrial Preparedness Operations (IPO) in fiscal year 1981. This funding was sufficient to finance high priority annual maintenance at laidaway GOCOs and laidaway portions of active GOCOs. Also $25.9 million was applied to correct deferred maintenance deficiencies which resulted from prior year's underfunding. Through a combination of funding and validation of projects where there were no valid deferred maintenance deficiencies remaining at the GOCOs and GOGOs. There remained $23.2 million of unvalidated deferred maintenance deficiencies which would require further analysis.

(U) The PBS program by appropriation was:

	Appropriation	$ Millions
1.	Aircraft	$21.350
2.	Missiles	37.200
3.	Weapons and TCV	299.550
	TCV	(236.118)
	Weapons	(63.432)
4.	Ammunition	346.800
5.	Other	45.486
	Tactical	(4.674)
	Comm/Electronics	(21.335)
	Other Support Equipment	(19.477)
	Total	$750.386

(U) Redirection of Industrial Preparedness Planning. Fiscal year 1981 was designated as a transition year for Industrial Preparedness Planning in order to establish a credible base for planning purposes. The proper execution of the planning function had been hampered over the years by lack of valid mobilization requirements and realistic planning assumptions, as well as the manner in which items to be planned were selected. In previous years, items to be planned were selected by the MSCs, with no clear understanding of overall Army or other Service requirements.

(U) To alleviate these problems, DA prepared a Critical Items List of items to be planned, using realistic planning assumptions and valid mobilization requirements. The MSCs submitted additional items for DA and DARCOM to review and consider for incorporation into the Critical Items List. The finalized list was to be published as the fiscal year 1982 Industrial Preparedness Planning List (IPPL) and was to be the basis for subsequent Industrial Preparedness Planning.

(U) XM1 Tank Production Facilities. The Army obligated $988 million through fiscal year 1981 for facilities to produce the M1 tank. Of this amount, $528.1 million was utilized by production engineering and tooling, while $459.9 million went to construction and plant equipment. The total cost of M1 tank facilities was to be $1,026.4 million. With the facilities in use in fiscal year 1981, Chrysler could produce 30 tanks per month. Additional investments through fiscal year 1982 would provide added capacity to the Lima Army Tank Plant and new capacity at the Detroit Arsenal Tank Plant which would increase production output to 60 tanks per month using one shift and 150 tanks per month with three shifts.

(U) Progress in Applying Cost/Schedule Control Systems Criteria (C/SCSC). The number of accepted implementations of the DOD Cost/Schedule Control System Criteria (C/SCSC), involving DARCOM-led reviews, increased at the end of fiscal year 1981 to 167, with 28 accomplished during fiscal year 1981. There were 30 more applications of C/SCSC in various stages of the implementation process at the end of fiscal year 1981.

(U) Should Cost. The Army's Should Cost program for fiscal year 1981 continued to demonstrate the effectiveness of Should Cost as a management tool to contract negotiations that provided in-depth knowledge for establishing and negotiating the Government's position relative to contract cost/price. During fiscal year 1981, ten Should Cost studies (one per MSC) on non-competitive procurements over $10 million were planned. However, one procurement was cancelled and two Should Cost efforts were still in contract negotiations with awards forecast for December 1981. For the seven completed Should Cost efforts, the following results were accomplished:

Proposed Contract Cost	$1,742.6 million
Negotiated Procurement Cost	1,321.1 million
Negotiated Reductions	
Dollars/Percent	421.5 million/24.2%
Estimated Cost/Study	$150 thousand

(U) A review of 151 procurement actions under $10 million and 29 procurement actions over $10 million resulted in a 10.8 percent reduction utilizing the traditional method of establishing and negotiating the Government's objectives.

(U) The HQ DARCOM Procurement and Production Directorate, under realignment, established a separate Should Cost Branch under the Contract Cost Management Division to broaden the application of Should Cost as the accepted method for establishing and negotiating the Government's position relative to contract cost/price. At yearend 1981, regulations and procedures were under intensive review for implementation of the expanded use of Should Cost in fiscal year 1982.

(U) Independent Assessment of Contracts in Project Managed Programs. The personnel shortage was alleviated during the year, enabling the Directorate to fulfill the added contract performance analysis resulting from headquarters realignment. The DCGMD was presented the results of their independent analysis of cost/schedule performance and projections six times during the year, and he received the same type of information an additional four times as a result of the quarterly review of Selected Acquisition Reports on seventeen programs.

(U) Significant progress toward achieving an in-house automated analysis and briefing chart preparation capability was made. The depth of analysis and timeliness of output would improve considerably. The program was to run on the COPPER IMPACT time sharing computer system, which was also being used in other divisions of the Directorate.

(U) In fiscal year 1981, DARCOM accomplished 100.3 percent of its Army Procurement Appropriation execution goal.

Total Available Program	$14,358.9 million[4]
Obligation Goal	11,683.5 million[5]
Obligation Performance	11,714.5 million[6]

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4 APARS CSCFA-208 Status of Allocations/FY-end 81 Report as of 30 Sep 81.

5 DARCOM Procurement Execution Monthly Variance Report as of 30 Sep 81.

6 Ibid.

(U) Time-Sharing Technology Applied to COPPER IMPACT Program. This program was designed to improve the Army's pricing capability through the application of computer technology to the procurement/pricing process.

(U) Terminal capabilities in the DARCOM subordinate commands were upgraded from the original fiscal year 1977 installation with equipment that operated at four times the speed of the initial equipment in fiscal year 1981. The cost for rental equipment was essentially the same as the rates charged for the initial equipment. Also, a terminal was installed during fiscal year 1981 for HQ DARCOM's use.

(U) During fiscal year 1981, the three major subordinate commands' usage increased by 100 percent over the previous fiscal year. Even greater use of the COPPER IMPACT system was anticipated for fiscal year 1982 for the evaluation of contractor proposals, financing decisions, management tracking and should-cost efforts.

(U) Secretarial Determination and Findings (D&Fs). The Office of the Assistant for Policy of the Directorate for Procurement and Production, during fiscal year 1981, received and staffed for Secretarial Approval, 386 RDT&E D&Fs under 10 U.S.C. 2304 (a)(11), having an estimated value of $3,315,742,497 and 49 procurement appropriation D&Fs under 10 U.S.C. 2304 (a)(13); (14) and (16) having an estimated value of $12,109,342,089.

(U) Procurement Automated Data and Document System (PADDS). PADDS was our mini-computer based system designed to automate the procurement solicitation process, the contract award and modification process, and produce selected management reports. This system was scheduled to be installed at our MRCs by October 1980. Due to delays, the first phase was not implemented until 9 March 1981 for creation of purchase orders. PADDS follow-on was implemented in September 1981.

(U) Acquisition Planning and Tracking System (APATS). The CCSS was not programmed to accept the entry of data pertinent to acquisition planning and tracking prior to the issuance of a procurement work directive (PWD), funding document. Modification of the CCSS to accept planning and statistical data prior to the issuance of funding documents would provide the MRCs with the ability to develop planning milestone schedules and reporting procedures for use of management for selected items and also satisfy the various forecasting and report needs of the MRCs. This system was scheduled for installation at the MRCs by May 1981, but was delayed until November 1983.

(U) Procurement Automated Manpower Utilization and Projection System (PAMUPS). As a by-product of PADDS and APATS, PAMUPS was expected to provide an automated procurement personnel productivity measuring system for managing and justifying resources. The key aspect of this work measurement system was that it required no direct input to attain manpower projections on a uniform work measurement basis predicted on engineered and statistical standards. The targeted date for implementation of PAMUPS was April 1980 but it was delayed until June 1983.

Procurement Support to PM, Saudi Arabian National Guard (SANG)

(U) The Office of the Assistant for Operations (DRCPP-SS) during fiscal year 1981, provided procurement support to the Office of Project Manager, Saudi Arabian National Guard (SANG). These efforts included the participation in two Program Reviews. Noteworthy events, as result of this participation, were: The resolving of a long standing acquisition problem leading to delivery of TA-1/PT telephone; and initiation and monitoring of a project to identify alternate sources of supply for V-150 Commando Armored Car repair parts. During FY 1981 a review and approval of award was conducted of a major training contract to support the SANG through fiscal year 1986 in the ceiling amount of $371,839,975, under a cost plus fixed fee/award fee/base fee contract. An on-site review of Project Manager SANG Procurement Operations was accomplished which resulted in the implementation of a number of procurement efficiencies and offered a potential for an increase in productivity. Assistance was provided on the SANG Medical Program including a review and analysis of a proposal to staff and manage a 200-bed hospital center plus ancillary activities at a cost in excess of $400,000,000.

(U) Automatic Data Processing (ADP) Agreement. An interdirectorate agreement between the Management Information Systems Directorate (DRCMS) and the Procurement and Production Directorate (DRCPP) was accomplished on 19 March 1981. This agreement established close coordination between the procurement and automation personnel in an attempt to minimize procurement problems in the automation area. The acquisition guidance function included the Office of the General Counsel when appropriate. Key topics covered were replies to IG, GAO and AAA criticism in addition to special reviews for multi-command ADP purchases. A careful review was also made before any informal agreements were completed between a contractor and Government automation personnel.

(U) Productivity Study of DARCOM HCA Activities. A study of the productivity of the procurement activities for which DARCOM was the Head of Contracting Activity (HCA) was made with emphasis on the procurement activities at the depots under DESCOM. The analysis showed, with the exception of Sacramento, there was not a significant difference in the complexity of procurement mission; a wide difference in the number of procurement actions processed per person (from a low of 240 to a high of 743); the number of productive man hours per procurement action varied from 2.3 hours to 7.3 hours; and the average cost per procurement action ranged from $19.92 to $75.97.

(U) As a result of this analysis, a standard average procurement lead time was established for all depot purchasing activities to be measured against. A workflow diagram was requested from each office with feedback provided on identified bottlenecks and areas of less efficient operations. Additional assistance was also provided during the staff surveillance visits.

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Plans, Doctrine and Systems

Introduction

(U) Fiscal year 1981 was a very full and productive year for Plans, Doctrine and Systems. DARCOM's ability to complete its wartime mission was the major emphasis for fiscal year 1981. The Directorate for Plans, Doctrine and Systems was then disestablished at the beginning of fiscal year 1982, with the implementation of the HQ Realignment.

(U) The three areas of notable progress included the publication of DARCOM LOGPLAN 4102, the establishment of the Mobilization Automation Work Group, and the signing of the DARCOM-Eighth US Army Memorandum of Agreement.

(C) DARCOM LOGPLAN 4102, published after extensive coordination, provided for supply, maintenance, TMDE, and logistics assistance support for US Army forces deployed in the defense of Europe. This LOGPLAN established specifics for support which had never been previously worked out and was a major step forward in DARCOM's ability to perform its wartime mission.

(U) The Mobilization Automation Work Group was established by the Logistics Systems Review Committee to specifically work to make DARCOM's automated systems more capable to support the mission during mobilization.

(U) DARCOM negotiated an umbrella Memorandum of Understanding to establish the exact relationship between DARCOM as the Wholesale Supplier and the Theater Army Commander. This MOU also provided general policy guidance for all DARCOM subordinate elements when negotiating support agreements with OCONUS MACOMs or elements thereof.

(U) Although the Directorate for Plans, Doctrine and Systems was disestablished in the HQ Realignment, all divisions were transferred with missions and functions to other major directorates within the Headquarters. The Associate Directorate for Systems and the War Reserve Office were moved to the Directorate for Supply, Maintenance and Transportation; and the Associate Directorate for Concepts and Doctrine and the Associate Directorate for Military Plans and Operations were moved to the Directorate for Readiness.

LOGEX 81

(U) LOGEX 81 was a JCS directed, CPX, free-play exercise, conducted at Camp Pickett, Virginia, from 9-22 August 1981, to train COSCOM/Battalion Commanders and their staffs in wartime logistics actions and procedures, to emphasize the interface between combat, combat support and combat services support organization, functions, and procedures and to emphasize Army

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Logistics Doctrine. Participation included 110 units of the active Army, Army Reserve, the National Guard, the US Marine Reserve 4th Division and members of the USAF Tactical Air Command, the USAF Military Airlift Command, the Air Weather Service and the Military Sealift Command. Headquarters, DARCOM provided a four-man liaison team to LOGEX 81, whose mission was to familiarize DARCOM with LOGEX procedures in anticipation of an expanded wholesale logistics role in future exercises.

(C) Rapid Deployment Force-Army (RDF-A) Class V Requirements. During fiscal year 1981, FORSCOM and DARCOM continued efforts regarding the evaluation and consolidation by depots of Class V basic loads of ammunition as requested by FORSCOM in March 1980. ARRCOM and MICOM developed procedures and provided data to FORSCOM enabling FORSCOM to evaluate its upload and transport capability. The data provided by ARRCOM and MICOM allowed FORSCOM to determine the additional transportation assets needed to simultaneously move both the unit and its accompanying basic load. In June 1981, by mutual agreement between the Directorates for Supply and Maintenance and Plans, Doctrine and Systems, the Associate Directorates for Military Plans and Operations transferred the Basic Load (Class V) Mission responsibilities to the Associate Directorate for Supply and Distribution as outlined by DARCOM Regulation 10-2.

(U) TPME Phased Force Deployment Data (TPFDD) Conference. During fiscal year 1981, DARCOM planners participated in development conferences on OPLANS 4102, 1003, 5027, and 5000/5001 at the Joint Deployment Agency, MacDill AFB, Florida. These conferences served to refine the TPFDD data utilized to plan force deployments to specified theaters of potential conflict or to meet requirements of specific deployment scenarios. Refined TPFDDs then became the basis for composition and computation of requirements of DARCOM Logistics Support Plans.

(U) DARCOM LOGPLAN 1003-81, in support of the Rapid Deployment Force-Army (RDF-A), was published in draft on 31 August 1981 and authorized for use for planning purposes. With the draft plan as basis, DARCOM subordinate commands computed and provided initial preplanned supply support requirements to Commander, RDF-A. The Commander RDF-A was scrubbing the computations of all but combat essential items which would be prepared by the RDF-A and prepositioned ready for release to the wholesale supply system on plan execution.

(C) DARCOM/USAREUR Logistics Support Concept. DARCOM planners in coordination with USAREUR DESLOG planners developed a Logistics Support Concept for support of USAREUR/Seventh Army OPLAN 4102-82. The Concept provided a statement of types of logistics support which would be furnished USAREUR by DARCOM upon execution of OPLAN 4102. This concept would be used as the basis for DARCOM LOGPLAN 4102-82. The most significant change from prior support concepts, was in the area of preplanned supply support. Under the new concept USAREUR would identify critical items of supply in all classes and prepare requisitions to be prepositioned at appropriate DARCOM NICPs/SICCs for release upon instructions from the theater commander.

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(C) DARCOM LOGPLAN 4102. DARCOM LOGPLAN 4102 supported USAREUR/Seventh Army OPLAN 4102, Defense of Europe. LOGPLAN 4102 was published on 14 October 1981, and provided for supply, maintenance, TMDE and logistics assistance support for US Army Forces employed in defense of Europe. Supply Support would be provided through a combination of USAREUR developed prepositioned requisitions, operational project stocks and a precomputed ASL package. Maintenance support would basically consist of augmenting theater maintenance assets with AVCRAD capability. DARCOM's Theater TMDE support was to be augmented by deploying DARCOM's CONUS based TMDE support teams. DARCOM's Logistics Assistance capability in-theater would be supplemented by the addition of approximately 43 Logistics Assistance Details (LADs).

(U) DARCOM War Emergency Plan (DARCOM-WEP). The DARCOM-WEP was extensively revised, based upon the Headquarters DARCOM realignment during fiscal year 1981. This plan implemented the DA Continuity of Operations Plan, the Emergency Action Procedures, and other plans of higher and lateral headquarters.

(U) Exercise PROUD SPIRIT/MOBEX 80. During the period 6 through 26 November 1980, Headquarters, DARCOM and its major subordinate commands, installations and activities participated in Exercise PROUD SPIRIT/MOBEX 80, a JCS/DA exercise designed to test the capability of JCS, DA, and other Services to respond to mobilization requirements. One of the most valuable benefits derived from the exercise was the evaluation of installation planning at Fort Monmouth, New Jersey, one of DARCOM's four designated mobilization stations. The Installation Mobilization Plan was thoroughly evaluated through the simulation of troop units reporting to the post during mobilization. The exercise was also instrumental in identifying in-house shortfalls in such areas as depth of staffing, ADP support, and fill of technical MOBTDA positions, as well as other areas.

(C) Nuclear Weapons Accident Exercise (NUWAX) 81. During the period 21-23 April 1981, the Associate Director for Military Plans and Operations and other DARCOM elements participated in the joint DOD/Department of Energy NUWAX 81. NUWAX 81 was conducted in the Nevada test site and involved Federal agencies, state and local organizations, other Services, commands, and DARCOM elements. During this period, the DARCOM Operations Center was activated and augmented by involved DARCOM staff elements. DARCOM's role primarily included execution of planning guidance as provided in Annex D, Nuclear Accident/Incident Control Plan, and DARCOM disaster control Plan. This involved the alert and dispatching of a DARCOM General Officer On-Scene Commander and his staff to the accident site, and providing air transportation for the On-Scene Commander and other responsive operational elements tasked to respond to the accident scene. The DARCOM Operations Center also responded and coordinated on logistics support tasking from DA and the accident site.

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(U) President's Inauguration Support. In November 1980, the Military Plans and Operations Office responded to a request from DA Director of Military Support to release four commercial FM radio packets from the Lexington and Sacramento Army Depots to the Military District of Washington Inauguration Committee. Also, as requested by DA, the Plans Office made the necessary arrangements to have CECOM provide 200 PRC-77 radios from wholesale stocks to the Inauguration Committee. The radio packets and separate radios were used as part of the overall communications operations supporting the President's inauguration ceremonies.

(U) DARCOM's Disaster Control Plan. A new DARCOM Disaster Control Plan, dated 17 August 1981, was published and distributed to all DARCOM subordinate commands, separate installations, and activities reporting directly to DARCOM. The plan was also distributed to other commands and agencies supporting Army disaster relief operations. The DARCOM plan implemented the new AR 500-60, "Disaster Relief," dated 1 August 1981. In addition, it updated Federal organization, symbols and planning guidance on disaster relief. The plan also included revisions relating to search and rescue operations, crisis emergency relocation, communications-electronics and logistics support.

(U) Cuban Refugee Support. During the Cuban Refugee Support period, the Military Plans and Operations Office was tasked by DA, Director of Military Support to furnish wholesale resources and portable commercial FM radio packets to US Army elements and the Federal Emergency Management Agency in support of the existing DOD Cuban Refugee Support Program. Radio packets were released from DA controlled prepositioned stocks located at Lexington, Sacramento, and Tobyhanna Army Depots where these commercial radio packets were stored as civil disturbance/disaster relief operational project resources. The radio packets were released to support operations in Miami, Florida; Indiantown Gap Military Reservation, Pennsylvania; and Fort Chaffee, Arkansas. Two packets were still in use at Fort Chaffee, at yearend, which were to be retained until operations were terminated at that location. Also, during the initial processing and housing of Cuban refugees throughout CONUS, the Military Plans and Operations Office was the interface with DA and subordinate DARCOM commands and depots to coordinate the loan or release of wholesale resources for Cuban support operations.

(C) Exercise POLL STATION 81. Exercise POLL STATION 81 was a 13-day JCS-sponsored command post exercise, which commenced on 9 March 1981 and terminated on 21 March 1981. The POLL STATION 81 exercise interfaced with the NATO Exercise WINTEX/CIMEX 81 scheduled for the same period. The exercise implemented appropriate plans and tested crisis management procedures during a simulated period of deteriorating worldwide politico-military relations. The conflict escalated into a conventional war between USSR and Western forces, and terminated with the limited use of tactical nuclear weapons. During exercise play, the DARCOM Operations Center was staffed on a 24-hour day basis. The Materiel Readiness commands, the

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Depot Systems Command, and New Cumberland Army Depot also participated on a 24-hour per day basis. The remaining major subordinate commands played on an as-needed basis during regular duty hours. The overall value of the exercise to the DARCOM community was minimal due to pre-exercise assumptions and artificiality which effectively limited meaningful logistics play.

(C) Exercise POTENT PUNCH 81. Exercise POTENT PUNCH 81 was one of a series of annual regionally oriented CPXs conducted by the Joint Chiefs of Staff. The exercise commenced on 13 September 1981 and continued with around-the-clock play through 18 September 1981. Exercise POTENT PUNCH 81 was integrated with the ROK/US Combined Forces Command annual CPX ULCHI/FOCUS-LENS, which was conducted from 8-26 September 1981. The broad scenario depicted North Korean forces preparing for an attack along traditional invasion corridors. Plans were implemented for the defense of South Korea, and ROK National Command Authorities requested US military assistance. The Commodity Commands, Materiel Readiness Commands, US Army Security Assistance Center, US Army Depot Systems Command, and selected depots participated in exercise play. Major DARCOM lessons learned from the exercise concerned the Worldwide Security Assistance program and the control/management of War Reserve Stocks for Allies (WRSA).

(U) The mission of the Associate Director for Systems was to insure optimum application of the state-of-the-art in technology for the automation of new logistics systems and improvements to systems which enhanced the materiel readiness of the Army in support of the user; to insure that ADP systems in support of wholesale logistics were designed and maintained with the capacity of making a smooth transition from peace to war mobilization; to provide secretariat support to Logistics Systems Review Committee and serve as proponent for DARCOM Regulation 15-23; and coordinate the integration of functional requirements with resources available for DARCOM system development, thus guiding DARCOM central system design agencies in the development and implementation of new automated wholesale logistics management systems and major revisions to existing systems.

Major Mission Program Activities

(U) War Reserve ADP Systems. The War Reserve ADP Systems project was established by Headquarters DARCOM on 13 June 1980. The purpose of the project was to develop a standard automated capability to compute secondary item war reserve requirements and produce output products for the full range of war reserve and mobilization planning actions. During fiscal year 1981, AMSAA developed a concept for the computation of secondary item war reserve requirements for DODI 4140.47, LOGPLANS and TLR/S. The concept was approved by the Logistics Systems Review Committee in April 1981. Development of the Functional Description for Class IX items was initiated in June 1981 and action continued through the remainder of fiscal year 1981.

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(U) Standard Army Maintenance Systems (SAMS). The SAMS Detailed Functional System Requirement (DFSR) was submitted to DA and was approved July 1979. The SAMS functional coordinating group completed the Functional Description (FD) for sub-cell 3E02-1, Equipment and Maintenance Performance Data in December 1979. The FD was staffed with the Readiness Commands and Headquarters DARCOM during January 1980; and the SAMS FCG was scheduled to meet during April 1982 to write the FD for sub-cell 3E02-2 to complete the remaining portion.

(U) During fiscal year 1981, design and development was completed on the Selected Item Management System - Expanded (SIMS-X). As designed, SIMS-X was essentially an asset reporting system only; the retail asset redistribution module was suppressed at HQDA and HQ DARCOM direction. In the first quarter, a DA Interface Test was conducted to confirm the SIMS-X compatibility with the communications system, Defense Automatic Address System (DAAS), and with the retail ADP system, Standard Army Intermediate Level Supply Subsystem - Expanded (SAILS-ABX). SIMS-X became operational in November 1980 with inclusion in CCSS Release 60 and the SAILS-ABX and DS4 retail systems.

(U) Logistics Systems Review Committee (LSRC). The Logistics Systems Review Committee (LSRC) conducted four In Process Reviews (IPR) of CCSS Releases during the fiscal year. IPR I for Release 60 was conducted at Automated Logistics Management Systems Agency (ALMSA) on 1-2 October 1980. The results of Division Level Tests were presented by the Functional Coordinating Group Chairmen (FCG) and recommendations made for prototyping. At this IPR the LSRC established the following policies: The committee agreed to try scheduling release IPR meeting one full calendar year in advance. The committee approved a procedure which permitted recognition of individuals who made outstanding contributions to the LSRC effort. The firm 70/30 allocation of design to minor modification and maintenance for utilization of ALMSA resources was changed to a goal of 70/30. IPR II for release 60 was conducted at the US Army Communications and Electronics Materiel Readiness Command (CERCOM), 21 November 1980 for the purpose of reviewing prototype results. The results were briefed to the LSRC by the FCGs and the release was approved for proliferation. At this IPR the LSRC established the following policies: It was decided to retain the 1 May - 1 November, two per year schedule. The committee decided that meeting length would be dependent upon business to be conducted. The committee approved the reconciliation of the CCSS Work Plan and Master Plan as presented. Specific recommended changes to the planning documents were also approved.

(U) IPR for Release 61 was conducted at ALMSA on 22-23 April 1981, and IPR II was conducted at US Army Tank-Automotive Command (TACOM) on 28 May 1981. This release was also approved for proliferation upon completion of IPR II. At IPR II the LSRC agreed that the policy of the committee was that only the Commander or his deputy and the HQ DARCOM Director or his deputy were permitted to vote at LSRC meetings.

(U) There was a Special Meeting on Mobilization held at ALMSA on 25 February 1980 to discuss items that could not adequately be discussed during IPR II. Those items were MOBEX After-Action Report; ADP Systems Readiness Coordination; Logistics Network (LOGNET); Measuring Secondary Item Readiness; INFODETICS; Army Materiel Plan (AMP) Modernization; Increase in DARCOM Spaces; and War Reserve ADP System Design Project.

(U) Mobilization Automation Working Group (MAWG). The Logistics System Review Committee (LSRC) established the MAWG at their special mobilization meeting on 25 February 1981. The MAWG Charter was approved by the LSRC and published, officially dated 17 April 1981, and signed by the ADMR.

(U) Mobilization Standard Schedule (MSS). The MSS was approved by the Logistics Systems Review Committee (LSRC) and was provided to all appropriate DARCOM activities on 18 May 1981. The MSS was the official schedule to be used by the Materiel Readiness Command during mobilization. This schedule was expected to also support the Continuity of Operation Plan (COOP).

Concepts and Doctrine

(U) Fiscal year 1981 was a time of transition for the Associate Directorate for Concepts and Doctrine, with a change in leadership, and preparation for a change in parent organization. On 3 August 1981, Colonel Robert W. Gruen, Associate Director of Concepts and Doctrine since 1979, reported to a new assignment with the Technology Office, Office of the Secretary of Defense. Colonel Mark L. Reese, Jr., assumed the role of Associate Director on 31 August 1981, having been formerly commander of the 7th SUBCOM in Germany.

(U) As the result of DARCOM Realignment, effective 15 October 1981, the Associate Directorate for Concepts and Doctrine evolved into the Concepts and Doctrine Division of the Directorate for Readiness. As planned, the office transitioned with missions and functions unchanged.

(U) Army Wholesale Logistics Literature Program (AWLL). AWLL was designed to be the single body of documentation which doctrinally described the operation of the Army wholesale logistics system, and its interfaces with other logistic systems. The 116 publications in the AWLL Program consisted of field manuals, non-equipment technical manuals, supply bulletins, and DA pamphlets.

(U) The AWLL Program had been allowed to drift for several years, without firm direction or command emphasis. A staff study which addressed this problem was completed on 23 July 1981, citing a lack of dedicated resources for management of the AWLL program. The study recommended designation of the Army Logistics Management Center (ALMC) as the DARCOM Central Field Agency (CFA) to manage the program.

(U) Following Command approval of the staff study, a letter dated 30 July 1981 clarifying DARCOM's role in the preparation and promulgation of Army Wholesale Logistics Doctrine was sent to DARCOM major subordinate commands, schools, and selected other activities. A questionnaire was inclosed to determine resources being expended on the AWLL program and to establish POCs.

(U) The AWLL CFA mission was incorporated into ALMC's "Missions and Major Functions". Programming was initiated to provide the additional manpower resources required by ALMC to effectively perform the CFA role.

Mobilization Base Requirements Model (MOBREM)

(U) The MOBREM was a computer-assisted methodology to determine the manpower required in the CONUS base to mobilize, deploy, train, and sustain the total Army during war. The Concepts Analysis Agency (CAA) was responsible for the development of this model. The DARCOM module of MOBREM was to simulate the issue of assets against mobilization requirements and convert the tonnages distributed to personnel requirements.

(U) As the DARCOM proponent for MOBREM, Concepts and Doctrine participated in several stages of the model development. Output requirements were defined. The best sources of requirements and asset data to feed the model were identified, and development of MOBREM manpower staffing relationships were initiated. Assistance was also provided to CAA in technical review and evaluation of contractor progress and products. Work was started on major module programming, which was completed in December 1981. The MOBREM was scheduled for full implementation in March 1983.

Rationalization, Standardization, and Interoperability (RSI)

(U) The RSI goal of enhanced "battlefield" interoperability of fielded materiel was pursued along several fronts during fiscal year 1981. On 12 February 1981, LTG Hardin, DARCOM DCGMR, was briefed on RSI mission and functions. As directed by the DCGMR, letters were prepared for his signature to DCSOPS, TRADOC, and MRC Commanders to solicit support for RSI goals. A TSARCOM Interoperability Item Booklet was distributed to NATO nations for review and evaluation. This resulted in a NATO request for the US to develop similar TSARCOM type data booklets for other commodities. MRCs were tasked to explore this area. Action was initiated to produce an RSI Handbook for materiel acquisition and logistics support managers to cover the entire acquisition and logistics support process. This effort was expected to extend into fiscal year 1982.

(U) The Logistics Studies Office, AMSAA, was tasked to explore the feasibility of structuring a methodology to provide a cross-reference capability for relating STANAGS to specific weapons/materiel systems, and vice versa. As the HQ, DARCOM observer at the REFORGER '81 Exercise,

Concepts and Doctrine identified a number of significant interoperability enhancements (M872 Improved Trailer Concept, Mobile Loading Ramp, Family of Generators, Tank Refueling Concept, etc.) for further development.

EUSA/DARCOM Umbrella MOU

(U) Concept 19 of the Phase II Study, Logistics Operations in the COMMZ, determined that the relationship between the wholesaler and the Theater Army Commander could best be defined by MOU. In response to that concept, DARCOM had negotiated a logistics umbrella memorandum of understanding with EUSA, and it was finalized on 29 October 1981.

(U) In addition to strengthening wholesaler/theater Army support relationships, the umbrella MOU provided general policy guidance to be followed by DARCOM subordinate elements when negotiating support agreements with OCONUS MACOMs or elements thereof. The MOU also provided a basis for centralized control of all major support agreements and the establishment of a central data repository for those agreements within Headquarters, DARCOM.

(U) After having negotiated the MOU, Headquarters, DARCOM was expected to look at the entire Pacific Theater in terms of DARCOM's commitments, and attempt to ascertain the need for a command and control element there.

War Reserves

(U) Efforts initiated in 1979 to increase the fill of USAREUR war reserves continued with slow but sure progress. Command emphasis on the war reserve function was increased by establishing a separate War Reserve Office under the Director for Plans, Doctrine, and Systems. The major effort to establish a Commodity Command Standard System to compute war reserve requirements resulted in an approved concept. System design and development was initiated with a tentative date for implementation established as May 1984. The Headquarters, DARCOM Realignment Study determined that the war reserve function should be more closely aligned with the overall materiel management function. Effective 15 October 1981, the War Reserve Office was disbanded and the function transferred to the Directorate for Supply, Maintenance and Transportation.

Small and Disadvantaged Business Utilization

(U) Effective 1 October 1980, the Office of Small and Disadvantaged Business Utilization, (SADBU) was removed from the Directorate for Procurement and Production and placed directly under the Deputy Commanding General for Materiel Readiness. This action was necessitated by Public Law 95-507, "Amendments to the Small Business Investment Act of 1958," dated 24 October 1978, which established an Office of Small and Disadvantaged Business Utilization in each Federal agency. DAC 76-19, 27 July 1979, required this office to report directly to the commander or deputy commander.

(U) Mr. John Shepard, Chief of the Office, transferred to a position with the Department of Energy in October 1980. Colonel William Moore was Acting Chief until the position could be filled, Mr. Paul Kittle was selected, and served as Chief from January through May 1981, when he accepted a position with the Defense Intelligence Agency. Mr. Frank Brda was selected for the Chief's position in July 1981, and occupied the post at the end of fiscal year 1981.

(U) DARCOM received final fiscal year 1981 Small and Disadvantaged Business goals, negotiated by the Department of Defense and Small Business Administration, on 25 March 1981. These were distributed to the MSCs, Depots, and other Activities on 3 April 1981.

(U) In fiscal year 1981 a total of $2,093.3 million was awarded to Small Business. This was $374.2 million over the assigned goal of $1,719.1 million and $589.0 million above the fiscal year 1980 Small Business total awarded. In addition, Small Business Set-Aside Awards in fiscal year 1981 totaled $847.7 million, $261.7 million over the fiscal year 1981 goal of $586.0 million and $329.5 million over the fiscal year 1980 total.

(U) In fiscal year 1981 the category of Small Disadvantaged Business was created. This category included Section 8(a) awards and direct minority business awards, which had previously been reported separately. The fiscal year 1981 awards to Small Disadvantaged Business firms totaled $346.1 million. This was $85.6 million over the fiscal year 1981 goal and $167.5 million above the fiscal year 1980 awards. It should be noted that even though the fiscal year 1981 goals were higher than the fiscal year 1980 goals, DARCOM exceeded the fiscal year 1981 goals for Small Business, Small Business Set-Aside, and Small Disadvantaged Business Awards.

FY 1981
FINAL SMALL BUSINESS GOALS
(DOLLARS IN MILLIONS)

Installation	Small Business	Small Bus. Set-Asides	Small Dis-advantaged Business
ARRCOM	390.7	121.9	37.4
CECOM	227.6	89.9	63.4
MICOM	170.9	58.6	33.5
TACOM	424.1	156.4	22.2
TECOM	63.9	17.2	9.6
TSARCOM	129.6	63.1	38.5
ARRADCOM	53.8	10.8	9.3
AVRADCOM	7.4	5.3	.2
ERADCOM	55.7	1.5	8.9
MERADCOM	57.4	11.0	18.6
NLABS	6.7	1.5	1.4
DEPOTS			
ANAD	10.3	4.4	.6
CCAD	3.6	1.1	.4
LEAD	14.4	1.1	1.6
NCAD	9.8	7.1	.7
RRAD	14.6	2.9	.8
SAAD	20.6	3.0	9.2
SHAD	3.3	2.1	.3
TOAD	15.1	6.3	.9
TEAD	15.1	10.0	1.7
OTHER ACTIVITIES			
AFRTS	4.3	1.3	0
ARO	.9	0	0
MMRC	4.3	.7	.3
USMA	15.0	8.8	1.0
TOTAL DARCOM	$1,719.1	$586.0	$260.5

CHAPTER VII

SECURITY ASSISTANCE

Introduction

(U) The magnitude of the Security Assistance Program could be measured in broad terms. At the end of fiscal year 1981, USASAC was concerned with 86 countries, for which 7,519 Foreign Military Sales cases were still open. The total dollar value of material involved was $42.3 billion, of which $21.5 billion was undelivered as of 30 September 1981. USASAC was also concerned with co-production projects in several countries.

(U) The Directorate's organization was relatively free from turbulence during the year, and reflected the mission and major functions stated in DARCOM-R 10-60, 18 August 1981. MG T. F. Healy served as Director for Security Assistance and Commander, US Army Security Assistance Center. The Deputy Director, Deputy for Plans and Management, Mr. R. E. Bean continued throughout the fiscal year. The Deputy for Operations, Colonel R. H. Lucas, also served throughout the fiscal year.

(U) Most major offices at Headquarters, USASAC reflected continuation for the entire fiscal year. These included, Colonel G. Jones, Europe; Colonel C. Marshall, Asia-Pacific; Colonel G. K. Todd, Mideast, Africa, Americas. The Chief, Republic of Korea Indiginous Tank Office (ROKIT) continued to be Mr. J. C. Thomas, Sr. Plans and Systems Analysis continued to be directed by Mr. F. F. Brott during the entire fiscal year. The Programs Management Directorate was headed by Colonel J. H. McAllister during the fiscal year.

(U) Realignment of USASAC Comptroller. On 1 July 1981, USASAC established a Resources Team within the USASAC Comptroller's office. This internal realignment established the USASAC Comptroller as a second line supervisor. The primary responsibilities of the Resources Team related to audits, ACOCS, billing, nonrecurring costs, travel, financial procedures, FMS administrative fee funds, Program 10 (P10) programs director and other related functions. The office symbol for the Resources Team was designated DRSAC-CR.

(U) Detailed coverage of the several activities will be examined in turn, with first a description of general developments at Headquarters, DARCOM and then for the three Major Directorates--Asia; Europe; the Americas, Africa and the Mideast. In regard to Saudi Arabia, treatment of the Security Assistance Program will be followed by an account of activities relating to the Program Manager for the Saudi Arabian National Guard (SANG) Modernization Program.

General

(U) Establishment of USASAC Data Processing Installation. A study "Future Profile of Depot Directorate for Management Information Systems (DMIS)", March 1980, recommended that all services performed by the New Cumberland Army Depot DMIS be transferred to USASAC. The study identified 46 computer support spaces, their associated functions and the computer hardware used to support USASAC. The transfer was effected without disruption to either NCAD operations or to USASAC in two phases--personnel in July 1981 and equipment in October 1981.

(U) The transfer resulted in a savings to Army and benefits to USASAC in the management and control of the computer operations facility which included direct supervisory control of Automated Data Processing (ADP) operations; control of priority assignments; direct contact with DARCOM, DMIS for hardware acquisition; control of computer operations costs; control of personnel hiring.

(U) DARCOM Architecture Plan of the 1980s. DMIS actively participated in the first stages of the DARCOM Architecture Plan of the 1980s. This involved the upgrading of computer equipment and the trend toward mini-computer Plug Compatible Machines (PCM). This concept enabled mini-computers to be plugged into an operating system regardless of manufacturer. This greatly reduced the cost of subsequent upgrading of equipment as technology changed. USASAC was converting the entire Centralized Integrated System - International Logistics (CIS-IL) system to operate on the ITEL mini PCMs received in fiscal year 1981. DMIS also upgraded the remote terminals and implemented three processes using direct functional input via Cathode Ray Tubes (CRT). Office automation was initiated with the installation of a Word Processor computer. Feasibility of direct foreign country input to the CIS-IL data base was being explored by the use of data phones along with on-line microfiche processing.

(U) These improvements enabled USASAC to better accomplish its mission using the concepts of Reshape of doing more with less by keeping current with the Automated Data Processing (ADP) state-of-the-art.

(U) Equal Employment Opportunity (EEO). During fiscal year 1981, the Upward Mobility (GS 5-9) Program was used to hire qualified trainee programmers. The Directorate for Management Information Systems acquired five computer programmer trainees through the Upward Mobility Program with two of these positions filled by minority (female) personnel. Formal training and continuing on the job training enabled these employees to be assigned specific programming tasks supervised by lead analysts.

(U) USASAC Security Assistance Brochure and USASAC Lexicon. A brochure was published in November 1980 that outlined the US Army Security Assistance Center (USASAC) role in security assistance, as reflected in AR 12-2. The USASAC mission, objective, and functions were described and placed in context of the overall DOD program. Explanations were included of the various phases of the Army program, FMS, SSA, Co-op Log, Grant Aid, and Munitions Control. The USASACs organizational structure and basic responsibilities were described in both visual and narrative formats. Special emphasis was given to the size and scope of the program, and its benefits to the US defense effort. Graphic displays of participating countries, dollar amounts, contracts, requisitions, and other statistics were included.

(U) The USASAC Lexicon, a dictionary of security assistance terminology, was published in December 1980 by USASAC. This 38 page pamphlet provided the reader with a basic understanding of the terminology used in the planning, development, and execution of the Security Assistance Program. Part One presented an overview of the Program by providing brief discussions regarding the legislative background, program development, life cycles, and descriptions of organizations involved. Part Two, Security Assistance Terminology, defined terms that were common throughout the security assistance logistics and financial management communities.

(U) Country Program Status Report (CPSR). A Country Program Status Report was developed for use by the Saudi Arabia National Guard (SANG) Project Manager to provide the total country program for review. While an adequate review could be accomplished for standard materiel and service cases at the summary level, information for non-standard cases like off-shore procurement cases and Corps of Engineer cases were not incorporated in previous Country Program Reviews. Thus the CPSR was developed. The CPSR (pronounced CAPSIR) provided complete visibility of summary and detailed information for country programs.

(U) Plan Accomplishments. USASAC-O published its ADP Continuity of Operations Plan (ADP COOP) to all activities involved. USASAC-O DMIS personnel completed the first annual testing at the ADP Alternate Site and filed the results in accordance with AR 18-7. Also, USASAC-O planned to expand the ADP COOP by requesting that the DARCOM DMIS assign an additional ADP alternate site or relocation site adjacent to USASAC-O. This concept of operations would apply in the event USASAC-O became involved in any of the first four contingencies cited in Chapter 4 of AR 18-7. It would also permit functional and DMIS personnel to commute on a daily basis, and eliminate overnight travel. This initiative would provide more options to assure the USASAC mission could continue without noticeable delays.

(U) Security Assistance Distributive Data Processing System (SADDPS). In November 1978 at the International Logistics Functional Coordinating Group (ILFCG) meeting at Automated Logistics Management Systems Agency (ALMSA), St. Louis, Missouri, initial action was taken to begin development of the SADDPS.

(U) The Security Assistance Distributive Data Processing System provided the Security Assistance Community with a data processing system and supporting master files necessary for more effective management control and instant visibility of FMS Case and Grant Aid Data. The system was designed to mechanize most manual operations and would provide functional managers with immediate data access and file update capability by placing desk-top video terminals within each selected working area. The data terminals and data bases would be linked by the Security Assistance Integrated Network (SAIN) to enable all Army Security Assistance functional managers with near realtime access capability. Mailing of hardcopy documents would be significantly reduced and word processors would be tied to computers to further reduce manual operations.

(U) The system would encompass all aspects of logistics and financial data including supply, procurement, maintenance, and transportation information. A General Functional System Requirement (GFSR) and Detailed Functional System Requirement (DFSR) to develop the SADDPS had been prepared and the related Economic Analysis approved at HQ DARCOM in early 1981. Approval request was in DA staffing channels at the end of fiscal year 1981.

(U) Transportation and Traffic Operations. During fiscal year 1981, Transportation and Traffic Operations Division's significant milestones were highlighted by a number of major actions. This Division was instrumental in the coordination of expedited materiel movements by Special Assignment Airlift Missions (SAAM), inland/ocean transportation modes and Freight Forwarders for the following countries: Saudi Arabia, El Salvador, United Kingdom, Oman, Tunisia, Turkey, Egypt, Morocco, Thailand, Zaire, Cameroon, Philippines, Liberia, Barbados, Fiji, Indonesia, Sudan, Canada, Austria, Ecuador, South Korea, Lebanon, New Zealand, Jordan, Colombia, Bahrain and Yemen.

(U) Cost savings/avoidance of $899,530 (representing 453 shipments) was realized through actions taken to redirecting frustrated Grant Aid (GA) and FMS materiel in the hands of carriers, Freight Forwarders, MAAGs/missions and foreign customers. A total of 263 visits were made by the Freight Forwarder Offices East/West and the Transportation Division of this Center to Freight Forwarders and Country Representative activities. Also, 41 visits were made to DCAS, MTMC and other DOD representative activities.

(U) Foreign Military Sales Case Closeout. The fiscal year 1981 US Army Foreign Military Sales (FMS) Case Closeout Program was developed by the US Army Security Assistance Center, Deputy for Operations in execution of the Commanding General, DARCOM's Executive Agent role for the Security Assistance Program. The US Army Security Assistance Center formed a Case Closeout Management Assistance Team which was chartered to expedite and facilitate closure of cases.

(U) The fiscal year 1981 Case Closeout Program consisted of 3,298 cases identified as being candidates for closure. An 85 percent goal of 2,805 cases was established for fiscal year 1981. The Case Closeout Management Assistance Team visited each performing activity and reviewed each candidate case based upon an analysis of actions required to prepare the case for certification and closure. Where appropriate, follow-up visits were made and extraordinary actions taken to close cases.

(U) Twenty-six case closure policy or systems inhibitors were identified and referred to the appropriate activities for action. As a result of the intense efforts at the performing activities and USASAC, 2,035 cases were certified to the Security Assistance Accounting Center (SAAC) for closure. This total represented the largest number of cases closed since the Case Closeout Program began in fiscal year 1974 and the largest single increase to date (406 over fiscal year 1980 total of 1,629).

(U) Benefits from the fiscal year 1981 intensive management program included the development of an automated Case Closeout Data Review Sheet, improved interfaces with performing activities and SAAC, and a more thorough job in screening candidate cases which would be on the 1982 program. An additional change in the 1982 program was the conversion from a fiscal year program to a calendar year program to avoid competing with Comptroller year end closure. More intense concentration on the closeout process had by necessity forced case managers/initiators to better management of cases throughout the FMS case life cycle.

(U) The ultimate goal was to plan case closure as soon as a case was implemented rather than several years later after all materiel/services had been delivered and billing was complete.

(U) Formation of the Program Budget Advisory Committee (PBAC). The USASAC Program Budget Advisory Committee (PBAC) was formed during fiscal year 1981 to assist in managing the command's financial resources beginning 1 October 1981. The committee consisted of representatives of all major elements of the command, and it was their task to recommend to the commander how the command's financial resources were to be allocated. The organization consisted of a junior working body and a senior level that provided guidance and resolved major issues.

(U) Establishment of US Army and Foreign Government Lease Procedures/Controls. Effective 17 October 1980, DARCOM Comptroller implemented USASAC developed procedures/controls for the lease of US Army defense articles to foreign governments. This effort marked the initial establishment of guidelines covering lease agreements within DOD. The new procedures were applicable to USASAC and DARCOM MRCs for DARCOM managed materiel and services and to USASAC and other DA MACOMs for non-DARCOM leases. The new procedures offered, for the first time, centralized control of all US Army to foreign government leased materiel/services at USASAC.

(U) Mechanization of the Foreign Military Sales (FMS) Expenditure Authority (EA) Process. Effective 1 March 1981, the Assistant Comptroller of the Army for Finance and Accounting ACOA (F&A) implemented an Expenditure Authority (EA) Module within the Army Customer Order Control System (ACOCS). The module was designed to replace the existing method of obtaining cash advances from the Security Assistance Accounting Center (SAAC) to finance the USASAC FMS Program. Comptroller personnel accessed the ACOCS, a real-time distributive data processing network, to mechanically obtain EA necessary to effect a disbursement from the SAAC managed FMS Trust Fund and a collection into the Army Account. The new EA process eliminated previous lengthy delays in obtaining cash advances from the SAAC. USASAC Comptroller personnel could then forecast EA as needed to satisfy immediate requirements.

(U) Expansion of Management Review and Analysis Division's Responsibilities in Administering DARCOM Productivity Improvement Programs (PIP). The Management Review and Analysis Division (MRAD) administered the DARCOM Productivity Improvement Program. Effective 1 September 1981, the division's responsibilities were expanded to include administration of the Quick Return on Investment Program (QRIP), Productivity Enhancing Capital Investment (PECI) and Productivity Investment Funding (PIF).

(U) Joint Logistics Commanders (JLC) FMS Panel. The Director for Security Assistance acted for the CGDARCOM as the Office of Primary Responsibility (OPR) for the Army in JLC FMS matters. Other OPRs were the Naval Supply Command (NAVSUP), Air Force Systems Commands (AFSC), and the Air Force Logistics Command (AFLC). In fiscal year 1981 the JLC FMS Panel finalized a joint Service agreement on Cooperative Logistics Supply Support Arrangements (CLSSA) and initiated joint efforts on several common interest financial initiatives. The results were expected to eliminate longstanding, complicated and costly interactions among the Services when developing support packages for FMS customers.

(U) Logistic Systems Review Committee (LSRC). During fiscal year 1981, the Security Assistance Functional Coordinating Group (FCG) convened four times to perform their basic function of reviewing, approving and prioritizing all systems change requests submitted to the Commodity Command Standard System (CCSS).

(U) The LSRC provided management level overview, direction and stability to the automated logistics systems which performed DARCOM's day-to-day business. The Security Assistance Systems Review Committee (SASRC) met once a month during fiscal year 1981 to assist the Director of the Security Assistance Management Information Systems by providing a unified management priority for system change requests and workloading efforts.

(U) Security Assistance Policy Implementing Regulations. Four 12-series Security Assistance regulations were published in fiscal year 1981. These new regulations were a compilation of twelve 795-series regulations previously used within the International Logistics Community for guidance on Foreign Military Sales (FMS) and Grant Aid Programs. All FMS guidance was incorporated into AR 12-8 and used by all agencies and commands having a Security Assistance function.

(U) USASAC Studies. Several studies were either conducted, sponsored or results implemented by the Plans and Systems Analysis Directorate which enhanced future management of Security Assistance programs. HQDA, DCSLOG directed a study to determine the cost effectiveness of adopting a higher limit for writing-off discrepancy claims submitted by foreign customers. A study, sponsored by DRSAC-MS and conducted by the Logistics Studies Office, ALMC, was completed and resulted in the development of a Security Assistance Data Element Catalog (SADEC). The Logistics Studies Office also completed a study sponsored by USASAC which investigated the suitability of using the Army's DSS procedures in FMS and GA programs.

Asia/Pacific

(C) While not as large as some activities in other areas, the attention accorded specific Asia/Pacific customers remained nontheless crucial. Japan and Korea provided the focus for much of the effort; Pakistan also gained during the year as increasing amounts of economic/military assistance permitted more attention to price and availability data and the development of FMS cases. General operations covered the contacts with Australia, Fiji Islands, India, Indonesia, New Zealand, Philippines, Taiwan, and Thailand.

Japan

(U) During fiscal year 1981, USASAC negotiations with Japan concerned mainly the possible Japanese coproduction of the PATRIOT missile system and the M1102 Howitzers.

(U) PATRIOT Missile System Coproduction. A meeting was held by DSAA on 26 February 1981 to discuss the coproduction of the PATRIOT Missile System by Japan. The alternative of meeting the Japanese requirement through FMS was also discussed. An Army position on coproduction versus FMS sale would be established only after appropriate staffing within HQDA and DARCOM.

(U) On 11 March 1981, a Government of Japan (GOJ) delegation visited USASAC to discuss GOJ's interest in procurement or possible coproduction of the PATRIOT Missile System. The delegation included MG Toru Shimizu, Director, Defense Department Air Staff Office and nine GOJ staff members. They met with MG Healy, Mr. Bean, and USASAC staff members for preliminary discussions on possible procurement of PATRIOT by GOJ. The delegation's itinerary included DOD, DA and DARCOM. They were also scheduled to visit MICOM, PATRIOT PM, Ft. Bliss, and White Sands Missile Range prior to their return to Japan. There were a number of questions relative to a joint study program, similar to NATO's, leading to a procurement decision and the time required to obtain hardware under both FMS and coproduction options.

(U) PM PATRIOT and team worked with Japanese Defense Agency to develop plans for a joint study effort to enable Japan to make a final evaluation of PATRIOT to replace I-HAWK (Ground Defense Force) and NIKE-J (Air Defense Force).

(U) M110A2 Howitzer Coproduction. In January 1981, the MOU for Japanese coproduction of the M110A2 SP Howitzer was still being coordinated within DA. A representative in Japan was advised that a production TDP could be made available within about 1 month after FMS case implementation. The draft MOU for coproduction of the M110A2 Howitzer with Japan remained in the DA General Counsel's office in February 1981. Coordination with that office, the last stop in HQDA for the MOU, was expected to be completed by 3 March 1981. ODCSLOG forwarded the MOU for coproduction of the M110A2 with Japan to DOD for coordination on 10 March 1981. There were no significant changes made to the terms and conditions of the MOU by DA.

(U) Fifteen Letters of Request were received from Japan on 22 February 1981 for NIKE-HERC and HAWK Service Practice. MICOM was preparing the LOA in February 1981.

(U) Japan requested 24 STINGER Missile Systems. DSAA approval to release LOA was delayed.

(U) On 13-14 August 1981, a Government of Japan Helicopter Team visited USASAC enroute to TSARCOM. The purpose of the visit was to pay a courtesy call on the Commander, USASAC and receive general briefings on operational concept of the armed helicopter. The Government of Japan was interested in coproduction of the AH-1S in Japan.

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(C) With the coproduction of the HAWK Missile System, Phase III--four battery sets of ground equipment and 72 missiles--at a cost of $100 million, were delivered to the Government of Japan during fiscal year 1980. Two Phase III ground sets were delivered to the GOJ in September and November 1981. The Phase III Missile Flight Test Program was conducted in August 1981, with 100 percent success.

Korea

(U) Transactions with the Republic of Korea involved a wide variety of materiel and readiness operations with a major amount of attention given to the proposed Korean coproduction of the thick wall gun tubes or a component of the M68 cannon.

(U) M68 Cannon. The Memorandum for Record (MFR) of the US Thick-Walled Gun Tubes briefing was signed by the ADCSLOG on 5 February 1981 and sent to VCSA. A second, shorter version of this MFR was signed by the VCSA on 6 February 1981 and provided to the Director, Defense Security Assistance Agency (DSAA). Both MFRs clearly reaffirmed US Army policy prohibiting foreign manufacture of cannon assemblies for Howitzers and the dissemination of certain cannon manufacturing technology unique to Watervliet Arsenal. Also, support was given for authorizing the Koreans to produce the M68, 105mm tank tube, pending an Army assessment of their capabilities to do so, which would be made by a DARCOM team traveling to Korea on 28 February 1981.

(U) The planned trip by a DARCOM assessment team was held in abeyance until reaction could be received from Congressman Stratton on the SECDEF memo on thick walled cannon technology transfer. Vice Chief of Staff of the Army (VCSA) concurred in the visit, and the team briefed General Guthrie on their findings on 30 March 1981.

(U) The fiscal year 1982-1986 projected procurement plans for selected items submitted to DA at their request on 6 March 1981, were approved for release to the Korea (ROKA), but USASAC's request to release this data to other countries in the same format was not approved by DA. USASAC was advised that such information should be released under survey procedures.

(U) A briefing was given to the Vice Chief of Staff on 7 April 1981 on the results of a gun tube team visit to Korea. The briefing provided facts on Korean capability and capacity to manufacture the M68 tank gun in Korea.

(U) Other. The third US-ROK Army Security Assistance Review (SAR) was held in Seoul, Korea during 6-10 October 1980. Attendees included representatives from DA, USASAC, each DARCOM MRC, CINCPAC, WESTCOM, JUSMAG-K, and DSAA. A total of 42 new topics were discussed with 26

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topics resolved, 14 topics to be continuously reviewed until resolved and two topics remaining open. It was agreed that a third MINI-SAR would be held in CONUS in early 1981.

(C) ROK requested that they be permitted to coproduce the M109A2 self-propelled Howitzer. In an 11 September 1980 SECDEF message, the ROK was advised that they could not manufacture the gun tube or the gun mount for the M109A2. A 21 October 1980 message from the American Embassy, Seoul, to DSAA, requested that the decision be reconsidered. The DARCOM position was consistently to deny manufacture of both components to protect the production base at Watervliet and Rock Island Arsenals. This position was re-affirmed to DA on 28 October 1980.

(C) USASAC-NCAD received approximately 16,000 prepositioned requisitions in support of the WRSA/FAST FILL Program for ROKA. Actions were initiated to prepare prepositioned LOAs so as to enable immediate processing if required.

(U) ROKA requested authority for third country sales of Korean-produced US defense items. USASAC, with ARRCOM and P&P coordination, provided recommended DARCOM positions in agreement with the Production Base Study to DALO-SAC. A request was included to sell 155 and 105 Towed Howitzers. Recommendation was to allow third country sales, provided tube assemblies and recoil mechanisms were US produced. In the event an affirmative decision was made by DOD, an 8 percent royalty recoupment was also recommended.

(U) On 20 June 1981, DSAA directed the preparation of an FMS case for 40 106mm Recoilless Rifles for the ROK. The LOA with a value of $992 thousand was provided to DSAA on 23 June 1981 and had an expiration date of 31 July 1981.

(C) On 10 June 1981, DALO-SAA directed USASAC to prepare an LOA for laboratory fatigue testing of two Korean made KM199A1 155mm gun tubes. The test was to be conducted at the Benet Laboratory. The DA indorsement also stated that the LOA should exclude any data pertaining to the M185 Cannon as well as cannon manufacturing processes previously identified by ARRCOM as critical. The DA indorsement referred to the KM 199A1 as a Korean developed item.

(U) USASAC was tasked by DSAA/DA on 20 July 1981 to expedite LOA preparation for the conversion of ROK ammunition and M16 facilities from GOGO to COCO status.

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(C) DSAA message forwarded to CJUSMAGK on 20 August 1981 included... "Wartime support for Republic of Korea Forces will be conducted under accelerated FMS procedures; DSAA is going to Congress with a 36(b) notification for $2.0 billion after which MOA can be negotiated with ROK government, if Congress approves; until such time as MOA is consumated or new legislation is passed, WRSA and other support (e.g. FAST FILL) can only be transferred by FMS procedures; all materiel except the in-theater WRSA will require full procurement lead times; title transfer of all U.S. owned stocks will be at point of origin."

(C) DSAA held a tri-Service meeting to discuss a USG-ROK Memorandum of Agreement concerning wartime supply support. The major issue discussed involved the method of pricing to be used. An initial DSAA proposal to use reduced, excess prices was considered unacceptable. A determination then had to be made as to whether acquisition or replacement prices would be used.

(C) The coproduction of the M16A1 rifle was projected to see production costs of about $100,000 in calendar year 1981, with completion of the project to comprise about 4,000,000 rifles produced during the period 1974-1982 with a final agreement on the MOU amendment to cover 1982 production pending at the end of calendar year 1981.

(C) Another program was the production of training ammunition (5.56mm and 7.62mm) from 1974 through 1981, whose estimated total was 774 million rounds, (174 million 5.56mm and 30 million rounds in calendar year 1981).

Australia

(C) The Government of Australia requested planning and review data for the BLACK HAWK UH60A Weapon System, configured for battlefield support role. Necessary approvals were obtained and action was underway to provide requested data in mid-June 1981.

Fiji Islands

(C) As authorized by State/Defense, FMS cases were being prepared to provide specific equipment to the Government of Fiji for in-country training and deployment. Fiji Island troops were designated to be members of the multi-national peace keeping force for the Sinai. All materiel was to be delivered in Fiji by 1 November 1981, using OTS air lift.

(U) Five FMS cases were received in support of the Government of Fiji's role in the multi-national force observer team to be stationed in the Sinai. Requested items included three vehicles, 470 rifles, 46 machine guns, 35 grenade launchers, and other associated equipment and ammunition. The total value of the program was $1.5 million.

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India

(U) Visit to US by Indian Delegation. In October 1980, briefings were conducted by DSAA, DA and USASAC for a visiting Indian Delegation. Heading the Indian delegates were LTG K. S. Singh and MG K. K. Hassari, together with a party of nine. Subjects discussed were the TOW Missile System to include TOW training, MTT, etc., testing for the M109A2 Howitzer and .50 caliber machine gun, Night Vision Devices, M198 Howitzer, VULCAN, I-HAWK and the CHAPARREL. As result of the discussions on 7-17 October, concerning the TOW Missile System FMS case, the delegation requested additional time to study the case. The original expiration date of 17 October 1980 was extended to 10 November 1980.

(C) Subsequently DARCOM received a message from the American Embassy, New Delhi, on 21 April 1981 which stated that the Indian Ambassador was instructed to accept LOAs for 60 TOW Missile Systems, 3,724 Attack Missiles and 230 M198 Howitzers. The message also indicated that the Indians realized price and availability (P&A) had to be revalidated and that the Indians desired some items "off the shelf".

(U) Five FMS cases, with a total dollar value of $280.4 million, were forwarded to the Government of India on 12 September 1980. These cases were not accepted before 3 September 1982, thus the Secretary of Defense authorized cancellation.

Indonesia

(C) USASAC received a request for planning and review (P&R) data on ammunition, fire direction sets, and all items ancillary for a possible buy of 120 M101A1 105mm Howitzers.

(U) The Government of Indonesia, through diplomatic channels, advised US of a desire to standardize with US 105mm Howitzers. Based on planning data received, the Government of India (GOI) requested firm Letters of Offer for the purchase of 121 105mm M101A1 and 12 105mm M102 Howitzers, plus associated ammunition. SECDEF/DSAA prepared data for advance notification to Congress in early June 1981.

(C) Secretary of State approved a request from Government of Indolesia for a Letter of Offer for 121 M101A1 Howitzers, 12 M102 Howitzers, related ammunition and supporting equipment. Section 36(b) Statutory Notification was due at DSAA on or before 10 August 1981. Estimated value of the case was $20 million.

New Zealand

(U) The New Zealand Defense and Procurement Attache' visited USASAC Headquarters on 8 April 1981. Discussions were held on FMS procurements and the USASAC case closure program.

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Pakistan

(C) On 29 May 1981, DSAA tasked the Army for diversion impact statements for seven items of equipment which were being considered to be expeditiously delivered to Pakistan. The items were 24 UH1H Helicopters; 18-20 M109 SP Howitzers; 39 M198 Howitzers; six AH1S Helicopters with TOW; 12 VULCANS (SP or Towed), and 800-1200 LAW rockets. The DA position, based on inputs from USASAC, was that, with the exception of the UH1Hs and LAW rockets, diversion would result in significant adverse impact on the combat readiness of the US Army. Diversion of the UH1Hs and LAW rockets would have a negative impact on the Army but it would not be significant.

(C) As result of a State/DOD team visit to Pakistan, a list of short and long term military equipment requirements was developed. Army items included M48A5 tanks, M88 tank recovery vehicles, M109A3 SP Howitzers, M198 Towed Howitzers, M113A1 APCs, SP VULCAN, AH1S Helicopters and ammunition. USASAC developed impact data and validating price and availability information in June 1981.

(C) In July 1981, the Department of the Army directed preparation of three FMS cases for the Government of Pakistan. Advance Congressional notification was submitted to DSAA on 8 July 1981 for 144 M109A2 Howitzers ($112.4 million), 144 M548 Cargo Carriers ($27.7 million) and 46,000 rounds of 155mm ammunition ($21.4 million).

(U) During the period 13-16 July 1981, Colonel C. M. Marshall and LTC R. E. Dyer, USASAC, participated in meetings at the Pentagon between a high level Pakistani Defense delegation and US Defense Department personnel reviewing the future FMS program. A list of military equipment desired by Pakistan was discussed and price and availability (P&A) data provided. The Government of Pakistan (GOP) accepted an FMS case for 1550 I-TOW missiles on 17 August 1981 with a value of $15.1 million.

(U) In mid-September, the GOP accepted the $3.2 billion economic and military package offered to them by the US Government. Credits were to be extended in October 1982. The dollar value of Army component of the total package, however, was not known. A follow-up team from Pakistan was scheduled to arrive in early October to work out the details of requirements for FMS cases for the items which had been discussed during the July conference.

(C) Requirements which totaled approximately $551 million were received from the GOP. Items requested included M48A5 tanks, M88A Recovery Vehicles, M113A2 APC, M198, M109A2 and M110 Howitzers, AH-1S Helicopters, Ribbon Bridges, I-TOW Missiles, communication equipment, and tank and Howitzer ammunition. Most of the 19 cases required Congressional notification

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(C) Advance notification was submitted to DSAA on 10 October 1981 for 12 FMS cases with a total dollar value of approximately $462 million. Items included in the Advance Notification were M48A5 tanks, M88A1 recovery vehicles, M109A2, M110A2, and M198 Howitzers, AH-1S helicopters, ribbon bridges, M901 ITV, I-TOW missiles and ammunition for tanks and Howitzers.

Philippines

(U) The Republic of the Philippines (ROP) Security Assistance Review (SAR) was held in Manila 2-6 March 1981. Representatives from USASAC, US Navy, USAF, CINCPAC and SAAC attended. Reviews of the 1980 and 1981 MAP programs were conducted. Possible termination of ROP Grant Aid Program was discussed along with FMS implementation procedures.

(U) In early September 1981, the Republic of the Philippines requested an expedited delivery of MAP engineer equipment. Expedited procurement action resulted in the following: eight scoop loaders (Cat 950), 10 dozers (Cat D7G), three road graders (Cat 120G), and 22 dump trucks (M342A2) departed from Bayonne, New Jersey on 27 September 1981, with an ETA of 24 October 1981 in Manila.

(C) The coproduction of M-16 rifles, begun in fiscal year 1972, was delayed in calendar year 1981 due to the non-arrival of critical tools and lack of production supplies with about 6200 rifles due for completion of the planned production of about 166,000 by the end of calendar year 1981.

Taiwan

(U) The Command Control and Communication Corporation requested an export license to furnish Taiwan with one mobile communication system. The material was tailored to the needs of Taiwan and was to be used in support of the I-HAWK sold to Taiwan by FMS. The total estimated value was $7.5 million. The DA position recommending approval was forwarded to USDR&E on 10 October 1980. The position was coordinated with CERCOM, MICOM, and HQDA staff.

(U) On 17 December 1980, DA directed that an FMS case be prepared for Taiwan for 24 M48A1 tanks, "As-Is, Where-Is," located at Anniston Army Depot. At the time that DA made the request, they were reminded that all M48A1 assets located at Anniston AD had been set aside for the US Army DIVADS Program; however, DA still directed that the case be prepared and presented. SECDEF (USDP) directed that a base price of $109,354 should be charged for each DIVADS asset diverted to FMS. An LOA was prepared at this center (USASAC) and countersigned by DSAA on 21 January 1981. The case was hand carried to the local office of the American Institute of Taiwan. The total case value was $2,732,056.

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(U) Statutory notification was received in early August 1981 for the sale to Taiwan of various tank and artillery ammunition, including 105mm APFSDS-T, 155mm HE and 8-in HE. The total value of this sale was approximately $89 million.

Thailand

(U) A GAO representative visited USASAC on 12 March 1981 to discuss the Army Security Assistance Program for Thailand. The GAO was responding to a Congressional request by Senator S. I. Hayakawa, California, concerning US Defense programs involving Thailand.

(U) The 1981 Thailand Security Assistance Review (SAR) was held in Bangkok during the week of 11 May 1981. The consensus among participants was that this review was the most successful of the three SARs held up to that time. Royal Thai Army personnel gained substantial knowledge of FMS procedures over the preceding three years. The 1981 SAR featured a special General Office Executive Session where Chiefs of Logistics for each technical service were briefed by Colonel Marshall. The major concern was continued slippage and long leadtimes for radios, particularly the AN/PRC-77. With the exception of radios, the Thais expressed a high degree of satisfaction with the overall Army FMS program.

(U) In June 1981, the Government of Thailand requested P&R data for 320 155mm, M712 COPPERHEAD rounds, and 10 AN/TVQ-2 Ground Laser Locater Designator (GLLD). Both items contained sensitive technology.

(C) In response to a SECDEF request for the Army position, DA advised that it was not prepared to make comments regarding the ultimate transfer of this system to Thailand and was not prepared in July 1981 to sponsor an exception to the NDP which would enable provision of the requested P&R data to Thailand.

(C) Colonel Richard Weaver, Chief, JUSMAAG Thai, visited Pacific South Asia Directorate 29 September 1981 to discuss Thailand's Security Assistance Programs. He stated there were no major problems. He also provided the information that Prime Minister Prem was to request that SECDEF release the REDEYE to Thailand. REDEYE was denied Thailand on at least three prior occasions.

Europe

(C) USASAC activities with European nations covered a broad range of needs and demands and required significant attention. The size of programs differed widely, with Germany, Greece, and Switzerland generating the most substantial action. Attention was given Austria in providing materiel for on-going military needs--such as artillery munitions--and supplying particular items in critical shortage. Fundamental questions

of technology sharing and proper procurement channels and long-term service needs dominated USASAC contact with Belgium. Denmark activities focused mainly on the purchase of the TOW system and the continuation of I-HAWK negotiations. Much of the USASAC contact with Spain came in the establishment of a Territorial Command Network mediation of issues in cases between the two countries. Turkey concentrated on a tank modernization program.

(C) Coproduction with NATO. Coproduction with NATO countries--Belgium, Denmark, France, Federal Republic of Germany, Greece, Italy and the Netherlands--involved first the AN/TSQ73 missile minder based upon February 1981 MOUs with some problems still being resolved by the end of fiscal year 1981. A second project was the HAWK European limited improvement program (HELIP). This included conversion of the Basic to Improved HAWK System, completed in October 1980. Production of the I-HAWK began in March 1980, with installation of PIP started in November 1981. The operator trainer simulator (OTS) for I-HAWK saw production for FRG beginning in July 1980 and the main contract integration stage in October 1981. Other related production projects began in September 1981.

(U) The LAW coproduction project with Norway saw delivery of 98,600 LAW M72A2 to the USA from January to 26 June 1981, and approximately 60,000 to the USA from July to December 1981.

(C) With regard to the coproduction of the M483AL projectile, the Netherlands was given exclusive rights to produce it and the M577 fuze for NATO countries and non-NATO countries as approved by the US in an MOU signed 22 October 1980 between the United States and the Netherlands. In 1981 the GON Project Officer and GON team visited ARRCOM 22-23 September and discussed several aspects of this project.

Germany

(U) During fiscal year 1981, Germany sought the addition of new items of materiel to their arsenal, the modification and conversion of older items to improved or US configurations, and the normal follow-on support for previous acquisitions. Germany also proceeded on the initial efforts to secure coproduction of specific systems. Their country represented a very active account for USASAC.

(U) On 3 February 1981, Germany accepted a Letter of Offer (LOA) for the conversion of two M88 (German Version) to M88A1 (US configuration). The case required that two medium recovery vehicles be available by 1 July 1981 so that German tests/evaluation could be completed prior to ordering conversion kits for 123 additional German M88s by

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1 November 1981. This date was critical for procuring conversion kits. To assist in meeting this time frame, DA approved the diversion of two US M88A1s to be replaced by upgrading two German M88s. The two M88A1s were scheduled to depart from Baltimore on German Flag Vessel Koeln Express, 30 April 1981.

(U) At the same time, the Office of Defense Cooperation, Bonn, Germany, advised that the German Foreign Ministry of Defense had accepted an FMS case for the overhaul/conversion of two Howitzer 155mm, M109G (German Version), to US M109A3 configuration. The purpose of this case was for Germany to test/evaluate the results of the conversion and determine the feasibility of potential conversion of the entire German fleet of 586 M109Gs.

(C) Advance and statutory notification of possible section 36(b) Foreign Military Sale to Germany was forwarded to DSAA in February. The proposed sale was for 35,000 155mm M48A3 projectiles and Fuze MTSQ M577. The estimated value of this case was $26.8 million.

(C) During 1980 and early 1981, several meetings were held between USASAC, PERSHING Project Manager, and the German Air Force (GAF) relative to the modernization of the PERSHING PII reduced range equipment. ODC Bonn advised by message that they had been unofficially informed that Foreign Ministry of Defense (FMOD) budget approval had been given to GAF to modernize their PERSHING Missile System. This message also advised that exact time frame for the modernization as well as the amount of equipment to be purchased would be provided.

(U) During August 1980, the PERSHING Project Manager's Office, MICOM, briefed German Air Force (GAF) staff personnel on engineering services support for the PERSHING Missile System. This briefing outlined the type of services provided and Germany's prorata cost share beginning with fiscal year 1981. On 16 March 1981, Germany accepted an FMS case which covered the GAF prorata cost share which was $1.47 million.

(U) In March, ODC Bonn, Germany, requested a Letter of Offer for 226 Modification Kits for Howitzer 8" M110A2 with a three-year CSP package. The estimated value of this case was $4.75 million.

(U) The DARCOM coordinated draft MOU for coproduction of the STINGER Weapon System by Germany was forwarded to ODCSLOG on 25 March 1981 for review and delegation of authority to initiate formal negotiations.

(U) On 10 October 1977, an agreement was signed between the United States, Germany, Denmark, Netherlands, and Norway, providing for helicopter training of students from these NATO countries at Fort Rucker, Alabama. The cost of this training was funded on an annual German FMS case. The fiscal year 1981 value of the case was $4.85 million, which included the training of 77 students (Germany-32, Denmark-8, Netherlands-17 and Norway-20).

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(U) On 15 August 1979, an FMS case authorizing the licensed production of ribbon bridge components (84 ramp bays, 224 interior bays, and 308 vehicle mounting kits) for in-country use was accepted and implemented. In February 1979, the Federal Ministry of Defense (FMOD) requested authority to extend the license to permit production for third-country sales to NATO countries, Sweden and Switzerland. In November 1980, DSAA approved this request and in March 1981 an amendment to the FMS case authorized it. Guidance on the appropriate royalty fees to be assessed was forwarded to Germany for acceptance. In a 3 June 1981 message, ODC Bonn advised that this amendment would not be accepted since Germany had no additional demands for production for either in-country use or for third-country sales.

(U) The FMS case, which covered German Army Depot Maintenance Requirements for calendar year 1982, was forwarded to ODC, Bonn on 15 June 1981 for release to German FMOD for acceptance. The total dollar value of the case was $23.0 million.

(U) A total of six FMS cases covering fiscal year 1982 training at CONUS Army training schools was forwarded to Germany for acceptance. The value of these cases was $10.2 million. The value of German Air Force training at Redstone Arsenal, and US Army Air Defense School, Fort Bliss, Texas, decreased approximately $.60 million. This reduction resulted from the fact that the German Air Force was receiving a significant portion of their NIKE training from NATO NIKE Training Center at Fort Bliss, Texas. In addition to the above cases, an FMS case, which covered the support of the German Air Force Air Defense School at Fort Bliss for the total value of $3.6 million was in process. Therefore, the total value of Germany's fiscal year 1982 training program was $13.8 million.

(U) Each year Germany requested LOAs to provide follow-on support for the following fiscal year or calendar year for previously purchased equipment and/or for training in US Army schools. As of 24 June 1981, a total of 44 FMS cases covering fiscal year 1982 or calendar year 1982 requirements had been submitted to ODC, Bonn to obtain the German Federal Ministry of Defense's acceptance. Total value of these 44 cases was $65.7 million.

(U) The thirty day formal Congressional notification period for 35,000 projectiles, 155mm, M483A1, and 35,000 fuzes, MTSQ, M577, with a total value of $27.4 million ended on 9 July 1981. This case, which was countersigned by DSAA on 13 July 1981 was forwarded to ODC, Bonn for release to the German Federal Ministry of Defense.

(U) On 17 September 1981, the Government of Germany accepted three FMS cases totaling $4.2 million for the fiscal year 1982 support of the PERSHING Missile System.

(U) At the same time, Germany accepted six fiscal year 1982 training cases with a total value of $13.6 million. Five cases, valued at $9.5 million were for formal training at TRADOC schools; one case valued at $4.1 million was for support of the German Air Force Air Defense School at Fort Bliss, Texas.

(U) During June 1981, advance information was provided to Germany relative to a new Modification Work Order (MWO) for the loader rammer of the M110A2 8" Howitzer. Coordination was effected by DRSAC-ME/NE with ARRCOM and USASAC-NCAD to obtain authority to utilize available funds on an existing BOE case. ODC, Bonn message DTG 151433Z September 1981, advised that Germany would requisition 226 MWO kits against this case. The total value of this requisition was $971,000.

(U) In the area of coproduction, technology transfer and coproduction of Forward Looking Infrared (FLIR) common modules and their integration into development and production of German systems continued in 1981. The draft of an expanded MOU covering second generation focal plane technology was forwarded to the Ministry of Defense for review and staffing in June 1981, but action had not been completed by the end of calendar year 1981. A series of tests were also conducted during calendar year 1981.

Greece

(U) The security assistance provided Greece in fiscal year 1981 by USASAC was typical of that provided to many countries in that it covered a broad variety of equipment, munitions, and conversion kits.

(U) Greece declined an LOA for six tank chassis launchers and six AVLB bridges, per JUSMAG message, 9 October 1980. Therefore, the case was cancelled 15 October 1980. The total value for this proposed sale was $5,820,081.

(U) An LOA for eight AH-1S Helicopters was forwarded to DSAA for countersignature on 21 October 1980. The 30-day statutory Congressional notification period ended 15 October 1980. Total case value for this proposed sale was $34,173,255. Source of supply was procurement with lead time of 29 through 32 months (delivery at the rate of 2 per month over this period).

(U) In a message dated 27 October 1980, DSAA advised that statutory Congressional notification for FMS case DA Greece WIT was effected on 27 October 1980 and authorized the release of an unsigned copy of the LOA. In compliance thereto, an unsigned copy of the LOA for 20,004 projectile eight inch HE M106 was forwarded to Greece on 29 October 1980. Total value for the proposed sale was $12,075,572. The source of supply was procurement with a lead time of 13 months.

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(U) Greece requested a LOA for $4.1 million for 12 M113A2 TOW carriers, 15 M106A2 mortar carriers, and ancillary equipment. It was accepted by the Government of Greece on 28 January 1981. Implementation was held awaiting required obligation authority.

(C) JUSMAG Greece forwarded a request to SECSTATE/DSAA for two Letters of Offer (LOAs) for M48 tank conversion. The first covered 102 conversion kits for M48A1 tanks to the M48A3 configuration. The second covered 102 conversion kits for the M48A1 tanks to the M48A5 configuration. The request was approved by DSAA on 13 March 1981, and USASAC was tasked to prepare advanced notification of Section 36(b) statements - Foreign Military Sales. These were prepared and forwarded to DSAA through DA DCSLOG on 30 March 1981. The first LOA would have an estimated value of $31 million, the second $55 million.

(C) A message from the American Embassy, 7 April 1981, forwarded a Greek Army request to SECSTATE/DSAA for a total package approach (TPA) Letter of Offer (LOA) for the following items to be funded through fiscal year 1981 credit sales: Twelve AN/TVQ2 Ground Laser Locater Designators (GLLD); M-712 Cannon Launched Laser Guided Projectile, 155mm COPPERHEAD, with specific quantity to be established at the time of case preparation, so that LOA would not exceed a total case value of $16 million. Requested LOA fell under the reporting provision of Section 36(b) Advance Notification to Congress. Interim authority to commence LOA preparation was furnished by DSAA on 14 April 1981.

(U) Eleven M109A1B, SP, Howitzers, arrived at the port of discharge, Tessaloniki, Greece, on 9 April 1981. In accordance with the LOA, a five man Quality Assurance Team (QAT) and a BMY contractor representative met the vessel at port, observed offloading and assisted in deprocessing and reassembly operations. Interim QAT report indicated that no significant deficiencies in delivery or in vehicle operations were observed.

(C) An American Embassy message of 16 April 1981 forwarded a Hellenic Army request to SECSTATE and DSAA for a LOA covering 50 TOW Launchers, 1480 TOW Guided Missiles (GMs), and 12 Improved TOW vehicles. On 23 April 1981, DSAA authorized preparation of LOA for TOW GMs and advised the American Embassy that other items had been declared commercially available. This LOA fell under reporting requirements of Section 36(b), Export Control Act and required advance Congressional notification. It was forwarded to DSAA on 28 May 1981.

(U) The sale of 10,000 155mm projectiles, HE, M549A1 and 5,000 M119A1 propelling charges for Greece were forwarded to DSAA for Congressional notification. The estimated case value was $9.4 million.

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(U) An LOA for 48 155mm SP M109A2 Howitzers for Greece was forwarded to DSAA. The case value was $37 million and required advance Congressional notification.

(C) On 25 June 1981, a Letter of Offer and Acceptance (LOA) for 270 projectiles, 155mm, M712 Cannon Launched Laser Guided (COPPERHEAD) for Greece was forwarded to DSAA for required statutory Congressional notification under Section 36(b), AECA. Total case value was $15.6 million with leadtime of 24 months from procurement.

(U) In response to Hellenic Army (HA) request for LOA covering three UH-1H Helicopters, DSAA advised JUSMAG Greece on 22 May 1981 that Augusta Bell had exclusive licensing arrangements with Bell Helicopter for the production and sale of AB205 Helicopters in Greece (UH-1H equivalent). On 16 July 1981, justification was provided for purchasing the UH-1 Helicopters through FMS versus commercial procurement. SECSTATE/SECDEF authority to prepare the requested LOA was not issued at that time.

(U) The Government of Greece (GOG) requested Letters of Offer (LOAs) for 102 kits to convert M48A1 tanks to M48A3 and 102 kits to convert M48A1 tanks to M48A5s. DSAA authorized release of unsigned LOAs to GOG since Congress was notified on 24 July 1981 of this proposed sale. The value of these cases was approximately $112.8 million.

(U) An advance unsigned Section 36(b) AECA Letter of Offer (LOA) was released to CJUSMAG Greece on 7 August 1981 and received in-country on 11 August 1981. Cases included 102 M48A3 conversion kits at a value of $39.4 million and 102 M48A5 conversion kits with a case value of $45.6 million. Both offers had an imposed expiration date of 8 September 1981 due to the requirement to go to contract NLT 30 September 1981.

(U) The 30 day Congressional notification period for two FMS cases for Greece for 204 M48A3/M48A5 tank conversion kits with a total value of $85 million ended on 22 August 1981 without Congressional objection to the proposed sale. The offers were subsequently countersigned by DSAA on 24 August 1981 and released to the Embassy of Greece on 25 August 1981.

(U) A Letter of Offer for 102 each tank conversion kits (M48A1 to M48A3) was accepted by Greece and implemented 10 September 1981. Total case value was $30.4 million.

(C) Required Advance Notification and Statutory Notification of proposed $10 million sale of 155mm projectiles and propelling charges (under Section 36(b) of the AECA) were forwarded to DSAA on 19 June and 6 July 1981, respectively. DSAA advised that Congress received advance notification on 1 September 1981.

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(C) Required Advance Notification and Statutory Notification of proposed $15.3 million sale of AN/VRC-12, 46, 47, 48, 49, and 64, and AN/GRC-160 radio sets (under section 36(b) of the AECA) were forwarded to DSAA on 10 and 29 July 1981 respectively. DSAA advised that Congress received advance notification on 16 September 1981.

(U) Greece requested an LOA for 10,000 M549A1 RAP projectiles and 5,000 M119A1 propelling charges. By message dated 24 September 1981, DSAA authorized release of unsigned copies of the LOA, and advised that Congress had been provided thirty day formal notification of the proposed sale. Value of the case was approximately $10 million.

(U) Greece requested an LOA for central office telephone equipment, telephone sets, switchboards, and installation kits. Signed copies of the LOA were released to Greece on 28 September 1981. Value of the case was approximately $19 million.

(U) Greece requested an LOA for 48 M109A2 SP 155mm Howitzers. By message dated 24 September 1981, DSAA authorized release of unsigned copies of the LOA, and advised that Congress had been provided thirty day formal notification of the proposed sale. Value of the case was approximately $37 million.

Switzerland

(U) USASAC worked with the Government of Switzerland most intently in four areas: the development of a Statement of Accord on Swiss testing of the M1 tank; Swiss coproduction of the DRAGON; Swiss coproduction of M109A1B Howitzer; and acquisition of the STINGER. In addition, a variety of miscellaneous actions were handled.

(U) XM1 Tank Testing. DA staffing of the US/Swiss Statement of Accord supporting the Swiss evaluation of the XM1 Tank was completed on 7 November 1980 and the document was forwarded to DSAA. In March, DOD staffing was completed on the draft US/Swiss Statement of Accord covering the Swiss evaluation of the M1 Tank. A USASAC representative was in Bern, Switzerland, as part of a US team participating in the working group meeting.

(U) The Statement of Accord (SOA) for the Government of Switzerland (GOS) evaluation of the M1 Tank System was presented to the Swiss during this meeting, 10-13 March 1981. The SOA was accepted by the Swiss with only minor changes to the text. PMO M1 was tasked to provide legal and fiscal memoranda to support final review of the SOA.

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(U) A briefing on the Swiss interests in the M1 tank was presented on 27 March 1981 to MG Sharp, ADCSLOG, and the DA staff at the request of DA. The briefing was given by PMO M1 (International Operations) and covered background information, Swiss objectives/requirements/capabilities, impact of coproduction on the US production base, and the relationship of the parties participating in the program. USASAC representatives attended the prebrief given at HQ DARCOM on 26 March and the DA brief on 27 March.

(U) The Statement of Accord (SOA) for Swiss evaluation of the M1 Tank was staffed within HQ DARCOM and forwarded to HQDA (DALO-SAC) on 24 April 1981 with a concurrent request for delegation of authority to conclude the agreement. A draft program management plan supporting this SOA was received from the PM, M1. It was reviewed prior to forwarding to DA for information.

(U) The final draft Statement of Accord for Swiss evaluation of the M1 Tank was signed by MG Sharp on 19 June 1981, and forwarded to the Swiss Embassy for pouch transmittal to Bern, Switzerland, for counter-signature.

(U) On 17 June 1981, representatives from OSD/DA and the PMO M1 met with Mr. Justus White, HASC staff, to discuss the Swiss evaluation of the M1 Tank. Mr. White's position was that the US Government and Chrysler should work in a team effort to aggressively market an attractive M1 package to win the Swiss competition. He felt that the US should commit to compensatory offsets where we would have Congressional support, and if necessary to offer a winning package. He suggested that it should be possible for the US to guarantee the Swiss manufacture of US Army M1 Tank spares, depot level maintenance at Mainz, and possibly even final assembly of some tanks. Mr. White suggested that the Army publicly announce that the 120mm gun program had slipped by one year and that DOD issue a "White Paper" about the M1 Tank to refute some of the adverse publicity. The DOD representatives explained the Swiss program, to include the OSD position on offsets. Mr. White appeared satisfied with the discussion and did not ask for further details.

(C) DRAGON Coproduction. A representative from USASAC was scheduled to visit MICOM during the week of 3-7 November 1980. Purpose of the visit was to participate in the Semi-annual Review of the DRAGON Coproduction Program. This was the sixth meeting at that time. The Swiss coproduced the tracker, pedestal to the transmitter, trainer, test equipment and monitor set which were approved for coproduction in 1976. In 1979, approval was granted the Swiss to coproduce the heat and practice DRAGON missiles. One review was held in Switzerland and one in the USA each year. Cost of the meeting was financed by the Swiss.

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(C) Planning and Review Data (P&R) was furnished the Government of Switzerland for 11,000 heat and 6,400 practice DRAGON missiles, 1,300 trackers and associated test, monitoring and transmitting sets, rocket motors, propellant and fly-before-buy missiles. This was the 4th Swiss buy of the DRAGON system items. Switzerland had approval to coproduce DRAGONs, had been producing trackers, and would begin to produce missiles. The P&R value totaled approximately $230.0 million.

(U) A reply to outstanding issues that came out of the second round of negotiations on the MOU for Swiss coproduction of the DRAGON was received from DSAA. DSAA approved the expansion of the MOU to allow coproduction of additional quantities of DRAGON trackers, training, and test equipment; reduction of royalty fees (5 percent of US sale price less nonrecurring RDTE charges) for additional quantities to match fees previously approved.

(U) The MOU for coproduction of the DRAGON with Switzerland was signed by Mr. Von Marbod, DSAA, and Mr. Grossenbacher, Switzerland, on 5 August 1981.

(U) M109A1B Howitzer Coproduction. Meetings were held between the USG and Government of Switzerland (GOS) at Watervliet Arsenal, on 25 February 1981; Bowen-McLaughlin (BMY) Co., York, Pennsylvania, 4-11 March 1981; and USASAC, 12-13 March 1981. The purpose of the meetings was to discuss progress, actions and general status of the GOS coproduction program involving manufacture and assemblage of components for 207 M109A1B Howitzers. Agreement was reached on the Memorandum of Understanding (MOU) for the coproduction program. The MOU was forwarded to HQDA for authority to conclude it. The following meeting was to be held in Switzerland in late summer or early fall of 1981.

(U) USASAC received authority on 1 May 1981 from DA to conclude the Memorandum of Understanding for coproduction of the M109A1B Howitzer with Switzerland.

(U) The Swiss stated in May that they understood why the US Government had to exercise discretionary restraint in the type of technical assistance which could be made available to them in their production of the M185 cannon as part of the M109 coproduction program. They asked for a statement in writing regarding the decision not to provide Watervliet Arsenal's chrome plating process to them.

(U) On 26 May 1981, USASAC forwarded a draft letter to DA which recommended that the Swiss be officially informed that Watervliet Arsenal's chrome process would not be released to them as part of the M109 Howitzer coproduction program.

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(C) The Memorandum of Understanding was signed on 7 July 1981 to obtain 207 chassis, and cannon parts from Watervliet Arsenal, with scheduled delivery occurring in fiscal years 1982 and 1983. A fifth progress review meeting was held on 24-28 August 1981 in Switzerland. In September, Switzerland was provided a price and availability for chrome plating of Swiss produced M185 gun tubes by Watervliet Arsenal but no decision was reached on the matter by the end of calendar year 1981.

(C) STINGER. In November 1980, the Swiss received approval for a briefing in Switzerland on the STINGER Missile System. This was subject to approved exception to the National Disclosure Policy. The NDP Committee acted on this exception on 21 November 1980. The Swiss had requested the briefing to be held from 1-5 December 1980 in Bern. An FMS case was in preparation to cover this and subsequent travel relating to the STINGER. The Swiss had been attempting for almost three years to obtain this approval, including P&A.

(C) The Defense Technology and Procurement Group (DTPG) of the Swiss Defense Department had conducted tests of the STINGER Tracking Head Trainer in 1975. Results were satisfactory. In December 1980, a classified briefing was given to the Swiss by the STINGER PMO. In a Letter to State Department, dated 12 June 1981, the Swiss requested the lease of service and equipment required for additional technical and troop tests in-country. The lease was to be for six months (May through November 1982), and included three STINGER Tracking Head Trainers, support equipment, spares, technical assistance and training. The Swiss were impressed with the STINGER System and were expected to request a Letter of Offer at a later date.

(U) Miscellaneous. In February 1981, the Swiss formally requested briefings, demonstrations, orientations, discussions, data reports, and a lease for evaluation of both the AN/TPQ-36 and 37 Mortar/Artillery Locating Radars. An exception to the National Disclosure Policy (NDP) was initiated. Action was then under way to arrange visits and itinerary for Swiss delegation, determining level of information that could be disclosed, and action on Swiss request for lease.

(U) During 25-27 May 1981, the US Army/Switzerland Management Review was conducted at the Defense Technology Procurement Group Headquarters, Berne, Switzerland. Representatives from the Swiss Ministry of Defense, Swiss Army, HQ USASAC, USASAC (NCAD) and SAAC participated in this review. During the review, supply, ROD, billing, and case closeout status were provided for 135 FMS cases.

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(C) DA was sponsoring an exception to the National Disclosure Policy (NDP) at the request of State/OSD for the PATRIOT Missile System on behalf of the Government of Switzerland. The NDP exception was required to release information on this system in furtherance of a possible sale. DA had also been requested to arrange a briefing for the Swiss and this would be presented on 5 August 1981 to members of the US/Swiss Steering Group. It was expected that the Swiss would determine later the suitability of the PATRIOT as a replacement for their BLOODHOUND System in the late 1980s.

Austria

(U) Austria was offered 50 ID-1351A Indicators for AB-212 Helicopters which were purchased from Bell Helicopter of Italy. These indicators were to be procured in 22 months from date of case implementation. Due to shortage of Funded Reimbursable Authority (FRA), indicators were delayed in being placed on contract, and Austria developed a critical requirement for the items to prevent grounding of their new helicopters. Therefore, with their concurrence, a total of 20 were delivered from Army rebuild during January-June 1980. When their critical requirement continued to exist, Austria requested sole source procurement of the remaining 30 from Aeronautic Company of Chicago, Illinois. This contract was awarded on 1 April 1981.

(C) Fifty M60A3 Tanks purchased by Austria were made available for delivery in early July. On 29 June 1981, DSAA directed the PM M60 Office to hold all tanks destined for Austria pending a decision for possible diversion to Egypt.

(C) As a result of the diversion to Egypt of 25 tanks, PM60 message 161231Z July 1981 advised that the slippage schedule for 50 each M60A3 Tanks purchased by Austria would be revised.

(U) The decision by SECSTATE/DOD to divert Austrian tanks, and the resultant delay in delivery of 50 M60A3 Tanks caused considerable concern in Austria. As a result of expedited shipping efforts initiated/coordinated by USASAC, the first shipment of 14 was scheduled to depart Bayonne, New Jersey on 13 September, with an estimated arrival in Bremerhaven on 23 September 1981. USDAO, Vienna was so advised by a USASAC message dated 20 August 1981.

Belgium

(U) Fundamental questions of technology sharing and proper procurement channels and long-term service needs dominated USASAC contact with Belgium.

(U) In coordination with HQ ARRCOM, USASAC submitted to DALO-SAA, in November 1980, a recommendation against a DSAA proposal to offer the Government of Belgium (GOB) thick walled cannon manufacturing technology as a quid pro for the GOB procurement of 124 M109A2 SPH under FMS. The GOB proposal did contain caveats intended to extend some degree of USG control over the type and number of tubes which could be produced and sold. ARRCOM felt the proposal gave inadequate long term protection to the production base and future manufacturing technology advances to the Army's investment in Manufacturing Methods and Technology Programs (MMT) at Watervliet Arsenal.

(U) DSAA advised the Belgian Government in February 1981, through the American Embassy, Brussels, that it preferred Belgian interest in the purchase of the Ribbon Bridge remain in commercial channels. The Belgians were negotiating with a US supplier (Condec) as well as a German firm. The Belgian Embassy was notified to pursue commercial channels.

(U) In March, the Belgian Government also expressed interest in the M809 series vehicles which supported the ribbon bridge. The M809 was being replaced by the M939 as production of the M809 ended in March 1981. In this regard the Belgians were concerned as to the period the M809 would be supported. The Belgian Embassy was advised by HQDA that follow-on logistical support for the M809 series vehicles could be provided for over 20 years. The Belgians were also informed that there was a 70 percent commonality of repair parts between the M809 and M939 series vehicles.

Denmark

(C) During fiscal year 1981 the Government of Denmark arranged, through USASAC, the purchase of the TOW System and subsequently requested an amendment to modify the missiles to the I-TOW configuration. Also the I-HAWK negotiations continued and were clarified.

(C) HQDA (DALO-SAC) advised the Office of Defense Cooperation in Denmark on 25 August 1980 of the costs and availability for refurbishing and leasing four batteries of I-HAWK missiles. An informal DSAA memorandum dated 3 November 1980 requested some clarification of this information. USASAC confirmed that the quantity of four batteries was covered in the lease fee and advised that it represented 35 percent of the fiscal year 1980 contract cost. Estimated sales cost of $65.2 million was provided for the same equipment. Other questions regarding refurbishment, maintenance and the lease fee were also answered.

(U) On 25 June 1981, Denmark requested an amendment to their basic TOW case to modify 840 missiles to the I-TOW configuration. The estimated case value was $1.8 million.

Italy

(C) Italy was concerned with two items in fiscal year 1981, one of which could be supplied quickly because of an urgent need and the other which required normal LOA procedures.

(C) The Government of Italy (GOI) requested on 9 January 1981 the Elbow, Passive, Night Vision, M32 Periscope, on the M60 Tank under FMS procedures with the shortest possible delivery lead time. Due to the urgency of this requirement the Elbow was loaned to the GOI under the Data Exchange Agreement in lieu of FMS procedures. The loan was for 180 days and was signed by the Italian Military Attache on 15 January 1981.

(C) Following USASAC's recommendation against diversion of 300 TOW practice missiles for Italy, an unsigned LOA for 2,200 I-TOW missiles with an estimated case value of $21 million was forwarded to DSAA on 3 June 1981 for Congressional Review. DSAA then authorized release of advance unsigned copies to the Government of Italy pending approval by Congress, which was notified of their proposed sale on 24 July 1981. Final action had not been completed by yearend 1981.

(U) Coproduction and acceptance of 110 Italian version models of the M113A1 vehicle was accomplished in 1981, based upon the terms of the original MOU signed in 1963.

Netherlands

(U) On 8 October 1980, it was learned that the Government of the Netherlands (GON) had signed a contract with Consolidated Diesel for the purchase of 99 interior bays and 33 ramp bays of ribbon bridge. Delivery was expected to begin in mid-1981. The GON intended to use Dutch Transporters. However, since the transporters would not be available at the time needed, the GON was expected to request the lease of three transporters from the US for a period of 1 year, beginning in June 1981.

(C) On 3 February 1981, the proposed sale of STINGER missiles to the Netherlands was forwarded to DSAA for advanced notification to Congress. The proposed sale was for 464 complete systems and 182 spare missiles. The estimated value was $25 million.

(C) In 1980, a Letter of Offer had been provided to the Government of the Netherlands for 144 Howitzers, M198, valued at $67.7 million. This Letter of Offer expired on 8 January 1981 without action. USASAC learned in March 1981 that the Netherlands planned to make a decision by mid-1981 as to which Howitzer candidate they would place in their inventory. They were also considering Howitzers from Germany, Israel, and France.

(U) A meeting was held on 14 April 1981 with USASAC, DSAA and the Netherlands Embassy personnel to discuss the fourth supplement to the General Arrangement supporting Dutch coproduction of the M109 Howitzer. Specifically, this supplement addressed installations of the Mid-Life PIP and Extended Range Kits to upgrade the Dutch M109A1s to M109A3s.

(U) In connection with the Government of the Netherlands (GON) purchase of the ribbon bridge from Consolidated Diesel, they requested lease of three truck transporters for a one-year period. In May the lease agreement was approved by the Secretary of the Army. The GON paid a rental charge of $36.8 thousand and a refurbishment charge of $20.4 thousand for the transporters.

(U) On 19 June 1981, amendments to FMS cases to add modification kits to convert the TOW missiles, which were on contract to the I-TOW configuration,were forwarded to the Royal Netherlands Embassy.

(U) On 23 July 1981, an advanced copy of an LOA for a 464 STINGER Missile System was released to the Government of the Netherlands (GON) with a value of $51.3 million. The countersigned LOA was expected to be released to GON by 31 July 1981.

(U) The Netherlands Program Manager for the M483A1 dual production notified USASAC that they desired to do acceptance testing for the European-produced rounds in the United States, using US Army facilities and support. Work had begun to assess the impact of this proposal and to estimate the costs which the consortium would incur. Some of the potential problems which the US and Dutch may have expected to encounter were generally addressed at the last US-Dutch meeting in February 1981. Particular concern existed in the areas of transportation and scheduling. Unfortunately, the consortium was being forced to take this approach since no adequate test facilities existed in Europe which could accommodate the acceptance test requirements of this round.

(U) On 4 August 1981, an LOA for the 464 STINGER Missile System was forwarded to Government of Netherlands (GON). The value of the offer was $51.3 million. A Netherlands team visited the US during the week of 24 August 1981 to discuss the offer.

(U) Coproduction of the M109SP Howitzer involved delivery of 38 chassis and cab, and 49 cannons from the United States in fiscal year 1981 which were combined with the cannon mount and cab interior components produced in the Netherlands. There were visits to ARRCOM 2-4 March and 13 October 1981 to discuss technical matters of concern.

(U) The Norwegian Army had 38 M48 Tanks obtained under MAP, which were old and difficult to maintain. The GON submitted a request to DSAA to obtain a quantity of 38 M48A5 Tanks from stock for those M48 Tanks on hand in November 1980. They were willing to pay the US the cost of conversion for the tanks.

(U) In response to the request from the Government of Norway, to modify 38 M48 Tanks to M48A5s, the DSAA plan was to divert 38 M48A1 Tanks from the DIVAD program for modification. Payback was to be made from 38 M48 Tanks to be turned in by Norway. An LOA was being prepared for this purpose in February 1981.

(U) A request was received in April from the Government of Norway (GON) for a Letter of Offer for the ROLAND Missile System. The GON request was for three different alternatives. The alternative selected was to be based on cost and funds available to the Norwegian Air Force.

(U) On 16 April 1981, three separate Letters of Offer (LOA) were hand carried to the Norwegian Embassy for overhaul and conversion of 38 Norwegian M48 Tanks to the M48A5 configuration. Availability of the M48A5 Tanks was to be 24 months at a total cost of $1.2 million. The LOAs also included overhaul and conversion of two Vehicle Tank Recovery M88 to M88A1. Availability was to be 10 months at a total cost of $682,000. Also included was the purchase of one Vehicle Tank Recovery M88A1 with availability of 30 months at a total cost of $1.2 million.

(U) On 27 April 1981, the Government of Norway accepted a Letter of Offer (LOA) for overhaul and conversion of two M88 Recovery Vehicles to the M88A1 configuration. Also accepted was an LOA for the purchase of one M88A1. Total value of both LOAs was $1.8 million.

(U) On 13 May 1981, the Government of Norway accepted the Letter of Offer for overhaul and conversion of 38 Tank M48s to the M48A5 configuration. The value of the case was $23.8 million.

(U) Norway received planning and review (P&R) data for possible new production line procurement of the I-HAWK System in July 1981. For decision making purposes, they then requested P&R data for six I-HAWK batteries to be delivered from US stocks in fiscal year 1986, after US fielding of the PATRIOT System.

(C) The final notification to Congress for the proposed sale of the 32 ROLAND Missile System to Norway was expected to be released during the week of 17 August 1981. Value of the sale was $530 million.

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(U) On 24 August 1981, the final notification for the proposed sale of the ROLAND Missile System was released to Congress. There were three alternatives; first for 24 fire units valued at $388.6 million; the second for 20 fire units valued at $346.8 million; and third for 32 fire units with a value of $529.2 million. Advanced copies of the LOA were provided to Norway for their review. The US offered to provide a team to the Norwegian Air Force to respond to questions during their review of the LOA. Action was not completed, however, at the end of fiscal year 1981.

Portugal

(U) The Annual Portugal Grant Aid Review was conducted on 9-13 February 1981. Representatives from USASAC visited MAAG Portugal to reconcile supply records review programs.

(U) In April 1981, DA approved diversion of one fire control purging kit for Portugal with payback from fiscal year 1983 procurement.

(U) Six M109A2 Howitzers were enroute to Portugal in early June and arrived in-country on 13 June 1981. Ammunition (FMS) for the Howitzers was also released to the Portugese freight forwarder and was scheduled to depart for Portugal on 11 June 1981. Two AVLBs were also scheduled for this same shipment.

(U) In response to a telephone request from DSAA, planning data were developed for 24 additional M48A5 Tanks to the Government of Portugal. It was provided to the Portugese Minister of Defense in an 8 June 1981 meeting at OSD.

Spain

(U) Much of the USASAC contact with Spain came with the establishment of a Territorial Command Network (TCN) and the mediation of issues on cases between the two countries. In addition to this association, normal materiel acquisition procedures required substantial attention.

(C) After reviewing the Joint US/Spanish written statement on the TCN issue, Dr. Wiederkehr accepted without qualification the Terms of Reference for the mediator in October. In turn, he proposed a maximum fee/honorarium for himself of some $65,000.00, to which would be added out-of-pocket expenses and costs of technical studies. The US/Spanish representatives advised Dr. Wiederkehr that they would have a response regarding his terms within the coming weeks.

(U) In March 1981, the US Army TCN Operation and Maintenance Assistance Team was in its 5th month of operation in Spain. Their February 1981 report stated that the outlook for successful completion of the team's

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mission was good. If the TCN continued to function in compliance with the performance standards, which the team thought it should and with the mutual agreement of all parties, the team was expected to be able to depart Spain earlier than their scheduled termination date of September 1981.

(U) The wording of the Joint Contract for the TCN-Spain between the US, Spain, and the prospective TCN mediator was finalized. It was anticipated that US and Spanish representatives would present the contract to the mediator for his signature in early April. The contract called for a mediator's fee of $67.4 thousand plus reimbursable fees not to exceed $500 thousand. The US and Spain would each pay one half of the total mediation costs.

(U) The TCN Mediation Contract was signed by US/Spanish officials and mediator (Dr. Wiederkehr). The contract went into effect 1 May 1981. By 1 June 1981, the USG and GOS would submit a list of special issues on which mediation was sought. The two governments would then meet to narrow the problems to be submitted to the mediator by 1 July 1981. By 1 August 1981, each government was to submit to the mediator a written document summarizing their position on each issue for which mediation was sought. The mediator had seven months from the date of these submissions to produce his written recommendations.

(U) The first phase of the Territorial Command Network (TCN) Spain mediation, which would be an exchange/discussion of issues between USG and the Government of Spain, was scheduled in Madrid during the week of 8 June 1981. Continuation of meetings, if necessary, would be at Fort Monmouth starting 15 June 1981. The US team had six members.

(U) The first phase of Territorial Command Network (TCN) Spain mediation, exchange and discussion of issues had been completed. This was a two-week effort, 6-19 June 1981, with little success in eliminating any of Spain's lengthy list of issues. The USG had only one issue which was forwarded along with Spain's list on 1 July 1981 to the mediator.

(U) The TCN mediator, Dr. Wiederkehr, had received the issues from both sides (GOS and USG) and identified two possible candidates for providing expert assistance. These were Mr. Locher, formerly in charge of the Swiss Telecommunications Network, and Mr. Bollinger, who was involved with Swiss Military Communications. Dr. Wiederkehr was advised that any candidate had to be agreed upon by both sides (GOS/USG).

(U) Spain reported continuing difficulties in effectively using its I-HAWK System. An FMS Amendment was quickly prepared and implemented providing for a visit by US representatives expert in all logistical aspects of I-HAWK Support. The team departed CONUS beginning 23 October 1980, analyzed problem areas and planned to return to CONUS to study findings and propose solutions.

(U) The Team Chief arrived in Madrid 27 October 1980 and was followed by arrival of team members on 1 November 1980. Most team members were in-country through November 1980. This technical inspection visit was a result of Spanish complaints concerning I-HAWK Program. Upon return to US, Team Chief submitted his report on findings and recommendations to the Commander, SAC.

(U) Spain requested that the AN/TSQ-73 Air Defense Command Control System (ADCCS) be provided and modified to interface with the SADA system, a joint USAF-Spanish Air Force Air Defense Command and Control System. A meeting was scheduled for 26-27 February 1981 between the US Army and USAF to discuss the proposed hybrid, non-standard system and a possible MOU.

(U) The Spanish Navy requested planning and review (P&R) data for conversion of existing TOW Missile assets to the improved warhead (I-TOW) configuration. Necessary approvals were obtained and action was under way to provide requested data in May 1981.

Sweden

(U) The major concern of USASAC for Sweden focused on the procurement of the I-TOW Missile System.

(U) In February 1981, DA authorized the substitution of 1900 I-TOW Missiles for basic TOW Missiles as requested by the Swedish Government. Amendment to the FMS case was processed in conjunction with the total NATO requirements for the I-TOW.

(U) On 7 July 1981, Sweden advised that the amended LOA for 1,900 I-TOW Missiles would be accepted and also requested a new LOA for an additional 750, with an estimated value of $6.8 million.

(U) On 3 August 1981, the Government of Sweden (GOS) accepted the two cases for a total quantity of 2,850 Improved TOW Missiles. The total value of the cases was $27 million.

(U) On 6 July 1981, Sweden requested a Letter of Offer for up to 30 I-HAWK Missiles and containers, plus training missiles. Final quantities were limited by the $5.3 million as specified by Sweden.

Turkey

(U) Tank Modernization Program. The location/inspection fixtures to be used in support of the Turkish tank modernization program were being prepared for shipments under a lease agreement.

(U) A draft proposed reply to the Acting Chief JUSMMAT (Turkey) concerning Turkish coproduction of 90mm and 105mm tank gun tubes was forwarded to DA for concurrence prior to dispatch. The recommended

position was that the production TDPs not be released and that coproduction not be authorized. The proposed reply also stressed the apparent economic infeasibility of such a project in Turkey and provided rationale to support purchase rather than coproduction.

(U) The Security Assistance Center implemented two Turkish FMS cases which provided a total of 54 M48A1 to M48A5 Tank Conversion Kits which were to be used for Turkey's in-country conversion program. The total value of these cases was approximately $16.2 million.

(U) Congress was later provided the 20-day advance notification on 29 June 1981 for the proposed additional Turkish buy of 348 M48A1 to A5 Tank Conversion Kits at an estimated cost of $115 million.

(U) USASAC received, in early July, Turkish requests for LOAs under the fiscal year 1982 Credit Program. Case preparation was pending DSAA approval, as major emphasis in the Army portion of this program was on the M48A1 to M48A5 tank conversion.

(U) On 7 July 1981, Turkey accepted a Letter of Offer (LOA) for the REDEYE Missile System for a total value of $7.4 million.

(U) Two Letters of Offer totaling $130.7 million were forwarded to DSAA on 4 August 1981 for Congressional presentation. The cases were for M48A1 to M48A5 Tank Conversion Kits.

(U) USASAC was informally advised on 27 August 1981, by JUSMMAT that Turkey would definitely accept the two FMS cases for the 348 M48A1-A5 Tank Conversion Kits with a total value of $130.5 million.

(U) A meeting of the Executive Committee of the Defense Industrial Cooperation Program was held in Ankara 16-17 October 1980. MG Thomas F. Healy, Commander, USASAC, attended as the senior US Army representative. Actions to implement five major programs were discussed: anti-tank ammunition, fuze, propellants, rockets, and the tank conversion program.

(U) As part of the Turkish FMS Management Review, a meeting was held at HQ USASAC on 27 April 1981 to discuss/evaluate the status of the Turkish NIKE Support Program. USASAC, NAMSA, MICOM, Turkish Embassy, and JUSMMAT representatives participated. The program was designed to assure continuing support by NAMSA of the Turkish NIKE System.

(U) The Executive Committee which administered the Turkish Defense Industrial Cooperation Program met 8 June 1981 at the Pentagon. The purpose of the meeting was to evaluate the status of the program since the last meeting held in Ankara in October 1980. The Turkish delegation was headed by LTG Ragip Ulugbay, Deputy Undersecretary of the Ministry of National Defense. Five programs managed by the US Army were discussed: Tank Up-grade, Anti-Armor Ammunition, Fuzes, Rockets, Powder/explosives.

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(C) Advance and statutory notifications were forwarded on 15 June 1981 to DSAA on Turkish requests to buy three different configurations of the UH-1H Helicopter. The total requirement was for 27 helicopters.

(U) On 24 July 1981, the Security Assistance Center received authority to begin preparation of Letters of Offer requested by Turkey under the fiscal year 1982 Credit Program.

(U) USASAC was requested by NAMSA to prepare a Letter of Offer (LOA) for NIKE engineering services for calendar year 1982. The case was to be funded with Turkish FMS credits as a quid-pro-quo entry into the NAMSA/NIKE support plan.

(U) Advance notice was submitted to Congress on 1 September 1981 for the sale of 15 UH-1H Helicopters to the Turkish Army. The estimated case value was $31.6 million.

(U) Based on a DA-approved allocation of excess NIKE assets in Europe, two LOAs for Turkey were submitted to DSAA on 17 September 1981 for countersignature, were countersigned and were returned on 24 September 1981. The LOAs, valued at about $60 thousand were to be forwarded for Turkish approval by 30 September 1981.

(U) During fiscal year 1981, chemicals and supplies were air shipped to Turkey for the manufacture of 2.75 inch rockets in February and September 1981, but no production schedule had been established at yearend FY 1981.

United Kingdom

(U) Transactions with the United Kingdom involved exclusively 155mm Howitzers and their ammunition.

(U) A meeting was held at DSAA on 16 March 1981 concerning the US-UK patent rights agreement on the 105mm APDS round and related training ammunition. Representatives from DA, USASAC, DARCOM's Command Counsel, ARRCOM and Flinchbough were also in attendance. The meeting was requested by Flinchbough Products, producer of the 105mm M737 training round, to determine DSAA's position on the patent rights agreement. The 1965 patent rights agreement precluded the US from negotiating sales on licenses to third countries without first notifying the UK, and provided for royalties on actual sales of the 105mm APDS and related training ammunition. On 22 July 1980, DSAA advised the UK that all provisions of the agreement had expired on 31 December 1975. This determination was in support of an Army recommendation. After the determination was announced, Flinchbough marketed the M737 Training Round and conducted direct sales with Canada and Germany. The UK protested the DSAA determination and subsequent Flinchbough marketing efforts. DSAA reaffirmed its 22 July 1980 determination and so informed the UK in March 1981.

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(U) The UK FMS buy of 18 Howitzers, M109A2, 155mm, SP was at the delivery stage; in March 1981 14 Howitzers were expected to be shipped to Germany and four to Canada (for UK training in that country). The fourteen were offered to the freight forwarder on 19 March 1981 and a Quality Assurance Team (QAT) proceeded to Antwerp for unloading and then to Moengladbach, Germany, for deprocessing of the Howitzers. The four Howitzers destined for Canada were offered on 19 March 1981.

(U) The UK purchased 51 M109A2 Howitzers to be produced by end of April 1981. The UK QAT would observe the proofing at Aberdeen Proving Ground, Maryland. Delivery of the 51 Howitzers to the UK was scheduled during the 4th quarter of fiscal year 1981.

(U) Advance notification to Congress was being prepared in April 1981 for a United Kingdom purchase of 18,000 rounds, projectile, 155mm, HE, M549A1 (RAP). Total estimated value of case was $15.8 million. The case would be forwarded through DA/DSAA channels to the State Department for presentation to Congress.

(U) There were 51 Howitzers, M109, 155mm, SP scheduled for delivery to the UK in 4th quarter fiscal year 1981. Eighteen would be shipped to Aberdeen Proving Ground, Maryland for proof firing in May, 19 in June, and 14 in July. Delivery was to be as originally forecast in the LOA. These 51 Howitzers were in addition to 18 already shipped in April 1981 on another FMS case.

(U) The formal notification to Congress for 18,000 155mm, M549A1 projectiles (RAP) was forwarded to DSAA on 3 June 1981. Total case value was $15.8 million. The UK was contemplating a total purchase of 81,000 rounds. Delivery leadtime was to be 25 months from procurement.

(U) The status of 51 M109A2 Howitzers, 155mm SP for UK in August 1981 was: 19 cannons had been successfully proofed at APG and shipped to Bowen-McLaughlin-York (BMY) for assembly; 22 were to be proofed at APG beginning 24 August 1981. The UK QAT was at APG during the proofings, which called for all 51 cannons to undergo this testing.

(U) The amendment covering the retrofit of 115 basic TOW Missiles was accepted on 31 July 1981 and implemented on 21 August 1981.

(U) On 27 August 1981, it was learned that the LOA for 18,000 rounds, projectile, 155mm, HE, M549A1, would not be accepted due to financial reasons. The value of the case was $15.8 million.

(U) Coproduction involved the procurement of the TOW helicopter, launched anti-tank guided missile weapon system and the manufacture in UK of a roof-mounted sight and associated missile control system. Three experimental and 12 preproduction articles were completed and accepted in September 1980, and the first two production models delivered in November/December. Flight and firing tests had demonstrated a 90 percent success rate at the time of test.

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Yugoslavia

(C) On 13 March 1981, Government of Yugoslavia (GOY), through the USDAO, Belgrade, requested a 2-month extension of the 28 February 1981 expiration date which at that time appeared on nine FMS cases. The extension was requested because DRAGON Missile prices were higher than GOY anticipated and answers to technical questions were desired, i.e., systems reliability, guidance data, and destruction data. SECDEF approved the extension and advised USDAO, Belgrade, that this extension would result in price increases. Upon GOY acceptance of the nine cases (which was doubtful), action would be initiated to obtain new estimated prices.

Mideast/Africa/Americas

(C) In terms of the number of countries involved and in size of some of the programs for these countries, this directorate serviced a crucial portion of the entire security assistance program. The largest country programs were those for Egypt, Morocco, and Saudi Arabia. The emergency program for assistance to El Salvador, however, also came within the jurisdiction of this directorate. In other actions concerning other countries, the Government of Jordan accepted a Foreign Military Sale package for delivery of Cobra/TOW Helicopters and support materiel and training; a Presidential determination authorized furnishing immediate defense articles to Liberia and was implemented by USASAC; Tunisia negotiated for equipment including Howitzers (SP), Armored Personnel Carriers, and M60A3 Tanks. Other significant actions involved Botswana, Cameroon, Gabon, Israel, Kenya, Kuwait, Lebanon, Oman, Somalia, Sudan, United Arab Emirates, Yemen, and Zaire in Africa and the Mideast and Argentina, Canada, Colombia, Dominican Republic, Ecuador, Nicaragua, and Peru in the Americas.

El Salvador

(U) Assistance to El Salvador in fiscal year 1981 was based upon a drawdown authority stemming from Presidential determinations to make that country a high priority customer.

(C) A presidential determination, dated 16 January 1981, authorized drawdown of Army stocks within a $5.0 million Grant Aid ceiling for expedited security assistance to the Government of El Salvador (GOE). Extraordinary expedited actions accomplished delivery of the following:

		Delivery Dates	Unit Price	Total
6	UH-1H Helicopter	16, 20 and 22 Jan 1981	No fee lease	
100	M79 Grenade Launcher	19 Jan 1981	$ 388.00	$ 38,800
5,000	Rounds M79 HE, 40mm	19 Jan 1981	10.41	52,050

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		Delivery Dates	Unit Price	Total
2,000	M16 Rifles	19 Jan 1981	$ 467.00	$ 934,000
20,000	Magazines for M16	19 Jan 1981	2.75	55,000
1,000,000	Rounds 5.56mm	19 Jan 1981	.23	230,000
5,000	Sets of Body Armor	18 Jan 1981	36.09	180,450
5,000	Steel Helmets	18 Jan 1981	7.71	38,550
5,000	Liner, Ground Troop Helmet	18 Jan 1981	6.88	34,400
5,000	Neckband, Helmet Liner	18 Jan 1981	.33	1,650
5,000	Headband, Helmet Liner	18 Jan 1981	1.23	6,150
* 30,000	C-Ration Meals (2,500 boxes)	17 Jan 1981	23.71	59,275
	TOTAL			$1,630,325
	CSP for M79 Launcher	Being processed for shipment		$ 5,872
	CSP for M16 Rifle	Being processed for shipment		37,100
	CSP for UH-1H Helicopter	Being processed for shipment		205,000
	Radio & Avionics Float for Helicopter	Being processed for shipment		51,282
	TOTAL			$ 299,254
	GRAND TOTAL			$1,929,579

* Being shipped as replacement to Panama for materiel supplied from CINCSO to El Salvador.

(C) In addition to assistance provided the Government of El Salvador (GOE) during the period 14-21 January 1981, a second increment of defense materiel was airlifted via 21 special air missions during the period 31 January - 5 February 1981. Items provided were:

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AMOUNT	ITEM	TOTAL
6	M23 Defense Weapon Systems (for use with UH-1H Helicopters)	$ 51,276
	Supporting CSP	10,000
38,340	Linked Ammunition Rounds	13,419
1,000,000	Ball Ammunition Rounds (5.56)	222,000
14,800	40mm HE Rounds	154,000
100	M-79 Grenade Launcher	38,800
2,000	Fragmentation Grenades	18,000
10	VRC-46 Radio Installation Kits	3,000
300	57mm Rounds	12,813
4,500,000	Ammunition Rounds (7.62)	
	(Marine Corps Stocks)	$1,080,000
	TOTAL	$1,603,308

All support as of yearend fiscal year 1981 was provided within a $5.0 million Grant Aid ceiling. Army items were provided from stock as authorized by the Presidential Determination, dated 16 January 1981.

(U) Under Presidential/Congressional Grant Aid authority, four additional UH-1H Helicopters and accompanying support services were provided to the Government of El Salvador as follows:

16 March - One C-130 Aircraft transported a Quality Assurance Team (QAT) and aviation support items.

17 and 18 March - Two aircraft transported two helicopters each day. All missions were successfully completed on 18 March.

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(C) On 2 April 1981, SECDEF directed shipment of the following ammunition:

1,250,000	Rounds 5.56 Ball Ammunition
12,500	Rounds 40mm, HE
10,000	Rounds 81mm, HE
500	Rounds 81mm, Illum
2,000	Rounds 105mm
700	Rounds 57mm, HE
12,500	Hand Grenades, Fragmentation
10,000	Rounds 60mm, Mortar, HE
5,000	Rounds 60mm, Mortar Illum
	Items for cleaning M16A1 Rifles
544,320	Rounds 30 Cal. Ball Ammunition
1,760	Fuze, PD, M557 for 105mm
340	Fuze, Proximity M728 for 105mm

This materiel, valued at over $3.3 million was scheduled to be airlifted commencing 9 April 1981, by C130 aircraft to meet an in-country delivery date of 15 April 1981. As a result, over 267 tons of ammunition items were airlifted to El Salvador and met the delivery deadline date of 15 April 1981, imposed by SECDEF. Materiel valued at over $3.3 million was flown out of Little Rock Air Force Base, Arkansas, and Whiteman Air Force Base, Missouri, via 26 C-130 flights.

(C) On 6 May 1981, SECDEF directed another air shipment of the following materiel for delivery in-country no later than 21 May 1981:

ITEM	QUANTITY	VALUE
Recoilless Rifle 90mm with CSP	4	$12,510
Grenade Launcher M79 with CSP	28	12,979
Machine Gun M60 with CSP	27	94,829
Cartridge 90mm HEAT	432	31,510
Cartridge 90mm Canister	204	10,163
Mortar 60mm M19 with CSP	20	20,900
		182,891

Authority for this action was the Presidential Determination 81-4, signed 5 March 1981.

(C) On 15 May 1981, SECDEF directed an additional shipment of the following materiel to arrive in El Salvador by 25 May 1981:

8	Mortar, 81mm CSP
268,800	Rounds 7.62 Linked Ammunition
2,000	Batteries (BA 4386)
300	Antennas AT 271A/PRC
500	Antennas AT 892/PRC-25
300	Bags, cotton duck, CW 503, PRC-25

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(C) 15 May 1981 SECDEF directed shipment (Continued)--

500	Headset, H-250
500	Harness, Elec Equip ST-138
300	Support Antenna AB 591A
100	Cable Assembly Radar 1127/VRC
100	Cable Assembly CG 1773 B/U
100	Cable Assembly Radio Power CG 4721/VRC
20	Cable Assembly Radio Power CX 4722/VRC
20	Cable Assembly Radio Power CX 4720/VRC
50	Antenna Elements AS 1730/VRC
50	Antenna Elements AT 1095/VRC
50	Antenna RC-292
18	AN/PRC-77 Radios and CSP
6	Antenna AS 1729

This materiel valued at approximately $256 thousand was provided under Section 506 (Presidential Determination) of the Security Assistance Act. This was the fourth impact shipment of materiel to El Salvador.

(C) LTC Harold W. Melander, newly designated Chief of the Logistics Technical Assistance Team for El Salvador, visited USASAC on 27 May 1981, and was briefed on El Salvador's program which included FMS and a $25 million Presidential Determination drawdown authority.

(C) By DSAA/DA direction, the following additional materiel for El Salvador was assembled at the Port of New Orleans for anticipated surface shipment on 25 July 1981:

ITEM	QUANTITY
Battery	10,000
Wire reels (1 mile)	450
Multimeter AN/USM 223	20
Generator 10kW	1
Generator 1.5 kW	1
Generator 30kW	3
Generator 15kW	2
Ambulance 1/4 ton	6
Trailer, water tank M149A1	6
Truck, tank fuel servicing 1,200 gal.	5
Drinking cup	15,000
Intrenching tool	2,500
Flashlights	2,500
Suspenders	5,000
Frame, field pack	2,500
Shoulder strap	5,000
Field pack	2,500

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(C) Total value of the above listed materiel, including CSP, was approximately $1.2 million. Source of materiel/funding continued under authority of Section 506 in the Security Assistance Act, as directed by Presidential Determination 81-4, dated 5 March 1981.

(U) On 21 July 1981, Panama submitted an urgent request for medical items to support a Medical Military Training Team being deployed from Panama to El Salvador. Thirty-one line items of medical equipment were expedited for Channel Air shipment to meet required delivery date of 1 August 1981 in El Salvador. Items valued at approximately $10,000 were being supplied per Presidential Determination 81-4 under authority of Section 506 of the Security Assistance Act.

(C) On 21 August 1981, DSAA/DA requested USASAC to ship four UH-1H Helicopters with M23 Armament Systems to El Salvador during the week of 25 August 1981. One C-130 departed CONUS on 26 August 1981 carrying one UH-1H Helicopter and a Quality Assurance Team. The second C-130 left 27 August 1981, carrying a UH-1H and four crucially needed fuel tanks. The remaining two C-130s were scheduled to depart 28 August 1981 and would carry an aviation materiel management specialist who would develop an in-country program to solve logistical and maintenance problems with the UH-1H Helicopter fleet.

(C) The QAT arrived in-country on 27 August 1981 and completed their check-out mission. Aircraft were determined to be operationally ready. The team returned to CONUS on 2 September 1981.

(C) The SS American Chieftan departed on 16 September 1981 for El Salvador. Cargo consisted of 10,032 rounds of 90mm Recoilless Rifle ammunition, 5010 rounds of 105mm ammunition, and 36 each 90mm Recoilless Rifles.

(C) At this time El Salvador also requested expedited delivery of 3,114 each M16 rifles and 3.2 million rounds of 5.56mm ammunition. The value of materiel was approximately $2.4 million at the end of fiscal year 1981. The mode of shipment and additional guidance was pending from DSAA.

The Americas

Argentina

(U) Colonel Manuel Lopez, Commander (Designee), US Military Group, Argentina, visited USASAC on 14 April 1981. He was briefed on the Argentine FMS program by program managers and by the TRADOC Liaison Office representative. Colonel Lopez was expected to assume his duties on 28 April 1981.

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Canada

(U) Due to a critical supply shortage of explosives and propellants, the Canadian Government requested a Letter of Offer on a priority basis. ARRCOM was furnished a request by telephone conversation and message, and an LOA was to be submitted to USASAC by 23 March 1981.

(U) During 2-4 March 1981, representatives from USASAC, TSARCOM, the Canadian Department of Defense, Yuma Proving Ground and US Army Electronic Proving Ground participated in a program review of tests being conducted at Yuma Proving Ground on the Canadian AN/USD-502 Long Range Surveillance System (DRONE). During this review additional test requirements were determined which increased the value of this test program to approximatel- $8.5 million.

(U) Planning and review (P&R) data for 100 Truck Utility, 1/4 ton, M151A2, was released to the Canadian Government on 22 July 1981. The estimated value of this case was $1.6 million. Availability was estimated to be six months after acceptance of the LOA.

(U) On 13 August 1981, the Government of Canada accepted an FMS case for I-TOW Retrofit Kits for 1,890 TOW Missiles. The total case value was $3.8 million. Canada had initially deposited $1.7 million with SAAC, and implementation of case was expected shortly after the end of fiscal year 1981.

(U) On 3 August 1981, Major General Belzile, Chief, Canadian Land Forces Doctrine and Operations called the Commander, DARCOM to request his assistance in the upgrading of fifty M109A1 Howitzers to the M109A3 configuration. USASAC was tasked to look into the actions that would be required to satisfy this requirement. Through coordination with Commander, ARRCOM, DESCOM, and HQ DARCOM staff, it was determined that the request could be satisfied with minimal effect upon the US Army. A letter was sent to DA recommending approval. The production lead time was estimated to be six months after acceptance of the LOA at an estimated cost of $2.2 million.

Colombia

(U) A letter of Offer on October 1981, comprising a system buy out of components and repair parts for UH-1B Helicopters was released to the GOC for consideration/acceptance. Items were made available from Army stock and new procurement. Case value was estimated at $424,356.

(U) Letters of Offer for 14 rebuilt M101A1, 105mm Howitzers and minimum essential quantities of ammunition were presented to the Government of Colombia about 30 June 1981. Total cost of the Howitzers and associated equipment was approximately $800 thousand.

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(U) On 1 June 1981, Colonel Albara Samiento, Air Attache', and Colonel Nestor Cortes, Assistant Military Attache', visited USASAC to discuss the Colombian FMS program. A four hour review was conducted to the complete satisfaction of the visitors.

(U) An LOA for 29,274 field jackets to be supplied from stock was presented to the Government of Colombia on 23 June 1981. Total case value was $1.1 million.

(U) Major Charles S. Mahan, Logistics Officer (Designee) US Military Group, Colombia, visited USASAC on 29 June 1981. He was briefed on the Colombian FMS program by the program manager. Major Mahan assumed his duties on 27 July 1981.

(C) DSAA/DA decided to offer 12 UH-1H Helicopters with the M23 Armament System (7.62mm Machine Gun) to the Government of Colombia instead of leasing them as requested by USCINCSO. Total value of the sale including helicopters, repair parts, spare engines, armament systems, ammunition and air transportation was expected to be approximately $11 million.

(U) On 17 July 1981, DSAA tasked USASAC to prepare an expedited Letter of Offer for 12 UH-1H Helicopters with the M23 Armament System. DA authorized diversion of both items from US Army stocks.

(U) On 6 August 1981, Brigadier General Carlos A. Pedro, Military Attache' and Colonel Nestor Cortes, Assistant Military Attache', visited the Commander, USASAC. The purpose of the visit was to introduce the newly assigned Air Attache', Brigadier General Gilberto Franco, and to discuss two items of high-level interest: purchase of 12 UH-1H Helicopters with the M23 Armament System and 14 M101A1 Howitzers.

Dominican Republic

(U) Colonel Joseph R. Trdla, Chief (Designee), US Military Assistance Advisory Group, Dominican Republic, visited USASAC on 11 August 1981. He was briefed on the fiscal year FMS programs. Colonel Trdla assumed his duties on 4 September 1981.

Ecuador

(U) QAT completed actions on 19 February 1981 for seven Ma13, 5T trucks, which were deprocessed; and 40 previously delivered vehicles were inspected for cracked spring condition. No problems were noted.

(U) Under SECDEF direction, LOAs for a Helicopter Observer Team to monitor the Ecuador/Peru border area for 30 days were extended for 14 additional days and were presented to DSAA on 10 March 1981. Due to the

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previous disappearance of one UH-1H Helicopter and its three-man US crew in Equador on 17 February, US Air Force helicopters had been sent into Ecuador to continue the mission under Air Force FMS cases. The remaining UH-1H was held in reserve so that the mission could still be flown in pairs in event one USAF helicopter became disabled. No further information had been received on the downed helicopter or crew by mid-March 1981, so all search efforts were cancelled.

(U) At the Latin American Military Group Commanders' Conference in April, the Chief, US Military Liaison Office, Ecuador requested the Commander, USASAC's assistance in expediting delivery of mortar ammunition and weapons on several Ecuadorian FMS cases. At the request of USASAC, HQDA undertook extraordinary efforts to divert 3,400 4.2 inch mortar rounds, an item in critical short supply within the US Army. Approximately 600 measurement tons of ammunition was available for Ecuador in October 1981.

Honduras

(U) A two man quick reaction team was deployed to Tegucigalpa from Corpus Christi Army Depot (CCAD) on 8 September 1981 to repair turbine engines on four UH-1H Helicopters. It was anticipated that the team mission would be completed within 10 days.

Nicaragua

(U) LTC James M. Kelly, USA, Chief (Designee), US Military Liaison Office, Nicaragua, visited USASAC on 13 April 1981. He was briefed on the Nicaraguan FMS program by the program managers and by the TRADOC Liaison Office representative. LTC Kelly assumed his duties on 14 May 1981.

Paraguay

(U) LTC Ramon Ferrer-Mena, Chief (Designee), US Office of Defense Cooperation, Paraguay, visited USASAC on 13 March 1981. He was briefed on the Paraguayan FMS Program by the program manager and the TRADOC Liaison Office Representative.

Peru

(U) LTC Paul A. Scharf, newly assigned as Acting Chief, US Military Assistance Advisory Group, Peru, visited USASAC on 11 August 1981. He was briefed on the Peruvian FMS program. Colonel Scharf assumed his duties on 20 August 1981.

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Africa

Botswana

(U) The Government of Botswana (GOB), previously an inactive FMS customer, received FMS credit for the first time in fiscal year 1981. The GOB submitted a request for price and availability (P&A) data for training aids and manuals. This request was under review by Defense/State at the end of fiscal year 1981.

Cameroon

(U) Major Clifford L. Fields, newly assigned Defense Attache', Cameroon, visited USASAC on 5 and 8 June 1981. He was briefed on country programs, and provided guidance relative to processing customer requests for materiel/services. Major Fields assumed duties on 1 July 1981.

Kenya

(U) A Hughes Model 500D (commercial version) Helicopter crashed in Kenya on 15 July, killing two Kenyan pilots; no Hughes Helicopter, US Army or other US personnel were involved. This helicopter, delivered in 1979, was one of 32 Hughes Helicopters that were being sold to Kenya on an FMS case: 2 Models 500D; 15 Models 500MD; and 15 Models 500MD with TOW. The accident, resulting in Kenya's first helicopter associated fatality, apparently occurred when the aircraft, reportedly operating at high speed and at a 100 foot altitude, struck a steel cable (not a power line). A Kenya Army accident investigation was initiated with one of our in-country USAMTT instructor pilots assigned to assist as an adviser.

(U) Colonel Thomas A. O'Rourke, Jr., newly assigned Chief, Kenya, US Liaison Office (KUSLO), visited USASAC on 12 April 1981. Colonel O'Rourke received detailed briefings on the Kenyan Security Assistance programs.

(C) Planning data for potential Kenya requirements were furnished to DSAA on 22 September 1981. Data included requirements for 30 M113A2 APCs ($7.2 million), 18 I-HAWK Systems ($570.8 million), 24 CHAPARRAL Systems ($94.9 million), and 24 VULCAN Systems ($37.7 million). The total estimated cost was almost $711 million. Source of potential funding was unknown.

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Liberia

(C) A Presidential determination, dated 9 December 1980, authorized furnishing $1.0 million in defense articles/services to the Government of Liberia (GOL). Immediate action was taken to ship 20 2½ ton vehicles from Anniston Army Depot, which arrived at the port of Baltimore on 23-24 December 1980 for subsequent water shipment to Liberia. The vehicles were loaded on the HARBEL CUTLASS which departed 9 January, with estimated arrival in Monrovia on 24 January. A supporting Quality Assurance/Technical Assistance Team departed CONUS on 22 January with estimated time of arrival in Liberia on 23 January.

(C) The 20 vehicles shipped to Liberia in January 1981 were deprocessed by the Quality Assistance Team (QAT) and "handed off" to Government of Liberia (GOL) and were then operational. A Technical Assistance Team (TAT) was in-country in February, and established supply/maintenance capabilities and a motor pool to conduct repairs to the non-operational fleet. Repair work continued on the non-operational fleet and repair parts to place these vehicles into serviceable status were being requisitioned.

(U) On 7 February 1981, DSAA directed preparation of a Letter of Offer and Acceptance (LOA) for engineering support requirements totaling $500 thousand for Liberia. The LOA was accepted by Liberia on 12 February 1981, and material was air lifted by a MAC flight scheduled to depart 24 February. In addition, off-shore procurement valued at $478 thousand was authorized for purchase of construction materials in Liberia.

(U) The QAT/TAT completed action in-country on 19 February 1981. The team deprocessed 20 M35A2, 2½ ton trucks, and repaired deadlined vehicles.

(U) Two construction-related Letters of Offer for Liberia were implemented in September 1981. The case value was approximately $3 million.

Rwanda

(U) The Government of Rwanda signed a fiscal year 1981 FMS Credit Agreement for $1.5 million in September 1981. Rwanda had so far requested engineer equipment and training teams valued at $.96 million.

(U) Representatives of USASAC, DSAA and State Department met with Ambassador Ubalijoro of the Government of Rwanda on 29 September 1981 to discuss Rwanda's equipment and training requirements. The Ambassador signed two FMS cases valued at $1.9 million for engineer equipment and associated training.

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Somalia

(U) The FMS case for 12 M167A1, Towed VULCAN Systems, valued at $12.6 million was forwarded for Congressional review in February 1981.

(U) The Government of Somalia accepted two Letters of Offer (LOA) for 12 Towed VULCAN Air Defense Systems and a VULCAN Training Survey Team in April 1981. The LOAs were valued at approximately $12.6 million and were the first US Army FMS cases for Somalia.

Sudan

(C) A DSAA/DA/USASAC meeting was held 15 January 1981 to discuss options available to accelerate deliveries of materiel to Sudan. Materiel on 19 FMS cases for Sudan was studied for accelerated deliveries. Some of the materiel which could be supplied earlier included: Six 2½ ton trucks, M35A2 (four from Zaire, two from Army Code B stock); 12 5T, M817, dump trucks (from Army unless coded RDF); 24 demo sets (divert from Thailand); two auto maintenance shop equipment (payback to Peru); eight generators, two compressors (from Army stock); and 600 demo block charges (divert from Thailand).

(C) Impact/diversion data was being assembled in January. In addition, 36 M113A2 vehicles were to be diverted from production for Egypt with payback from future Sudan production. Supporting CSP, tools and list equipment were to be diverted from Army stocks. Decision to accelerate delivery of the above materiel was still pending SECDEF/DA resolution in January.

(U) The 36 M113A2 APCs which Egypt agreed to provide Sudan were released to Sudan's freight forwarder 20 March 1981. The vehicles were scheduled to depart New Orleans on 25 March 1981. Their estimated arrival at Port Sudan was late April or early May. These were actually loaded on the SS William Hooper about 3 April 1981 with ETA Port Sudan approximately 19 April 1981.

(U) The thirty-six M113s arrived at Port Sudan on 19 April 1981 and were unloaded on 21 April 1981. On 22 April, a train transported them to Khartoum-Shagara Armor Corps Headquarters, where a Quality Assistance Team (QAT), already in country, completed deprocessing. Shipment was expedited so that the vehicles could participate in a 25 May 1981 parade celebrating the anniversary of their May Revolution.

(U) In a 26 May 1981 message to SECSTATE (info to USASAC), the US Ambassador to Sudan expressed Sudanese appreciation for the impressive appearance of 36 M113A2 APCs in the 25 May Revolution Anniversary Parade. Colonel Todd attended the parade as the DARCOM/USASAC representative.

(U) In anticipation of a proposed visit to OSD by Vice President Magid of Sudan during 25-31 July 1981, DSAA requested information papers on pertinent subjects. Fact sheets were provided on 8 July 1981 on FMS cases involving VULCANs, APCs, water purification units, IMET Grant Aid, and the need for BQE/CLSSA type support cases.

(U) A US Army Country Program Review for Sudan was presented by USASAC at DSAA on 30 July 1981. The Sudanese Vice President/Minister of Defense, Lieutenant General Magid, was in attendance along with six key Sudanese general officers and the Sudanese Ambassador. In summary, for the period fiscal year 1979 to 1981, there were 46 active FMS cases valued at $49.6 million, a $1.7 million Grant Aid Program and $1 million IMET program. The visiting delegation appeared pleased with the program review.

Zaire

(U) The Government of Zaire requested a Letter of Offer for 35 M151A2 and 25 M35A2 trucks valued at approximately $2 million on 29 May 1981.

(U) The Letter of Offer for 25 2½-ton cargo trucks and 35 ¼-ton utility trucks, spare parts and ancillary equipment was submitted to the Government of Zaire 31 July 1981. The case value was approximately $2.1 million. If accepted, FMS credit financing would apply, but no reaction resulted by the end of fiscal year 1981.

Mid East

Egypt

(U) Egypt's position was one of USASAC's biggest customers and the high priority (right after NATO) given Egypt assured a large number of transactions and a broad range of coverage in various materiel items.

(U) On 20 October 1980, the Government of Egypt accepted FMS cases offering 52 M901 Improved TOW vehicles (ITVs), additional TOW support to equip the ITVs, ammunition and training with a total value of $32.1 million. The administrative actions required by USASAC prior to initiation of supply action were completed on 24 October 1980.

(U) Deliveries of M113A2s for Egypt scheduled to start on 2 January 1981, were delayed until 16 January 1981 pending receipt of the RT-524 radios. Twenty-eight M113A2s were offered to the Government of Egypt freight forwarder on 19 January 1981. The freight forwarder would try to move the M-113s to the East Coast Port of Embarkation to coincide with shipment of M60A3 Tanks.

(U) Eight M88A1 Recovery Vehicles arrived at the freight forwarder for shipment to Egypt with the 20 M60A3 Tanks already on hand. Shipment was scheduled (tentatively) to load 30 January 1981 and depart on 31 January 1981.

(U) The Government of Egypt (GOE) advised OMC Cairo in writing that the availability of engines and engine parts from Agusta Bell was not satisfactory to support their programmed start date of 1 July 1981. As a result they did not intend to sign either the CONUS training or TAFT cases. Delay in signing either case would impact on start dates and delay the remainder of the program. Case expiration date was 13 February 1981. OMC passed the GOE message to DSAA. DSAA responded with a message to GOE that: (a) explained options with respect to the engine problem, and (b) informed GOE of jeopardy to the rest of the program created by not signing the training cases on time.

(U) During the week of 13 February 1981, the Government of Egypt (GOE) representatives indicated to OMC that Emerson Electronics had submitted a direct proposal to GOE to sell 139 TOW Launchers at $67,656 each as opposed to the $103,000 estimated cost of the launchers stated on two FMS cases then in country for signature. Attempts to resolve cost differences revealed that the direct Emerson proposal was valid with a delivery of 10-15 launchers within two months of contract signing and ten per month beginning in May 1982 until completion of the total quantity. MICOM's case was based on a proposal which had to be under contract by 1 December 1981 and was a "stand alone" buy of 100 launchers for immediate delivery by diversions. On 11 February 1981, the GOE told OMC Cairo that they intended to buy the launchers and all support equipment from Emerson and Hughes respectively by direct contract. The missiles and blast simulators were to be brought under proposed FMS cases in-country.

(U) Twenty M60A3 Tanks, 28 M113A2 Personnel Carriers and eight M88A1 Recovery Vehicles with quantities of supporting special tools, tool sets, test equipment, major assemblies, set assemblies and more than 70 percent fill of concurrent spare parts were loaded at Baltimore during the week of 2-6 February 1981 aboard the SS Lash-Pacifico. The ship then proceeded to Sunny Point, North Carolina, to load ammunition for these vehicles. The estimated departure date from Sunny Point was 17 February 1981, with a tentative arrival date in Alexandria, Egypt, of 3 March 1981. A Quality Assistance Team (QAT) would deploy for Alexandria when a firm ETA was established.

(U) On 17 February 1981, E-Systems MEMCOR advised that they had signed a contract with the Government of Egypt to provide VRC-12 Family radios on the various equipment cases in the silicone configuration. The E-Systems call was designed to advise USASAC that the GOE should be cancelling radio requirements on sales cases.

(U) The SS Lash-Pacifico departed Sunny Point, North Carolina, on 16 February 1981 for Alexandria, Egypt. Its estimated arrival date was 3 March 1981. This ship was carrying 20 M60A3 Tanks, eight M88A1s and 28 M113A1s with associated weapons, radios, spare parts, tools and test equipment. The QAT advance party was scheduled to be in Egypt on or about 1 March 1981.

(U) On 13 February 1981 the GOE signed the FMS cases for CONUS training and for the TAFT to support the integration of 15 CH-47 Helicopters (manufactured by Agusta Bell-Italy) into the Egyptian Armed Forces. A meeting was scheduled for the first week in March in Cairo to review the status of predeployment planning/actions. Draft copies of the scope of work were furnished to the GOE on 9 February 1981. Actions taken to improve availability of engine, engine parts, ground support equipment and tools were also examined. The status of facilities improvement by the GOE was also being discussed later in the fiscal year.

(U) On 19 February 1981, General Guthrie was briefed on the status of the Egyptian Foreign Military Sales Programs, to include imminent delivery of the first significant quantities of major items (M60A3 Tanks, M881 recovery vehicles and M113A2 personnel carriers) under that program. Major General Healy suggested that a visit by senior Army officials would be appropriate to lend emphasis to the Egyptian FMS program. Specifically, Major General Healy proposed that he visit Egypt during the arrival and deprocessing phase (6-12 March 1981) and that General Guthrie visit Egypt the first part of April shortly after training on the new equipment was begun. General Guthrie approved MG Healey's proposed visit and stated he would discuss his visit with the VCSA.

(U) Representatives of Emerson visited USASAC to discuss their negotiated contract with the GOE for TOW Launchers, support and training packages. The GOE had signed a direct contract with Emerson for 100 launchers (27 to be delivered within 2 months and the remainder at a rate of 10 per month beginning 12 months after the contract went into effect). The Emerson contract also included some tools, battery chargers and ¼ ton vehicle launcher mounts. Emerson indicated that the GOE had not yet concluded a contract with Hughes for the remainder of the support equipment, nor had they addressed the TOW Missile mounting racks for the ½ ton companion vehicle. Both Hughes and Emerson agreed to provide USASAC with contents of their contract to review for any shortfall in the total program. GOE still desired to buy missiles, blast simulators and practice rounds through FMS.

(U) The QAT/TAT was scheduled to arrive in-country on 26 February 1981 and was to deprocess and "hand off" 20 M60A3, 28 M113A2, eight M88A2, 36 M151A1, and 20 M35A2 I-HAWK system vehicles in early March.

(U) On 9 March 1981, a delegation of seven general officers of the Egytian Supply Department started a 9 day tour of military supply installations. They were hosted at USASAC on 9 March by Major General Healy.

(U) As of 11 March 1981, 31 M60A3 Tanks were released to the Government of Egypt. Twenty of the 31 tanks were unloaded at Alexandria, Egypt, on 1 March 1981 and moved to Cairo where they were being deprocessed under supervision of a USASAC QAT team. The remaining 11 tanks were in transit from Detroit to the freight forwarder in Baltimore, Maryland.

(U) On 13 March 1981, the Government of Egypt (GOE) signed two cases that provided service life extensions for Soviet Air Defense Systems in Egypt. The value of one case (ARRCOM) was $7.3 million and the value of the other case (MICOM) was $23.7 million. These figures represented first year cost efforts. Representatives from both commands would go to Egypt in April 1981 to refine the scope of work for the first year effort. The estimated value of the MICOM five-year plan was $125 million and the ARRCOM five-year plan was $70 million.

(U) On 11 March 1981, the Government of Egypt requested cancellation of FMS supplied VRC-12 family radio sets on three cases, because they planned to make a direct commercial procurement of silicone type radio sets. A message directing cancellation of contracts was dispatched to CERCOM on 12 March 1981.

(U) From 16-25 March 1981, a group of four Egyptian engineers, headed by MG Abdel Rahman Elwi, were directed to visit Radford and Sunflower Ammunition Plants and also visit Atlantic Research Corporation, Marquardt Company, Aerojet Corporation, and Hughes Corporation. This visit was related to the coproduction of 2.75mm rocket and the TOW Missile. The group was escorted by an ARRCOM representative.

(U) The final report of the D-30 122mm Howitzer mechanization survey team was received. The team proposed that a prototype Howitzer be made and tested for the Egyptians. The proposed program would deliver the tested prototype to Egypt for their independent in-country testing 30 months after the start of the program. Value of the program was $7 million. The study recommended the use of the M109 chassis and could lead to Egyptian coproduction/coassembly of the chassis if successful.

(U) On 31 March 1981, Mr. Neil Curtain, a GAO auditor, met with Mr. Bean; LTC Klausner, Chief, Egyptian Division; and Mr. Reynolds, USASAC Internal Review, to discuss the initiation of an audit of US-Egyptian programs. The audit would include the entire range of US relationships with Egypt (defense cooperation projects, basing issues, use of the Suez Canal, aid projects). The focus in security assistance would be on Egypt's ability to absorb US materiel and training, and existing or potential problems.

(U) Two LOAs for the Egyptian CH-47 Program to provide in-country contractor maintenance and US Army ferrying service (from Italy to Egypt) were received by USASAC on 1 April 1981. Due to a tight schedule for implementing the program (ferry service to be provided in May, contractor build-up to start 15 May), both LOAs would be signed in Washington, DC. Copies of the cases would be carried to country by the Egyptian Ministry of Defense delegation which was then in Washington, DC.

(U) On 3 April, the second shipment of 11 M60A3 Tanks for Egypt had been loaded at Baltimore. Also included in this shipment were trucks in support of the I-HAWK program and large quantities of spare parts and tools. Estimated time of arrival in Alexandria, Egypt, was 15 April 1981.

(U) A signed FMS case for 43 M88A1 Recovery Vehicles was received in USASAC on 13 April 1981 and implemented 14 April 1981. This case brought the total Egyptian buy of M88s to 86. Another FMS case for "life of buy" for repair parts for the M88A1 transmissions was received on 15 April 1981. The case value was $8 million and would provide estimated parts requirements for support of transmissions for 25 years. "Life of buy" action was dictated by TACOM projection that M88A1 production would terminate with 1981 year procurement due to uncertainty of retaining the M88A1 lines in the fiscal year 1982 and 1983 budgets.

(U) On 14 April 1981, Brigadier General Checheni and four other officers from the Egyptian Armed Forces visited HQ USASAC for a briefing on the Army Security Assistance procedures and the Army segment of the Egyptian Foreign Military Sales program. The Egyptian Training Department, Organization and Administration Department, Procurement Department, Finance Department and Air Defense Forces were represented in the group.

(U) An FMS case for "life of buy" repair parts for M88A1 transmissions was sent to Egypt for signature. Based on guidance received from TACOM, the expiration date on the LOA was extended from 30 April 1981 to 15 June 1981. The estimated value of the case was $8 million.

(U) On 27 April 1981, the Government of Egypt (GOE) signed two FMS cases. The first case for $14 million provided contract maintenance support for the Egyptian CH-47 Helicopters for one year. Anticipated date for award of the maintenance contract was 15 May 1981. The second case provided ferrying service to move the CH-47 Helicopters from Milan, Italy to Egypt. Ferry service was provided by USAREUR during May 1981. Fort Rucker advised that although the two GOE pilots being transitioned to the CH-47 were excellent pilots, an additional five days of training was required prior to starting instructor pilot training to change learned-habit patterns they developed flying Soviet helicopters.

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(U) On 27 April 1981, the GOE signed an FMS case for 100 TOW Launchers (ground mount), 1,270 attack missiles (HEAT), and 360 practice missiles. Items were to be provided by diversion from US Army stocks. Also, the Department of Defense offered to convert 800 attack missiles scheduled for delivery in 1983 to I-TOW and offered GOE an additional FMS procurement of 2000 I-TOW attack missiles ahead of all other FMS customers except NATO countries. The Egyptians elected to take delivery of the 800 missiles on one FMS case and were expected to request an LOA for the additional 2,000 I-TOW missiles.

(C) In response to requests from LTG Abu Ghazala, GOE Minister of Defense, during his visit to Washington, a Deputy Secretary of Defense decision was made to accelerate delivery of 64 M60A3 Tanks prior to the end of calendar year 1981. Ten were scheduled to be offered to the freight forwarder in May 1981, the remaining 54 in September-November 1981 (28 in September, 15 in October and 11 in November). Of the 311 M60A3 Tanks scheduled for Egypt, 31 had been delivered and 11 were in transit to the freight forwarder by May 1981.

(C) The Government of Egypt (GOE) submitted a request to buy 2,000 I-TOW Missiles. This was in response to an offer made by the Deputy Secretary of Defense to the Egyptian Minister of Defense to sell the GOE I-TOW Missiles ahead of all other FMS customers except NATO. State Department approved preparation of the LOA.

(U) On 14 June 1981, the first five CH-47 Helicopters were delivered to Egypt by the USAREUR ferrying team. The helicopters, manufactured by Agusta, an Italian manufacturer, were reported to be in excellent condition by the members of the ferrying team. The remaining 10 aircraft were to be delivered in subsequent trips.

(U) On 10 June 1981, OMC, Cairo, advised that the GOE had no .50 Cal. ammunition to fire those exercises requiring engagements with the M-85 machine gun. The Government of Egypt had deleted .50 Cal. ammunition from the training ammunition case because they manufactured ammunition of that caliber. The GOE did not realize that their links were not compatible with the M-85 machine guns, until training was already under way. OMC advised that the lack of ammunition for the M-85 machine gun significantly degraded the training effort. Department of Army approved the diversion of 40,800 rounds of A520, .50 Cal. training ammunition.

(U) One hundred TOW ground mounted launchers, 1,270 TOW Heat Missiles and 359 TOW practice missiles, all diverted from US stocks for immediate delivery to the Government of Egypt, were offered to the freight forwarder for movement to Egypt in June 1981.

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(C) In connection with the visit of the Deputy Secretary of Defense to Egypt 23 and 24 June 1981, the Department of Army decided to accelerate delivery of eight additional M88A1 Recovery Vehicles to August 1981 from January-February 1982. Acceleration would be by the diversion from production scheduled for POMCUS stock.

(U) On 1 July 1981, the third and last delivery of five CH-47 Helicopters to Egypt from Italy was completed by a USAREUR ferrying team. This completed the delivery of 15 CHINOOK Helicopters to Egypt.

(U) LTC Klausner, Egyptian Division Chief, departed 15 July 1981 for Cairo, Egypt. The purpose of his visit was to handcarry and negotiate LOAs for 105mm ammunition coproduction and review track vehicle programs, equipment and support deliveries, support planning and the CH-47 Helicopter support program.

(U) On 21 July 1981, five of the six LOAs that encompassed the proposed 105mm tank ammunition coproduction program were delivered to the Government of Egypt. The sixth LOA was scheduled to be forwarded to Egypt in the first week of August. Of the total program value of $24.5 million, $13.5 million was for assemblies, piece parts and other materials used in the start-up of the program. The remainder was for plant equipment and services. In connection with this program, the US Government was to offer for lease triple base propellant production equipment to the GOE.

(U) In support of the national celebration and parade to be held on 6 October 1981, the US Government agreed to accelerate deliveries of 108 M60A3 Tanks to Egypt.

(U) A General Officer Program review was conducted in Egypt during the period 9-17 September 1981. The review was well received by the Egyptian representatives. Significant areas of discussion included the interface between the US and GOE logistic systems, lack of facilities for CH-47 maintenance and training, inability of the GOE maintenance system to support accelerated delivery of track vehicles, and control and accountability of materiel receipts in country. The Executive Session was chaired by the Assistant to the Chief of Staff of the Egyptian Armed Forces and was attended by 30 Egyptian General Officers. Commander, USASAC and Chief OMC were also in attendance.

(C) DSAA authorized the preparation of an LOA for six AN/TPQ-36 radars. The estimated case value was $20 million.

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(U) On 5 September 1981, the last 22 of 128 M60A3 tanks which were diverted for the Egyptian national celebration to be held on 6 October 1981, left the port of Baltimore, Maryland.

(U) The proposed lease of an inactive production line for triple base propellants completed DARCOM review and was forwarded to DA for staffing. HQDA review was expected to be completed by 21 August 1981. Proposed leases for 2.75 inch rocket production equipment was received and entered the DARCOM review process.

(U) The Government of Egypt signed Amendment 1 to the FMS case for TOW Missiles which modified the original sale of 800 TOW Missiles to the I-TOW configuration.

(C) Formal notification (36b) for buy of 128 M60A3 tanks and 27 tank thermal sights was submitted to Congress on 25 September 1981. Uncountersigned copies of the case were released to Egypt. If the case was not accepted by Egypt prior to 31 October 1981, the PM-M60 projected $20 thousand unit cost increase and a 3 to 6 month slip in availability of the complete tank.

Morocco

(U) Tank Conversion. Thirteen M48A3 Tanks received at Anniston Army Depot on 22 October 1980 from the Government of Morocco (GOM) represented the first increment of 26 tanks being returned for conversion to the M48A5 configuration under FMS procedures. A USASAC representative visited Anniston 6-10 October to observe the tanks' condition, determine actions to assist in scheduling part requirements/availability, subsequent return of the tanks to Morocco and follow-on schedule for the 13 remaining tanks to be returned to CONUS for overhaul.

(U) On 5 March 1981, Colonel Mohamed El Kostali, Moroccan Defense Attache' in Washington and LTC Hassan Bennani, Chief, Technical Bureau, Moroccan Army were escorted to Anniston Army Depot (ANAD) by a USASAC representative. The purpose of the visit was to inspect the M48 Moroccan Tanks that had been upgraded to the A5 configuration. All the tanks would be painted sand color and released to the country freight forwarder during the week of 23 March. An additional 13 M48A3 Tanks, also to be upgraded awaited shipment from Casablanca with an estimated arrival date at ANAD in mid-April.

(U) The thirteen M48A3 Tanks representing the second and final increment for input to the Moroccan M48A5 conversion program were received at Anniston Army Depot on 8 May 1981. Conversion time was estimated to be six months.

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(U) By 5 June 1981, the first increment of 13 tanks in the M48A3/M48A5 conversion program had been completed and returned to Morocco. The US Liaison Office requested the same QAT members who deprocessed the tanks in-country, for the second increment of tank deprocessing scheduled for September 1981.

(U) The Government of Morocco requested on 19 June a Letter of Offer for conversion/rebuild of 28 additional M48A3 Tanks to the M48A5 configuration. Conversion was to be accomplished in two phases with each phase having 14 tanks. This would complete the planned upgrade of the Moroccan M48 Tank inventory. An ongoing conversion of 13 tanks was scheduled to be completed in September. Case preparation was expedited to permit an induction of the first phase of 14 tanks at the Anniston Army Depot in the September/October time frame.

(U) Subject to availability of fiscal year 1980 credit, Morocco intended to apply $784 thousand as an initial FMS case deposit for their M48A3 tank conversion program. They arranged for shipment to ANAD on or about 15 October 1981 of 14 of the remaining 28 tanks to be converted.

(U) CHAPARRAL. The second CHAPARRAL annual service practice (ASP) conducted in mid-June 1981 by Royal Moroccan Army was outstanding with six out of six hits scored. No problems relative to systems firing were encountered.

(U) In response to a query from the Government of Morocco, DSAA directed preparation of P&R data relative to replenishment requirements for 2,000 TOW and 5,000 CHAPARRAL Missiles. Data developed indicated a value of $57 million for TOW and $138.4 million for CHAPARRAL, for a total estimated value of $195.4 million. Information was forwarded to DSAA for review and approval prior to release to Government of Morocco in early August.

(U) On 20 February 1981, an FMS case for 108 M60A3 Tanks valued at $202 million was forwarded for Congressional review.

(U) Formal Congressional review of five FMS cases for 108 M60A3 Tanks for Government of Morocco (GOM) was completed on 27 March 1981, with approval appearing certain. The M60A3 Tank package totaling $198.9 million was forwarded for countersignature/approval to DSAA. The configuration offered to the GOM was the Rise Passive Tank without tank thermal sights (TTS). The cases were to be officially released to the GOM by 3 April 1981.

(U) Impact shipments of 155mm ammunition were airlifted by two Moroccan C-130 aircraft from Warner Robbins Air Force Base in Georgia on 10 and 13 June 1981. A critical Moroccan need was satisfied via DA approved diversion of assets from Army stock.

(U) Colonel Robert J. Kee, newly assigned Chief, Morocco, US Liaison Office (CMUSLO), visited USASAC on 12 August 1981. Colonel Kee received detailed briefings on the Moroccan Security Assistance program.

(U) DSAA/DA/USASAC representatives met with the Chief of Staff of the Royal Moroccan Air Force on 22 September 1981. The purpose of the meeting was to discuss mission, staffing, and financing for an I-HAWK Survey Team. As a result of the meeting, Morocco would revalidate requirements outlined by a Letter of Offer and officially advise acceptance/nonacceptance. A decision was expected by January 1982.

Iran

(U) Authority was granted by DSAA to dispose of Iranian non-titled assets, on a case-by-case basis, in accordance with PDO procedures about 17 September 1981. Iranian titled assets, however, would continue to be held.

Israel

(U) Representatives from Israel, LTC Yosef Arad, LTC Dani Koren and Mr. Dov Fershtadt visited the Deputy for Operations, USASAC-NCAD, on 6 February 1981. An overview of USASAC operations and a detailed briefing on the Cooperative Logistics Supply Support System and procedures was presented.

(C) COL Gordon Jones and LTC Carlos Gosnell, Europe Directorate, returned from Israel on 11 March 1981, following a 10-day in-country review of the FMS program. During the visit, they received a briefing on the Israel Defense Force fiscal year 1982 procurement plan which was finalized during a meeting at the Ministry of Defense level on 15 March 1981. The following were related to be minimum planned buys: 128 M60A3 Tanks, 42 M88 Tank Recovery Vehicles, 60 M109 155mm SP Howitzers, 12 M578 Light Recovery Vehicles.

(C) On 26 May 1981, Mr. David Peled and Mr. Zvi Shafir of the Israeli Ministry of Defense Mission, New York, and Mr. Hannan Moked of the Directorate for Procurement and Production, Ministry of Defense, Tel Aviv, visited USASAC to discuss their overall program and to request accelerated delivery of certain ammunition items to include 81mm mortar rounds, 175mm projectiles, and 7.62mm cartridges.

(C) DSAA was provided delivery status on major equipment and ammunition scheduled through calendar year 1981 for the Government of Israel. Data included delivery status on M113 APCs, M109 Howitzers, TOW missiles, I-HAWK Missiles and 81mm, 155mm and 175mm ammunition.

(C) DSAA approved the preparation of two Letters of Offer (LOA) as requested by the Government of Israel (GOI) for Basic TOW Missiles on 27 August 1981. Each LOA was for 800 Basic TOW Missiles; however, one would exclude the warheads. GOI would possibly decide to provide a warhead of their own design for use with the Basic TOW.

Jordan

(U) The Jordanian Army indicated a desire to purchase 320 TOW Night Sights and 286 DRAGON Night Sights in February 1981. The responsible MRCs were tasked to prepare LOAs for these sights. The value of the sights with supporting equipment was estimated to be $30-$40 million.

(C) The Government of Jordan also requested, at this time, that a Letter of Offer be prepared for four AN/TPQ-36, Mortar Locating Radars and four AN/TPQ-37, Artillery Locating Radars. It was estimated that LOA value would be in excess of $8 million; therefore, advance notification to Congress was required.

(C) The Government of Jordan then requested a Letter of Offer and Acceptance (LOA) for 31 M88A1 Recovery Vehicles. TACOM was tasked to prepare this LOA. The estimated value was in excess of $30 million.

(U) The Government of Jordan indicated on 20 February that they would accept a Letter of Offer and Acceptance (LOA) for a survey team to determine the in-country capability of Jordanian Armed Forces to achieve conversion of approximately 118 M60A1 Tanks to M60A3s. Also, the team was to develop a list of kits/parts needed for Jordan's specific requirement.

(C) On 27 February the Government of Jordan (GOJ) accepted the FMS case for a survey team to determine in-country capability of Jordan Armed Forces to convert 118 M60A1 Tanks to A3 configuration. Also, GOJ requested the modification be accomplished in two phases: Phase One - all modifications necessary to upgrade the tanks to M60A3 passive configuration; Phase Two - modify to the TTS configuration when items were available.

(U) Letters of Offer (LOA) were being coordinated with OSD for release to Jordan on or about 17 April 1981 for 24 AH-1S Cobra/TOW Modernized Helicopters equipped with armament subsystem, TOW Missile System M65 and communication equipment. The AH-1S Cobra/TOW Helicopter package also included LOAs for basic load of ammunition, TOW Missiles, Cooperative Logistics Supply Support Arrangement and survey team to support introduction of the system into the Jordanian Armed Forces and to recommend CONUS training requirements. The total estimated value of the AH-1S Cobra/TOW Helicopter package was $204.9 million.

(U) On 15 June 1981, the GOJ accepted the AH-1S Cobra/TOW Helicopter package. The package consisted of ammunition, TOW Missiles and training, in addition to the helicopters. Dollar value was $185,866,957.

(U) The Government of Jordan requested an LOA for 50,000 hand grenades, 7.5 million rounds of small caliber and 38,000 rounds of artillery ammunition. Case value was $104.6 million and was under Congressional review at the end of June.

(U) Congressional notification to convert 118 M60A1s to M60A3 configuration was received 9 June 1981, and the thirty-day notification was received 8 July 1981. Unsigned copies of the LOA were forwarded to MAP Jordan and DSAA on 13 July 1981. The case value was $56 million with an expiration date of 30 September 1981. Letter to MAP Jordan requested authorization for LOA to be signed by the Jordanian Attache' (Washington) in view of the expiration date.

(U) In early September the Government of Jordan made an initial deposit of nearly $39 million for five cases involving the AH-1S Cobra/TOW Package, whose estimated total value was $185,866,957.

(U) The thirty day Congressional notification for Jordan Case VDC was received on 11 September 1981. Unsigned copies of the LOA were forwarded to MAP Jordan and DSAA on 15 September 1981. The LOA was for ammunition items requested in June and was valued at $105 million.

Kuwait

(U) A Letter of Offer for 103 vehicles, including six Improved TOW Vehicles (ITV) N901, was forwarded to the customer on 14 November 1981. Each vehicle offered contained customer defined communication configuration which was not US standard. Vehicles were supplied without machine guns. The case value was $20.8 million.

(C) Advance notification under AECA Section 36(b) was provided DSAA on 9 September 1981 for 56 each M901 I-TOW vehicles, 16 each M113A2 Armored Personnel Carriers, 56 each AN/UAS-12 infrared TOW Night Sights and 4840 I-TOW Missiles. This transaction included support components, concurrent spare parts and training. The estimated total value was $103.4 million.

(U) A Letter of Offer valued at about $124 million was formally released to Kuwait in September. It included 64 I-HAWK Missiles and related materiel and services.

Lebanon

(U) Lebanon submitted RODs for 18 recoilless rifles and 86 M60 machine guns deemed unserviceable and alleged poor quality upon receipt, in July 1981. USASAC TAT inspected materiel, made minor repairs to two each and adjustments to the remaining recoilless spotting rifles and successfully test fired all 106mm recoilless rifles. Normal maintenance on 10 M60 machine guns elevated all to serviceable condition. LAF agreed to perform the necessary maintenance on the remaining quantity of machine guns. A formal report of findings by TAT was submitted through USDAO to Chief of Staff, Lebanon Armed Forces at his request. Allegations were based upon lack of understanding and familiarity with items supplied. All items were operational at the end of TAT effort. RODs valued in excess of $330,000 were cancelled as a result of these actions.

(U) The Government of Lebanon accepted LOAs totaling $24.9 million during 6 July - 12 August 1981. Items included trucks, communications equipment, ammunition, and 106mm recoilless rifles.

Tunisia

(U) A Letter of Offer comprising 30 Armored Personnel Carriers with the .50 caliber M2 machine gun from new procurement was released to GOT for consideration and acceptance in mid-October 1980. Case value was estimated at $4,739,218. If accepted, FMS loan financing will apply.

(U) A Letter of Offer for training Tunisian students in US Army schools during the period 1 October 1980 through 30 September 1981 was also released to the Government of Tunisia for consideration/acceptance. The case value was $287,902.

(U) An FMS case for 19 M109A2 self-propelled 155mm Howitzers, valued at $15.1 million was forwarded for Congressional review on 20 February 1981.

(U) A Letter of Offer for 19 SP Howitzers, M109A2, with related equipment was forwarded to the Government of Tunisia (GOT) on 24 March 1981 following Congressional review. Companion CONUS and OCONUS training cases, with a total estimated cost of $792,000 had also been forwarded for GOT consideration and acceptance.

(U) Forty-one TOW configured APC with launchers departed from Mobile, Alabama, 2 April 1981, with ETA in Tunis, of 24 April 1981. A QAT was to depart CONUS about 22 April 1981. Shipment by the end of April 1981 of associated TOW Missiles was being arranged with Rohner-Gehrig, the Tunisian and Moroccan freight forwarder, with a view toward combining these two countries' ammunition tonnage on an ammo vessel. Deployment date of the MTT was to be scheduled based on arrival of the TOW Missiles in Tunisia.

(U) Brigadier General El Kateb, Chief of Staff, Military Cabinet at the Tunisian Ministry of Defense, met with Major General Healy on 21 April 1981 to discuss critical FMS issues and receive a general FMS program review. General El Kateb was accompanied by LTC Boudabous, principal advisor for security assistance with the Tunisian Ministry of Defense, and LTC El Afrit, Assistant Tunisian Defense Attache', Washington, DC. Colonel Fox, Chief of the US Liaison Office in Tunisia, also participated. The meeting was very productive and informative for the Tunisian delegation.

(U) Delivery of 41 M113s configured with TOW Launchers and ancilliary equipment to Tunisia was accomplished on 23 April 1981. Offloading of the equipment was completed on 24 April 1981 and a four man QAT began deprocessing and checkout operations on 25 April 1981. A shipping problem arose because the TOW practice and attack missiles were category "A" munitions, procured with FMS credit, the total weight was not sufficient inducement to interest an American flag shipping line (required due to credit funding). USASAC assisted the freight forwarder by combining a shipment of category "A" ammunition for Morocco (a cash sale) on an Italian flag vessel, which was estimated to depart from Sunny Point Ammunition Port on or about 19 May 1981. USASAC also provided assistance in obtaining a waiver from the Maritime Administration to ship these missiles to Tunisia on a foreign flag vessel.

(C) The chief of the US Liaison Office in Tunisia reported the successful accomplishment of a firing demonstration of the CHAPARRAL Missile System and Missile (MIM-72A) against BATS targets, which was conducted in-country on 10 June 1981. He reported that all equipment appeared well maintained and all crews were efficient, well trained and capable. In his judgment, the exercise seemed to clearly demonstrate a creditable Tunisian ground-to-air missile capability.

(U) SECDEF had extended the expiration dates from 1 June 1981 (Morocco) and 1 August 1981 (Tunisia) to 1 October 1981 for both FMS cases in support of a total potential buy of 162 M60A3 Tanks for these countries.

(U) A Letter of Offer for 12 mortar carriers, with ancillary equipment, was sent to the Government of Tunisia on 30 June 1981. Total estimated case value was $3.1 million.

(C) The Chief of the US Military Liaison Office, Tunisia (USLOT), reported the outstanding results of the first in-country firing on 15 July 1981 of the newly delivered TOW Missile System. This firing demonstration of one live and nine training TOW Missiles at both stationary and moving targets was witnessed by the Tunisian Minister of Defense, Joint Chiefs of Staff and top level military officers, as well as USLOT representatives.

(U) Five Letters of Offer and Acceptance (LOAs) for 54 M60A3 Tanks with supporting ammunition, training, tools and equipment were released to the Government of Tunisia for their consideration on 13 August 1981. Release of these LOAs was authorized by DSAA upon completion of statutory notification to Congress. The estimated total value of these cases was $99.2 million.

United Arab Emirates

(C) A Letter of Offer and Acceptance was requested by the United Arab Emirates for seven I-HAWK Surface-to-Air Missile Batteries and 45 TOW Missile Launchers mounted on jeeps with all required support, test equipment and training for each system, about 17 April 1981.

(C) Statutory notification to Congress, Section 36(b) AECA, plus related Letters of Offer (LOA) were submitted to DA/DSAA for seven I-HAWK Batteries for the Government of the United Arab Emirates, on 7 August 1981. Total estimated value of this package was $607.9 million.

Yemen

(C) The vessel SS William Hooper was scheduled to depart New York on 2 April 1981 with 52 M101A1 Towed Howitzers on board. Twelve Howitzers were offloaded at Jidda for Saudi Arabia on or about 18 April 1981 and the remaining 40 were to be offloaded at Hodeida on or about 21 April 1981 for Yemen. This completed the towed Howitzer requirement for Yemen.

(U) USASAC was tasked to provide planning and review (P&R) data for notional list of ammunition items for Yemen on an expedited basis about 16 August 1981.

(U) A USASAC sponsored review of the Saudi Arabian financed portion of the YAR Army FMS/SSA program was conducted 17-19 August 1981 at USASAC (NCAD) with representatives from Saudi Arabia, the Saudi Arabian Military Training Mission to Yemen, and the Office of Military Cooperation, Yemen. Eight cases valued at $21.9 million were officially closed and one case valued at $1,537 was cancelled. Closure certification on nine additional cases valued at $3.2 million was expedited. Open concurrent spare part (CSP) requisitions were reviewed for cancellation to expedite closure on eight cases valued at $111.7 million. Both US and Saudi Arabian representatives agreed that the review and reconciliation of the Yemeni cases were excellent and tentatively scheduled the next review for August 1982 at USASAC (NCAD).

Saudi Arabia

(U) Saudi Arabia continued to be one of the largest individual customers for Security Assistance in the 1980-1981 timeframe, with materiel going to both the Saudi Arabian Land Forces (SALF) and the Saudi Arabian National Guard (SANG). The FMS cases were diverse and ranged from large orders of major systems to small requests and transactions. Several groups received repeated attention: armored vehicles, medical assistance, night vision devices, uniforms, and program reviews.

(U) Armored Vehicles. SANG officials were advised on 25 October 1980 of Cadillac-Gage's position not to provide pricing and cost data for the 579 V-150 Armored Cars for the Follow-On Modernization Program. SANG advised PM SANG on 3 November 1980 that they would accept the Cadillac-Gage vehicle under these circumstances.

(U) HQ SANG requested the US purchase 579 Cadillac-Gage V-150 Armored Cars under FMS case WEG. The ASA (RDA) waived the requirement for Cadillac-Gage to provide pricing and cost data on 7 November 1980.

(U) The Saudi Arabian National Guard (SANG) requested 55 M36E1 Periscopes for use with the V-150 Armored Cars on contract with Cadillac-Gage. The periscopes, normally used on the M60 Tanks, were to be modified for use with the armored cars mounted with 90mm Cockerill and 20mm Oerlikon guns.

(U) A meeting of representatives from the MRCs, Office of the PM SANG, USASAC and contractors for the V-150 Armored Vehicle was held at TACOM on 20 February 1981, to insure maximum coordination of major component requirements before production of the V-150 Armored Vehicle.

(U) Based on a request from Headquarters, Saudi Arabian National Guard, a list of US armored car manufacturers was compiled by TACOM and transmitted to Riyadh on 29 July 1981. HQ SANG intended to contact the manufacturers directly for possible demonstrations of their vehicles to assist in determination of armored car requirements for Phase III of the Modernization Follow-On Program, scheduled to commence in 1986.

(U) Medical Assistance. SANG requested USG assistance in upgrading the Saudi Arabian Medical Program. DSAA directed preparation of LOA. To accommodate DSAA and SANG, two LOA options were prepared: the first provided for an entire medical modernization program throughout the country; the second provided for the operation and maintenance of a 500 bed hospital only. The SANG preferred the second option in early 1981. Both LOA options and 36(b) notification were hand carried to HQDA on 17 February 1981. General Guthrie was briefed by the PM SANG on 19 February 1981. BG Bartlett also briefed LTG Pixley on 18 February and LTG Graves on 20 February 1981.

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(C) An LOA was submitted to DCSLOG on 9 March 1981 for the management and staffing of a 500-bed hospital for the Saudi Arabian National Guard (SANG). The US, under this LOA, would contract with private industry to carry out the hospital program over a 30-month period.

(C) SECDEF guidance was received in May 1981 regarding the potential US-Saudi Arabia agreement for US management and administration of the Saudi Arabian National Guard 500-bed hospital complex. Authority was granted for the Project Manager, SANG Modernization Program, to proceed with discussions with the SANG regarding alternate contractual methods and the implications of these alternatives on the opening date of the hospital complex and the extent of competition for the contract.

(C) Night Vision Devices. The Government of Saudi Arabia signed two LOAs for the sale of 226 AN/TAS-4 TOW Night Sights and 385 AN/TAS-5 DRAGON Night Sights. Delivery was expected in twenty months. A third LOA for the sale of 130 AN/TAS-6 Night Observation Devices (Long Range) was expected to be signed by the Saudis prior to mid-November 1980. Total value of the sale was $56.4 million.

(U) Demonstration of the AN/USAS11 and AN/USAS12 Night Vision Devices was scheduled for 29 August 1981 in Riyadh, Saudi Arabia. The Night Vision Laboratories, Fort Belvoir, Virginia would conduct the demonstration and it would include comparison of similar foreign-made night vision devices.

(U) Uniforms. The Natick PM for the Saudi Arabian Uniform Program was scheduled to brief Commander USASAC on 14 November 1980 concerning the status of investigations into size, shade, and other problem areas in this uniform program.

(U) An IPR of the Saudi Air Force uniform program was conducted at Natick Laboratories on 2-3 April 1981. The review was attended by the Royal Saudi Air Force Project Officer and representatives from USASAC, Natick Laboratories and the Defense Personnel Support Center. The program began in 1978 and was estimated to continue until 1987.

(U) Reviews and Program Administration. Reviews of the Saudi Army FMS Programs were to be conducted. The Tenth Saudi Arabia Land Forces Conference (SALF X) was to be held in Washington DC area 1-5 June 1981; a prior working conference for the Saudi Arabian National Guard was to be conducted at New Cumberland Army Depot, 18-22 May. Brigadier General Bartlett provided a review of his two years as Project Manager in May.

(C) In response to a DSAA request, the profile of several items of equipment (M-1 Tank, IFV, CFV, M109, and DIVADS) under consideration for possible sale to the Saudi Arabian National Guard was prepared. The US Project Manager for SANG Modernization (OPM SANG) prepared for discussions with Prince Abdullah on the next phase of the total program and requested clearance from State Department and DOD to discuss an option for a mechanized brigade in early May 1981.

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(U) The agenda for the tenth semi-annual Saudi Arabian Land Forces (SALF) Review, scheduled for 1-5 June 1981 in Washington, DC, was announced in May 1981. At the request of the Saudi representatives and their in-country US counterparts, this conference placed emphasis on methods for maintaining a high state of readiness in addition to a review of FMS cases.

(U) Colonel George Todd, Director, Mideast, Africa, and Americas; and Mr. Len Collins, Saudi Arabia Division Team Leader, visited Saudi Arabia 2-7 May 1981. The purpose of the visit was an on-site review of Saudi Arabian National Guard and Saudi Arabian Land Forces programs.

(U) OPM SANG, Riyadh, Saudi Arabia, requested that M109 SP, Howitzers and support equipment (M98A1 Retriever and HET) be deleted from requirements. SANG decided not to introduce tracked vehicles during Phase II of the Modernization Program. In conjunction with this action, requirements for 155mm ammunition were deferred.

(FOUO) Action was taken in November 1980 to expedite shipment of weapons and ammunition to Saudi Arabia. Military airlift command air-lifted 750 M2 50 caliber MG, ten 155mm towed Howitzers, 302,000 rounds of 50 caliber ammunition and 3,762 riot grenades. In addition, 200 81mm mortars and 674 M2 50 caliber MG were enroute by ocean vessel with estimated time of arrival in Saudi Arabia 2 December 1980. Four hundred and thirty-two thousand rounds of 50 caliber ammunition, 11,000 riot grenades and 4,000 rounds of VULCAN dummy ammunition were also being readied for ocean shipment.

(U) In November 1980, Bowen-McLaughlin-York (BMY) Company requested an Advisory Opinion concerning the sale and export of M109 Ammunition Delivery Systems (ADS) to the Government of Saudi Arabia. The ADS vehicle, a derivative of the M109 Self-Propelled Howitzer, was created by removing the gun and turret from the chassis. It was designed specifically as an armored ammunition vehicle to accompany and supply the M109 series Howitzers which Saudi Arabia had in its inventory. The DA position recommending approval was coordinated with ARRCOM and provided to USDR&E on 13 November 1980.

(U) The Saudi Arabian Government, through the Ordnance Program Division, Division Engineers, Riyadh, submitted formal requests for LOAs for 100 5-ton wreckers, M816; 500 5-ton cargo trucks, M813; 500 ¼-ton utility trucks, M151A2; and 200 5-ton cargo trucks, M928. USASAC awaited State Department and DSAA approval to prepare the LOAs. Estimated value of the total package was $90 million.

(U) The Saudi Arabian Land Forces requested authority from the State Department to purchase 6,000 LAW rockets manufactured in Norway under a US-Norwegian coproduction agreement. The US Ambassador to Saudi Arabia recommended that this request be approved.

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(U) In late February 1981 the State Department and DSAA approved the truck requests from Saudi Arabia. TACOM prepared LOAs for 100 5-ton cargo trucks, M813; 500 ¼-ton utility trucks, M151A2; and 200 5-ton cargo trucks, M928. The estimated case value was $90 million.

(U) DSAA countersigned two Letters of Offer and Acceptance (LOAs) on 24 March 1981 for 500 5-ton truck wreckers M816, and 500 ¼-ton utility trucks M151A2 for a total value of $26.7 million. LOAs were hand carried to Saudi Arabia for acceptance on 26 March 1981.

(U) Action was taken to lease an M198 towed Howitzer to Saudi Arabia for a 20-30 day period in August 1981. The purpose was to demonstrate the gun in a desert environment.

(U) USASAC released an unsigned advance copy of an FMS case to Saudi Arabia for consideration and analysis during formal Congressional notification. Case was for 500 5-ton cargo trucks M813 with an estimated value of $42 million. Statutory notification period was completed on or about 17 May 1981 at which time countersigned copies were sent to Saudi Arabia for acceptance.

(C) The Saudi Arabian Government, through the US Army Section of USMTM, submitted a formal request for Letter of Offer and Acceptance (LOA) for nine AN/TPQ-36 radar sets (mortar) and six AN/TPQ-37 radar sets (artillery). DSAA and State authorized preparation of the LOA. Section 36(b) Advance Notification to Congress was due at DSAA not later than 1 May 1981. The estimated value of the case was $72 million.

(U) The Department of State approved, in April 1981, a Saudi Arabian Land Forces request to purchase 18 M198, 155mm towed Howitzers. The Letter of Offer (LOA), under development at ARRCOM, would be furnished to Saudi Arabia for consideration by mid summer 1981.

(U) An FMS case for 500 ¼-ton utility trucks, M151A2, was signed by the General Chief of the Joint Staff, MODA, on 21 April 1981. Total case value was $9 million. The estimated implementation date was 1 May 1981.

(U) The Saudi Arabian Land Forces (SALF) Army Aviation Program Master Plan was received from HQDA on 9 June 1981 for review. This plan, developed by a US team under agreement with the Saudi Arabian Government, provided for the establishment of a complete helicopter aviation program for the SALF. The review, to be conducted primarily by TSARCOM, addressed P&R data for all equipment, support, services, and training (to be provided by TRADOC) that would be required to carry out the program. Response was due HQDA not later than 1 July 1981.

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(U) On 19 June 1981, a USASAC representative delivered three LOAs to the Saudi Defense Attache' which covered the demonstration of the M198 Howitzer. These LOAs provided for the equipment, ammunition, and personnel involved in the demonstration. The LOAs expired on 9 July 1981, in order to comply with the Saudi request for the demonstration to take place in early August.

(U) During the weekend of 27-28 June 1981, the Saudi Arabian Government accepted two FMS cases which provided the equipment and ammunition required to demonstrate the M198 Howitzer in Saudi Arabia in August 1981. A third case, which provided for the personnel to conduct the demonstration, was expected to be accepted within a matter of days afterward.

(U) The Saudi Arabian Government (SAG) signed/accepted two FMS cases for 5-ton trucks totaling $58.7 million. Included were 100 5-ton wreckers, M816 ($17.6 million) and 500 5-ton cargo trucks, M813 for $41.1 million.

(U) Brigadier General John J. Yeosock assumed command as the new Project Manager for Saudi Arabia National Guard Modernization Program (PM-SANG), effective 25 June 1981, in Riyadh, Saudi Arabia. An End-of-Tour Report by Brigadier General Gerald T. Bartlett, outgoing Project Manager, was received and staffed within DARCOM.

(U) OPM SANG Modernization Program requested availability information for 113 items of materiel required for possible activation of two additional battalions over those which were already programmed for calendar years 1982-1985. Major Readiness Commands were requested to develop required information by 28 August 1981.

(C) On 20 August 1981, the USG and the Government of Saudi Arabia reached agreement on an MOU providing for a medical program for the Saudi Arabia National Guard (SANG). The $500 million program involved management of a contract to operate a 500 bed hospital in Riyadh supporting SANG soldiers and their families. The MOU was to be signed in a public ceremony in Taif, Saudi Arabia, on 24 August 1981, by SANG Commander Prince Abdullah and PM SANG, Brigadier General Yeosock, for the USG.

(U) In a meeting with SANG Commander, Prince Abdullah, 15 August 1981, PM SANG, Brigadier General John Yeosock, was advised that the SANG decided to request the USG to modernize two battalions at Taif and Jeddah instead of the battalions originally scheduled for modernization during the 1983-1985 time frame. Prince Abdullah had originally considered modernizing these two battalions in addition to those already scheduled for modernization.

(U) Representatives from TSARCOM, TRADOC, COE, Fort Rucker, and Fort Hood presented an executive level briefing to State/OSD/DA on 9 September 1981 on the Saudi Arabian Land Forces Army Aviation Program

(SALFAAP). The briefing, previously presented to (HRH) Colonel Faisal Bin Saud, Director of SALF Aviation in Atlanta on 20 August 1981, covered the concept, analysis, and feasibility. The feasibility study was scheduled to be formally presented to the Saudi Arabian Government (SAG) in early November 1981. Colonel Faisal would be directly involved in the formal presentation to SAG. USASAC had been advised unofficially that Colonel Faisal would depart for Saudi Arabia to start informal discussion on the SALFAAP.

(U) TRADOC prepared an LOA for a Saudi Arabian Land Forces (SALF) Army Aviation TAFT. The team's mission would be to facilitate the introduction of aviation assets into the SALF. Action was not completed by the end of fiscal year 1981.

(FOUO) The initial Saudi Arabian National Guard Modernization Program under a project manager began in 1973, and was completed in 1979. The SANG follow-on modernization program, which was active in fiscal years 1980 - 1989 was to be divided into three phases. The total program to 30 September 1981 comprised 65 active Foreign Military Sales cases having a value of $1.9 billion. The Phase I (1980-1981) Follow-On Program had these objectives:

1. To modernize the First Brigade as follows:
   a. Organize and train a brigade headquarters.
   b. Sustain four modernized CABs.
   c. Organize, equip, and train an artillery battalion.
   d. Organize, equip, and train an engineer company.
   e. Organize, equip, and train a logistics support battalion.

2. To organize, equip, and train the First Signal Company.

3. To organize, equip, and train the nucleus of a training base.

4. To begin development of a logistics base.

5. To make necessary preparations for Phases II and III.

6. To sustain OPM SANG.

(FOUO) Phase II of the SANG Follow-on Modernization Program, which was expected to run from 1982-1985 had these objectives:

1. To complete modernization of and sustain the First Brigade as follows:
   a. Equip, complete training of, and sustain the First Brigade Headquarters.
   b. Sustain four CABs.
   c. Completely equip and sustain the First Artillery Battalion.
   d. Equip, complete training of, and sustain the First Engineer Company.
   e. Sustain the First Logistics Support Battalion.

(FOUO) Phase II (Continued)

2. To modernize and sustain the Second Brigade as follows: Organize, equip, train, and sustain the Second Brigade Headquarters; four CABs; Second Artillery Battalion; the Second Engineer Company; and the Second Logistics Support Battalion.

3. To expand and sustain the First Signal Company.

4. To complete modernization of and sustain the Training Base.

5. To expand and sustain the Logistics Base.

6. To make necessary preparations for Phase III.

7. To sustain OPM SANG.

(FOUO) Phase II, in turn, was expected to be followed by Phase III of the Follow-On Modernization Program, which would span the period 1986-1989, but its objectives had not yet been approved by HRH Prince Abdullah, SANG Commander.

(FOUO) The SANG Medical Services Modernization Program. The Medical Services Modernization Program saw important developments in fiscal year 1981. The Program had its origins in a 17 September 1979 letter from HRH Prince Abdullah, SANG Commander, to the US Ambassador to Saudi Arabia, which requested the organization and maintenance of two hospitals and two medical cities; the establishment of a medical records center, a field medical service, and a surgeon general's office; the development of a casualty evacuation system; the modernization of a dispensary system and a medical supply system.

(FOUO) As a result of a survey conducted in May 1980, by the DA Surgeon General on requirements involved in the SANG request for the Medical Program, a nine-man medical study team arrived in Riyadh in July 1980 to write a scope of work and a Project Manager's Master Plan (PMMP) for the SANG Medical Services Modernization Program as the basis for a US Government proposal, if approved. This PMMP was developed in August, rewritten in September in consonance with DSAA guidance and, after briefing, was approved by the DARCOM, HQDA, and OSD staffs.

(FOUO) In January 1981, Secretary of State Haig approved a Government-to-Government agreement for the Program. To avoid time-consuming negotiations, it was agreed that the existing Memorandum of Understanding (MOU) be used, as the Medical Program was considered an expansion of the existing Modernization Program. In February, the Letter of Offer and Acceptance (LOA) for the Medical Program was prepared, per HRH Prince Abdullah's September 1979 letter, and the formal notification was sent to Congress in April.

(FOUO) In June, and upon the Saudi Arabian Government's request, a new, modified LOA was completed to include agreement to negotiate a new MOU. In July, the US Government concurred with the Kingdom of Saudi Arabia in the establishment of the new MOU for the program and consented to the delay of signatures on the LOA until agreement was reached on the proposed MOU. This agreement was concluded with the signing of the MOU on 24 August 1981. Consequently, the LOA for the initial phase of the program was corrected to reflect conditions outlined in the MOU and was submitted to SANG for signature. This LOA, which was signed by HQ SANG on 27 October 1981, provided $503 million for the Project Manager to supervise the first phase of the SANG Medical Program in the capital city of Riyadh.

(FOUO) Objectives of the SANG Medical Services Modernization Program, remained almost identical to those put forth in HRH Prince Abdullah's initial request letter. They were:

1. Operation and maintenance of one hospital and medical city in Riyadh.

2. Establishment of a medical records center.

3. Establishment of a field medical service.

4. Development of a casualty evacuation system.

5. Modernization of a dispensary system.

6. Establishment of a surgeon general's office.

7. Modernization of a medical supply system.

(FOUO) In conclusion, negotiations regarding the implementation of the Medical Program were completed.

SANG Modernization Overview

(FOUO) In general terms, the mission of OPM SANG continued to be to modernize the SANG in accordance with conditions and requirements as contained in the Memorandum of Understanding (MOU) signed by the US Government and Saudi Arabian Government in 1973. This was more specifically defined in the mission statement as contained in the PM's Charter, signed by the Secretary of Defense on 20 December 1979;

> ". . . The objective of the program is to modernize the SANG in the areas of management organization, training, equipment, maintenance, supply procurement, and facilities commensurate with the standards of the US Army as appropriately suited to the capabilities of the SANG. (The PM) will exercise principal authority over the planning, direction, execution, and control of the modernization which covers all elements, missions, functions, and requirements of the SANG, and will facilitate increased SANG participation in all aspects of the program, the goal being SANG's eventual capability to unilaterally initiate and sustain modern organizations and systems."

(FOUO) A major goal in the OPM mission continued to be one of assisting the SANG in developing self-sufficiency. This included increasing the active participation of the SANG in all aspects of the program, to include areas previously not emphasized for SANG involvement, such as management and procurement.

(FOUO) In addition to the modernization objectives as defined in the Initial and Follow-on Programs. OPM SANG assisted the HQ SANG staff with numerous projects outside the overall scope of the program. These projects were important to the modernization effort since they demonstrated HQ SANG's desire to become self-sufficient, and at the same time, improve its management effectiveness.

(FOUO) With these facts in mind, and with particular emphasis on those instances in which OPM SANG advanced toward accomplishment of its mission, the remainder of this chapter addresses the significant program developments at OPM SANG for the fiscal year 1981 by month of occurrence.

(FOUO) October 1980. Two of the four modernized Combined Arms Battalion--the 2d and 4th--were deployed from the Khashm Al An (KAA) training base to the Eastern Province. The convoy was extremely well-disciplined compared with previous ones. Battalion officers were fully involved in the planning, expediting, organization, and execution of this move. Prior to movement, the brigade headquarters staff developed all plans for actions in Dammam (Eastern Province), to include a comprehensive road movement plan. Their efforts in the East included coordination of engineer support, "show of force" planning, and coordination of air defense and air space management.

(FOUO) The partially-trained Fire Support Element (FSE) of the Artillery Battalion Headquarters, on its first operational mission, accompanied the Brigade Headquarters to Dammam during the movement of the two CABs to the Eastern Province. The Air Defense (AD) element

established liaison and communications with the local sector Operations Center. The FSE effectively controlled AD assets and was capable of providing early warning of threat aircraft. The 1st LSB also deployed a Forward Area Support Base to Dammam in support of the two CABs.

(FOUO) The initial recommendation for qualitative upgrade of SANG's Phase III armored fighting vehicle fleet was completed and submitted to HRH Prince Abdullah, SANG Commander.

(FOUO) In September 1980, HRH Prince Abdullah was briefed on a new plan for the SANG Medical Services Modernization Program which had been developed and the PMMP rewritten.

(FOUO) November 1980. In addition to accomplishments in meeting the modernization objectives, the OPM-SANG staff assisted the HQ SANG staff with numerous projects outside the overall scope of the Program. One of these additional modernization initiatives involved assisting SANG with establishment of an O&M capability for its new $250 million headquarters complex, which was completed in November 1980. Particular emphasis was also placed on assistance in obtaining proposals for a final design of the complex's underground command center.

(FOUO) A complete analysis of training requirements for modernized units was completed, and a restructuring of courses and instructor personnel begun in order to accommodate the MOS shortfall in the CABs by the end of 1981.

(FOUO) With regard to unit activities, the TOE for the 1st Artillery Battalion Headquarters and Service Battery was approved; the General Support Maintenance Unit (GSMU) assumed the direct support mission of non-modernized units in the Riyadh area and operation of the maintenance facility at KAA; and the 1st and 3d CABs successfully completed platoon and company SANGTEPs (modified ARTEPs).

(FOUO) December 1980. The 2d and 4th CABs returned from the Eastern Province and were replaced by the 1st and 3d CABs in their security mission. The 1st and 3d field artillery batteries remained in the KAA base under the Artillery Battalion Headquarters.

(FOUO) The principal staff officers and company commanders of the 1st LSB took a seven-day orientation tour of the facilities of the Combat Support Battalion of the 1st Infantry Division (Forward) in Geoppegin, West Germany. The tour was very successful and provided the officers with a view of what OPM-SANG was attempting to achieve in Saudi Arabia.

(FOUO) At the request of HQ SANG, and as a modernization initiative outside the established objectives of the program, meetings were held at OPM SANG in November 1980 regarding the new SANG budget for the period April 1981 - April 1982, and representatives from the various OPM divisions

were requested to identify and to cost all non-FMS funded Phase II facility and equipment requirements for which HQ SANG would have to budget in order for modernization to continue as scheduled. A consolidated response satisfying this request was presented to HQ SANG in mid-December 1980.

(FOUO) Contract modification actions were made to provide for accelerated modernization of the engineer company and the training base. Eleven additional courses of instruction were to be taught at the Combined Arms School (CAS).

(U) The 2d Maintenance and 2d Supply and Transport Companies were assigned to the 1st LSB and began training.

(U) The Phase II contractor services and training contract, the Scope of Work (SOW), was completed and staffed within OPM SANG. It was incorporated into an RFP (Request for Proposal) and sent to Vinnell Corporation.

(FOUO) The SANG requested clarification of cost figures in the Project Manager's Master Plan (PMMP) for the proposed Medical Services Modernization Program, and an OPM representative worked with SANG auditors to provide this information. The SANG also requested OPM assistance in evaluating bids for the purchase of a mobile surgical hospital which would be intended for use during deployment, Hadj, etc. A number of MSC officers from the US Military Training Mission to Saudi Arabia (USMTM) provided the necessary expertise for the evaluations and succeeded in furnishing a written report, along with their recommendations, to the SANG.

(FOUO) During October 1980, it had become clear that HRH Prince Abdullah was directing full attention toward his request for the operation and maintenance of two hospitals and that the remainder of the Program could be negotiated at a later date. The comparison of the British concept versus the US concept was in the foreground.

(FOUO) USASAC responded to the OPM request for guidance on the US Government medical proposal. An affirmative reply was given regarding OPM authority to supervise a contractor hired by another government, should this requirement arise. The OPM was also directed to adhere to its proposal for the advice and assistance role, regardless of whether a private firm or another government was awarded the contract.

(FOUO) A meeting was held between the US Ambassador to Saudi Arabia and HRH Prince Abdullah to determine the status of the Medical Modernization Program. The US Government was tentatively disqualified as being too expensive and lacking a Government-to-Government agreement on the program.

(FOUO) A modification to the contract for Phase II publications was issued, giving Vinnell Corporation the authority to commence hiring and begin work. The contractor set up offices in the US and began preparations for production.

(FOUO) January 1981. The 2d and 4th CABs completed their platoon and company SANGTEPs, with all units being rated combat-ready. The 1st LSB assumed the mission of delivering fuel to the contractor as a part of its training and as a step toward self-sufficiency.

(FOUO) In November 1980, SANG instructors had been trained by manufacturer representatives on the Carl Gustav anti-tank weapon, and the subsequent instruction of CAB personnel by these SANG instructors began in early January 1981.

(FOUO) Several brigade headquarters staff officers, as a part of training, were made part of the planning effort and would control executions of battalion SANGTEPs for the 2d and 4th CABs.

(FOUO) The provisional 1st Artillery Battalion, consisting of a HQ, HQ and Services Battery, 2d Battery, 4th Battery and two air defense platoons was formed. The provisional battalion was considered to be a unit in training, and intensive training began.

(FOUO) The Director of Maintenance and Transport, HQ SANG, approved the modernization study, presented to him in December 1980, of the mission and functions of the POL Supply Unit. The personnel portion of the TO&E was completed, and work continued on the equipment portion.

(FOUO) Studies were presented to HQ SANG for reorganizing the staff of the Deputy for Military Affairs (DMA), HQ SANG, in order to enhance modernization in logistical areas. The studies, which included organization, mission and functions of key elements, showed how the DMA staff would interface with the headquarters and operating elements of the Logistics Base. The Assistant Deputy Commander, HQ SANG, approved the new organization structure and directed its implementation.

(FOUO) Discussions on the SANG Medical Program with HQ SANG reopened as the result of the US Government decision to honor Prince Abdullah's requirement for a Government-to-Government agreement. Items discussed included methods of contracting, restricted versus open bidding, and time required to open the hospitals. The PM SANG, was not authorized to discuss restricted bidding.

(FOUO) A revised, informal Request for Quotation (RFQ) was prepared for distribution to US Medical firms in-country. A total of six such medical firms, then doing business in Saudi Arabia, received the informal request for cost estimates.

(FOUO) HRH Prince Abdullah specified his concept of one British hospital and one US hospital, with the intention of fostering competion. Private hospital contractors met with Prince Abdullah and provided various cost estimates and private assurances.

(FOUO) A freight forwarder contract was awarded to handle all the Modernization Program cargo from CONUS to Riyadh.

(FOUO) February 1981. In November 1980, the organization and functions of the SANG Logistics Base Headquarters, consisting of a logistics base commander, deputy commander, a logistics management control center, a logistics plans office, and an administrative and finance office, had been completed and presented to HQ SANG. This concept study favored a time-phasing and building block approach in order to lessen the impact of implementation and had been briefed to HQ SANG in December 1980. During January 1981, meetings with HQ SANG led to a general acceptance of the headquarters elements and its subordinate operating activities. Changes to the organizational structure requested by HQ SANG were incorporated to improve command and control lines. In February 1981, the Assistant Deputy Commander, HQ SANG, approved the organization and functions of the SANG Logistics Base. Under the revised concept, the Headquarters consisted of the Commander, Logistics Plans Office, Inspection Office, Finance and Personnel Office and the Logistical Material Management Center. The Headquarters would provide command and control for three subordinate units: Supply Depot Command, Maintenance Depot Command and the Transportation Command.

(FOUO) The 2d and 4th CABs rotated to Dammam, replacing the 1st and 3d CABs in their operational missions, and also conducted their annual SANGTEPs and were rated combat-ready.

(FOUO) In December 1980, initial planning and coordinating had begun in order to convene a V-150 Systems Integration Conference. In February 1981, this conference was conducted at TACOM. Attendees included industry representatives from Cadillac-Gage, General Electric Vulcan, and Racal Tacticom Radio. Representatives of the US Government were from USASAC, TACOM, ARRCOM, DCAS, and the USA Procurement Office, Germany. The purpose of the Conference was to coordinate the integration of the V-150D Armored Car, the GE VULCAN, Racal communications equipment, the M36E1 sights, land navigation and range-finder equipment, and to resolve any outstanding questions or issues concerning the integration of these systems.

(FOUO) The Brigade Headquarters participated as a control headquarters in an OPFOR (BN SANGTEP) exercise. Also, the Brigade Headquarters planned and directed the execution of the rotation of battalions to and from the Eastern Province.

(FOUO) The 1st and 3d Batteries reported to the Artillery Battalion, as well as the 1st and 3d AD Platoons. This completed the formulation of the Artillery Battalion, which consisted of HQ, HQ and Services Battery, four 105mm Howitzer firing batteries, and one VULCAN Air Defense Battery. Formation of the staff and unit training continued.

(FOUO) Formal modernization training of the General Support Maintenance Unit (GSMU) was begun.

(FOUO) In anticipation of the permanent stationing in April 1981 of two modernized SANG CABs in the Al Hasa area some 300 kilometers northeast of Riyadh, in January 1981, OPM SANG initiated actions to identify contractor requirements in support of the units which would be stationed at Al Hasa. The ultimate requirement would be a complete plan detailing the contractor support requirements at Al Hasa. The final product consisted of a letter dispatched to HQ SANG for approval in February 1981 which provided OPM SANG's concept of operations in Al Hasa; provided two options for housing contractor personnel in Al Hasa (Option 1 was a contractor camp; Option 2 was lease of a hotel); provided detailed lists of equipment that the contractor would require; identified the additional funds required to support the contractor effort in Al Hasa.

(FOUO) The Vinnell Corporation established CONUS-based publications offices, and production began on the first manual.

(FOUO) DSAA tasked DA to prepare the Letter of Offer and Acceptance (LOA) 36B to cover the entire Medical Services Modernization Program, based on the September 1979 request from Prince Abdullah.

(FOUO) OPM SANG provided Medical Program LOA 36B to USASAC in two forms: one to cover the entire program as initially requested with two hospitals, and the other to cover the operation and maintenance of one hospital only.

(FOUO) The Ambassador to Saudi Arabia and the PM, SANG, suggested for the first time that the MOU existing for the Modernization Program be used to cover the Medical Program, in order to avoid time-consuming negotiations. HRH Prince Abdullah agreed and referred the matter to his staff.

(FOUO) March 1981. The 1st and 3d CABs underwent their annual battalion SANGTEPs and were rated combat-ready.

(FOUO) The Brigade FTX "Falcon of the Peninsula" began with the simultaneous movement to the exercise area of the 1st and 3d CABs, the Logistics Support Battalion, and the Artillery Battalion from Khashm Al An, and the 2d and 4th CABs from their operational mission in the Eastern Province. This was the SANG's first brigade-level FTX and included both air-transport and resupply support from the Royal Saudi Air Force (RSAF).

(FOUO) Negotiations began with the Vinnell Corporation for Phase II of the Follow-on Modernization Program, which would run from January 1982 to December 1985.

(FOUO) The organizational structure of the Logistic Base Headquerters' elements was slightly modified as a result of meetings with HQ SANG, to consist of the Commander, Administrative Office, Personnel and Finance Office, Logistics Plans Office, Logistics Management Control Center (LMCC), and the Inspection and Assistance Office. In addition, modernization efforts were begun in March 1981 for the LMCC, the General Supply Stores, and the Property Disposal Activity of the Logistics Base.

(FOUO) Signal Company radio operators, as well as elements of the 1st LSB, supported the Brigade Headquarters and the CABs during their SANGTEPs.

(FOUO) Visits were made to transportation units, Province Headquarters, and other logistics units in the towns of Jeddah, Taif, Dammam, Al Hasa, Hail, Najran, and Ar Ar. Province commanders and other SANG officials were briefed on the embryonic modernization plans for a SANG transportation system. They were informed that a baseline study of transportation resources and procedures would be conducted and would provide the basis for a modernization plan to be executed during Phase II.

(FOUO) A briefing to DSAA on the proposed SANG Medical Program LOA led to its revision. The revised offer would cover a program period of 30 months and be for one hospital only. In addition, the informal notification, LOA 36B, for the SANG Medical Program was submitted to Congress and included discussion of the possibility of providing the entire Medical Program at a potential multi-billion dollar cost.

(FOUO) The requirement for a new MOU for the Medical Program surfaced again in informal discussions with the SANG staff. As a result, the PM, SANG, briefed HRH Prince Abdullah on the status of the Medical Program LOA and on the US Government proposal. The PM again suggested the use of the Modernization Program MOU, since the Medical Program would be an expansion of the program that existed. HRH Prince Abdullah agreed in concept.

(U) A personnel change took place on 14 March 1981, when Mr. Ted M. Williamson replaced Mr. Garth R. Churchill as Chief Counsel of OPM SANG.

(FOUO) The Al-Imam Mohammad Bin Saud Brigade (First Brigade) completed the Spring FTX which was begun in March, and all four battalions were rated combat-ready. A live-fire exercise was conducted for HRH Prince Abdullah, Commander of the National Guard, and for many distinguished visitors. The National Guard accomplished all of its objectives

on this extended field training exercise (25 March - 8 April 1981). Of particular note was the initiative, professionalism, and confidence exhibited by the younger SANG officers, who had risen to the rank of major during the Modernization Program. Training deficiencies, however, discovered in the Brigade FTX were the focal points of training in April 1981.

(FOUO) The Maintenance Company of the 1st LSB initiated the Phased Functional Transfer Plan which marked the beginning of the transfer of maintenance support tasks in support of the Brigade from the contractor to the Battalion. In February 1981, the Supply and Transport Company of the LSB assumed the sole responsibility for delivering fuel to the contractor and continued to accomplish this mission without problems. During April 1981, this company accepted the entire mission for sole support of the Brigade's fuel requirements.

(FOUO) In November 1980, meetings with the SANG school commander had been held concerning the reorganization of the SANG schools, and agreement was reached. The modernized SANG schools TDA proposal was presented for staffing at HQ SANG in January 1981 and was presented to HRH Prince Abdullah in April with a recommendation for approval.

(FOUO) In October 1980, work had begun on development of a concept plan for Phase III of the follow-on Modernization Program in order to define the broad requirements of this phase. In February 1981, a letter was dispatched to HRH Prince Abdullah by the PM requesting that the Joint Modernization Committee reconvene and establish Phase III objectives. In March 1981, this committee, composed of key HQ SANG and OPM SANG personnel, agreed upon the Phase III objectives (January 1986 - December 1989), and a joint report was prepared. In April, this report was signed by the Project Manager and General Rasheed, SANG Vice Deputy for Operations, and sent to HRH Prince Abdullah for approval.

(FOUO) Rewarehousing and inventory were begun in the General Supply Stores, SANG Logistics Base.

(FOUO) The four CABs and the brigade staff developed the 1981-1982 Annual Training Program.

(FOUO) HQ SANG decided to build a permanent camp in Al Hasa for contractor personnel in support of two modernized SANG battalions which were to be deployed to the Eastern Province on a continual basis at a later date. The construction of the contractor camp was to be a HQ SANG-funded project, although no completion date was set.

(FOUO) HQ SANG voiced its concern over the high costs of the US Government proposal for the Medical Program, and formal Congressional notification of LOA 36B for the SANG Medical Program occurred.

(U) A personnel change occurred on 29 April 1981, when Mr. Charles L. Sears replaced Mr. Gary W. Smith as Chief, Program Management Office (PMO), OPM SANG.

(FOUO) May 1981. The 1st Maintenance Company increased the amount of work accepted under the Phased Functional Transfer Plan, and at this time, basically supported one CAB at Khashm Al An. SANG-provided parts and lack of TOW equipment were restrictive to further mission work load.

(FOUO) The third SANG FMS Review Conference was held at Grantsville, Pennsylvania. The most significant result of the conference was a general agreement on the part of USASAC, OPM SANG, and the MRC IL Directorates to explore every possibility of improving delivery dates for selected items of Phase I and Phase II equipment. The MRCs were tasked to study each of the selected items and to provide impact statements regarding improvement of delivery.

(FOUO) DSAA authorized discussions on restricted bidding procedures for the Medical Program. HRH Prince Abdullah was presented with the most optimistic time for opening of the hospital, which would be mid-October 1981 if he were to direct the US to restrict bidding. An initial draft of the Scope of Work (SOW) for the Medical Program was prepared in Washington with the assistance of the Health Services Command Medical Team, and revisions to this draft were in progress. The scope of the Medical Program was reduced from that of a full 500-bed operation to a phased opening of 200 beds over the first 18 months of the contract. The reduction in scope resulted in a substantial decrease in cost over the period of 30 months, with the new estimated cost being $503 million. The LOA for the Medical Program was modified and staffed. Additional explanatory notes were included to more fully describe the scope of the US proposal. The LOA was then countersigned by DSAA. The LOA (ZAC-6), in the amount of $503 million, for the SANG Medical Program was presented to HRH Prince Abdullah for signature. Signing of the document was not accomplished due to SANG insistence that the US Government agree to sign a new MOU.

(U) An unofficial agreement with Vinnell Corporation on the Phase II training contract was reached.

(FOUO) The four CABs, the 1st Brigade Headquarters and the 1st Artillery Battalion commenced execution of the Annual Training Program.

(FOUO) The Logistics Management Control Center, SANG Logistics Base, initiated a survey to determine a combat ration suitable for SANG. Upon completion, the results were to be sent to HQ SANG for action.

(FOUO) June 1981. The Artillery Battalion conducted a successful battalion FTX. It fired all its SANGTEP missions and was rated combat-ready. The Brigade Headquarters supported the Artillery Battalion FTX with a CPX which included the brigade command post, the command posts of the 2d and 4th CABs and the LSB(-).

(FOUO) The 1st and 3d CABs returned to Riyadh, and the 2d and 4th CABs were deployed to Dammam to continue the operational mission in the Eastern Province.

(FOUO) In May 1981, the LOA ZAC-7, in the amount of $25 million, was presented to HRH Prince Abdullah for signature. This LOA was for night vision devices and for funds to cover contractor support in the Eastern Province through 1981. In June, ZAC-7 was returned to OPM (unsigned) with a request for clarification of several points.

(U) The proposed training contract with the Vinnell Corporation was handcarried to HQ DARCOM for final review and was subsequently signed.

(FOUO) The Project Manager's Master Plan (PMMP) for Phase II of the Follow-on Modernization Program was completed, printed, and distributed in both English and Arabic.

(FOUO) During April, the TOE for the POL Supply Unit was reviewed and approved by the Logistics Base Commander with minor changes and forwarded to HQ SANG for review and approval in June.

(FOUO) The SANG requirement for a new MOU for the Medical Program continued. OPM SANG comments on the British MOU for the Program, and on SANG's legal comments regarding the LOA, were provided to the Embassy.

(FOUO) HQ SANG was split on the US versus British operation of the hospital. A 10-day deadline for signing of a new MOU was given to PM, SANG, and the Embassy.

(FOUO) Based on Secretary of State/Secretary of Defense direction, the US Government concurred with the Kingdom of Saudi Arabia in the establishment of a new MOU for the SANG Medical Program and consented to the delay of signatures on the LOA until agreement was reached on the proposed MOU. Negotiations on the MOU were delegated to PM, SANG by a Secretary of Defense/Secretary of State message. By the close of June, negotiations on language changes continued between governments.

(FOUO) On 20 June 1981, Brigadier General John J. Yeosock was assigned as the Project Manager, SANG Modernization Program, and replaced Brigadier General Gerald T. Bartlett.

(FOUO) July 1981. All major training activities were curtailed during this period because of the observance of the Moslem month of Ramadan.

(FOUO) The 2d LSB, which consisted of a Supply and Transport Company and a Maintenance Company attached to the 1st LSB, was assigned its first commander.

(FOUO) The proposed TOE for the Logistics Base Headquarters, had been presented to HQ SANG in May for review and approval, but had not been approved. A study was underway to determine if an alternate course of action was possible.

(FOUO) A SANG committee gave a preliminary recommendation that the Phase III organization should include wheeled combat vehicles versus tracks.

(FOUO) August 1981. The Memorandum of Understanding (MOU) for the SANG Medical Services Modernization Program was signed in Taif, Saudi Arabia, by HRH Prince Abdullah, SANG Commander, for the Saudi Arabian Government and by Brigadier General John J. Yeosock, PM SANG, for the United States Government. The LOA for the initial phase of this Program was corrected to reflect conditions outlined in the MOU and was submitted to SANG for signature.

(FOUO) OPM SANG coordinated an in-kingdom thermal-imaging demonstration with US Army Night Vision (NV) and Electro-Optics Laboratory (EOL). The NV and EOL team presented lectures as well as day and night demonstrations on the latest US thermal devices.

(FOUO) A trip was made to Jeddah and Taif to make a preliminary assessment of the training and equipment status of the two regular battalions in those cities. At the request of HRH Prince Khaled, tentative plans for modernization of these battalions began.

(FOUO) On 5 August 1981, Colonel George P. Higdon was assigned as the Assistant Project Manager (APM) for Logistics, OPM SANG, replacing Colonel Robert E. Goodwin.

(FOUO) September 1981. The 1st Logistics Support Battalion conducted two CPX/FTXs as part of a concentrated effort to increase its field operational experience prior to graduation, scheduled for December 1981.

(FOUO) The Artillery Battalion participated in a brigade CPX and two battalion FTXs which included live fire.

(FOUO) The 1st and 3d CABs deployed to the Eastern Province, and the 2d and 4th CABs returned to home station at Khashm Al An.

(FOUO) The 2d Maintenance and 2d Supply and Transport Companies were transferred from the 1st LSB's operational control.

(FOUO) The 1st Maintenance Company assumed the entire DS support mission for modernized units in the Khashm Al An area. Assumption of this mission would, necessarily, involve throughput of many items to Vinnell Corporation's DLS shops as backup, yet would force LSB personnel to develop record-keeping, control, and inspection skills, as well as close coordination with supported units.

(FOUO) Case designators for ZAC-6 and ZAC-7 were juxtaposed. ZAC-6 became the designator for the amendment which would add Phase II funds for night vision equipment and contractor requirements in the Eastern Province. ZAC-7 became the amendment which would fund the SANG Medical Services Modernization Program. Both amendments were scheduled for presentation to HQ SANG in October.

(FOUO) A revised and updated OPM SANG TDA was prepared and submitted to HQ DARCOM. It reflected a total of 98 additional manpower requirements: 69 to accomplish the Phase II training mission (primarily to cover the overhire workforce) and 29 for the new Medical Services Modernization Program, pending LOA approval by HQ SANG.

(FOUO) A preliminary concept paper for the modernization of two Western Province battalions was completed and presented to General Al Amr, the senior military member at HQ SANG. The training concept, as presented, was well received, but decisions concerning implementation were deferred until a second briefing could be presented to the Joint Modernization Committee. The briefing was to be scheduled shortly after the month of Hadj, during late October or early November.

(FOUO) The proposed milestone schedule and request for proposal for the Medical Services Modernization Program were submitted to the SANG Medical Committee for review. Concurrence and direction on the method of solicitation were pending signature of the LOA.

CHAPTER VIII

HIGHLIGHTS AND TRENDS

Major Management Developments

(U) Major management developments which took place in fiscal year 1981 were the realignment of Headquarters DARCOM, the management control of white collar services, procurement frauds and irregularities, and contract appeals. This year also saw the end of an era with the retirement of General John R. Guthrie.

(U) Realignment. The long awaited HQ DARCOM realignment was announced on Friday, 29 May 1981, after Army Chief of Staff General Edward C. Myer had given his approval. The study and proposed realignment had been in progress since October 1979, when development of an organizational concept was begun.

(U) The concept that emerged provided for the establishment of a matrix management structure within HQ DARCOM. There would be two lead directors for systems management--development and engineering, and supply, maintenance and transportation. There would be a centralization of technical leadership for capital investment, and centralized programming for the planning, programming and budgeting system. There would be "a single face to the field."

(U) Among the goals sought by the realignment were the re-establishment of technical expertise--lost since the 1975 reorganization, a better interface with DA and the major subordinate commands, strengthened materiel acquisition and resource control, and elimination of the "two sides" syndrome where almost half of the major subordinate commands were neither pure readiness nor R&D.

(U) One of the driving factors was the fact that since the 1975 HQ DARCOM reorganization, the workload was rising while the manpower to respond was either decreasing or remaining constant. Clearly, help was needed on the manpower space side. DARCOM headquarters strength comprised one percent of the command's strength, or 1,485 people. Under the new reorganization the strength would rise to 1,835. Sources for the additional spaces were to be the staffs of the project managers--50, special activities reporting direct to headquarters activities, 55, major subordinate commands, 100 and the remaining 145 spaces to be provided by DA.

(U) The timetable for the reorganization was extremely tight due to the need to have the revised TDA request reach HQDA by 30 September 1981. The new organization would become effective on 15 October 1981. However, it would be well into 1982 before the majority of the personnel and organizational actions were completed.

(U) The major changes that impacted on the RDA community were the creation of two major "principal directorates"--the new and expanded R&D Directorate whose revised name had not been determined in August of 1981, and a Supply, Maintenance, and Transportation Directorate. Also, there was to be a new Directorate for Program, Analysis and Evaluation which would be the DARCOM planner. The former Office of Laboratory Development and Command Management would be expanded to a Directorate for Technology Planning and Management to handle RDA planning, the 6.1-6.3a technology program management, the development command/laboratory program management, and the engineer/scientist career program management.

(U) Under the realignment, the Development and Engineering Directorate was expected to be responsible for staff supervision of development activities, determination of RDTE program and budget and serve as appropriation director for RDTE, develop acquisition strategy plans, manage the product improvement program, direct international R&D, direct foreign science and technology, and manage battlefield automation. The directorate would be the principal manager for all systems except those transferred by command group decision to the Supply, Maintenance, and Transportation Directorate. Responsibility for the DARCOM program/cost control system would rest with this D&E Directorate.

(U) MG Stan R. Sheridan, Director of Development and Engineering, noted that under the revised structure, his new directorate would be organized parallel with the ODCSRDA division structure. According to Sheridan, the area of responsibility of his people would extend further along the life cycle than did the ODCSRDA counterpart. Authority would include, in addition to RDTE and initial procurement, O&M responsibility after a system was fielded, until such time as a written decision was rendered by the HQ DARCOM command group transferring responsibility to the Readiness side of the command.

(U) The D&E Directorate prior to 1975 carried a strength of about 340. With the 1975 reorganization, it dropped to 117, and the technical expertise available was not transferred--it was eliminated.

(U) Since that time, the RDTE program and workload increased and the outlook was a continuation of this growth. Under the 1981 structure, the strength was expected to be approximately 311.

(U) The following chart shows the proposed realignment.

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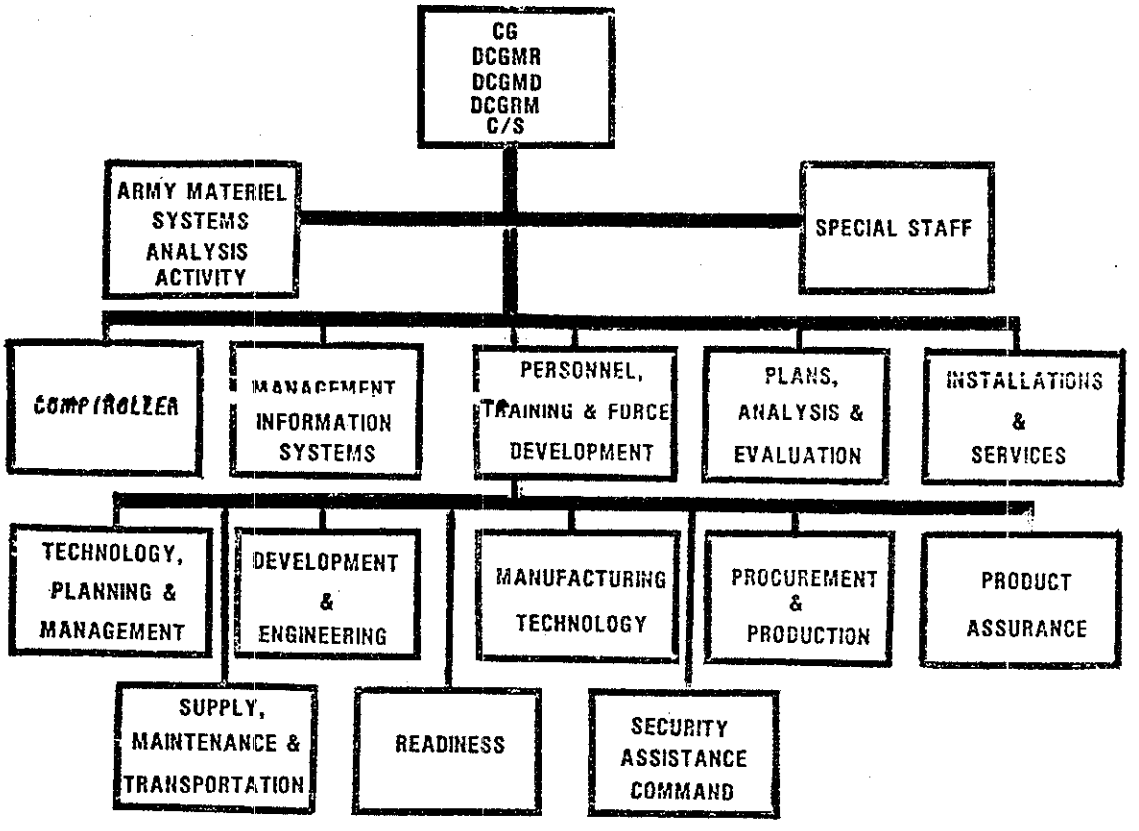
* All charts in this chapter are taken from the Command Performance Indicator Review (CPIR) Handbook and the Command Summary Analysis, FY 1981, prepared by Comptroller, HQ DARCOM.

DARCOM HQ REALIGNMENT



Army Research, Development & Acquisition Magazine, July-August 1981

(U) In fiscal year 1981, DARCOM continued its fundamental mission which was significantly different from the mission of other major Army commands. The mission was that of support--support for the total Army, the active forces, the Army National Guard, and Army Reserve. It also supported the sister Services and the allies. The substance of that support responsibility encompassed concept to development, production, and procurement of US Army materiel. It was a responsibility, as General John R. Guthrie, DARCOM Commanding General, described, ". . . for almost all Army equipment from the time it's a gleam in the designer's eye to the time it's been exhausted, is obsolete, or no longer of value."[1] The two broad areas of this responsibility were the related needs of development and readiness. In addition, staff responsibilities for resource management and administrative guidance and efficiency to see that their mission of support was actually accomplished, suggested the broad and diverse nature of the command and the significance of the mission.

Development

(FOUO) Management developments in fiscal year 1981, experienced a variety of trends that indicated generally (1) an increase in the total requirements and workload, (2) stability in RDTE readiness, a reduction of Product Improvement RDTE requirements (a reflection of the increased capability or performance of existing equipment), and an increase of Military Adaptation of Commercial Items (from $9.7 million to $12.5 million), (3) an upward trend in management or RDTE obligations hit their target (although RDTE disbursements fell below target) and a reduction of the test backlog, (4) performance declined as Selected Acquisition Reports Systems increased in cost (from $61.2 billion to $78.4 billion).

(U) Charts on the following pages break these trends down by the particular items involved.

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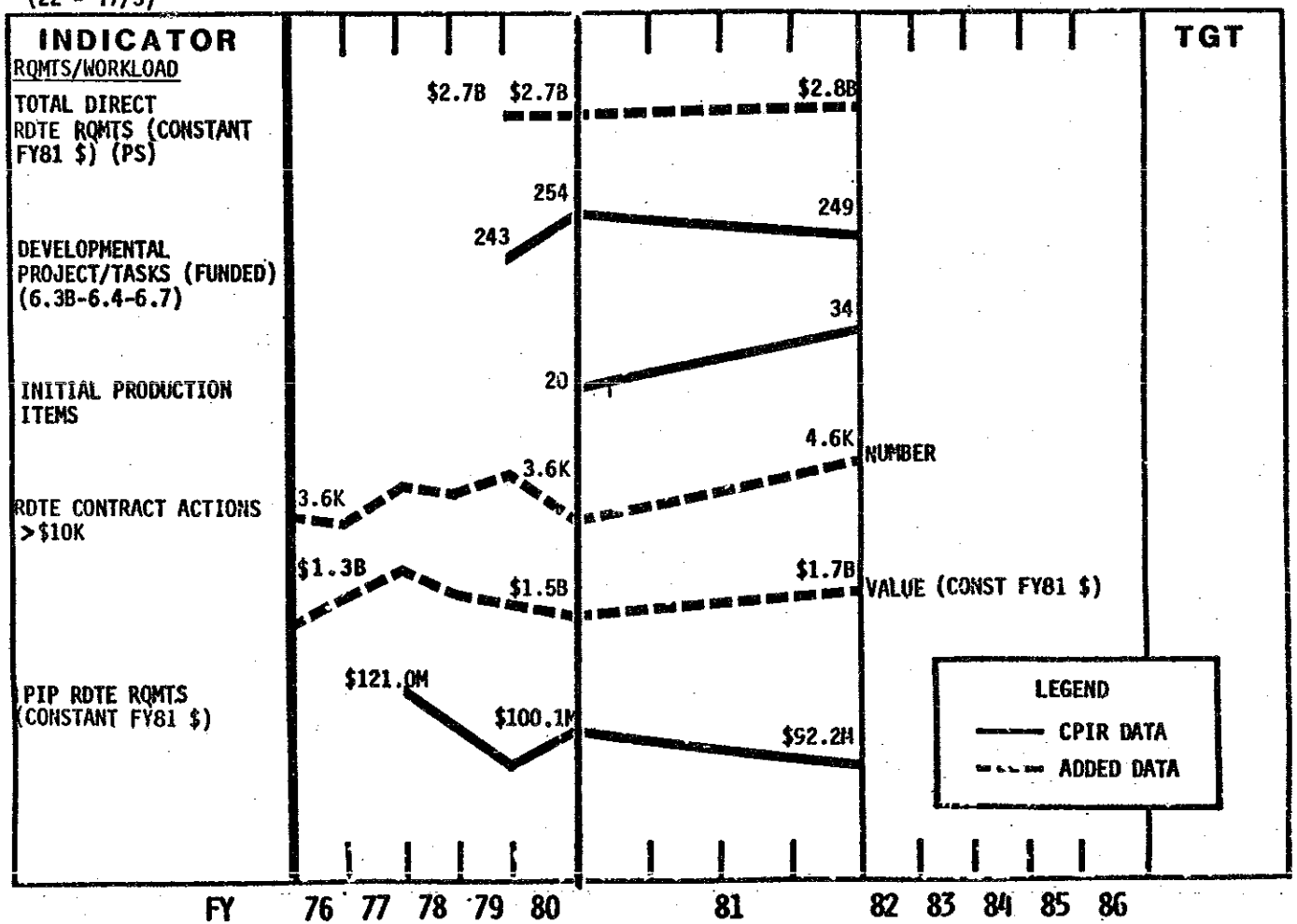
1 General John R. Guthrie, interview in "View from the Top," Military Electronics/Countermeasures, October 1980, p. 20.

DEVELOPMENT

(22 - 17/5)



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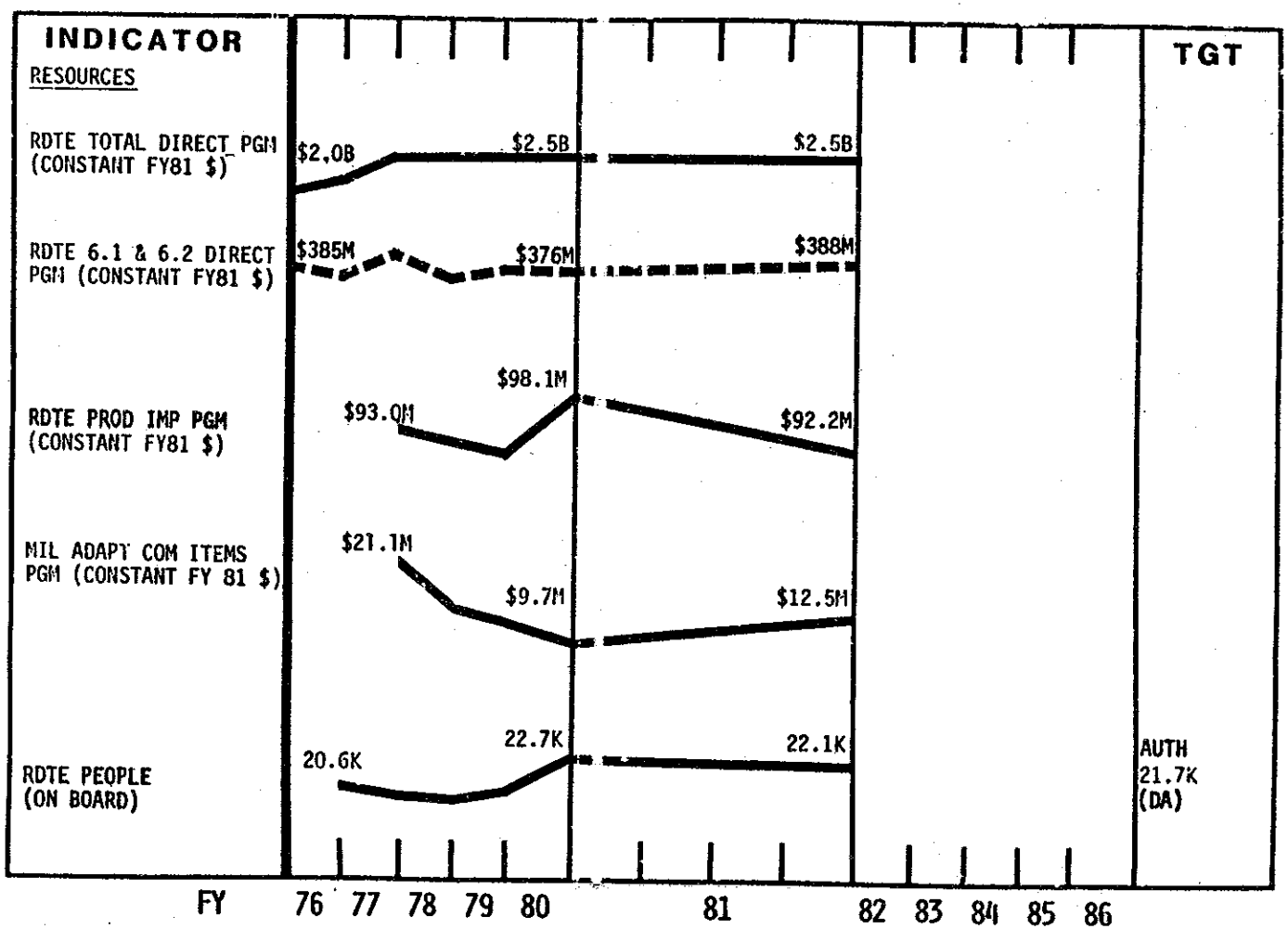

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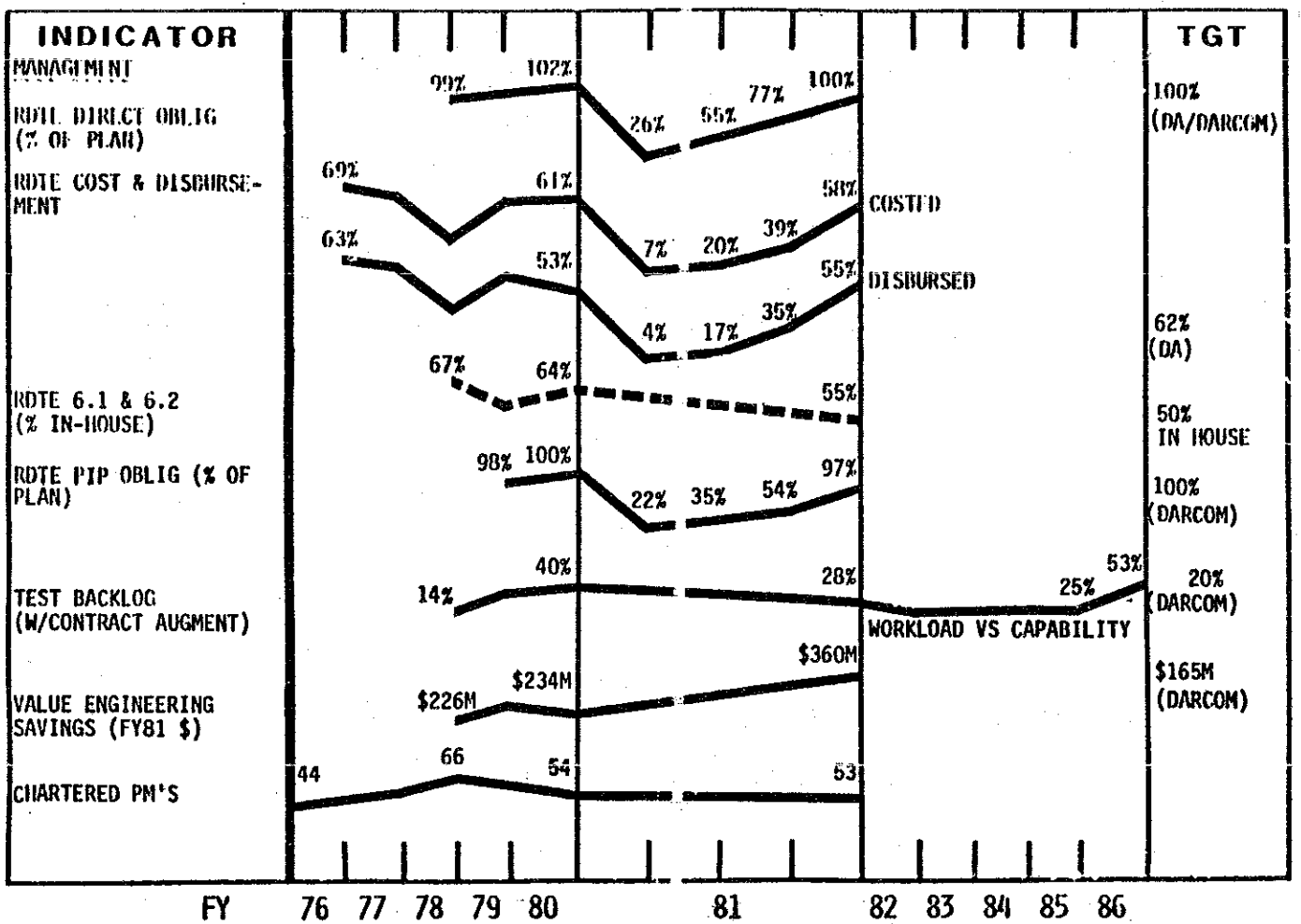

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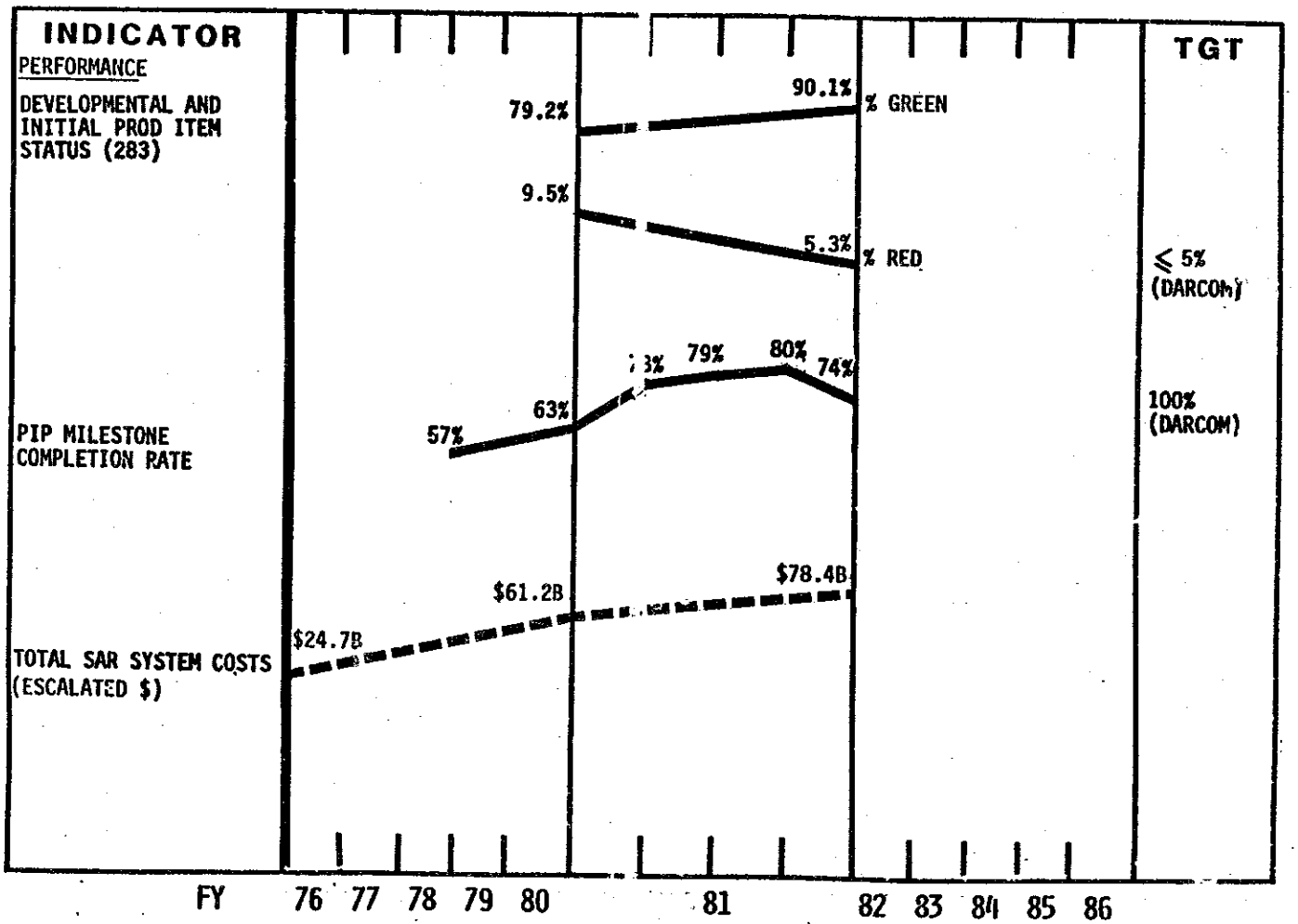
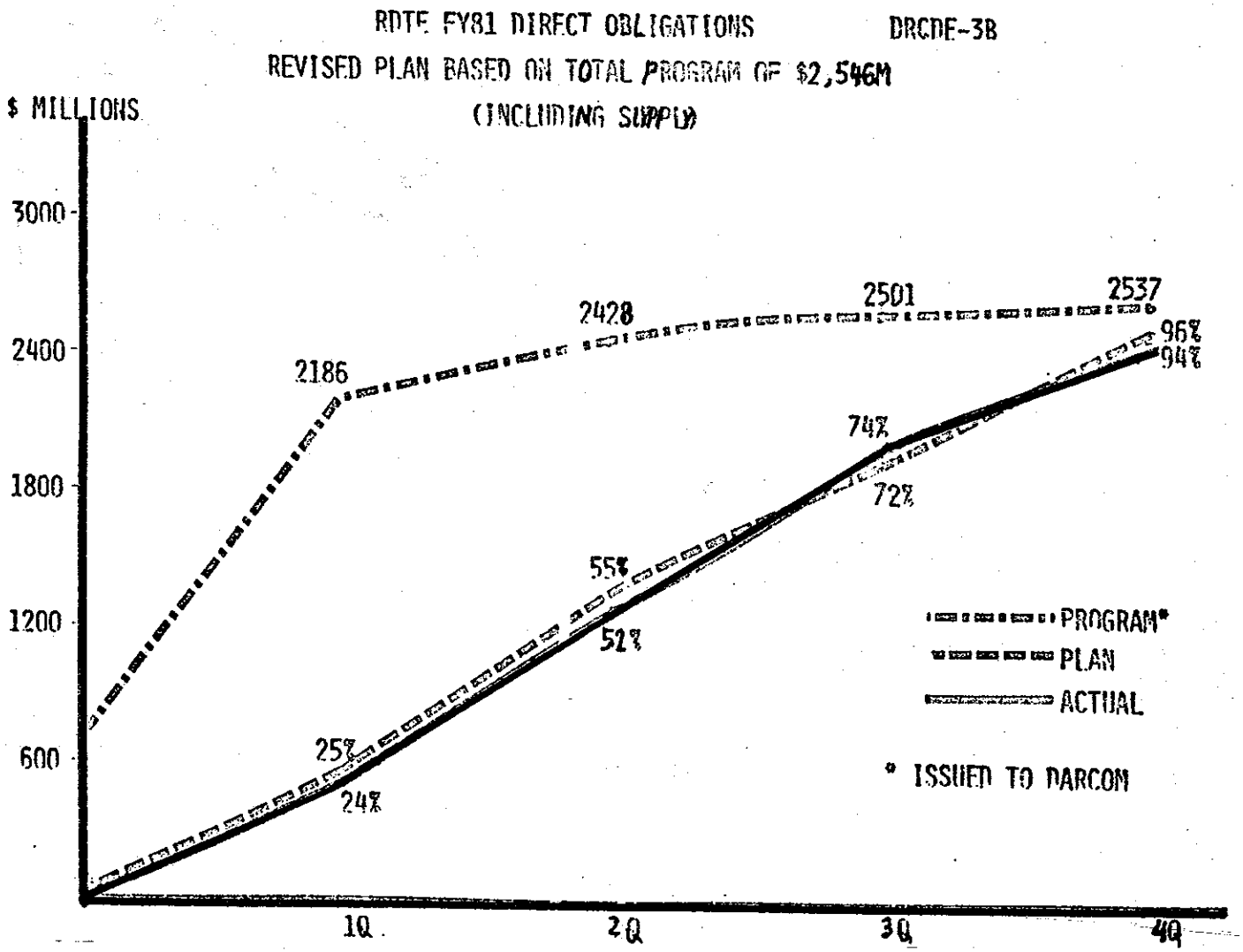


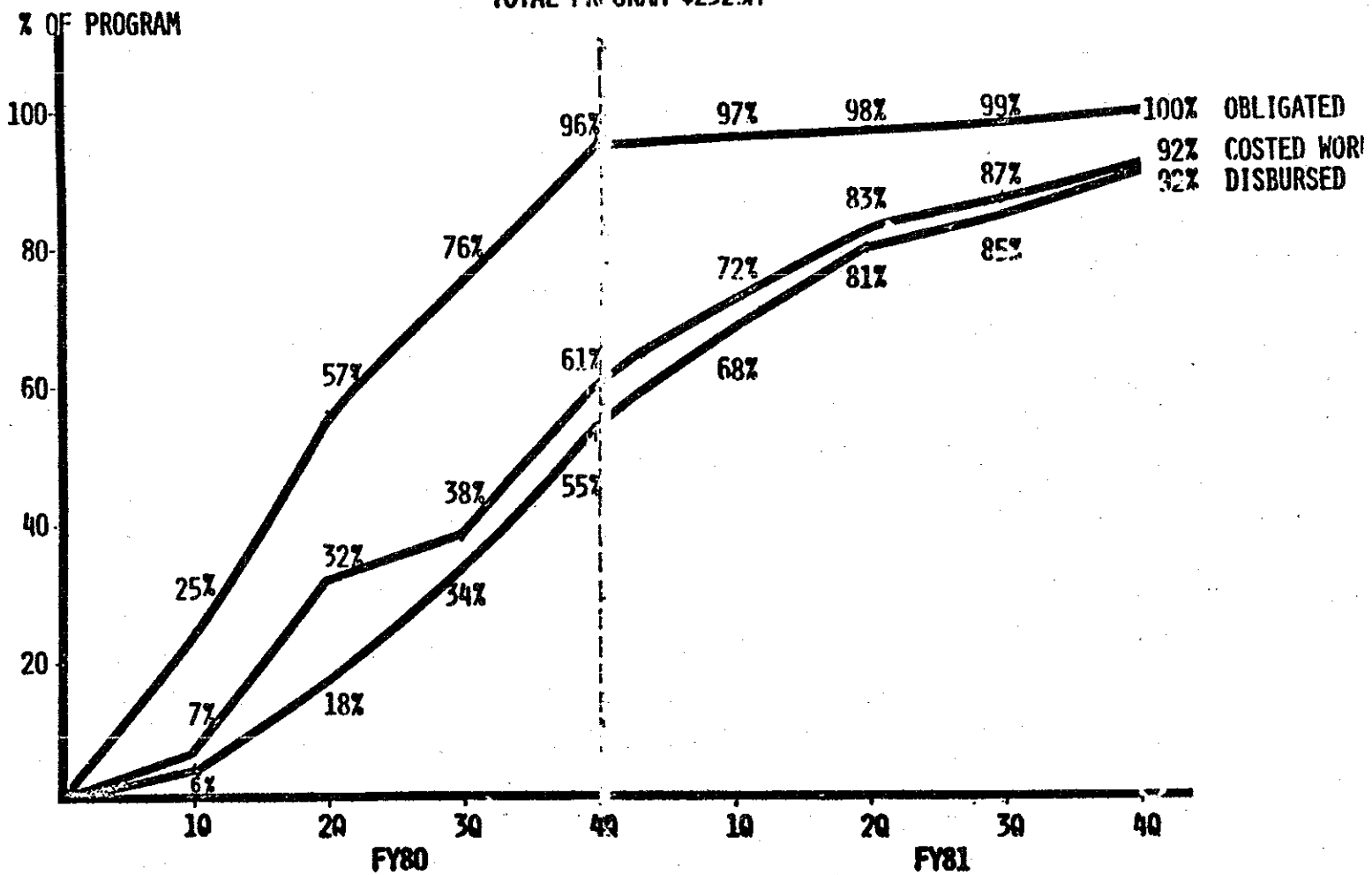
(U) Specific parts of the Development Program warrant further comment. For example, the fiscal year 1981 RDTE Direct Obligation Plan was revised in January and again after the Supplemental Appropriation. The top line of the following chart tracks the release of funds to DARCOM. Although the DARCOM goal for fiscal year 1981 of 95.6 percent was not met, the DA goal of 94 percent was achieved. In addition, all fiscal year 1981 supplemental increases were obligated by the end of September except for $65,000 in the area of laser countermeasures. Funds were being transferred to CSL, who refused reimbursable orders until receipt of direct order. Based on funds released, a majority of the MSCs exceeded the DARCOM goal (96.1 percent of the funds released actually being obligated).

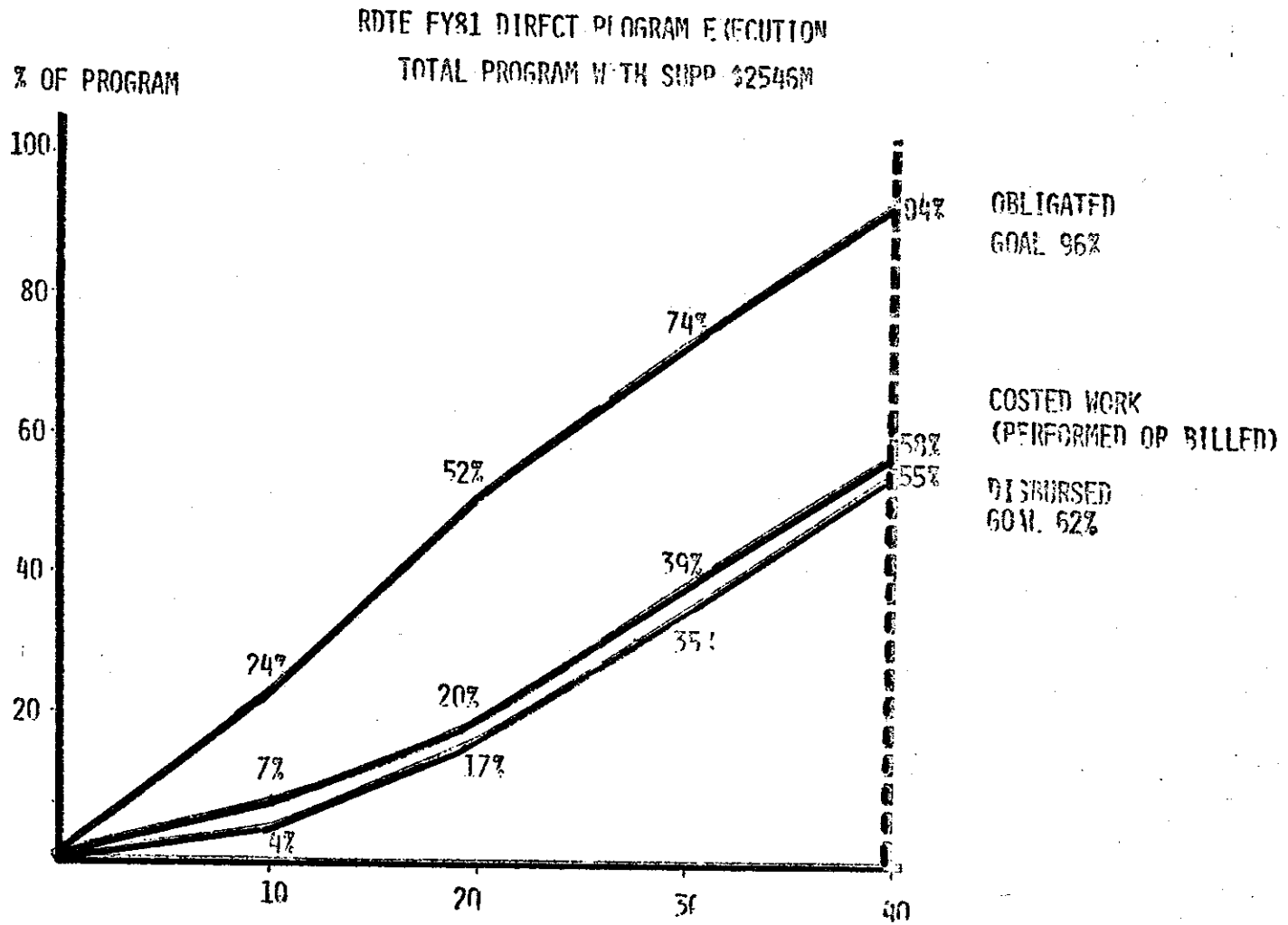

RDTE FY81 DIRECT OBLIGATIONS
DRCDE-3B
REVISED PLAN BASED ON TOTAL PROGRAM OF $2,546M
(INCLUDING SUPPLY)
$ MILLIONS
3000
2400
1800
1200
600
2186
2428
2501
2537
96%
94%
74%
72%
55%
52%
25%
24%
PROGRAM*
PLAN
ACTUAL
* ISSUED TO DARCON
1Q
2Q
3Q
4Q

DRCDE-2A LEFT

RDTE FY80 DIRECT PROGRAM EXECUTION

TOTAL PROGRAM $2329M




RDTE FY81 DIRECT PROGRAM EXECUTION
TOTAL PROGRAM WITH SUPP $2546M
% OF PROGRAM
100
80
60
40
20
10
20
30
40
94%
OBLIGATED
GOAL 96%
74%
52%
24%
58%
55%
COSTED WORK
(PERFORMED OR BILLED)
DISBURSED
GOAL 62%
39%
35%
20%
17%
7%
4%

(U) The analysis of development projects included a total of 249 projects of which 12 were red and 11 were yellow. Of the 34 initial production projects, three were red and two were yellow. The final three quarters of fiscal year 1981 saw a repeated decline in the number of projects in trouble--both development and initial production. The following table shows the principal reasons for those projects being red or yellow and the distribution of those problems by percentage in each category. Reduction of funds, difficult technical problems, user related delays, and poor cost control accounted for nearly all the difficulties encountered by both red and yellow projects. Requirements changes accounted for most of the user related problems.

PROJECT TREND ANALYSIS

DEVELOPMENT PROJECTS

CATEGORY	RED (%)				YELLOW (%)			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1. REDUCTION OF FUNDS/PRIORITIES	12	0	12	17	26	22	19	18
2. POOR QUALITY/RELIABILITY	12	6	0	0	17	9	13	10
3. DIFFICULT TECHNICAL PROBLEMS	23	25	23	17	7	22	25	18
4. USER DELAYS/REQUIREMENT CHANGES	6	25	18	32	20	17	19	18
5. DESIGN FAILURES	18	19	18	17	10	9	6	0
6. POOR COST CONTROL	23	19	23	17	3	4	0	18
7. MISCELLANEOUS	6	6	6	0	17	17	18	18
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%
	17	16	17	12	30	23	16	11

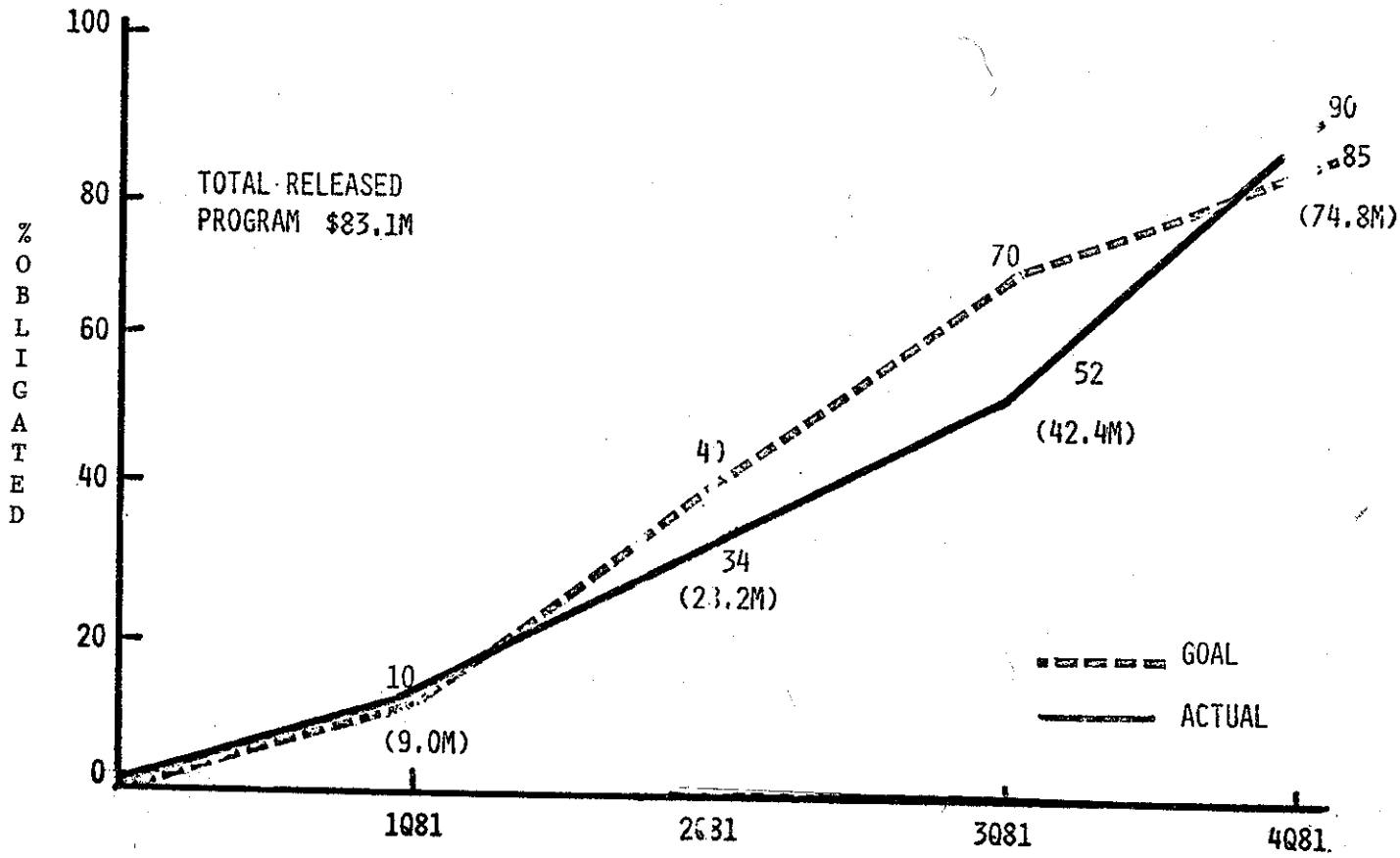
* Red - Below target or goal and no indication of future improvement.

** Yellow - Below target or goal and forecast indicated improvement would not be timely.

(U) The following chart shows the obligations of funds in the procurement funded Manufacturing Methods and Technology (MMT) and the Military Adaptation of Commercial Items (MACI) Programs. The released program on 30 September 1981 was $83.1 million consisting of $70.6 million for the MMT Program and $12.5 million for the MACI Program. Of the released program, 90 percent was obligated through the fourth quarter as against a target of 85 percent.

DIRECTORATE FOR MANUFACTURING TECHNOLOGY
MANUFACTURING METHODS AND TECHNOLOGY
MMT/MACI OBLIGATION OF FUNDS

DRCMT 5A



(U) One aspect of Project Management that was especially useful as an indicator of performance was the group of selected Acquisition Reports. This indicator received attention from the highest level of government. As of 30 September 1981, PM Directorate had submitted SARs on 16 systems (AAH, AN/TTC-39, BLACK HAWK, CH-47 MOD, COPPERHEAD, DIVAD Gun, HELLFIRE, PERSHING II, MLRS, PATRIOT, ROLAND, SOTAS,STINGER, TACFIRE, FVS, and Abrams Tank), having a total program acquisition cost (Development and Procurement) of $78.4 billion. The following charts indicate the increases and decreases for the fiscal years 79, 80, and 81. During fiscal year 1981, there was an increase of $17.5 billion (28.6 percent) notwithstanding the $3.8 billion decrease in the economy index.

COST VARIANCE CATEGORIES DEFINITIONS (DODI 7000.3)

ECONOMIC - A Change due solely to operation of the economy.

QUANTITY - A change in quantity of an end item of equipment.

SCHEDULE - A change in a procurement or delivery schedule, completion date or intermediate milestone for development or production.

ENGINEERING - An alteration in the physical or functional characteristics of a system or item delivered, to be delivered, or under development, after establishment of such characteristics.

ESTIMATING - A change in program cost due to a correction of error in preparing the PE or DE. Refinement of a prior CE, or a change in program or cost estimating assumptions and techniques not provided for in the Quantity, Engineering, Schedule, or Support Variance Categories.

SUPPORT - Any change in cost, regardless of reason, associated with a WBS element not included in Flyaway Cost. This generally includes all cost changes associated with training and training equipment, peculiar support equipment, data, operational/site activation, and initial spares and repair parts.

OTHER - A change in program cost for reasons not provided for in other cost variance categories.

SELECTED ACQUISITION REPORTS
INCREASES/DECREASES ($ IN MILLIONS)

	FY79	FY80	FY81
NUMBER OF SARS	17	17	16.5
PROGRAM COST CHANGE $ 1/	$6,886.5	$10,472.4	$17,450.3
COST CATEGORY 2/			
ECONOMIC	$ 869.1	$ 6,442.3	$-3,781.5
QUANTITY	3,858.4	-3,493.8	1,705.0
SCHEDULE	603.9	1,973.0	1,223.4
ENGINEERING	638.4	739.3	1,523.0
ESTIMATING	407.0	3,694.6	14,937.1
SUPPORT	465.7	1,117.0	1,825.2
OTHER	$ 44.0	$ 0.0	$ 18.1

1/ DOLLARS CHANGE IN TOTAL SAR PROGRAMS.
2/ DOLLARS BY CATEGORY, MAKING UP PROGRAM COST CHANGE.

SELECTED ACQUISITION REPPORTS

INCREASES/DECREASES ($ IN MILLIONS)

	1ST QTR 81 (31 DEC 80)	2ND QTR 81 (31 MAR 81)	3RD QTR 81 (30 JUN 81)	4TH QTR 81 3/ (30 SEP 81)
NUMBER OF SARS	17	17	16	16
PROGRAM COST CHANGE $ 1/	$16,324.7	$420.3	$43.2	$662.1
COST CATEGORY 2/				
ECONOMIC	$ 887.9	$-1,669.4	$ 0.0	$ 0.0
QUANTITY	175.3	1,529.7	0.0	0.0
SCHEDULE	3,413.9	-1,920.4	-153.6	-116.5
ENGINEERING	961.2	281.2	-3.6	284.2
ESTIMATING	10,054.8	4,321.1	131.7	429.5
SUPPORT	831.6	878.1	68.7	46.8
OTHER	$ 0.0	$ 0.0	$ 0.0	$ 18.1

1/ DOLLARS CHANGE IN TOTAL SAR PROGRAMS.

2/ DOLLARS BY CATEGORY, MAKING UP PROGRAM COST CHANGE.

3/ DATA ADJUSTED TO REFLECT TERMINATION OF THE M198 SAR AS OF 31 MAR 81.

(U) The primary reasons for the changes which occurred in fiscal year 1981 were:

ECONOMIC. No change.

QUANTITY. No change.

SCHEDULE. Revised delivery schedule based on first M1E1 in August 1985.

ENGINEERING. R&D funding for PIPs Hybrid NBC, weight reduction suspension and transmission upgrades.

ESTIMATING. BLACK HAWK - Revised cost estimate based on analysis of airframe contractor's performance on first three production and engine contractor's fiscal year 1982 production contract proposal.

M1 Tank - Revised estimates for IPF, tooling, systems technical support and test equipment.

SUPPORT. AN/TTC-39 - Addition of SPA manuals for production.
BLACK HAWK - Revised estimate for ground support equipment.
TACFIRE - Decrease in fiscal year 1982 spare requirements.
M1 Tank - Increased auxiliary services and spares, reduced training equipment cost.

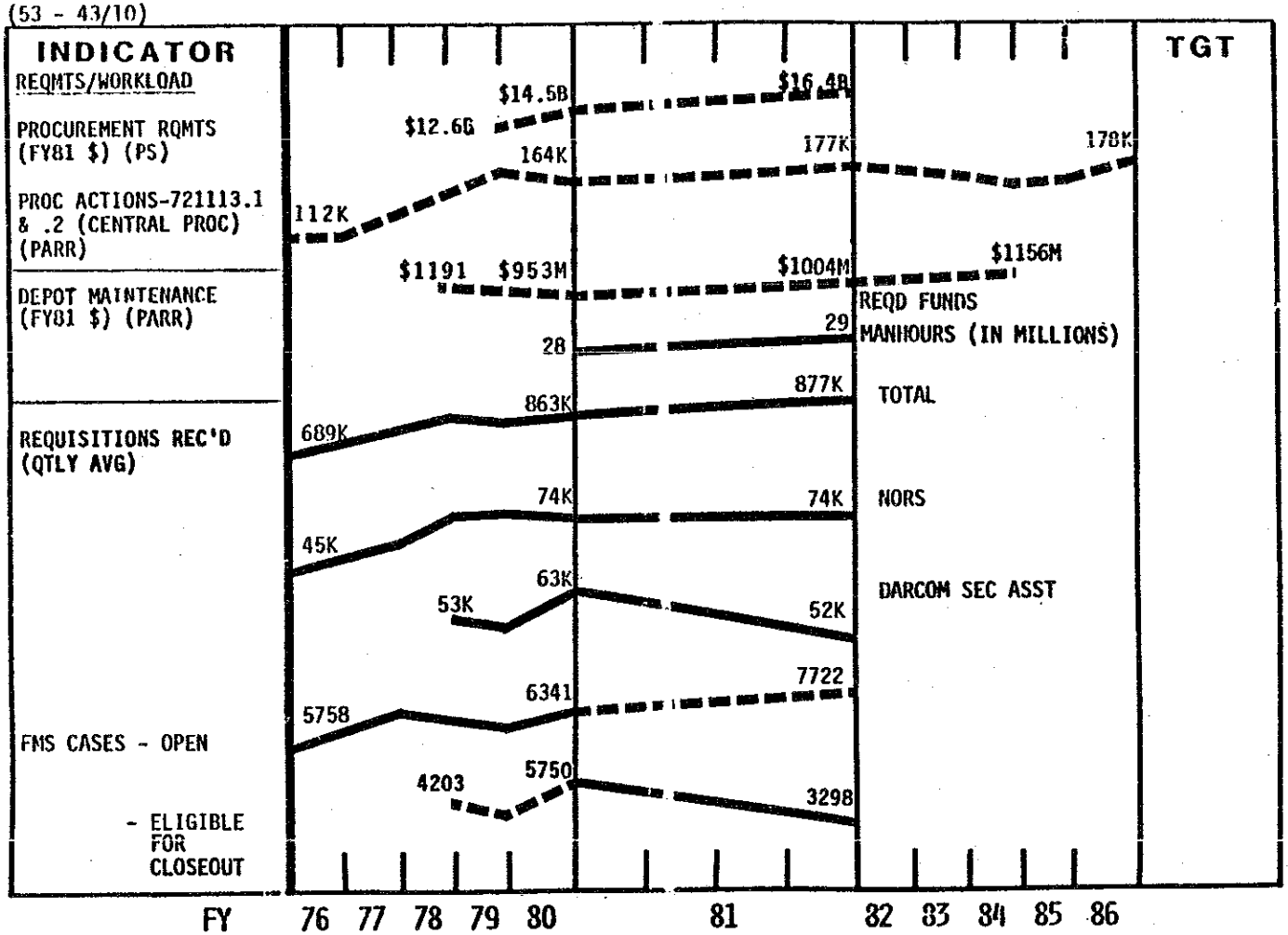
OTHER MLRS - Addition of cost resulting from the impact of FMC stride.

Readiness

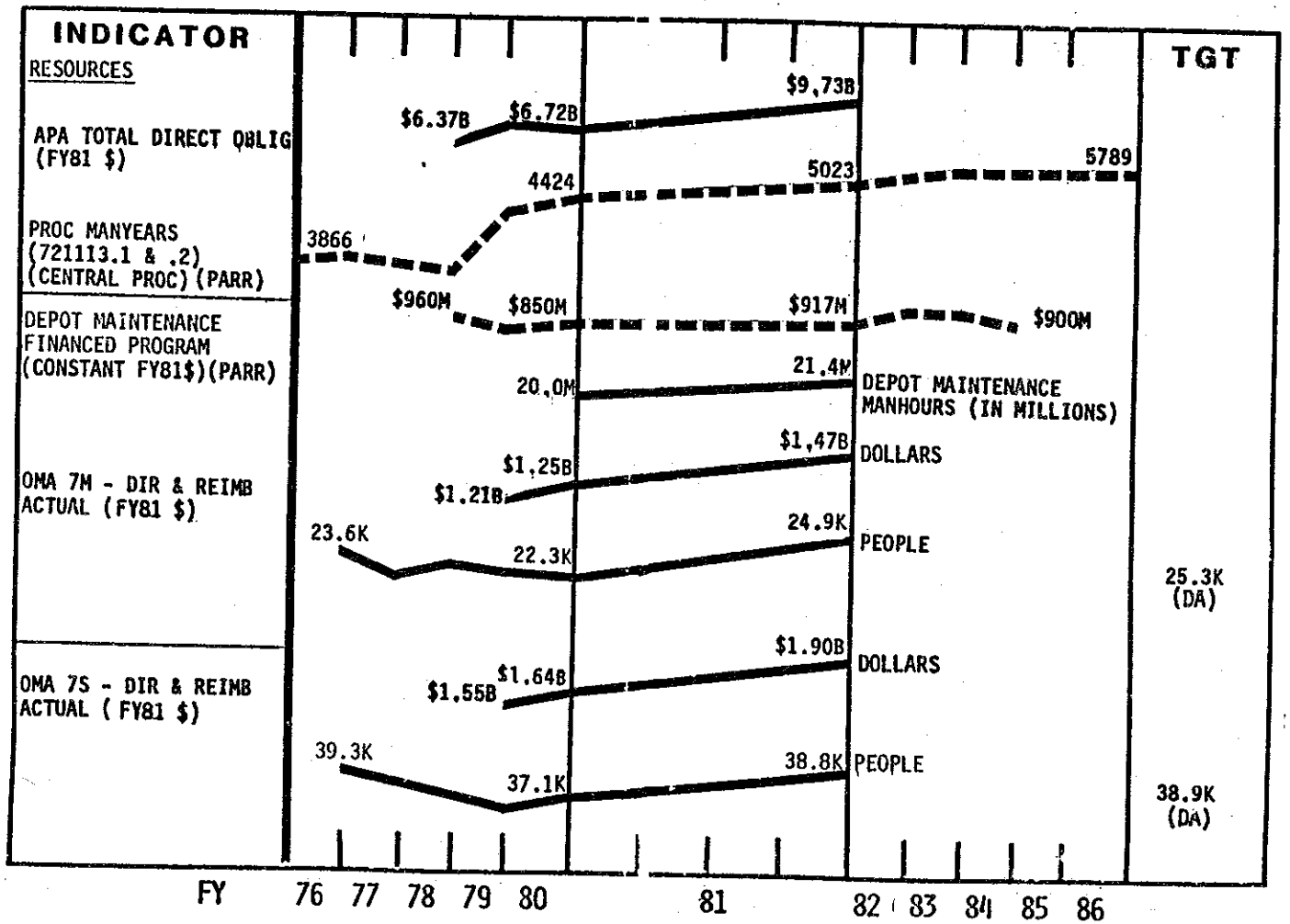
(FOUO) The challenges faced by the Directorate for Readiness increased during fiscal year 1981, but so too did the response of the Directorate to those challenges. The requirements workload area grew as procurement actions, depot maintenance, and requisitions all advanced. Resources too increased as the various dollar and people indicators climbed. In management the number of letter contracts diminished, the PACT improved, the procurement and maintenance backlog dropped, and all of the supply indicators either climbed or were above target with the single exception of ALOC Europe. In performance the procurement actions completed increased, first article testing was up, maintenance completion rate exceeded target levels, and stock availability level/backorders went down. The following series of charts itemize these developments.

READINESS

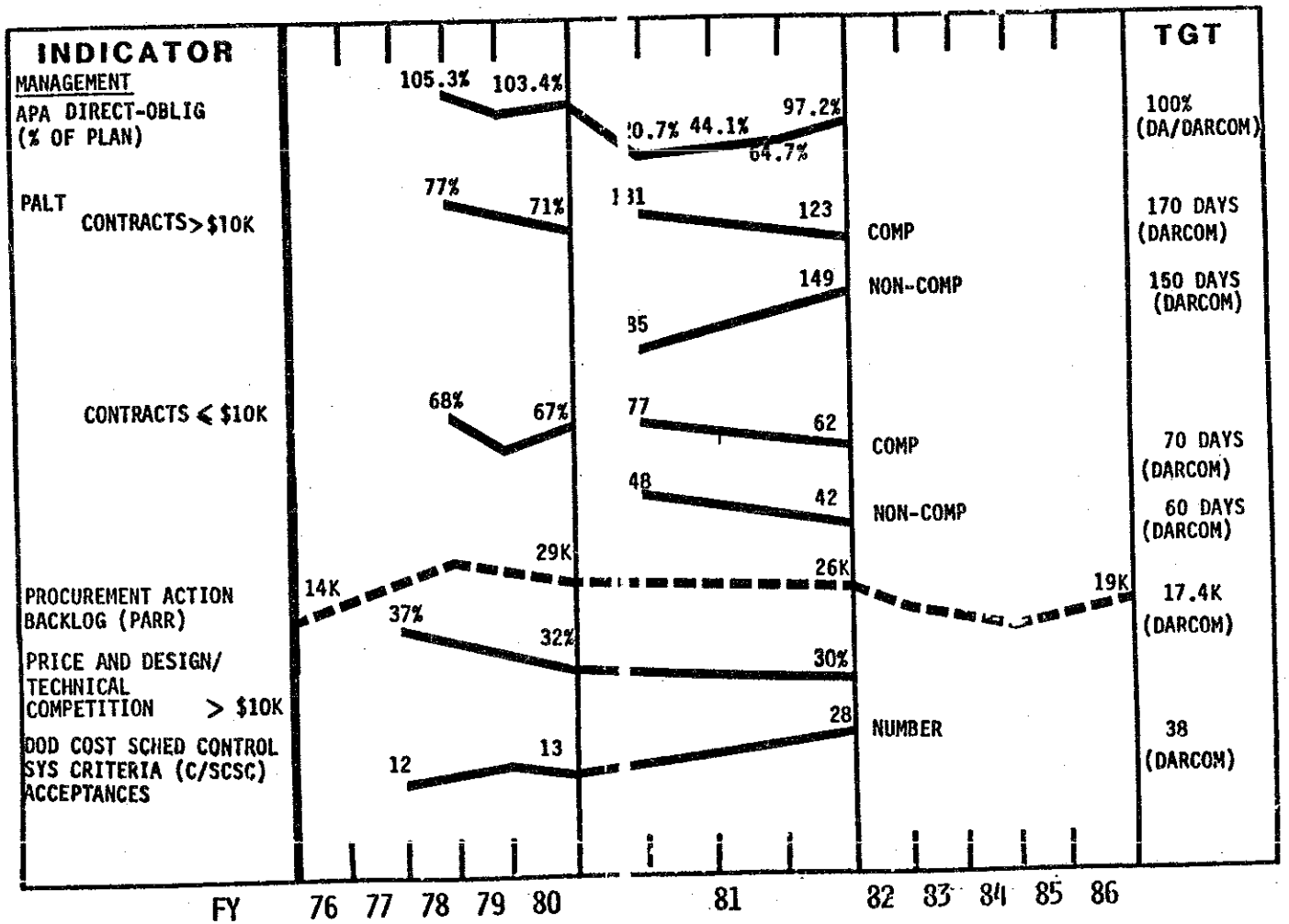
(53 - 43/10)



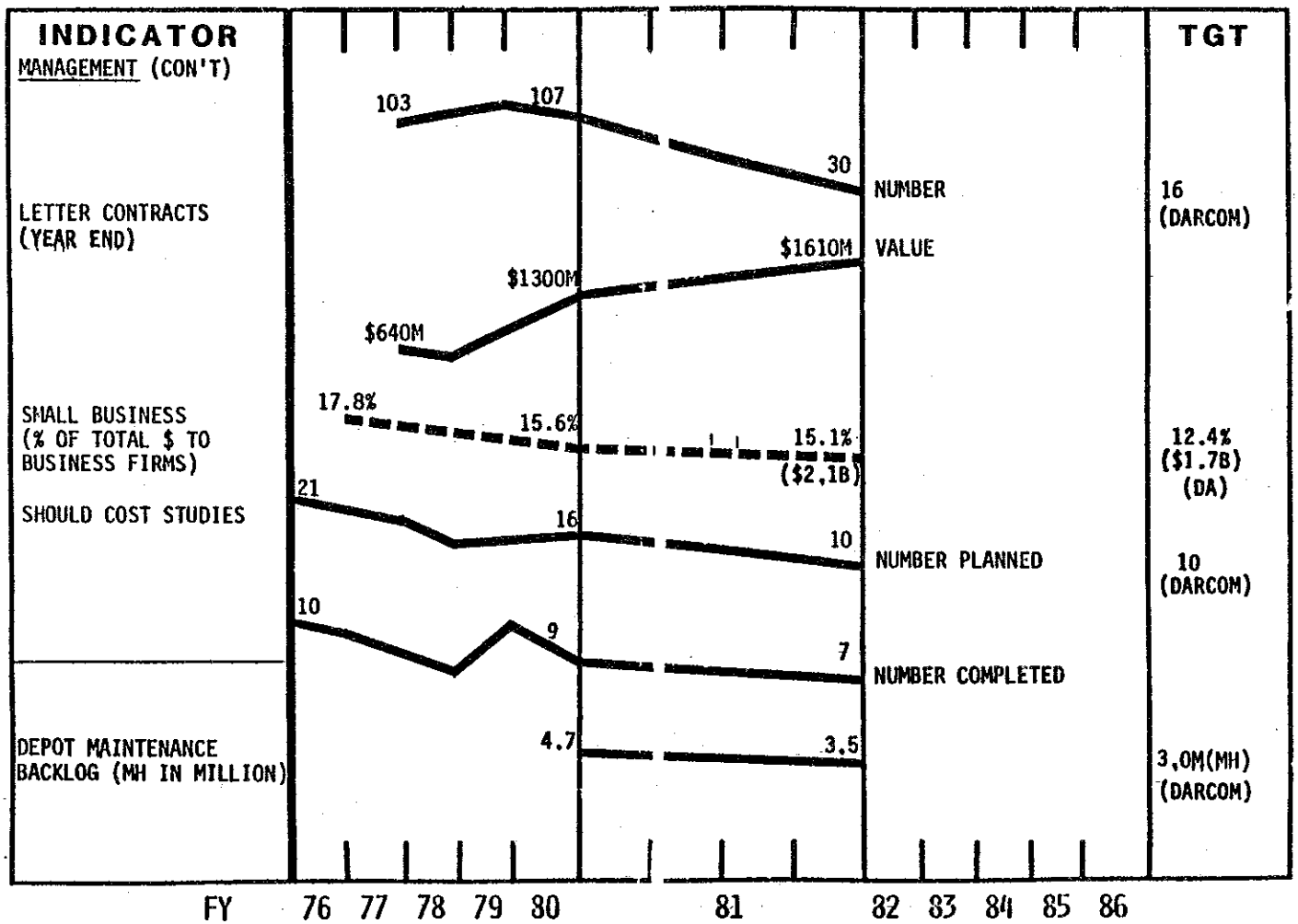
READINESS


INDICATOR
RESOURCES
APA TOTAL DIRECT OBLIG (FY81 $)
PROC MANYEARS (721113.1 & .2) (CENTRAL PROC) (PARR)
DEPOT MAINTENANCE FINANCED PROGRAM (CONSTANT FY81$)(PARR)
OMA 7M - DIR & REIMB ACTUAL (FY81 $)
OMA 7S - DIR & REIMB ACTUAL (FY81 $)
TGT
$6.37B
$6.72B
$9.73B
4424
5023
5789
3866
$960M
$850M
$917M
$900M
20.0M
21.4M
DEPOT MAINTENANCE MANHOURS (IN MILLIONS)
$1.21B
$1.25B
$1.47B
DOLLARS
23.6K
22.3K
24.9K
PEOPLE
25.3K (DA)
$1.55B
$1.64B
$1.90B
DOLLARS
39.3K
37.1K
38.8K
PEOPLE
38.9K (DA)
FY
76
77
78
79
80
81
82
83
84
85
86

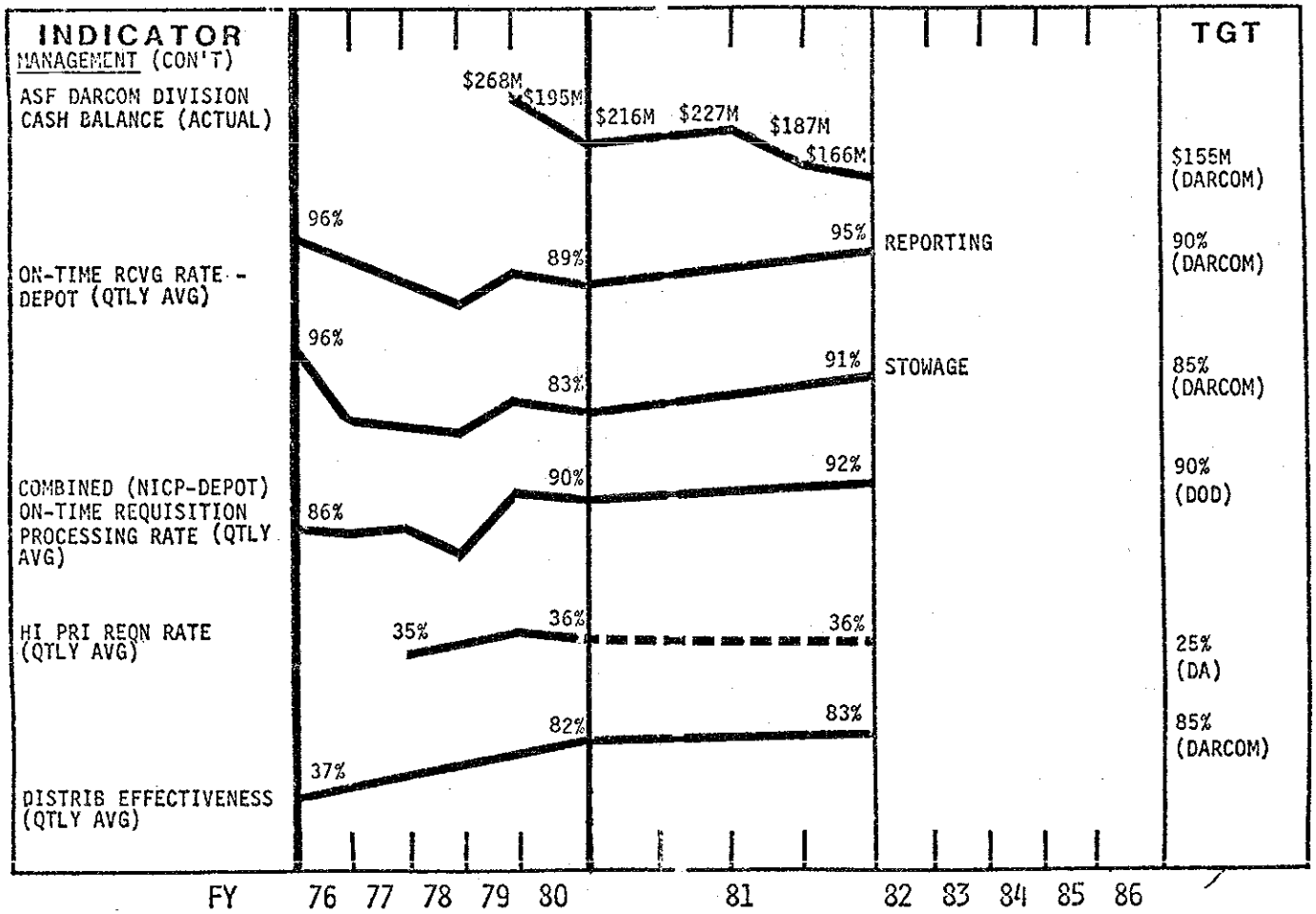
READINESS


INDICATOR
MANAGEMENT
APA DIRECT-OBLIG (% OF PLAN)
PALT
CONTRACTS>$10K
CONTRACTS ≤ $10K
PROCUREMENT ACTION BACKLOG (PARR)
PRICE AND DESIGN/ TECHNICAL COMPETITION > $10K
DOD COST SCHED CONTROL SYS CRITERIA (C/SCSC) ACCEPTANCES
105.3%
103.4%
0.7%
44.1%
97.2%
64.7%
77%
71%
131
123
149
35
68%
67%
77
62
48
42
14K
29K
26K
19K
37%
32%
30%
12
13
28
COMP
NON-COMP
COMP
NON-COMP
NUMBER
TGT
100% (DA/DARCOM)
170 DAYS (DARCOM)
150 DAYS (DARCOM)
70 DAYS (DARCOM)
60 DAYS (DARCOM)
17.4K (DARCOM)
38 (DARCOM)
FY 76 77 78 79 80 81 82 83 84 85 86

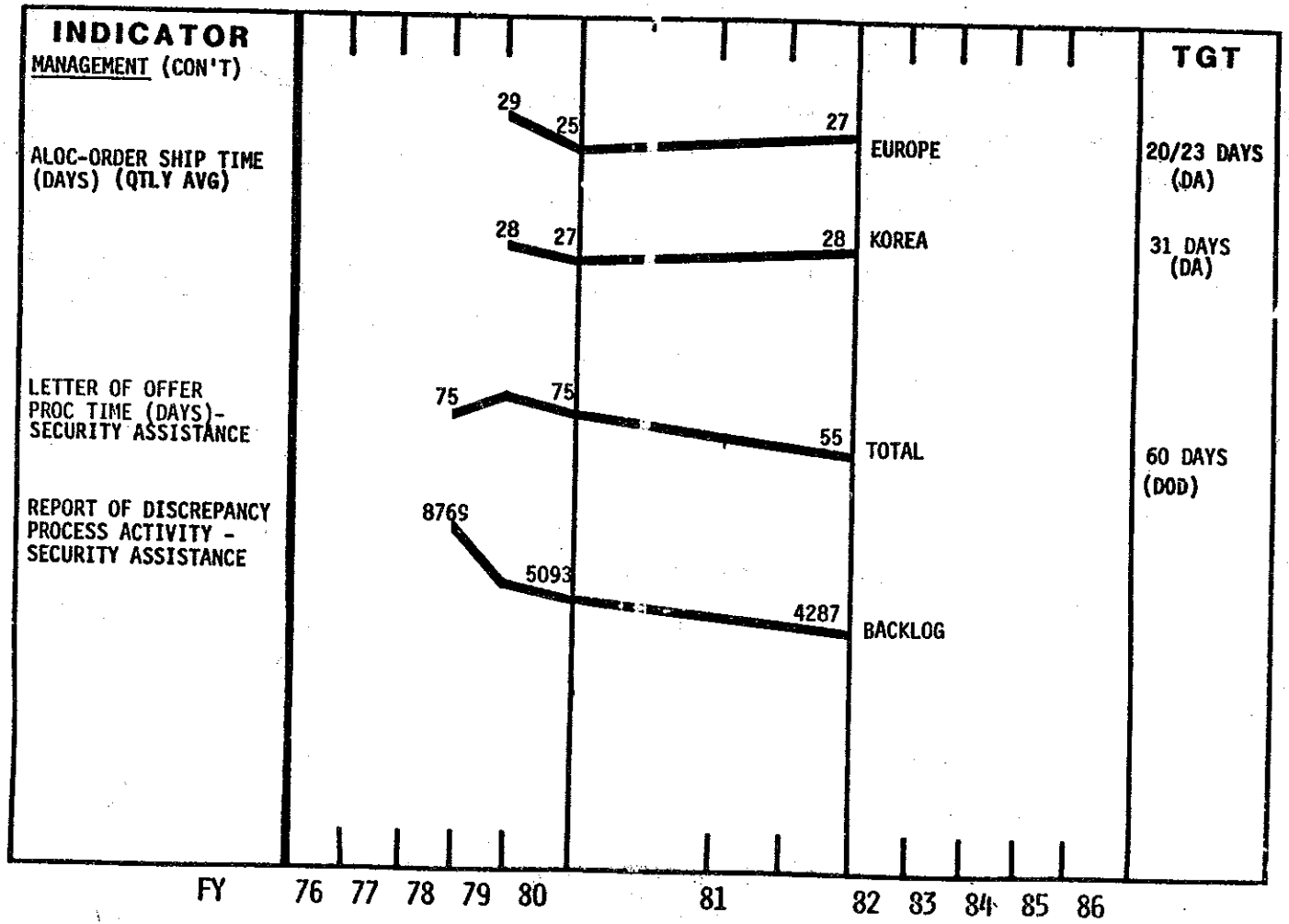
READINESS


INDICATOR
MANAGEMENT (CON'T)
LETTER CONTRACTS (YEAR END)
SMALL BUSINESS (% OF TOTAL $ TO BUSINESS FIRMS)
SHOULD COST STUDIES
DEPOT MAINTENANCE BACKLOG (MH IN MILLION)
103
107
30
NUMBER
$640M
$1300M
$1610M
VALUE
17.8%
15.6%
15.1%
($2.1B)
21
16
10
NUMBER PLANNED
10
9
7
NUMBER COMPLETED
4.7
3.5
TGT
16 (DARCOM)
12.4% ($1.7B) (DA)
10 (DARCOM)
3.0M(MH) (DARCOM)
FY
76 77 78 79 80 81 82 83 84 85 86

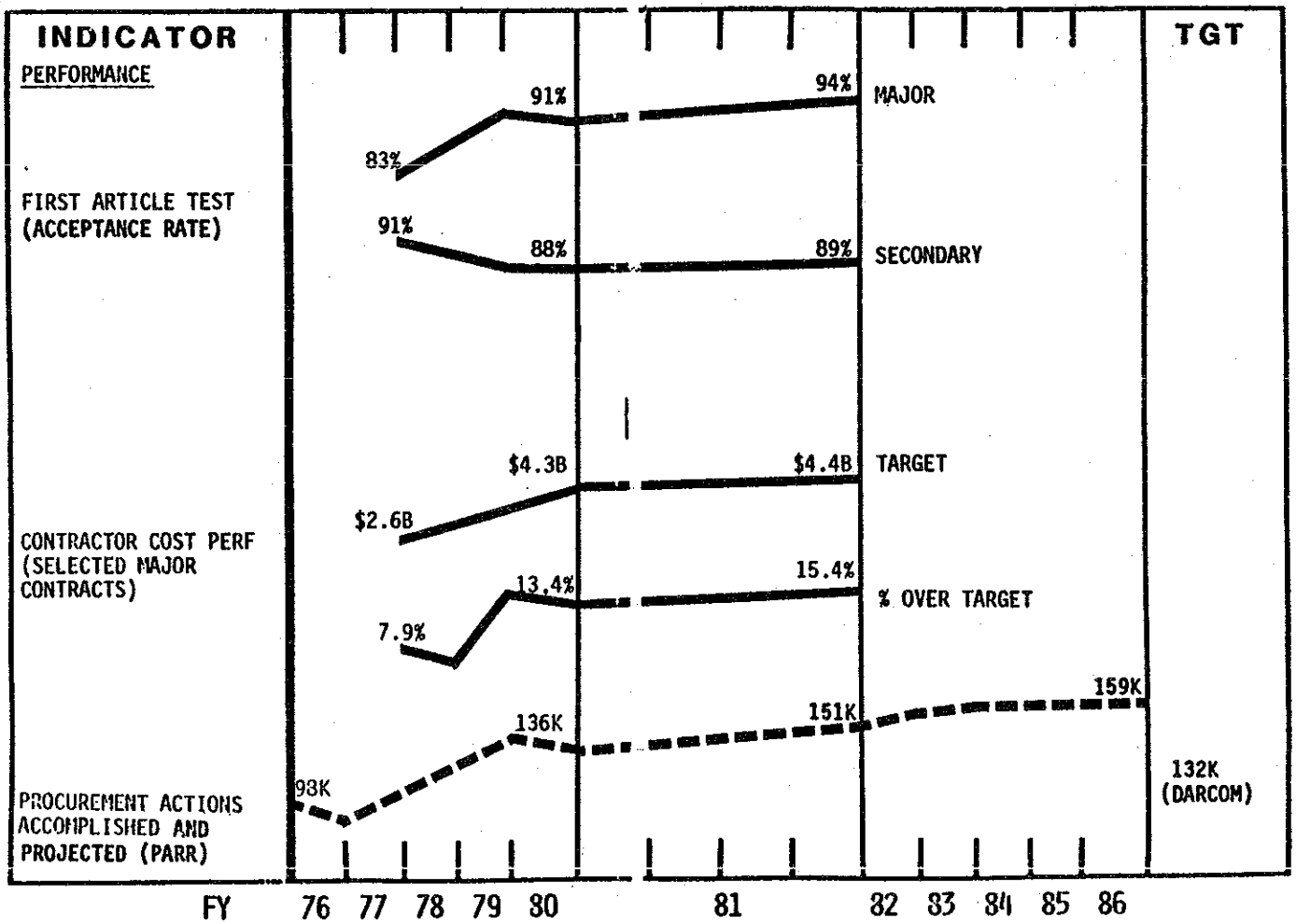
READINESS


INDICATOR
MANAGEMENT (CON'T)
TGT
ASF DARCOM DIVISION CASH BALANCE (ACTUAL)
$268M
$195M
$216M
$227M
$187M
$166M
$155M (DARCOM)
ON-TIME RCVG RATE - DEPOT (QTLY AVG)
96%
89%
95%
REPORTING
90% (DARCOM)
96%
83%
91%
STOWAGE
85% (DARCOM)
COMBINED (NICP-DEPOT) ON-TIME REQUISITION PROCESSING RATE (QTLY AVG)
86%
90%
92%
90% (DOD)
HI PRI REQN RATE (QTLY AVG)
35%
36%
36%
25% (DA)
DISTRIB EFFECTIVENESS (QTLY AVG)
37%
82%
83%
85% (DARCOM)
FY
76
77
78
79
80
81
82
83
84
85
86

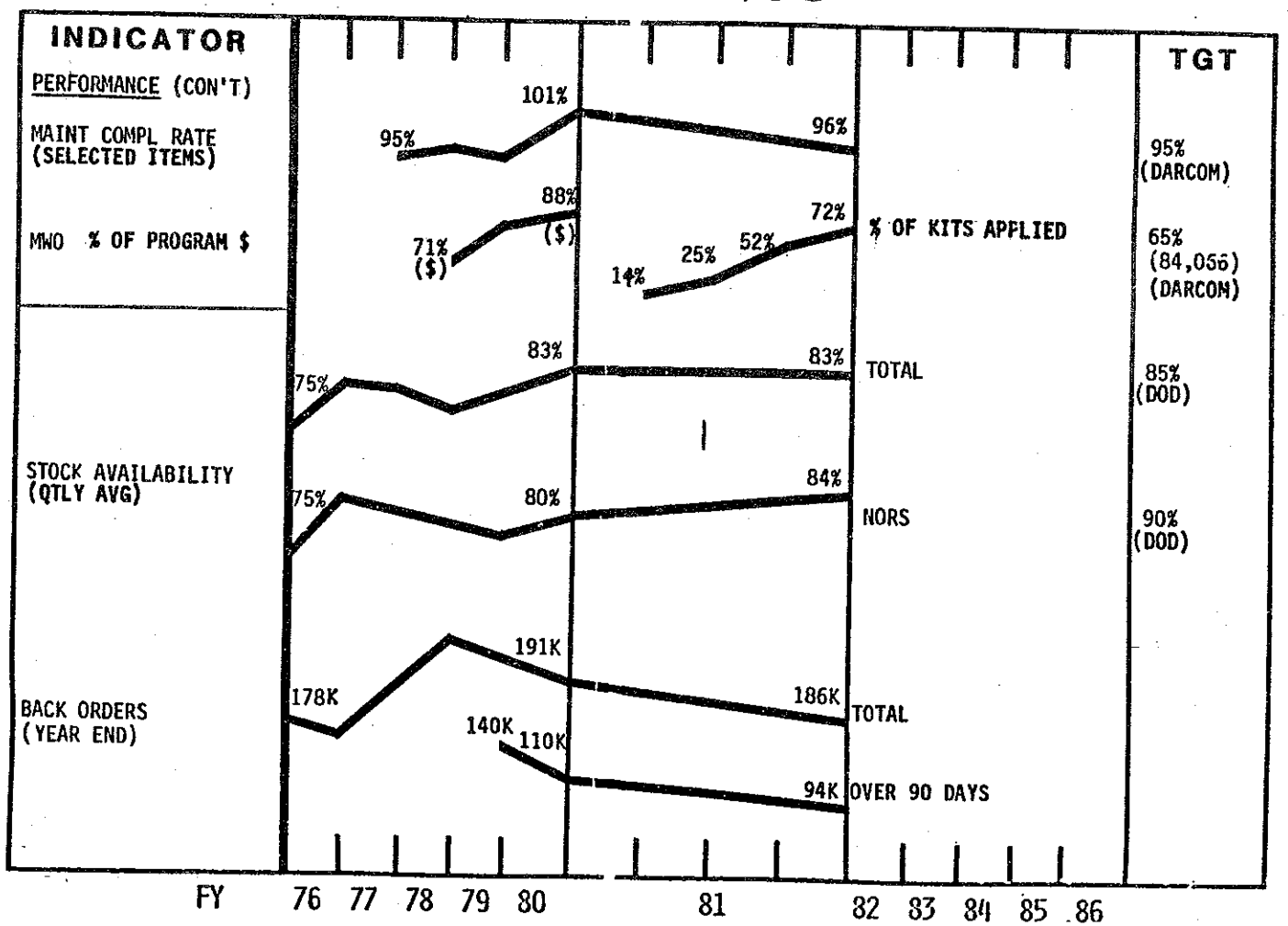
READINESS


INDICATOR
MANAGEMENT (CON'T)
ALOC-ORDER SHIP TIME (DAYS) (QTLY AVG)
LETTER OF OFFER PROC TIME (DAYS)- SECURITY ASSISTANCE
REPORT OF DISCREPANCY PROCESS ACTIVITY - SECURITY ASSISTANCE
29
25
27
EUROPE
28
27
28
KOREA
75
75
55
TOTAL
8769
5093
4287
BACKLOG
TGT
20/23 DAYS (DA)
31 DAYS (DA)
60 DAYS (DOD)
FY
76
77
78
79
80
81
82
83
84
85
86

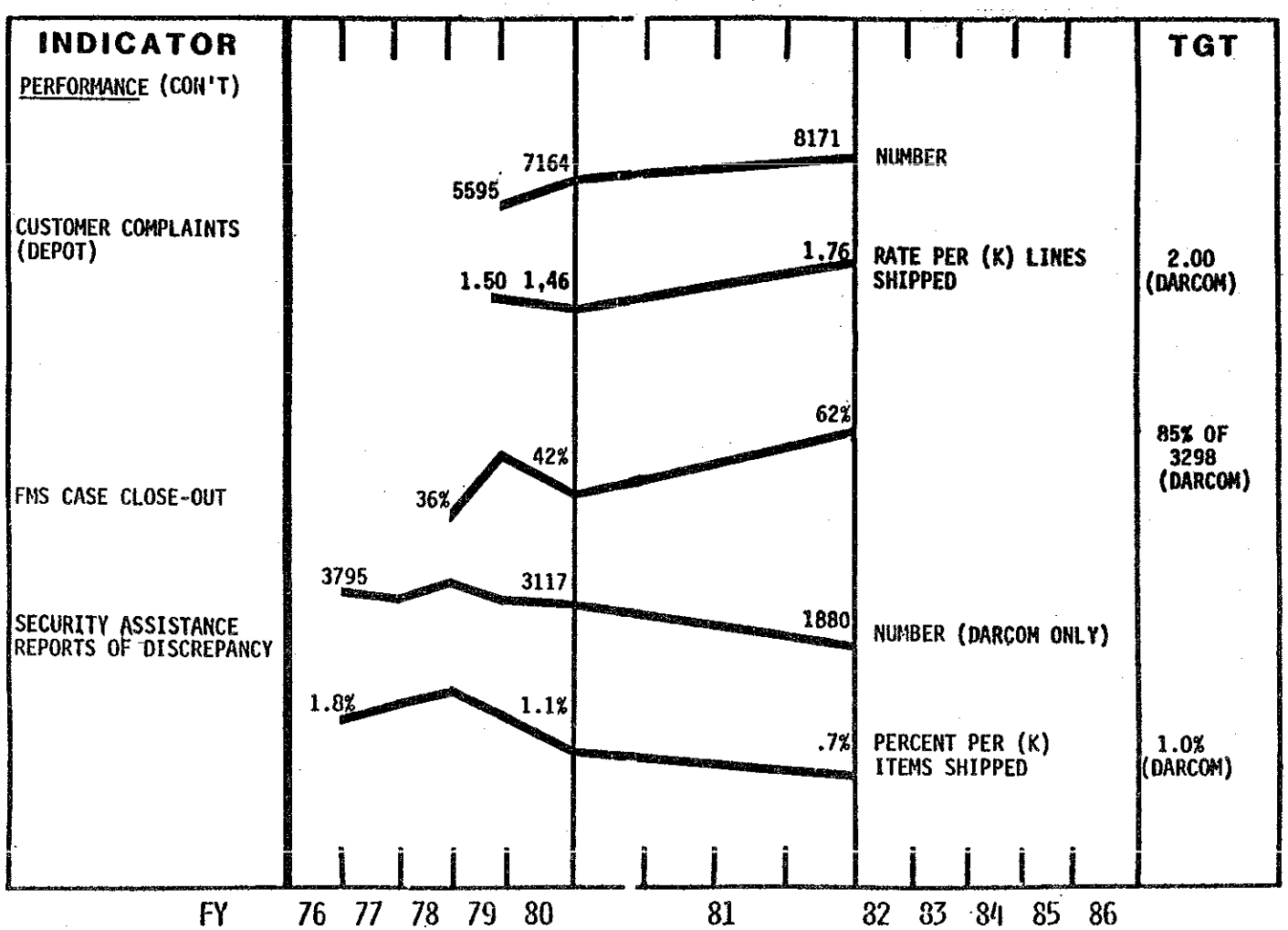
READINESS


INDICATOR
TGT
PERFORMANCE
FIRST ARTICLE TEST (ACCEPTANCE RATE)
83%
91%
91%
88%
94%
89%
MAJOR
SECONDARY
CONTRACTOR COST PERF (SELECTED MAJOR CONTRACTS)
$2.6B
$4.3B
$4.4B
TARGET
7.9%
13.4%
15.4%
% OVER TARGET
PROCUREMENT ACTIONS ACCOMPLISHED AND PROJECTED (PARR)
93K
136K
151K
159K
132K (DARCOM)
FY
76
77
78
79
80
81
82
83
84
85
86

READINESS


INDICATOR
PERFORMANCE (CON'T)
MAINT COMPL RATE (SELECTED ITEMS)
MWO % OF PROGRAM $
STOCK AVAILABILITY (QTLY AVG)
BACK ORDERS (YEAR END)
TGT
95% (DARCOM)
65% (84,056) (DARCOM)
85% (DOD)
90% (DOD)
95%
101%
96%
71% ($)
88% ($)
14%
25%
52%
72%
% OF KITS APPLIED
75%
83%
83%
TOTAL
75%
80%
84%
NORS
178K
191K
186K
TOTAL
140K
110K
94K
OVER 90 DAYS
FY
76
77
78
79
80
81
82
83
84
85
86

READINESS


INDICATOR
TGT
PERFORMANCE (CON'T)
CUSTOMER COMPLAINTS (DEPOT)
5595
7164
8171
NUMBER
1.50
1.46
1.76
RATE PER (K) LINES SHIPPED
2.00 (DARCOM)
FMS CASE CLOSE-OUT
36%
42%
62%
85% OF 3298 (DARCOM)
SECURITY ASSISTANCE REPORTS OF DISCREPANCY
3795
3117
1880
NUMBER (DARCOM ONLY)
1.8%
1.1%
.7%
PERCENT PER (K) ITEMS SHIPPED
1.0% (DARCOM)
FY
76
77
78
79
80
81
82
83
84
85
86

(U) One important aspect of the readiness effort was the attempt to keep costs down through competition. Competitive actions and dollars, for the major subordinate commands, remained rather stable for fiscal year 1977 through fiscal year 1981. The major difference in the percentage of competition between commands derived from the commodities they were buying. For example, there were more electronic sources than there were missile sources; therefore, CECOM would continue to fair better competitively than MICOM. In fact, CECOM had experienced an upward trend and MICOM had been steadily decreasing their proportions of competitive dollars. The following charts break down this trend in competition by command.

COMPETITION

FY 81

ACTIONS OVER $10,000

ACTIVITY	TOTAL ACTIONS	COMPETITIVE ACTIONS	% COMP. FY 81	PERCENT OF COMPETITION FY80	FY79	FY78	FY77
ARRCOM	3,658	3,543	97	90	96	97	87
CECOM	2,771	2,245	76	80	84	56	53
TECOM	1,199	906	76	70	85	80	85
TACOM	5,536	5,370	97	91	94	97	99
MICOM	4,916	1,811	37	41	55	58	46
TSARCOM	3,648	1,604	44	48	47	47	34
ARRADCOM	1,063	537	51	52	41	44	36
ERADCOM	993	308	31	33	30	--	--
AVRADCOM	429	155	36	48	42	40	10
NLABS	197	126	64	65	74	60	59
MERADCOM	968	464	48	45	44	41	43

COMPETITION

FY 81

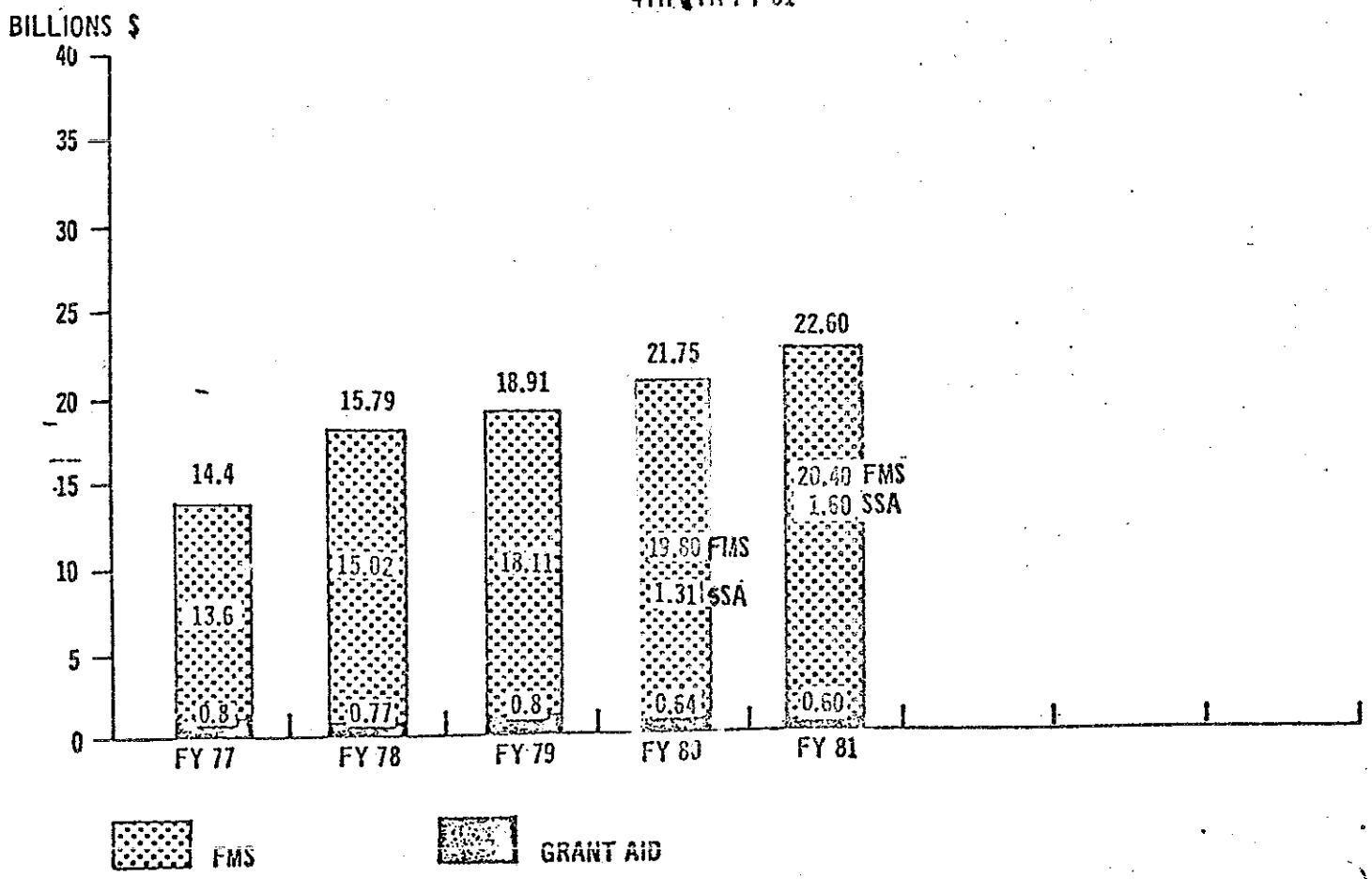
DOLLARS OVER $10,000 (DOLLARS IN $000)

ACTIVITY	TOTAL DOLLARS	COMPETITIVE DOLLARS	% COMP FY81	PERCENT OF COMPETITION FY80	FY79	FY78	FY77
ARRCOM	2,474,044	769,174	31	31	28	28	35
CECOM	608,780	395,126	65	60	77	43	39
TECOM	140,393	103,151	73	69	69	71	85
TACOM	3,940,226	1,167,624	30	41	57	52	45
MICOM	2,692,974	293,930	11	14	16	23	29
TSARCOM	935,356	396,877	42	29	24	26	33
ARRADCOM	655,790	308,974	47	24	32	27	12
ERADCOM	676,834	134,503	20	36	36	--	--
AVRADCOM	950,330	264,953	28	63	65	57	49
NLABS	14,772	9,681	66	48	54	70	71
MERADCOM	280,731	89,622	32	27	20	25	35

(U) Moreover, the Readiness Directorate (Procurement and Production), in connection with OSD's initiative No. 32, "Increase Competition in the Acquisition Process," proposed the naming of a competition advocate at each major subordinate command, who would challenge the competitive nature of each procurement. The command also sought to encourage component breakout where it would increase opportunities for competition and where such was practical. It should be noted also that while the command required prime contractors to use the same competitive procedures for sub-contracting as required of it, that competition did not show on the official measures of competition.

(U) In the Security Assistance Center there was a net increase in the Foreign Military Sales/Supply Support arrangmenets portion of the SAC open active program during fiscal year 1981 of $1.34 billion which reflected new cases received during the year ($2.08 billion) as adjusted by the program value of cases closed ($.74 billion) under the FMS case closeout program. The following chart reflects the open active program in FY 1981 dollars for Security Assistance from fiscal year 1977 through fiscal year 1981. The $22.6 billion was composed of $20.4 billion in open FMS cases, $1.6 billion in cooperative logistics supply support arrangements, and $6 billion in grant aid.

US ARMY SA PROGRAM TREND
OPEN ACTIVE PROGRAM VALUE
4TH QTR FY 81



SOURCE: RCS CSGLD-1395, PART 8; DRSIL-128 REPORT

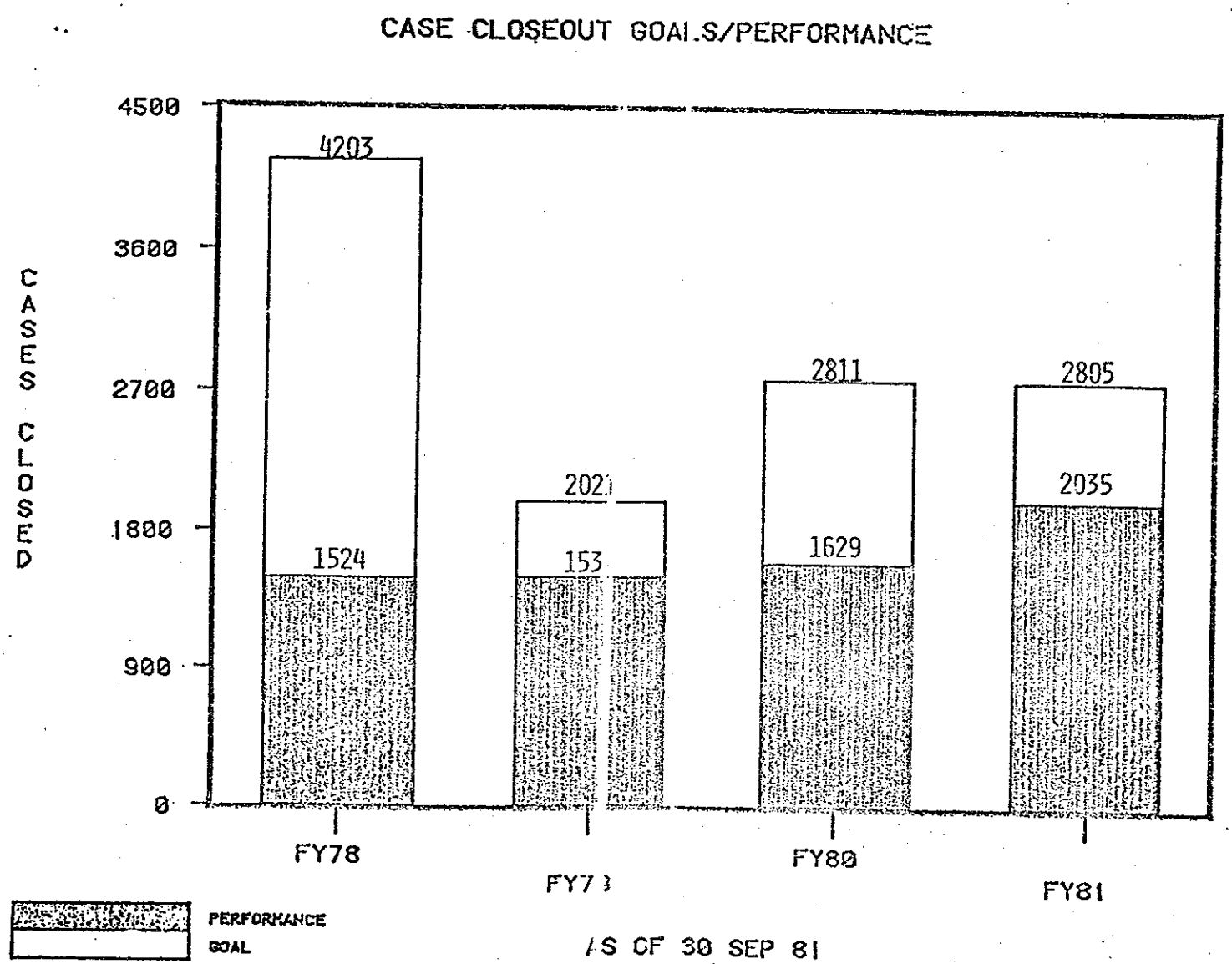
(U) The seven largest country programs of Security Assistance were identified on the following chart. Each open program is shown in billions of dollars. The Saudi program is separated into the Saudi Arabian Land Forces (SALF) and Saudi Arabia National Guard (SANG).

LARGEST COUNTRY PROGRAMS
4TH QTR FY 81

COUNTRY	OPEN PROGRAM VALUE (BILLION $)
ISRAEL	3.0
SAUDI ARABIA	2.0
SAUDI ARABIA NATIONAL GUARD	1.9
EGYPT	1.4
JORDAN	1.3
KOREA	1.1
GERMANY	1.0

(U) There was also a significant increase in FMS new business (generated from amendments and modification to prior year cases and new orders). During the year 1319 new cases, totaling $1.62 billion and 1671 amendments and modifications totaling $.46 billion were implemented and added to the data base. The grant aid new business of $50 million was included in the fiscal year 1981 program for six countries (Sudan, Portugal, Philippines, El Salvador, Spain, and Liberia). New FMS business in fiscal year 1981 decreased by $1.44 billion when compared with fiscal year 1980. Five countries accounted for the majority of the decrease. Egypt's program peaked in fiscal year 1980, declined by $.9 billion in fiscal year 1981 and accounted for 63 percent of the total decrease. This was predictable after the new equipment cases implemented in fiscal year 1980 over the "build-up". Germany, Morocco, Thailand, and Taiwan's programs all declined by over $100 million each. These countries had major weapons cases in fiscal year 1980 with a decline in fiscal year 1981. Germany experienced internal monetary problems. The rest of the countries' programs were relatively stable.

(U) In case closeout performance in Security Assistance, there was an increase of 406 cases in fiscal year 1981 over fiscal year 1980. The efforts of the USASAC case closeout team, and increased emphasis by DARCOM and non-DARCOM activities resulted in 2035 certificates being submitted to SAAC for fiscal year 1981. This represented the largest number of cases certified to SAAC since the case closeout program began in fiscal year 1974. In addition, 237 cases were closed and being certified at USASAC, and 346 estimated US actual cases were awaiting Defense Security Assistance Agency guidance for closure. Counting these cases, the goal would be 97 percent accomplished. The following graph indicates this closeout performance.


CASE CLOSEOUT GOALS/PERFORMANCE
CASES CLOSED
4500
3600
2700
1800
900
0
4203
1524
2021
153
2811
1629
2805
2035
FY78
FY79
FY80
FY81
PERFORMANCE
GOAL
AS OF 30 SEP 81

(U) The development in Small Business Set-Aside efforts was plain: DARCOM exceeded the small business set-aside goal and virtually every command exceeded the individual goals. This chart indicates the breakdown by commands.

SMALL BUSINESS SET-ASIDE AWARDS
($ MILLIONS)

COMMAND	FY 81 GOAL	FY 81 PERFORMANCE
ARRCOM	121.9	161.6
CECOM	89.9	96.4
MICOM	58.6	65.9
TACOM	156.4	188.7
TECOM	17.2	43.7
TSARCOM	63.1	136.3
ARRADCOM	10.8	21.9
AVRADCOM	5.3	1.5
ERADCOM	1.5	3.0
MERADCOM	11.0	15.9
NLABS	1.5	3.6
DESCOM	38.0	95.0
OTHER ACTIVITIES	10.8	10.6
DARCOM TOTAL	586.0	847.7

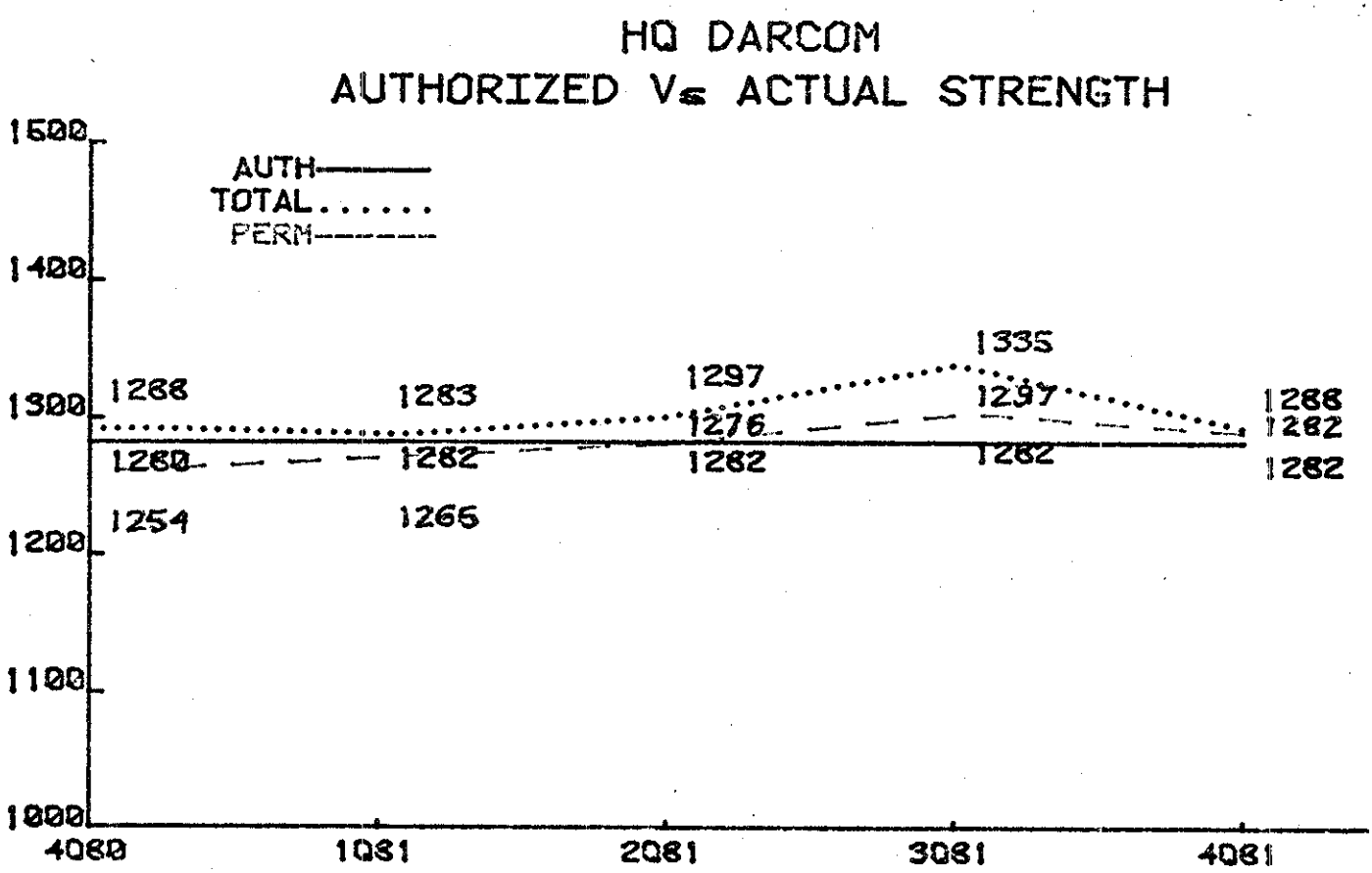
(U) Another chart reflects the awards that small businesses won in open competition. The other small business awards category represents the difference between the total awards to small business and the awards set aside for small business. DARCOM exceeded the dollar awards needed in this area.

OTHER SMALL BUSINESS AWARDS
($ MILLIONS)

COMMAND	FY 81 GOAL	FY 81 PERFORMANCE
ARRCOM	231.4	274.5
CECOM	74.3	119.9
MICOM	78.8	64.3
TACOM	245.5	218.2
TECOM	37.1	17.6
TSARCOM	28.0	59.0
ARRADCOM	33.7	45.5
AVRADCOM	1.9	3.5
ERADCOM	45.3	30.9
MERADCOM	27.8	18.8
NLABS	3.8	3.8
DESCOM	52.6	25.5
OTHER ACTIVITIES	12.4	18.0
DARCOM TOTAL	872.6	899.5

Staff Elements

(U) Personnel/Manpower. The following four charts indicate (1) HQ, DARCOM authorized US actual strength; (2) DARCOM commissioned officer strength, assigned versus authorized; (3) enlisted strength, assigned versus authorized; and (4) the status of senior level civilian positions. These charts indicate the persistent inability of DARCOM to operate at 100 percent of the manpower actually authorized.

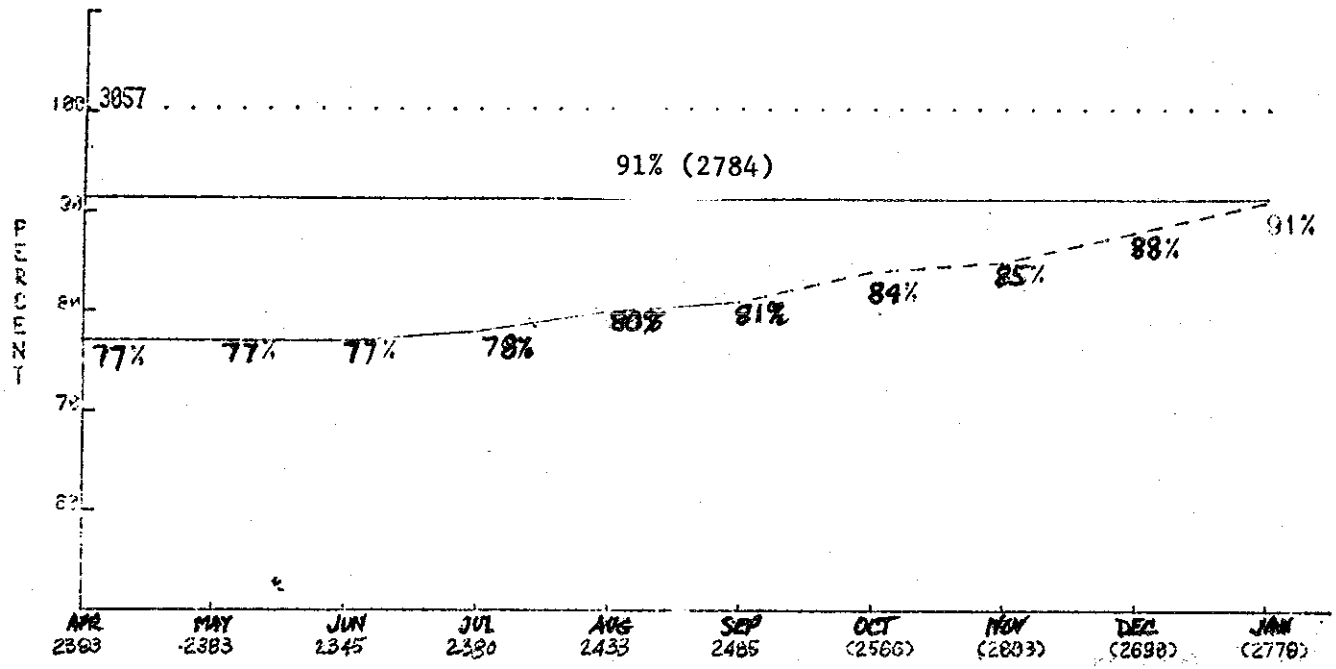


AUTH	1280	1282	1282	1282	1282
TOTAL	1288	1283	1297	1335	1288
%FILL	101	100	101	104	100
PERM	1254	1265	1276	1297	1282
%FILL	98	99	100	101	100

ACTUAL

ORGANIZATION	AUTHORIZED	PERM	TMP	OVERHIRE	TOTAL	FILL RATE%
COMMAND GRP & SPT STAFF						
COMMAND COUNSEL	47	39		(1)	39	82
D. MGT INFO SYS	68	67		(4)	67	99
PUBLIC AFFAIRS	13	13			13	100
SAFETY OFFICE	12	13			13	100+
D. PROD ASSURANCE	36	36		(3)	36	100
OTHER (-10 AUTHORIZED)	63	56	1	(6)	57	100+
SUB TOTAL	240	224	1	(14)	225	97
DCGMR						
D. MATERIEL MANAGEMENT	153	155	1	(10)	156	100+
D. READINESS	76	78		(4)	78	100+
D. PROCUREMENT & PRODUCTION	98	109	1	(12)	110	100+
D. PLANS, DOCT & SYSTEMS	47	52		(4)	52	100+
OTHER (-10 AUTHORIZED)	15	16			16	100+
SUB TOTAL	389	410	2	(30)	412	100+
DCGRM						
OFC DCGRM	15	15		(1)	15	100
OFC OF COMPTROLLER	242	242	2	(14)	244	100+
D. PT&FD	114	108	1	(6)	109	96
D. PLANS & ANALYSIS	49	50		(3)	50	100+
D. INSTALLATION & SERVICES	47	49		(8)	49	100+
SUB TOTAL	467	464	5	(32)	467	100
DCGMD						
D. DEV & ENGR	92	88		(6)	88	96
OFC OF PROJ MGMT	22	23			23	100+
OFC OF INTL R&D	19	20		(6)	20	100+
OFC OF PROD IMPROVEMENT	14	13			13	93
OFC OF MANUFACTURING TECH	15	16		(1)	16	100+
OFC OF LAB DEV CMD MGMT	9	10			10	100+
OTHER (-10 AUTHORIZED)	15	14			14	93
SUB TOTAL	186	184		(13)	184	99
TOTAL HQ ACTIVITIES	1282	1282	8	(89)	1288	100+

COMMISSIONED OFFICER STRENGTH
ASSIGNED Vs AUTHORIZED
End 4th Qtr FY 81



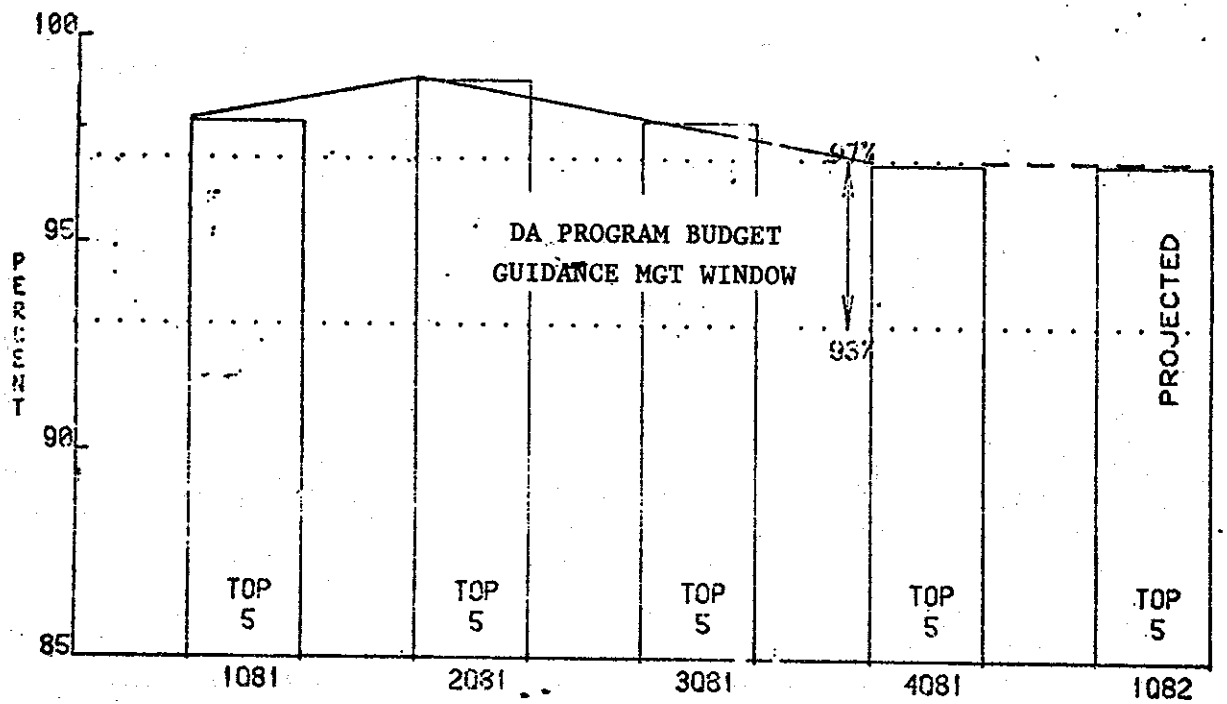
AUTHORIZED.....
ODP———
ACTUAL——— --
PROJECTED------

FEMALE

		81	20 81	30 81	40 81
DESIGN	113/5.2%		133/5.5%	139/5.8%	164/6.3%
ARMY**	3542/5.4%		3609/5.5%	3919/5.8%	4007/5.9%*

**EXCLUDES PROFESSIONAL BRANCHES (JA,CH,MC,DC,VC,NC,ANC, & MED SPEC)
*ESTIMATED FIGURE FROM DCSPER

ENLISTED STRENGTH
ASSIGNED Vs AUTHORIZED
4TH QUARTER FY 1981

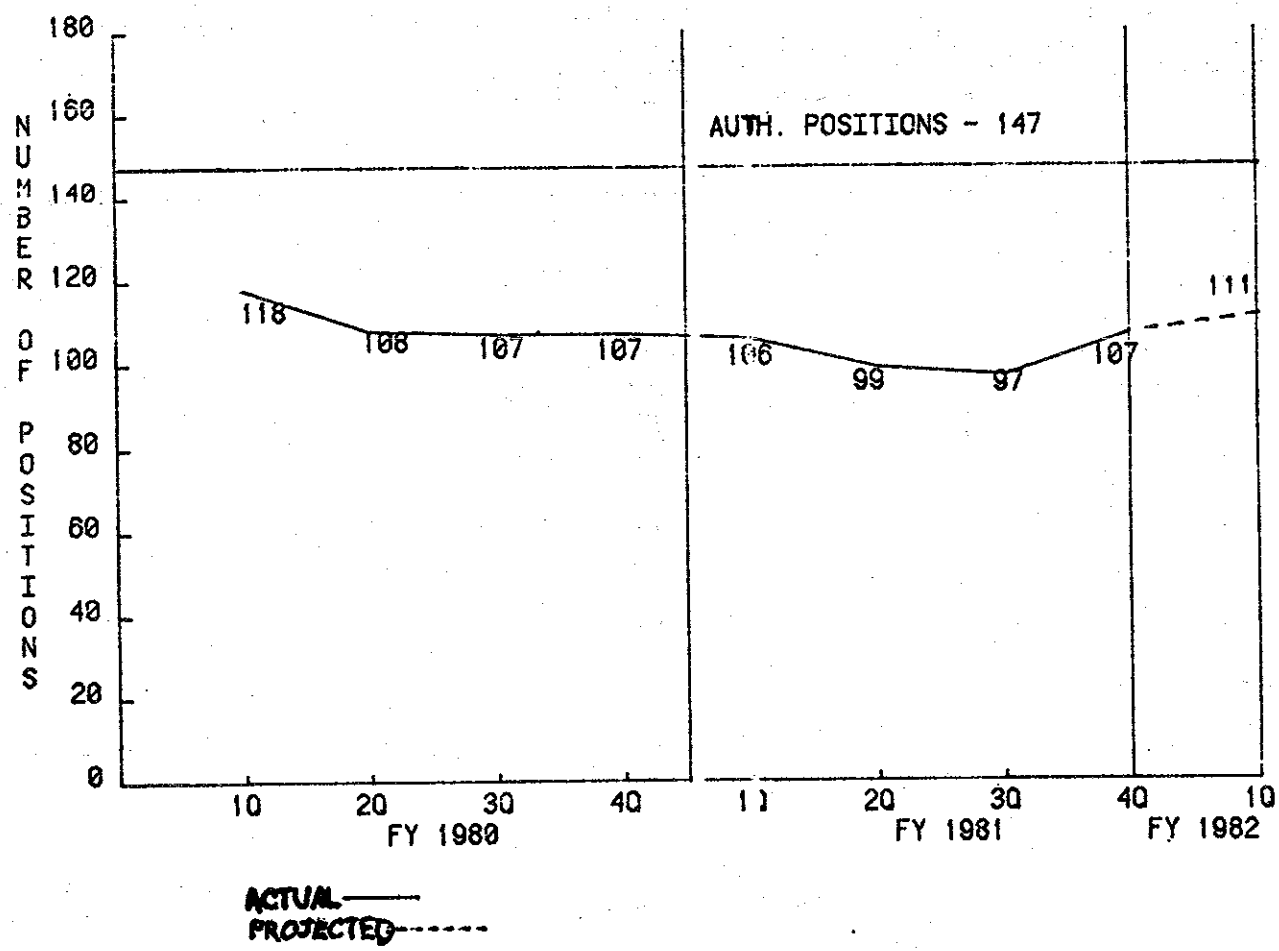


FEMALE

		10 81	20 81	30 81	40 81
ACTUAL———	DARCOM	651/9.4%	653/9.3%	644/9.3%	627/8.9%
PROJECTED———	ARMY	62285/9.2%	63091/9.4%	62856/9.4%	62834/9.6%

95B STATUS (MPS)	
SENECA	97.0%
SIERRA	93.4%
APG	106.0%
WSMR	104.0%

SENIOR EXECUTIVE SERVICE/PL 313



Navajo Study

(U) In May 1979, the Adjutant General, State of Arizona, proposed that the operation of the entire Navajo Activity be assumed by the AZARNG. It was envisioned that the depot mission of the activity would be operated by the AZARNG under the provisions of a Support Agreement to be negotiated between the State of Arizona--through the United States property and fiscal officer for Arizona--and HQ DARCOM.

(U) On 12 June 1979, a meeting was held at HQ DESCOM to discuss the proposal. It was determined that the proposal was worthy of study as it offered excellent realistic hands-on training for the units involved in operating and supporting the depot. Also, the concept fully supported the total force policy and appeared to offer an opportunity to enhance the mobilization readiness of the units training at the installation.

(U) After coordination with HQ DARCOM, the National Guard Bureau and the AZARNG, a formal request for authority to conduct the study was forwarded to HQDA. Following a lengthy staffing process, in which the major issues concerned legal questions associated with transfer of funds and property from active Army to the National Guard, a Decision Memorandum was forwarded by HQDA to the ASA (IL&FM). The Decision Memorandum was subsequently returned to HQ DARCOM for further examination and analysis of certain issues concerning: (a) Impact on depot activities, readiness, and post-mobilization functions; (b) Specific plan for assistance for the civilian employees affected by the proposed transfer; (c) Response to the charge that the Army was "Militarizing Civilian Jobs."

(U) The Decision Memorandum was resubmitted to ASA with a Memorandum of Support from HQDA which stated in part, "The Operation of the Facility by the AZARNG would facilitate the training of the AZARNG."

(U) On 4 April 1979, additional questions were raised concerning the mobilization scenario and Arizona National Guard (AZARNG) employment at the depot. A meeting was held with Mr. Werner, PDASA(IL&FM) to discuss the proposal, with a few additional questions raised concerning the union contract, job responsibilities and a profile of the employees.

(U) In May 1980, the Secretary of the Army made the public announcement of the Army's intent to study the feasibility of the operation of Navajo Depot Activity by the Arizona National Guard (AZARNG). HQ DARCOM was subsequently tasked by HQDA to perform the study.

(U) See the following chronology for developments of the study.

Chronology of the Navajo Study

May 1979	- Proposal by AG, State of Arizona; AZARNG assumption of operation of Navajo Depot Activity.
Jun 1979	- Meetings held to discuss proposal and identify potential advantages/disadvantages.
19 Jul 1979	- Formal request to HQDA for authority to conduct study.
19 Dec 1979	- Decision Memorandum sent to ASA (IL&FM).
Feb 1980	- Decision Memorandum returned to HQ DARCOM for additional information.
Apr 1980	- Decision Memorandum resubmitted.
Apr 1980	- Decision Memorandum returned to HQ DARCOM for additional information.
Apr 1980	- Meeting with ASA (IL&FM) - Request for additional information.
May 1980	- Decision Memorandum forwarded by ASA (IL&FM) to Secretary of the Army recommending approval to proceed with study.
18 Aug 1980	- Secretary of the Army made public announcement of study.
21 Aug 1980	- Official tasking by HQDA to HQ DARCOM.

Carlucci Initiatives

(U) A group of subjects for study or action were proposed in an effort to improve the acquisition process. These were known as the Carlucci initiatives, and a Point of Contact was identified for each area of attention. The initiatives and the responsible DARCOM directorates were as follows:

Management Principles	DRCDM	Mr. R. G. Morgan
Preplanned Product Improvement	DRCDE	Mr. Stephen O. Richey
Multiyear Procurement	DRCPP	Mr. John Jury
Program Stability	DRCDE	Mr. Herb Melvin
Capital Investment	DRCMT	Mr. Charles Kimvey
Budget to Most Likely Cost	DRCDM	Mr. R. G. Morgan
Economical Production Base	DRCPP	LTC William Pentz
Appropriate Contract Type	DRCPP	Ms. Barbara Jones
System Support & Readiness	DRCSM	Mr. William Neal
Reduce Procurement Cost & Time	DRCPP	Mr. R. P. Buckingham
Budget Funds for Technological Risks	DRCDRM	Ms. Paula R. Ingram
Front End Funding for Test Hardware	DRCQA	Mr. Leo R. St. Jean
Legislative Burden on Aquisition	DRCPP	Mr. P. W. Beaumont
Reduce Number of DOD Directives	DRCDM	Mr. R. G. Morgan
Funding Flexibility	DRCDP	COL R. W. Boes
Reliability & Support Incentives	DRCPP	Mr. Curt Stevenson
Decrease DSARC Information Requirements	DRCDE	Mr. Norm Vaillant
Budgeting Weapon System to Accommodate Inflation	DRCCP	Mr. Jack P. Berson

Carlucci Initiatives (Cont'd)

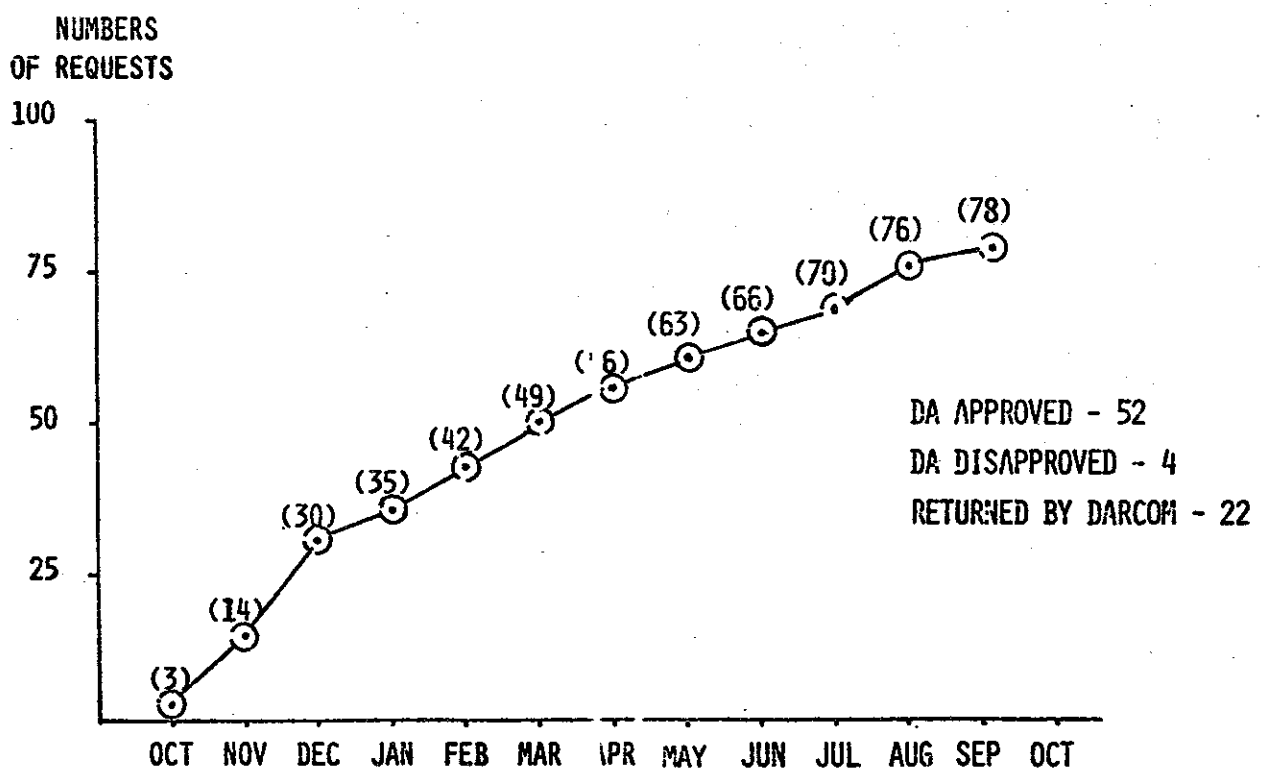
Forecasting Business Base Conditions	DRCPP	Mr. D. F. Calder
Improve Source Selection Process	DRCPP	Mr. Curt Stevenson
Standard Operational and Support Systems	DRCMT	Mr. John Crowley
Design to Cost Goals	DRCMT	Mr. Louis DeVaughn
Implementation of Acquisition Process Decisions	DRCDM	Mr. R. G. Morgan
DSARC Milestones	DRCDE	Mr. Norm Vaillant
Mission Element Need Statement	DRCDE	Mr. Norm Vaillant
DSARC Membership	DRCDE	Mr. Norm Vaillant
Acquisition Process	DRCDE	Mr. Norm Vaillant
DSARC Review Criteria	DRCDE	Mr. Norm Vaillant
DSARC/PPBS Integration	DRCDP	LTC W. A. Henry
Program Manager Control Support	DRCDP	COL R. W. Boes
Improve Reliability & Support	DRCQA	Mr. Art Nordstrom
Competition	DRCPP	Mr. Wayne D. Stealman

Management Control of White Collar Services

(U) The Secretary of the Army directed that, for the one-year period 1 October 1980 through 30 September 1981, all sole source white collar services contract requests costing $50,000 or more be reviewed and approved by an assistant secretary before they were let. Management Directorate was the DARCOM POC for white collar services sole source requirements, and processed the requests for approval through this headquarters. This chart displays the monthly cumulative number of requests processed between 1 October 1980 and 30 September 1981. Of the 78 requests processed during the special review, 56 passed HQ staff scrutiny and were forwarded to DA for approval, and all but four were approved. Twenty-two of the remaining requests were returned to sponsors: four because they were excluded from special review requirement; ten were returned for reconsideration based on concerns expressed during DARCOM staff review; and eight because staff review was not completed prior to 1 October 1981. Sixty-three percent or 49 of the 78 requests processed were sponsored by three MSCs: MICOM - 30, ERADCOM - 10, and TECOM - 9. One of the most significant observations made during the special review was that sponsors primarily justified sole source procurement on the basis of the proposed contractor's unique capability. See the following chart.

MANAGEMENT CONTROL OF WHITE COLLAR SERVICES

I. CUMULATIVE MONTHLY STATISTICS

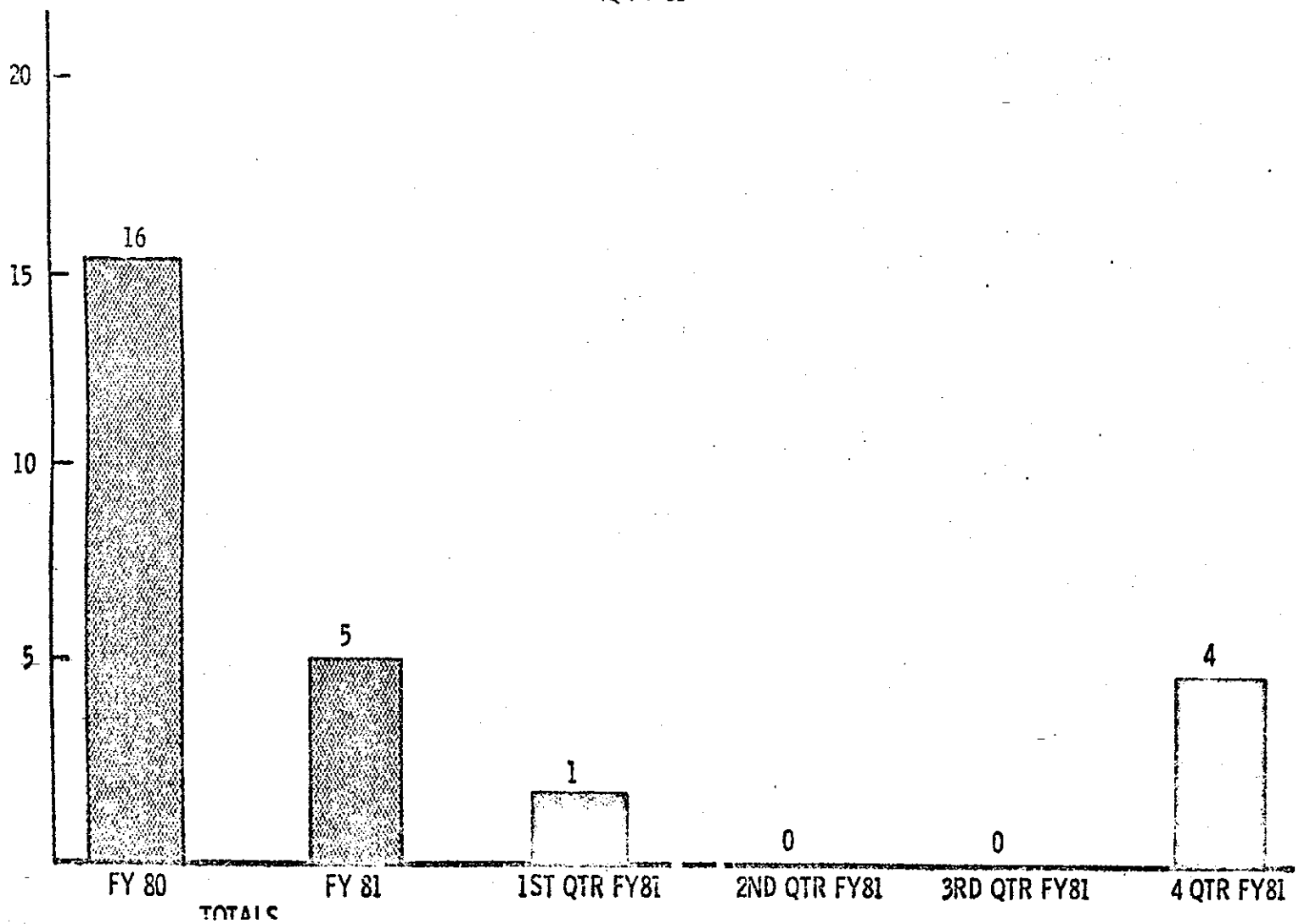


FY 81

Procurement Frauds and Irregularities

(U) The following chart indicates that there were five new allegations of procurement fraud and procurement irregularity. Three of the five were transmitted from MICOM; the other two came from TSARCOM and ARRCOM. DARs 1-608 were submitted to DLA on a timely basis. No statistical trend was evident. No problems surfaced in the procedures leading to the filing or investigation of such allegations. The allegations included (a) fraudulent demand for payments, (b) switching of samples attempting to hide faulty goods, (c) defective or fraudulent pricing techniques and (d) irregularities/fraud in meeting/failing to meet contract specifications.

PROCUREMENT FRAUDS AND IRREGULARITIES
4Q FY 81



Contract Appeals

(U) The next chart reflects the number of contract appeals received by Counsel's Office during the 4th quarter of fiscal year 1981. As the chart illustrates, a total of 28 appeals were received during the 4th quarter of fiscal year 1981. This figure is less than the total of 35 appeals received during the same period for the previous year.

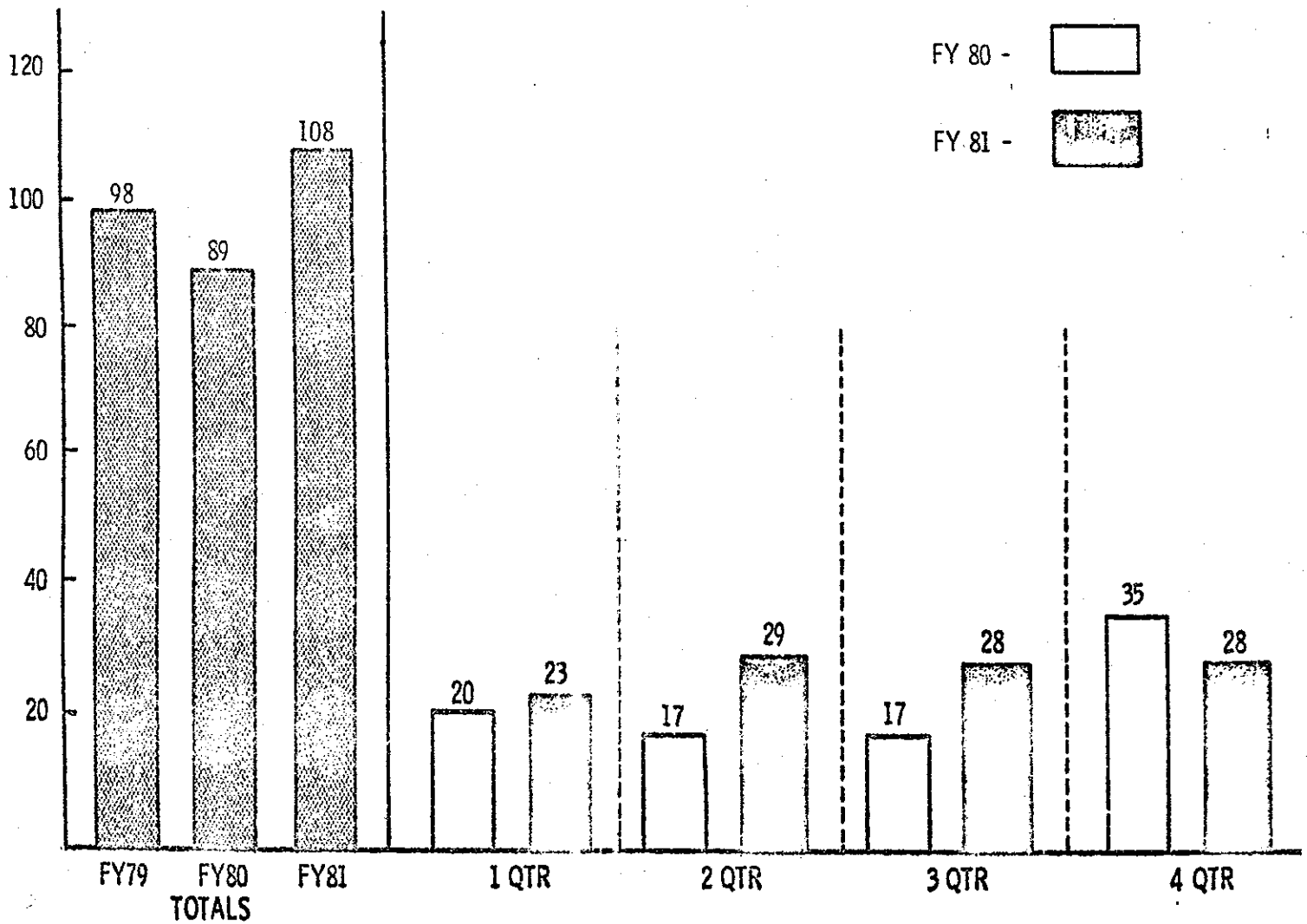
(U) Of the 28 appeals received during the 4th quarter, five involved ARRCOM contracts, five involved TACOM contracts, five involved DESCOM contracts, four involved CECOM contracts, three involved TSARCOM contracts, and two involved MICOM contracts. ARRADCOM, ERADCOM, EMRA, and the US Military Academy at West Point each had one appeal. Terminations for default were involved in 13 appeals. Equitable adjustment requests were involved in five appeals. The remaining appeals involved a miscellanea of issues which included assessment of excess reprocurement costs, a request for rescission, assessment of liquidation damages and breach of contract.

(U) A total of 18 appeals were disposed of during 4th quarter fiscal year 1981, 12 dismissed with prejudice, three denied, two dismissed without prejudice and one sustained. Of appeals closed in fiscal year 1981 under which approximately $1 million had been requested by contractors for equitable adjustments and other costs only approximately $60,000 was awarded to contractors either through decision of the ASBCA or under settlement agreements.

Management Control of White Collar Services

(U) The Secretary of the Army directed that, for the 1 year period 1 October 1980 through 30 September 1981, all sole source White Collar Services contract requests costing $50,000 or more be reviewed and approved by an Assistant Secretary before they were let. Management Directorate was the DARCOM POC for White Collar Services sole source requirements and processed the requests for approval through this headquarters. Of the 78 requests processed during the special review, 56 passed HQ staff security and were forwarded to DA for approval and all but four were approved. Of the remaining requests, 22 were returned to sponsors. Four were returned because they were excluded from special review requirement; ten were returned for reconsideration based on concerns expressed during DARCOM staff review; and eight because staff review was not completed prior to 1 October 1981. Of the 78 requests, 63 percent processed were sponsored by three MSCs: MICOM - 30, ERADCOM - 10, and TECOM - 9. One of the most significant observations made during the special review was that sponsors primarily justified sole source procurement on the basis of the proposed contractor's unique capability.

CONTRACT APPEALS
4Q FY 81

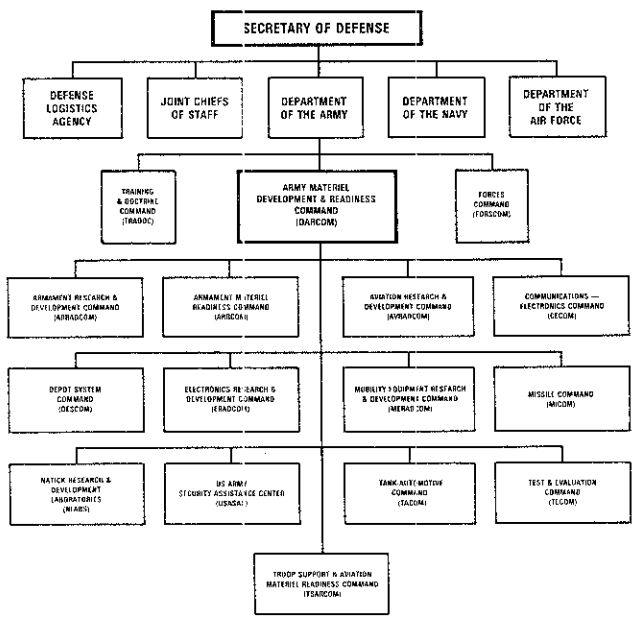


GLOSSARY

AAO	Authorized Acquisition Objective
AAP	Army Ammunition Plant
AD	Army Depot
ADCCS	Air Defense Command Control System
ADP	Automatic Data Processing
ADS	Ammunition Delivery Systems
AERB	Army Educational Requirement Board
AFV	Army Fighting Vehicle
ALMC	US Army Logistics Management Center
AMETA	US Army Management Engineering Training Agency
AMP	Army Materiel Plan
ANFO	Ammonium Nitrate Fuel Oil
AOAP	Army Oil Analysis Program
APA	Army Procurement Appropriations
APC	Armored Personnel Carriers
APDS-T	Armor Piercing Discarding Sabot-Tracing
ARRCOM	US Army Armament Materiel Readiness Command
ARSTAF	Army Staff
ARTADS	Army Tactical Data Systems
ASARC	Army Systems Acquisition Review Council
ATCAP	Army Telecommunications Automation Program
AVRADCOM	US Army Aviation Research and Development Command
AVSF	Automatic Voice Switching Facility
BIT	Basic Issue Items
BMDSCOM	Ballistic Missile Defense System Command
BMY	Bowen-McLaughlin Co.
CAA	Concepts Analysis Agency
CADS	Containerized Ammunition Distribution System
CAM	Computer Aided Manufacture
CAO	Central Accounting Office
CAO	Customer Assistance Office
CASPR	Conventional Ammunition Special Review
CCB	Configuration Control Boards
CDAC	Cost Discipline Advisory Committee
CECOM	US Army Communications-Electronics Command
CEGE	Combat Equipment Group Europe
CEP	Civilian Employment Projection
CERCOM	US Army Communications and Electronics Materiel Readiness Command
CFA	Central Field Agency
CIS-IL	Centralized Integrated Systems-International Logistics
CIVR	Configuration Item Verification Review
CMO	Configuration Management Office
COA	Current Operating Allowance
COB	Command Operating Budget
COBE	Command Operating Budget Estimate
COEI	Components of End Items

A GUIDE* to

UNITED STATES ARMY MATERIEL DEVELOPMENT & READINESS COMMAND ORGANIZATION AND MISSIONS



HEADQUARTERS
UNITED STATES ARMY MATERIEL
DEVELOPMENT & READINESS COMMAND
5001 EISENHOWER AVENUE
ALEXANDRIA, VA 22333
CABLE ADDRESS - CDRDRC ALEX VA
AUTOVON 284 XXXX

Suggested changes, deletions, corrections or additions should be forwarded on DA Form 2028 to HQ, DARCOM, ATTN: DRCIM, 5001 Eisenhower Avenue, Alexandria, VA 22333

*NOT OFFICIAL ORGANIZATION CHARTS

OCTOBER 1981

DARCOM MISSIONS

TO PERFORM ASSIGNED MATERIEL FUNCTIONS OF THE DEPARTMENT OF THE ARMY including Research and Development; Product Improvement; Human Factors Engineering; Test and Evaluation; Procurement and Production; Product Assurance; New Equipment Training; Scientific and Technical Intelligence Production; International Logistics Programs — and Storage, Distribution, Maintenance, Demilitarization, and Disposal for the continental United States wholesale supply and maintenance systems as well as for systems overseas.

TO DEVELOP AND PROVIDE MANAGERIAL AND RELATED LOGISTICS MANAGEMENT services to the United States Army and other United States and foreign customers in response to objectives and specific requirements established by Headquarters, Department of the Army.

TO COMMAND SUCH SUBORDINATE COMMANDS, INSTALLATIONS, AND ACTIVITIES as may be assigned by Headquarters, Department of the Army — to include planning, programming, coordinating, and supervising the use of resources for the accomplishment of DARCOM's basic and support missions, functions, and responsibilities.

TO PROVIDE WORLDWIDE TECHNICAL AND PROFESSIONAL GUIDANCE AND ASSISTANCE to customers in the planning and conduct of Logistics Support Activities for Army materiel.

DARCOM GOALS

THE READINESS GOAL

Prepare Total Force for rapid transition to combat, fully capable for performing its wartime mission.

THE PEOPLE GOAL

Provide the Total Force with highly effective and morally responsive soldiers and civilians capable of performing reliably in war: Insure equal opportunity for all; provide quality of life support for our soldiers, civilians, and their families and require from them reciprocal dedication to service.

THE MATERIEL GOAL

Develop, procure, store, issue, field, and maintain a balanced war fighting and sustaining capability.

THE STRATEGIC MOBILITY GOAL

Improve Army deployment capability to move forces as scheduled in order to increase early availability of combat power.

THE FUTURE DEVELOPMENT GOAL

Improve Army equipment by exploiting new technology and concepts.

THE MANAGEMENT GOAL

Manage and utilize existing and programmed resources more effectively. Strengthen the Army's resource justification process.

THE SECURITY ASSISTANCE GOAL

Provide weapons, equipment, and services to designated Allied/friendly countries in an effective manner on an integrated basis with DARCOM support to the total US Army.

DARCOM HEADQUARTERS STAFF

COMMAND GROUP

COMMANDING GENERAL	GEN DONALD R. KEITH	10-E-08 274-9625
DEPUTY CG FOR MATERIEL DEVELOPMENT	LTG R. J. LUNN	10-N-06 274-9705
DEPUTY CG FOR MATERIEL READINESS	LTG H. F. HARDIN, JR.	10-S-06 274-9700
DEPUTY CG FOR RESOURCES & MGT	MG R. L. BERGQUIST	10-E-14 274-9640
CHIEF OF STAFF	MG W. H. SCHNEIDER	10-E-14 274-9638
DEPUTY CHIEF OF STAFF & SECY OF THE GENERAL STAFF	COL L. A. HERGENRODER	10-S-60 274-9644
EXECUTIVE OFFICER TO CG	COL C. W. TIPTON	10-E-08 274-9625
COMMAND SERGEANT MAJOR	CSM W. B. TAPP, JR.	10-S-48 274-8257

OFFICE OF THE DEPUTY CG FOR MATERIEL DEVELOPMENT

Prin Asst Deputy/Materiel Development	Mr. J. D. Blanchard	274-9709
Asst Deputy/Science & Technology	Dr. R. Haley	274-9560
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Sp Asst for Minor Programs	Mr. J. Sofranek	274-9559
Task Group	LTC D. E. Sullivan	274-8657
Admin Off	Ms. T. Shiflet	274-8692

OFFICE OF THE DEPUTY CG FOR RESOURCES & MGT

Executive Officer COL W. J. Henningen 274-9641

OFFICE OF THE COMPTROLLER

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MG H. Decker, Jr. 274-8195

DIRECTORATE FOR MANAGEMENT

COL H. L. Harrison 274-8676

DIRECTORATE FOR INSTALLATIONS & SERVICES

COL L. H. Savage 274-9041

DIRECTORATE FOR PROGRAM ANALYSIS & EVALUATION

COL(P) F. E. Elam 274-8229

COMMAND REENLISTMENT NCO

SGM O. N. Brown 274-9103

SPECIAL ASSISTANTS

Congressional Affairs	Mr. C. R. Smith	274-8243
Joint Activities	LTC W. Fedorochko, Jr.	274-9693

LIAISON

TO HEADQUARTERS, DARCOM		FROM HEADQUARTERS, DARCOM TO		
ARRCOM	COL R. P. Gall	274-9840		AUTOVON
*United Kingdom	LTC M. H. Corey, REME	274-9675	*HQ, AF Systems Command	Mr. J. H. Proctor 858-5181
*Canada	LTC E. Exley	274-9679	DARCOM Liaison Office TCATA/Ft Hood, TX	COL E. B. Derr 737-1228
*Germany	LTC J. Holberg	274-9684		
Marine Corps	MAJ J. E. Leonard	274-9676		
TRADOC/Log Center	LTC W. E. White	274-9678		
DESCOM	Mr. E. G. Kilpatrick	274-9620	DARCOM RDTAE Liaison Office HQ, TRADOC	Vacant 680-3383
SR ADV/USARNG	COL J. O. Keeling	274-8895		
SR ADV USA RESERVE	COL J. L. Wohlfahrt	274-8895	*DARCOM point of contact for all documents and visits in Security Office, DARCOM Security Support Activity, Atlanta, GA — Autovon 797-5543/44	
FSTC	Mr. J. A. Burr	274-8538		
INSCOM	LTC S. R. Harris	274-8397		
Washington Ofc, USA Mun Pdn Base Mod Agcy	Mr. V. J. Gorman	274-9361	*For mailing address, mission info, etc., call or visit DRCDE-A, 274-8537 Room 8N55, 5001 Eisenhower Ave., Alexandria, VA 22333	

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MG D. E. Gonzales 274-9490

DIRECTORATE FOR MANUFACTURING TECHNOLOGY

Mr. F. Michel (Act) 274-8298

DIRECTORATE FOR TECHNOLOGY, PLANNING & MANAGEMENT

Mr. J. A. Bender 274-9566

DIRECTOR OF COMMUNICATIONS/ELECTRONICS & US ARMY COMMUNICATIONS COMMAND — DARCOM

COL E. E. Taber 274-9050

DIRECTORATE FOR MANAGEMENT INFORMATION SYSTEMS

Mr. J. A. Soum (Act) 274-8826

DIRECTORATE FOR PRODUCT ASSURANCE

Mr. S. J. Lorber 274-8929

AVIATION OFFICE

COL R. H. Smith Avn 693-2618

OFFICE OF THE CHAPLAIN

COL J. A. DeVeaux, Jr. 274-9432

OFFICE OF THE COMMAND COUNSEL

Mr. B. M. Blair 274-8046

EQUAL OPPORTUNITY OFFICE

Mr. G. L. Jones 274-9690

HISTORICAL OFFICE

Dr. D. Birdsell 274-8191

OFFICE OF THE INSPECTOR GENERAL

COL C. Henne, Jr. 274-8070

NUCLEAR-CHEMICAL OFFICE

COL C. M. Griffin 274-9610

PUBLIC AFFAIRS OFFICE

COL R. L. Horvath 274-8010

SAFETY OFFICE

Mr. L. L. Motherbough 274-9475

SECURITY OFFICE

COL Charles A. Hommaker, Jr. 274-9033

SERVICE SUPPORT ACTIVITY

LTC D. E. Bauer 274-8134

OFFICE OF THE SURGEON

COL T. Nowosiwsky 274-9470

OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION

Mr. F. C. Brole 274-8185

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Executive Officer	COL B. Holstead	274-9702
PM Coordinator	Ms. B. Parker	274-9406
Task Group	LTC D. Carey	274-8895

DIRECTORATE FOR SECURITY ASSISTANCE

BG C. M. Kirkpatrick 274-8380

DIRECTORATE FOR SUPPLY, MAINTENANCE & TRANSPORTATION

MG J. S. Welch 274-8175

DIRECTORATE FOR READINESS

MG A. H. Holmes 274-9718

DIRECTORATE FOR PROCUREMENT & PRODUCTION

MG R. E. Herriford, Sr. 274-8159

DARCOM FIELD ELEMENTS

RESEARCH & DEVELOPMENT

*

US ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMAND, DOVER, NJ (ARRADCOM)

MG A. H. LIGHT, JR.

Units/Activities
US Army Ballistic Research Laboratory, MD
*US Army Chemical Systems Laboratory, MD
ARRADCOM Picatinny Arsenal Support Activity, NJ

Zip Code 07801
Area Code 201
Telephone 328-3200
Autovon 880-3200

*

US ARMY AVIATION RESEARCH AND DEVELOPMENT COMMAND, ST. LOUIS, MO (AVRADCOM)

MG S. C. STEVENS

Units/Activities
US Army Plants Rep Ofc, Hughes Helicopter — Summa Corp., CA
US Army Avn Engr Flight Activity, CA
US Army Plant Rep Ofc, Bell Helicopter — Textron, TX
US Army Plant Rep Ofc, Boeing-Vertol Co., PA
*US Army Research & Technology Labs, CA
US Army Avionics R&D Activity, NJ
US Army Applied Technology Lab., VA
US Army Special Rotary Wing Test Activity, VA

Zip Code 63120
Area Code 314
Telephone 263-1002
Autovon 693-1002

*

US ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND, ADELPHI, MD (ERADCOM)

MG E. PAIGE, JR.

Units/Activities
US Army ERADCOM Technical Support Activity, NJ
US Army ERADCOM Flight Test Activity, NJ
US Army Signal Warfare Lab, VA
*US Army Harry Diamond Lab, MD
US Army Combat Surveillance Target Acquisition Lab, NJ
US Army Electronic Warfare Lab, NJ
US Army Atmospheric Science Lab, NM
US Army Electronic Technology & Devices Lab, NJ
US Army Night Vision & Electro-Optics Lab, VA

Zip Code 20783
Area Code 202
Telephone 394-1600
Autovon 290-1600

*

US ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND, FT. BELVOIR, VA (MERADCOM)

COL T. VANDER ELS

Units/Activities
None

Zip Code 22060
Area Code 703
Telephone 664-4996
Autovon 354-4996

*

US ARMY NATICK RESEARCH AND DEVELOPMENT LABORATORIES, NATICK, MA (NLABS)

COL J. S. HAYES

Units/Activities
None

Zip Code 01760
Area Code 617
Telephone 653-4206
Autovon 256-4206

PROGRAM/PROJECT/PRODUCT MANAGERS

			Autovon
Adv[illegible] Attack [illegible]	MG Edward M. Browne	St. Louis, MO	693-1911
Advanced Scout [illegible] (ASH)	COL Ivar W. Rundgren, Jr.	St. Louis, MO	693-1360
Aircraft Survivability Equipment (ASE)	COL Edward C. Robinson	St. Louis, MO	693-1460
Air Defense Command and Control Systems (ADCCS)	COL David L. Wyatt	Redstone Ars, AL	742-3440
All Source Analysis System (ASAS)	Mr. Howard Simons (Act)	Warrenton, VA	249-6471
Armor Training Devices (ARD)	LTC Harry Meeth, III	Orlando, FL	791-4779
Armored Combat Vehicle Technology (ACVT)	LTC James B. Welsh	Warren, MI	786-5360
Army Tactical Communications Systems (ATACS)	COL Glen L. Rhoades	Ft. Monmouth, NJ	995-2109
BLACK HAWK	COL Ronald K. Andreson	St. Louis, MO	693-1800
Cannon Artillery Weapons Systems (CAWS)	COL John Kronkaitis	Dover, NJ	880-2572
CH-47 Modernization Program	COL Dewitt T. Irby, Jr.	St. Louis, MO	693-1411
Chaparral/FAAR	COL Harold E. Stubbs	Redstone Ars, AL	746-6130
COBRA	COL Donald R. Williamson	St. Louis, MO	693-3306
Commercial Construction and Selected Materiel Handling Equipment (CCE/SMHE)	LTC Robert M. Lee, Jr.	Warren, MI	786-6003
Defense Communications Systems (Army)	MG V. O. Lang	Ft. Monmouth, NJ	992-5960
Division Air Defense (DIVAD) Gun	COL Charles C. Adsit	Dover, NJ	880-2271
FAMECE/UET	COL Richard H. Benfer	Ft. Belvoir, VA	354-1116
Fighting Vehicle Armament (FVA)	COL Thomas K. Seybold	Warren, MI	786-6632
Fighting Vehicle Systems (FVS)	BG Donald P. Whalen	Warren, MI	786-5630
FIREFINDER/REMBASS	COL John S. Chesbro	Ft. Monmouth, NJ	996-5324
HAWK	COL John S. Drosdeck	Redstone Ars, AL	746-5609
Heavy Equipment Transporter System (HET)	LTC Ronald J. Charbonneau	Warren, MI	786-5800
HELLFIRE/Ground Laser Designators	COL Stanley D. Cass	Redstone Ars, AL	746-1117
Improved TOW Vehicle (ITV)	COL James A. Chernault	Warren, MI	786-6069
Joint Tactical Fusion Program (JTFP)	COL Thomas P. Kehoe	Adelphi, MD	290-3280
M60 Tanks	COL Claude B. Donovan	Warren, MI	786-6720
M113/M113A1 Family of Vehicles	LTC James A. Logan	Warren, MI	786-6709
Mobile Electric Power (MEP)	COL Michael S. Higgins	Springfield, VA	354-1147
Modular Integrated Communication and Navigation Systems (MICNS)	LTC J. A. Love, Jr.	Ft. Monmouth, NJ	996-5763
Multi-Service Communications Systems (MSCS)	COL Donald J. Callahan	Ft. Monmouth, NJ	995-2249
Multiple Launch Rocket System (MLRS)	COL Monte J. Hatchett	Redstone Ars, AL	746-1195
Nuclear Munitions	COL William P. Farmer	Dover, NJ	880-5342
Operations Tactical Data System (OPTADS)	COL Alan B. Salisbury	Ft. Monmouth, NJ	995-2383
PATRIOT	BG Jerry M. Bunyard	Redstone Ars, AL	742-3240
PERSHING	COL William P. Fiorentino	Redstone Ars, AL	746-1165
Position Location Reporting System/Tactical Information Distribution System (PLRS/TIDS)	COL Richard G. Saunders	Ft. Monmouth, NJ	992-4251
Satellite Communications (SATCOM)	COL Charles F. Lindberg	Ft. Monmouth, NJ	992-5305
Saudi Arabian National Guard (SANG)	BG John J. Yeosack	APO NY 09038	
Single Channel Ground and Airborne Radio Subsystem (SINCGARS)	COL Edward R. Baldwin, Jr.	Ft. Monmouth, NJ	995-4141
SMOKE/Obscurants	COL Samuel L. Eure	Aberdeen PG, MD	283-2804
Special Electronic Mission Aircraft (SEMA)	COL William D. Taylor	St. Louis, MO	693-3197
Stand-off Target Acquisition System (SOTAS)	COL William R. Crawford	Ft. Monmouth, NJ	995-5165
STINGER	COL James E. Rambo	Redstone Rrs, AL	746-6191
Tactical Airborne Remotely Piloted Vehicle/Drone System (RPV)	COL Robert D. Evans	St. Louis, MO	693-1302
Tactical Fire Direction System/Field Artillery Tactical Data System (TACFIRE/FATDS)	COL Harold E. Luck	Ft. Monmouth, NJ	995-4864
Tank Main Armament System (TMAS)	COL David A. Appling	Dover, NJ	880-5307
Target Acquisition Designation System/Pilot Night Vision System (TADS/PNVS)	COL Donald P. Wray	St. Louis, MO	693-1992
Test Measurement and Diagnostic System (TMDS)	LTC Joseph C. Marangola	Ft. Monmouth, NJ	992-1759
TOW	COL Byron L. Powers	Redstone Ars, AL	746-7194
Training Devices (TRADE)	COL Donald M. Campbell	Orlando, FL	791-5292
US ROLAND	BG Lynn H. Stevens	Redstone Ars, AL	746-4225
VIPER	COL Aaron J. Larkins	Redstone Ars, AL	746-4266
M1 Abrams Tank System	MG Duard D. Ball	Warren, MI	786-5284
30mm Ammunition	LTC David W. Logan	Dover, NJ	880-3612

OTHER ELEMENTS

*

US ARMY COMMUNICATIONS-ELECTRONICS COMMAND, FT. MONMOUTH, NJ (CECOM)

MG D. N. BABERS

Units/Activities
US Army CECOM Research & Development Ctr, NJ
US Army CECOM Field Ofcs, NJ
US Army Communications Systems Ctr (CENCOMS), NJ
US Army Tactical Computer Systems Ctr (CENTACS), NJ
US Army Systems Engineering & Integration Ctr (CSEI), NJ
US Army Electronic Mat Readiness Acty (EMRA), VA
US Army Satellite Comm Agcy (SATCOMA), NJ
US Army Comms Security Logistics Acty, AZ
US Army Field Services Acty/CECOM, NJ
US Army HQ & Instl Support Acty/CECOM, NJ
US Army TV-Audio Support Acty, CA
US Army 241st MP Co., NJ
389th US Army Band, NJ

Zip Code 07703
Area Code 201
Telephone 532-1515
Autovon 992-1515

US ARMY DEPOT SYSTEM COMMAND, CHAMBERSBURG, PA (DESCOM)

BG J. A. APPERSON

Units/Activities
*Anniston Army Depot, Anniston, AL
Lexington-Blue Grass Army Depot Activity, Lexington, KY
*Corpus Christi Army Depot, Corpus Christi, TX
*Letterkenny Army Depot, Chambersburg, PA
Savanna Army Depot Activity, Savanna, IL
*Mainz Army Depot, Mainz, Germany
*New Cumberland Army Depot, New Cumberland, PA
*Red River Army Depot, Texarkana, TX
*Sacramento Army Depot, Sacramento, CA
*Seneca Army Depot, Romulus, NY
*Sharpe Army Depot, Lathrop, CA
295th MP Co, Romulus, NY
980th MP Co., Herlong, CA
*Sierra Army Depot, Herlong, CA
*Tobyhanna Army Depot, Tobyhanna, PA
*Tooele Army Depot, Tooele, UT
Navajo Army Depot Activity, Flagstaff, AZ
Pueblo Army Depot Activity, Pueblo, CO
Umatilla Army Depot Activity, Hermiston, OR
Fort Wingate Army Depot Activity, Gallup, NM

Zip Code 17201
Area Code 717
Telephone 263-7151
Autovon 242-7151

*

US ARMY MISSILE COMMAND, REDSTONE ARSENAL, AL (MICOM)

MG R. L. MOORE

Units/Activities
Redstone Arsenal Support Activity (RASA), AL
US Army TMDE Support GP., AL
Contractor Equipment Records Center, AL
US Army Field Service Activity/MICOM, AL
US Army Missile Intelligence Agency, AL
291st MP Co, AL
95th Svc Co/Colib, AL

Zip Code 35898
Area Code 205
Telephone 876-2101
Autovon 746-2101

US ARMY SECURITY ASSISTANCE CENTER, ALEXANDRIA, VA (USASAC)

BG C. M. KICKLIGHTER

Units/Activities
None

Zip Code 22333
Area Code 202
Telephone 274-8383
Autovon 284-8380

*

US ARMY TANK-AUTOMOTIVE COMMAND, WARREN, MI (TACOM)

MG O. C. DECKER, JR.

Units/Activities
US Army TACOM R&D Center, MI
US Army Tank Ctr, Lima, OH
US ArmyField Service Activity/TACOM, MI
US Army TARCOM Support Actv Selfridge, MI
HQ & Instl Spt Actv/TACOM, MI

Zip Code 48090
Area Code 313
Telephone 573-5131
Autovon 786-5131/5132

US ARMY TEST AND EVALUATION COMMAND, ABERDEEN PROVING GROUND, MD (TECOM)

MG J. J. KOEHLER, JR.

Units/Activities
*US Army Aberdeen Proving Ground, MD
*US Army Dugway Proving Ground, UT
*US Army Yuma Proving Ground, AZ
US Army YPG Dev Trng & Test Det, AZ
*US Army Jefferson Proving Ground, IN
US Army Electronics Proving Ground, AZ
US Army EOG Digital Systems Test Co.
US Army Cold Regions Test Center, AK
US Army Tropic Test Center, PANAMA
US Army Aviation Development Test Actv, AL
*White Sands Missile Range, NM
523rd MP Co, MD
259th MP Co, NM
65th MP Plt, UT
White Sands Missile Range Troop Comd, NM

Zip Code 21005
Area Code 301
Telephone 278-5131
Autovon 786-5131/32

MATERIEL READINESS

*

US ARMY ARMAMENT MATERIEL READINESS COMMAND, ROCK ISLAND, IL (ARRCOM)

MG B. F. REGISTER, JR.

Units/Activities/Agencies
*US Army Watervliet Arsenal, NY
*US Army Rock Island Arsenal, IL
*US Army Pine Bluff Arsenal, AR
*US Army Rocky Mountain Arsenal, CO
US Army Frankford Arsenal Caretaker Acty, PA
US Army Defense Ammo Ctr & School, IL
US Army Fld Svcs Activity/ARRCOM, IL
US Army Central Ammo Mgt Ofc Pacific (CAMO—PAC), HI
US Army Mun Pdn Base Mod Agcy, NJ
US Army Tech Escort Unit, MD
Crane Army Ammo Activity, IN
Hawthorne Army Ammo Plant, NY
Mississippi Army Ammo Plant, MS
McAlester Army Ammo Plant, OK

(25) GOCO Ammo Plants

Alabama, Childersburg, AL
Cornhusker, Grand Island, NB
Holston, Kingsport, TN
Indiana, Charleston, IN
Iowa, Middletown, IA
Kansas, Parsons, KS
Lake City, Independence, MO
Lone Star, Texarkana, TX
Louisiana, Shreveport, LA
Milan, Milan, TN
Radford, Radford, VA
Badger, Baraboo, WI
Longhorn, Marshall, TX
Sunflower, Lawrence, KS
Joliet, Joliet, IL
St. Louis, St. Louis, MO
Gateway, St. Louis, MO
Twin Cities, New Brighton, MN
Ravenna, Ravenna, OH
Riverbank, Riverbank, CA
Volunteer, Chattanooga, TN
Scranton, Scranton, PA
Hays, Pittsburgh, PA
Newport, Newport, IN
Phosphate Dev Wks, Muscle Shoals, AL

Zip Code 61299
Area Code 309
Telephone 794-5111
Autovon 793-5111

*

US ARMY TROOP SUPPORT AND AVIATION MATERIEL READINESS COMMAND, ST. LOUIS, MO (TSARCOM)

MG E. L. KONOPNICKI

Units/Activities
US Army Support Activity, Phila., PA
US Army Gen Mat & Petrl Activity (GMPA), PA
US Army St. Louis Area Support Center, IL
US Army Field Svc Activity, TSARCOM, MO
US Army Admin and Instl Support Activity, TSARCOM, MO
US Army Charleston Storage Activity, Charleston, SC

Zip Code 63120
Area Code 314
Telephone 263-2201
Autovon 693-2201

SEPARATE UNITS AND ACTIVITIES UNDER HEADQUARTERS, DARCOM

	Autovon
US Army Central TMDE Activity, Lexington, KY 40511	745-3206
US Army DARCOM Automated Log Mgt Sys Activity, St. Louis, MO 63101	268-6044
US Army DARCOM Augm Element, US Army Comm Sys Agcy, Ft. Monmouth, NJ 07703	992-5105
US Army DARCOM Catalog Data Activity, New Cumberland, PA 17070	977-6600
US Army DARCOM Field Ofc, Hq AF Sys Cmd, USAF, Andrews AFB, Washington, DC 20334	858-5181
US Army DARCOM Field Safety Activity, Charlestown, IN 47111	366-7415
US Army DARCOM Inspector General Activity, Alexandria, VA 22333	284-8072
US Army DARCOM Installations and Services Activity, Rock Island, IL 61299	793-5018
US Army DARCOM R&D Field Spt Acty, Ft. Hood, TX 76544	737-1228
US Army DARCOM Log Control Activity, Presidio of San Francisco, CA 94129	586-2701
US Army DARCOM Log Systems Spt Activity, Chambersburg, PA 17201	242-7402
US Army DARCOM Materiel Readiness Support Activity, Lexington, KY 40511	745-4237
US Army DARCOM Personnel Spt Activity, Alexandria, VA 22333	284-8195
US Army DARCOM QA Field Activity, Lexington, KY 40507	745-3449
US Army DARCOM Service Support Acty, Alexandria, VA 22333	284-8134
US Army DARCOM Security Support Activity, Forest Park, GA 30050	797-5620
US Army DARCOM Surety Field Activity, Dover, NJ 07801	880-5196
US Army Equip Auth Rev Activity, Alexandria, VA 22333	284-9292
US Army Federal Acquisition Regulation Work Gp, Rosslyn, VA 22209	226-5016
US Army Foreign Science and Technology Center, Charlottesville, VA 22901	274-7110
US Army Human Engr Lab, Aberdeen PG, MD 21005	283-3883
US Army Integrated Methods & Stds Acty (IMSA), Redstone Arsenal, AL 35809	746-3503
US Army Industrial Base Engr Activity, Rock Island Arsenal, IL 61299	793-5010
US Army LAO-ACC, Ft. Huachuca, AZ 85613	879-6328
US Army LAO-Europe, APO NY 09403	HM 8898
US Army LAO-FORSCOM, Ft. McPherson, GA 30330	588-3423
US Army LAO-Pacific, Ft. Shafter, HI 96858	438-2715
US Army LAO-Korea, APO SF 96301	Yongson 3873
US Army LAO-NGB, Room 2E425, Washington, DC 20310	225-4478
US Army LAO-TRADOC, Ft. Monroe, VA 23651	680-3637
US Army Log Mgt Center, Ft. Lee, VA 23801	687-4424
US Army Mgt Engr Trng Activity, Rock Island, IL 61299	793-6043
*US Army Materials & Mechanics Resch Center, Watertown, MA 02172	955-3275
US Army Mat Sys Anal Activity, Aberdeen PG, MD 21005	283-2432
*US Army Research Ofc, Research Triangle Park, Durham, NC 27709	935-3331
US Army Research & Stdzn Gp/Europe, Box 65, London, England, FPO, New York 09510	
US Army Research, Dev & Stdzn Gp/Germany, Am Embassy, Box 165, APO 09080 AmEmb 2749	487-1110
US Army Register of DARCOM Career Interns, Alexandria, VA 22333	284-8501
US Army Science & Technology Center-Far East, APO SF 06328	
US Army Scientific & Technology Information Team-Europe, APO NY 09757	
US Army Standardization Gp/Australia, Canberra, Australia, APO San Francisco 96404	
US Army Standardization Gp/Canada, Ottawa 4 Canada	672-5737
US Army Ofc Test Dir Joint Svcs Electro-Optical Guided Weapons Countermeasures Test Program, White Sands Missile Range, NM 88002	258-1134
US Army Toxic & Hazardous Materials Agcy, Aberdeen PG, MD 21010	584-2466
Battlefield Exploitation & Target Acquisition (BETA) Joint Project Ofc, Adelphi, MD 20783	290-3280
Joint Mil Packaging Trg Center, Aberdeen PG, MD 21005	283-4451

*Procurement Offices Also Located Here

HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

5001 EISENHOWER AVE., ALEXANDRIA, VA 22333

STAFF DIRECTORY

OCTOBER 1981

THIS IS NOT AN OFFICIAL ORGANIZATIONAL CHART

COMMANDING GENERAL	GEN DONALD R. KEITH	1CE08	49625	DRCCG
Deputy CG for Materiel Readiness	LTG H. F. HARDIN, JR.	10S06	49700	DRCDMR
Deputy CG for Materiel Development	LTG R. J. LUNN	10N06	49705	DRCDMD
Deputy CG for Resources & Management	MG R. L. BERGQUIST	10E20	49640	DRCDRM
Chief of Staff	MG W. H. SCHNEIDER	10E14	49638	DRCCS
Deputy Chief of Staff	COL L. A. HERGENROEDER	10S60	49644	DRCDCS

COMMANDER'S PERSONAL STAFF — DRCCG

XO	COL C. W. TIPTON	1CE09	49625	DRCCG
Admin Asst	CW2 C. A. LAMKA	1CE08	49626	DRCCG
Secretary	Vacant	1CE08	49626	DRCCG
Secretary	Ms. L. HAGEN	1CE14	49753	DRCCG
Aide/Speech Writer	MAJ G. W. TONN	1CE14	49630	DRCCG

COMMAND SERGEANT MAJOR — DRCCSM

CSM W. B. TAPP, JR.	1SS48	49257	DRCCSM

SECRETARY OF THE GENERAL STAFF — DRCGS

Secy General Staff	COL L. A. HERGENROEDER	10S60	49644	DRCGS
Dep Secy Gen Staff	Vacant	10S54	49659	DRCGS
Asst Secy Gen Staff	MAJ J. H. FISH, JR.	10S54	49645	DRCGS
Asst Secy Gen Staff	CPT C. L. REES, JR.	10S54	49659	DRCGS
Asst Secy Gen Staff	CPT C. S. VARNOE	10S54	49645	DRCGS
Asst Secy Gen Staff	MAJ C. H. CANNON	10S54	49645	DRCGS
Chief, Protocol Office	MS. K. S. BRAVAR	10S50	49669	DRCGS-P
Administrative Officer	MR. C. W. ELLAND	10S55	49662	DRCGS-A

OFFICE OF DEPUTY CG FOR MATERIEL READINESS — DRCDMR

Asst Deputy for MR	MR. E. GREINER	10S06	49701	DRCDMR
Executive Officer	COL B. HALSTEAD	10S06	49702	DRCDMR
Task Group	MR. L. M. DANNER	10S10	48396	DRCDMR-TG
Task Group	LTC R. A. CAREY	10S10	48396	DRCDMR-TG
Task Group	LTC F. F. DABROWSKI	10S10	48396	DRCDMR-TG
Task Group	LTC L. VARELA, JR.	10S10	48396	DRCDMR-TG
FM Coordinator	MS B. PARKER	10S10	48396	DRCDMR-TG
Admin Off	MS. S. REEDER	10S10	48396	DRCDMR-TG

OFFICE OF DEPUTY CG FOR MAT DEVELOPMENT — DRCDMD

Principal Asst Deputy for MD	MR. Z. O. BLANCHARD	10N06	49709	DRCDMD
Asst Deputy/Science & Technology	DR. R. L. HALEY	10N12	49560	DRCDMD-ST
Asst Deputy/Test BDAS	MR. R. R. DUNETZ	10N12	49353	DRCDMD
Executive Off	LTC O. B. REED, JR.	10N06	49710	DRCDMD
SA for Minor Prog	MR. J. STOLARICK	10W12	49569	DRCDMD-MP
Task Group	LTC D. E. SULLIVAN	10W12	49585	DRCDMD-TG
Admin Off	MS. T. SLOFFLETT	10W12	48692	DRCDMD

OFFICE OF DEPUTY CG FOR RESOURCES & MGT — DRCDRM

Asst Deputy for RM	MS. M. ACTON	10E20	49641	DRCDRM
Executive Officer	COL W. J. HENNIGAN	10E20	49640	DRCDRM
Task Group	MR. W. FERRON	7S28	49265	DRCDRM-RMA

DIRECTORATE FOR SECURITY ASSISTANCE — DRCDS

Director	MG T. F. HEALY	5S22	48350	DRCDS
Deputy Director	MR. R. E. BEAM	5S22	48353	DRCDS

HQ US ARMY SECURITY ASSISTANCE CENTER — DRSAC

Commander	MG T. F. HEALY	5S22	48350	DRSAC
Deputy for Plans & Mgt	MR. R. E. BEAM	5S22	48353	DRSAC-M
Chief of Staff	COL W. WILSON	3S52	48374	DRSAC-S
SGS	MAJ J. H. TOLSON	5S56	48395	DRSAC-SG
Comptroller	MR. C. H. KUDERNA	5E07	49733	DRSAC-C
Directorate for Plans Systems & Analysis	MR. F. F. BROTT	5N14	49695	DRSAC-MS
Directorate for Program Management	COL J. H. MCALLISTER	5N16	49892	DRSAC-MP
Directorate for Mideast/Africa/Americas	COL G. K. TUDOR	5S22	48451	DRSAC-MM
Directorate for Europe	COL G. D. JONES	5S54	48399	DRSAC-ME
Directorate for Asia Pacific	COL C. M. MARSHALL	5S10	48371	DRSAC-MA
BOKII	MR. J. C. THOMAS, Sr.	9S49	48523	DRSAC-BOKII

DIRECTORATE FOR SUPPLY, MAINT & TRANSPORTATION — DRCSM

Director	MG J. L. WELCH	8S06	48175	DRCSM
Deputy Director	MR. R. E. HEINBACH	8S06	48002	DRCSM
Operations Office	COL L. J. COOK	8S19	49436	DRCSM-O
Admin Off	W. L. STEPHENS	8S19	49437	DRCSM-OA
Chief Spt Spt	MS. S. OGIPP	8S43	49719	DRCSM-OC
Evaluation Office	MR. G. C. COX, JR.	8N08	49783	DRCSM-E
Dep Dir for Weapon Sys Mgt	Vacant	8W22	45041	DRCSM-W
Asst Dep Dir for Weapon Sys Mgt	COL L. W. CLEMENT, JR.	8W18	49801	DRCSM-W
Resource Mgt Div	COL J. BIENICK	8W10	49802	DRCSM-WR
Aviation & Missile Div	COL P. C. BRUNELLE	5N52	49860	DRCSM-WA
Ground Combat & Munitions Sys Div	COL V. R. HAMMOND	9S12	48243	DRCSM-WG
Command, Control, Surveillance & Support Div	COL R. C. BALDWIN	9S34	48339	DRCSM-WC
Dep Dir for Force Modernization & Integrated Logistics Support	COL R. J. MORRISSEY	3N42	49759	DRCSM-I
Policy & Procedures Division	F. A. EDWARDS	5N48	49761	DRCSM-IP
Methods & Data Mgt Div	W. H. OLDHAM	5N51	49763	DRCSM-IA
Sys Implementation Div	R. J. WINKLARETH	5E03	49725	DRCSM-ID
Modernization Mgt Div	COL R. L. NIDEVER	4S51	49322	DRCSM-IM
Acq Dep Dir for Policy, Plans & Procedures	R. E. HEINBACH	8S05	48007	DRCSM-P
Maint Interservice Support Mgt Office	Vacant	8S49	49796	DRCSM-PI
Supply & Distribution Mgt Div	COL G. OGDEN	8S08	49271	DRCSM-PS
Maint Div	COL H. W. ROTH	8S09	49786	DRCSM-PM
Plans & Projects Div	COL B. HELMS	8S44	49687	DRCSM-PP
Automated Sys Div	COL C. I. DESHIELDS	9S78	49743	DRCSM-PAS
Joint Aeronautical Depot Maint Action Group	S. DODGE	Wash Navy Yard	433-4187	DRCSM-J

DIRECTORATE FOR READINESS — DRCRE

Director	MG A. H. HOURES, JR.	5N58	49719	DRCRE
Deputy Director	COL P. D. HAUN (Act)	5N59	49718	DRCRE
Executive Officer	Vacant	5N58	49720	DRCRE
Admin Officer	MRS. P. J. BARNETT	5N56	49473	DRCRE-A
Associate Director for Integrated Logistics Support	COL R. J. MORRISSEY	5N42	49759	DRCRE-I
Associate Director for Force Status & Customer Assistance	COL J. EDGE	5N26	49859	DRCRE-F
Associate Director for Equip Improvement	MR. R. THOMPSON	5N54	49756	DRCRE-E
Associate Director for POMCES	COL P. V. BRUNELLE	5N23	49880	DRCRE-TI
Associate Director for Force Modernization	COL R. L. NIDEVER	4S51	49322	DRCRE-M

DIRECTORATE FOR PROCUREMENT & PRODUCTION — DRCPP

Director	MG R. L. HERRIFORD, SR	9E06	48189	DRCPP
Deputy Director	MR. W. L. CLEMONS	9E06	48187	DRCPP
Executive Officer	MAJ D. M. SWEING	9E06	48169	DRCPP
Plans & Admin Office	MS. A. E. ARRINGTON	9E19	48170	DRCPP-A
Assoc Dir for Cost Performance Reporting	COL R. E. FITE, JR.	9S38	48319	DRCPP-K
Assoc Dir for Production	COL R. A. BOWERS	9E22	48180	DRCPP-I
Assoc Dir for Procurement	COL W. A. HOOSE (Act)	9N56	49762	DRCPP-S
Assoc Dir for Programs	COL R. C. BALDWIN	9S34	48339	DRCPP-P

OFFICE OF SMALL & DISADVANTAGED BUSINESS UTILIZATION — DRCSB

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SADBU Specialist	MS. E. S. HILLEWELL	1C09	48186	DRCSB
SADBU Specialist	MS. C. A. BART	1C09	48186	DRCSB

OFFICE OF THE COMPTROLLER — DRCCP

Comptroller	BG J. F. McCALL	3N58	49131	DRCCP
Deputy Comptr	MR. A. T. WALKER	3N58	49129	DRCCP
Executive Off	LTC R. E. DAICY	3N58	49130	DRCCP
Administrative Ofc	MS. L. D. LAVY	3N57	49130	DRCCP-A
Word Processing Ctr	MRS. B. HAGSTROM	3N47	49523	DRCCP-WPC
Cost Anal Div	MR. R. O. WEISENMILLER	3S34	49020	DRCCP-E
Fin & Acct Div	LTC C. NAATHES	3N54	49231	DRCCP-F
Internal Review & Audit Compliance Ofc	MR. M. G. ARTHUR	3S26	49020	DRCCP-I
Mgt Review & Anal Div	MR. W. A. CHAVET	3N06	49170	DRCCP-S
Ofc of Productivity Mgt	MR. J. T. NICKERSON	3W06	49433	DRCCP-P
Resources & Programs Division	COL J. P. GULLEN, JR.	3E10	49359	DRCCP-B

DIRECTORATE FOR PERS, TNG & FORCE DEV — DRCPT

Director	MG N. DOCTOR, JR.	2E14	48195	DRCPT
Deputy Director	MR. F. P. CIPOLLA	2E14	48195	DRCPT
Executive Off	MAJ J. D. LLOYD	2E14	48195	DRCPT
Plans & Admin Ofc	MR. C. W. ROZIER	2E18	48421	DRCPT-A
Civ Pers Div	MR. G. A. BLAKESLEE	2W02	49157	DRCPT-C
Force Dev Div	MR. G. E. TAGTMEYER	2E06	48215	DRCPT-S
Mil Pers Div	COL R. J. FRAZIER	2S56	49925	DRCPT-M
Cmd Sgmt Div	SGM D. W. BROWN	2S64	49102	DRCPT-ME
Alcohol & Drug Abuse Ofc	MR. D. J. HEBBS	2N38	49716	DRCPT-H
PERSONNEL SUPPORT ACTIVITY				
Mpr Spt Div	COL I. E. BARNWELL	1N12	43521	DRXMM-T
Civ Pers Spt Div	Vacant	1N24	43505	DRXMM-A
Mil Pers Spt Div	LTC P. W. McCANN	1N13	49495	DRXMM-U
Schools Div	COL C. H. MATHEW	2N32	48981	DRXMM-E
STAFF SUPPORT ACTIVITIES				
HQ Mpr Ofc	MR. P. R. ZEKAS	2N45	49974	DRXMM-SM
HQ Mil Pers Ofc	CPT C. O. CONRAD	2N45	49933	DRXMM-MR
HQ Counseling Svcs Ofc	MR. D. J. HEBBS	2N38	49780	DRXMM-AD

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Deputy Director	MR. J. W. BOUCHER	5W12	49041	DRCIS
Plans & Programs Ofc	MR. J. A. EUGER	5W18	49036	DRCIS-P
Eng'neer Div	COL C. H. MITCHELL	5N06	49190	DRCIS-E
Energy Office	LTC S. J. CROW	5W11	48556	DRCIS-C
Environmental Quality Division	MR. W. N. HASSELKUS	4W06	48122	DRCIS-A
Services Div	MR. D. W. DIETRICH	5S06	49859	DRCIS-S
Housing Mgt Div	MR. W. H. McDONALD	5W20	49282	DRCIS-H
Installations & Services Activity	COL R. E. SCHROEDER, Rock Island, IL	AV 793-5018		DRCIS-RI

DIRECTORATE FOR MANAGEMENT — DRCDM

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Deputy Director	MR. R. G. SILVEY	4N24	46676	DRCPA
Executive Officer	MAJ P. R. ZOGMAN	4N24	47676	DRCPA
Admin Officer	MR. J. ALLEN	4N09	45945	DRCPA
Mission & Org Div	MR. C. SCHIPP	4S18	49848	DRCPA-O
Studies Mgt Div	MR. R. VEERKEK	4S21	47554	DRCPA-F
Resource Analysis & Eval Div	MR. R. JAMESON	4N17	48155	DRCPA-R

DIRECTORATE FOR PROGRAM ANALYSIS & EVALUATION — DRCDP

Director	COL F. E. ELAM	9S28	48323	DRCDP
Deputy Director	MR. W. J. FLANNERY	9S28	48747	DRCDP
Executive Officer	CPT E. J. SHIMKO	9S28	48747	DRCDP
Admin Officer	MS. C. O'CONNOR	9S18	48748	DRCDP-A
Program Integration Div	COL R. W. BOES	9N16	48057	DRCDP-I
Plans Policy Review Div	LTC W. A. HENRY	4S30	47517	DRCDP-P
Information Resource Mgt Div	Vacant	4S30	47517	DRCDP-R

MISCELLANEOUS NUMBERS

STAFF DUTY OFFICER	02C60 49223	
AMBULANCE		
(During Duty Hours, Call the CEnlc)	1S51 48295	
(After Duty Hours, Call the Guard)	lobby 9-537-1144	
OSD BIDG ADMINISTRATOR	1S34 49009	OSD
DARCOM OPERATIONS CENTER	02C60 45606	DRCOC
ASSA HQ SUPPORT DIVISION	4N26 48626	DRXIS-LH
DARCOM PERS SPT ACTV	2E18 48499	DRXMM-P
CIVILIAN EMPLOYEE HEALTH SVC (CEHeic)	1S51 48296	
CLASSIFIED MAIL CENTER	02W07 49505	DRXAM-AMC
COMMAND CONFERENCE ROOM	10N48 48988	DRXAM-PA
BATTLEFIELD ELECTROMAGNETIC ENVIRONMENT Ofc	01C02 48515	CORADCOM
CONFERENCE ROOM SCHEDULING	1N57 48465	DRXAM-PA
CONUS Travel Sec	1S46 48110	DRXAM-GT
OCONUS Travel Sec	1S50 48118	DRXAM-GT
CREDIT UNION/DARCOM	lobby 48331	
DARCOM EDUCATION CENTER	7S19 48484	ANPE-HRS-M
DARCOM MICO-DATA MGT BR	4S51 49322	DRXIS-LHD
DRIVERS SERVICE	01S01 48091	DRXAM-GO
DSSW, ALEXANDRIA, VA	7N28 48878	
HOMES MANAGEMENT OFFICER	1E56 48151	DRXAM-ABE
GUARD OFFICE	lobby 9-537-1144	
LOCATOR SERVICE (MIL PERS)	2C45 49939	DRXMM-MR
LOCATOR SERVICE (CIV PERS)	2C33 49491	DRCCO-TS
PHOTOGRAPHIC FACILITY	1C44 43456	USA-AVC
PRINTING & DUPLICATING	02C39 49003	DRXAM-APP
PUBLICATIONS SECTION	1E06 48149	DRXAM-ABE
PUBLICATIONS STOCK ROOM	02E21 49603/4	DRXAM-ABS
RECEPTIONIST	lobby 49191	
RESERVATIONS & TICKETS (OFFICIAL)	1S38 48105	USASCAT
SPECIAL SECURITY COMMAND, DARCOM	02C63 43396	IASSC-DRC
TELECOMMUNICATIONS CENTER (Mtg)	03C24 49010	CCNC-BHA-O
TELECOMMUNICATIONS CENTER (DATAFAX)	48001/2	
TELEPHONE Service Control Off	03W18 49000	CCNC-BHA-ST
TOP SECRET REPOSITORY	03W09 49590	DRXAM-ANF
UNCLASSIFIED MAIL CENTER	02C16 49594	DRXAM-AMU
USA EQUIP AUTHORIZATIONS REV ACTV	9C32 49092	DRXEA-C
USA PROV SPT ACTV	7N13 48885	DRXSO
USACC C-E SVCS DIV	7N22 48787	CC-OPS-CE
WESTWOOD MANAGEMENT OFFICE Rm 01	Lobby 751-5590	

OFFICE OF THE COMMAND COUNSEL — DRCGC

Command Counsel	MR. R. M. BLAIR	7E06	48546	DRCGC
The Deputy Command Counsel	Vacant	7E06	48046	DRCGC-P
Deputy Command Counsel/Command Staff Judge Advocate	COL J. C. SU-BROWN	7N56	48003	DRCGC-S
Executive Off	MR. J. K. GAISER	7E06	48046	DRCGC-A
Adversary Proceedings Div	MR. R. I. BARDAVID	7N48	48000	DRCGC-B
Mil Law/Legal Svc Div	COL J. C. SU-BROWN	7N56	48003	DRCGC-S
Patent Law Div	MR. N. EDELBERG	7E06	46031	DRCGC-L
Procurement Law Div	Vacant	7E06	48046	DRCGC-P
Plans & Operations Ofc	MR. J. K. GAISER	7E06	48046	DRCGC-A

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Deputy Director	MR. J. CIANFICNE (Act)	4E16	48026	DRCMS
Executive Off	LTC C. O. WATERS	4E16	49626	DRCMS
Administrative Off	MR. L. L. JOHNSTON	4E13	42310	DRCMS-A
Mgt Dev Sys Div	MR. R. I. EDWARDS	4E08	48746	DRCMS-I
Mgt Adn Sys Div	MR. J. E. SMITH	4D52	49160	DRCMS-E
Resources Div	MR. E. J. FORNASER (Act)	7E06	49450	DRCMS-T

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Chaplain	LTC G. H. GRAY	10S29	49432	DRCCH
Chaplain	MAJ J. J. KAUSCH	10S29	49432	DRCCH

OFFICE OF THE SURGEON — DRCSG

Surgeon	COL T. NOWOISWSKY, M.D.	10S24	49470	DRCSG
Occupational Medicine	LTC R. J. CHLOUPEK, M.D.	10S24	49470	DRCSG-O
Environmental Quality	LTC K. W. VORPAHL	10S24	49470	DRCSG-S
Medical Physics	MAJ G. W. GASTON	10S24	49470	DRCSG-R
Medical Entomologist	MAJ C. W. JOHNSON	10S24	49470	DRCSG-E
Industrial Hygienist	MR. C. J. JORDAN	10S24	49470	DRCSG-I

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Comd Info	MR. B. DUGGAN	10S35	48019	DRCIN-C
Public Info	MR. J. W. PENTON, JR.	10S35	48012	DRCIN-PI
Community Relations & Special Projects	MS. E. P. HANCE	10S35	48013	DRCIN-CRSP

SECURITY OFFICE — DRCSS

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Physical Security/ Preservation of Law & Order	LTC D. L. ADDERLEY	10N44	49714	DRCSS
Intelligence/ Personnel Security	MR. R. B. KUTCH	10N34	49434	DRCSS
Safty Spt Acty	LTC R. JOHNSON, Jr. Gillem	AV 797-5650		DRXPX

SAFETY OFFICE — DRCSF

Chief	MR. L. L. MOTHERSSAUGH	10N36	49475	DRCSF
Aviation	LTC R. L. OWENS	10N56	49475	DRCSF-A
Chemical	MR. J. G. FERRY	10N41	49340	DRCSF-C
Engineering	MR. P. J. BUTLEDGE	10N41	49240	DRCSF-E
Health Physics	MR. D. N. TAPAS	10N41	49240	DRCSF-P
Occupational Safety & Health	MR. J. C. PANKIN	10S36	49475	DRCSF-S

SPECIAL ASSISTANTS — DRCSA

Joint Activities	LTC W. FEDOROCHKO, JR	10S18	47694	DRCSA-JS
Congress Affairs	MR. C. R. SMITH	10S30	48263	DRCSA-C
Technical Relations	MR. H. MANDNER	10E14	49630	DRCSA-T

AVIATION OFFICE — DRSTI-X

St. Louis, MO

Chief	COL R. A. Smith	AV 693-2618	

NUCLEAR-CHEMICAL OFFICE — DRCNC

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Nuc Affairs	MR. R. MILLER	10W18	49354	DRCNC
Chem Affairs	LTC S. L. WOOLLUND	10W18	49406	DRCNC
Nuc/Chem Affairs	Vacant	10W18	49610	DRCNC
Chem Affairs	LTC F. PITTMAN	10W18	49610	DRCNC

SENIOR ADVISORS — DRCSA

SA/US ARNG	COL J. O. KEELING	10S49	49670	DRCSA-ANG
SA/USA RESERVE	COL J. L. WONSPAUGT	10S38	49689	DRCSA-AR

PROGRAM/PROJECT/PRODUCT MANAGERS

Mobile Electric Power (MEP)	COL M. HIGGINS, PM	Ft. Belvoir AVN 354-3093	DRCPM-MEP
Advanced Attack Helicopter (AAH)	MR. G. E. BURCHETTE, Deputy PM	Ft. Belvoir 664-1147	DRCPM-AEP-D
Nuclear Munitions	LTC C. PROPP	7N45 49939	DRCPM-AAH-WFO
PATRIOT	MR. E. E. BACOT	8S44 47487	DRCPM-NUC-W
SANG Modernization Program	COL C. C. MEELY, JR.	10N54 48585	DRCPM-NDW
US ROLAND	LTC S. S. LEITSHNER	9N78 49126	DRCPM-NGW
M1 ABRAMS Tank	LTC B. M. HIGGINS	10N54 45240	DRCPM-TOL-W
Fighting Vehicle Systems (FVS)	LTC W. R. RITTENHOUSE	2S40 49837	DRCPM-GCM-WF
	MR. J. SARAFINSKI, Chief	3N09 49079	DRCPM-FVS-W

OFFICE OF THE INSPECTOR GENERAL & DARCOM IG ACTIVITY — DRXIG

Inspector General	COL C. HENNE, JR.	1S12	48070	DRXIG

DARCOM INSPECTOR GENERAL ACTIVITY

Chief	COL C. HENNE, JR.	1S12	48070	DRXIG
Coordination & Control Division	MR. P. V. MURPHY	1S14	48092	DRXIG-X
Administrative Officer	MRS. W. K. BRISTON	1S14	48079	DRXIG-X
Investigations Division	LTC J. T. ELLIS	1S08	48064	DRXIG-V
Eastern Inspection Division	COL W. E. TRENT	1S24	48084	DRXIG-E
Procurement Inspection Div	LTC N. H. POARCH, JR.	1S24	48095	DRXIG-P
Western Inspection Division	COL J. E. ALEXANDER Auburn 623-3441			DRXIG-W

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Historical Monographs/Studies	MR. M. G. MARKIN	01W18	48192	DRCHO
Annual Historical Reviews	MR. G. J. STANSFIELD	01W18	48192	DRCHO
Historical Services/Special Studies	MR. A. A. FUTRIONANO	01W18	48192	DRCHO
Historical Sources/Archives	MR. M. F. COPPOLA	01W18	48192	DRCHO

DIRECTOR OF COMM ELECTRONICS & US ARMY COMM COMMAND-DARCOM — DRCCE, CCNC

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Commander	COL E. E. TABOR	3S10	49050	CCNC-C
Deputy Commander	COL J. S. VERCELLONE	3S10	49055	CCNC-DC
SGT Major	SGM J. HENNING	3S10	49056	CCNC-SM
Operations Div	MR. A. SCHWARTZ	3S19	49073	DRCCE-O
Plans Div	MR. J. E. GOTTFRIED	3S06	49063	DRCCE-P
Resources Div	MR. A. E. PAIGE	3S14	49071	DRCCE-R

USA DARCOM SERVICE SUPPORT ACTIVITY — DRXAM

Director	LTC D. E. BAUER	1E14	48134	DRXAM
Deputy Director	MR. L. F. KORTJAN	1E14	48134	DRXAM
Admin Off	MS. P. S. ELLICTT	1S46	48999	DRXAM
J.min Svc Div	MAJ J. L. TILT	1E10	48139	DRXAM-A
Postal Operations Br	MR. R. C. COLBERT	03C08	48341	DRXAM-AM
Printing & Publications Br	MR. E. S. RAZZATO	1E10	48141	DRXAM-AB
Administrative Management Br	MR. E. M. THORNE, JR.	1E06	49141	DRXAM-AR
Audio-Visual Presentations Div	MR. B. W. ADKINS (Act)	1C22	45490	DRXAM-P
Audio-Visual Spt Br	MR. J. GOODMAN	1N57	49914	DRXAM-PA
Graphics Br	MR. B. W. ADKINS (Act)	1C22	48490	DRXAM-PG
General Services Div	MR. F. WELSH	1S58	49005	DRXAM-G
Space & Sup	Vacant	1S58	49005	DRXAM-GA
Equip Mgr	MRS. R. ELSER	1S58	49005	DRXAM-GA
Travel	MR. J. H. BARDIT	1S52	49066	DRXAM-GT
HQ Budget & Prog Ofc	DR. ANDERSEN	1E10	48128	DRXAM-B
HQ Security Ofc	MRS. B. E. MILLER	1E22	49066	DRXAM-S
Staff C-E Off	CPT T. GRAHAM	03C20	48061	DRXAM-CE
Staff Illustrator	MS. D. CHAGAN	7S35	48087	DRXAM-IL
HQ Tech Library	MR. J. FRAGALE, JR.	7S35	43152	DRXAM-TL

DIRECTORATE FOR PRODUIT ASSURANCE & TEST — DRCQA

Director	MR. G. E. BAUER	4W22	48959	DRCQA
Executive Assist	MS. E. SMITH	4W22	49350	DRCQA
Product Quality Div	MR. R. F. TINER	4W20	45899	DRCQA-P
Engineering Div	MR. A. H. NORDSTROM	4S06	48972	DRCQA-E
System Assessment Div	LTC W. O. COMMER	4S28	49336	DRCQA-S
TMDE Div	MR. R. DUBOIS	4W22	48925	DRCQA-T

OFFICE OF EQUAL OPPORTUNITY — DRCEE

Chief	MR. G. L. JONES	1S15	49690	DRCEE
EO Ofcr	VACANT	2S55	49138	DRCEE
DARCOM Fed Women's Prog Mgr	MS A. G. BENNETT	1S15	49691	DRCEE
DARCOM Hispanic Emp Prog Mgr	MR. R. A. MIRADAL	1S15	49692	DRCEE

HQ OFFICE OF EQUAL OPPORTUNITY — DRCEE-H

Chief	MR. R. D. SHARKES	7S44	49826	DRCEE-H
HQ Federal Women's Program Manager	Vacant	7S44	48021	DRCEE-H
HQ Hispanic Emp Prog Mgr	MR. R. R. BLAKELY	7S44	49826	DRCEE-H
HQ Equal Opper Stor Ofcr	CPT S. R. DEITZ	1W07	49478	DRCEE-H

HQ CIVILIAN PERSONNEL OFFICE — DRCCO

Civilian Personnel Officer	MR. A. HALL	2S32	49427	DRCCO-Z
Management-Employee Relations	MR. R. H. TERKING	2S36	49106	DRCCO-ML
Position & Pay Management	MR. D. SHEHAN	2S25	49495	DRCCO-PC
Recruitment & Placement	MR. R. A. EDWARD	2S24	49445	DRCCO-RP
Technical Services	MS V. SHEPARD	2C33	49491	DRCCO-TS
Training & Development	MR. A. D. HISSOP	2W18	49432	DRCCO-TD
Learning Resource Center	MS M. A. CANADY	1S17-48214	DRCCO-TD-(LRC)	

ORGANIZATIONAL EFFECTIVENESS OFFICE — DRCOE

Chief	LTC R. L. GRAEG	1N20	48532	DRCOE
OE Staff Off	MR. R. A. KEARNS	1N20	48532	DRCOE
OE Staff Off	DR. L. NELSON	1N20	48536	DRCOE
OE Staff Off	MR. S. C. SHIELDS	1N20	48536	DRCOE

DIRECTORATE FOR DEVELOPMENT, ENGINEERING & ACQUISITION — DRCDE

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Deputy Director	MR. D. L. GRIFFIN	8E08	49473	DRCDE
Executive Officer	COL J. RICHARDS	8E02	49494	DRCDE-X
Dep Dir — Sys Mgt	COL G. S. KOURAKOS (Act)	8N54	49850	DRCDE-S
Avn Sys Div	COL H. M. RAMEY	8N28	48592	DRCDE-SA
Mil & AD Sys Div	COL W. V. MUERY	8N48	46064	DRCDE-SD
Gnd Cbt Sys Div	COL F. W. McDONALD	8N48	49870	DRCDE-SG
Spt Sys Div	COL P. N. KANE	8N48	48603	DRCDE-SS
Nuc Sfo & Chem Br	MR. C. RUBEN	8N48	49870	DRCDE-SSN
Spt Eqp Br	MR. W. KRAKOV	8N48	48604	DRCDE-SSE
Mun Sys Div	LTC RAMSEY	8N31	49851	DRCDE-SM
CCC & Surv Div	COL D. W. OGFARNE	8N28	46898	DRCDE-SC
Elec Warfare Br	MR. G. MYERS	8N28	48118	DRCDE-SCE
Com Br	Vacant	8N28	48468	DRCDE-SCC
Surv Br	MR. D. SAWYER	8N28	46898	DRCDE-SCS
Cmd & Con Br	Vacant	8N28	48118	DRCDE-SCM
Intel Auto Mgt Div	COL J. F. CAMPBELL	4S38	49144	DRCDE-SB
Dep Dir — Prog Mgt	MR. R. D. GREENE (Act)	8N22	49815	DRCDE-P
R&D Pgm Bud/C

HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

5001 EISENHOWER AVE., ALEXANDRIA, VA 22333

STAFF DIRECTORY

JULY 1981

THIS IS NOT AN OFFICIAL ORGANIZATIONAL CHART

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Deputy CG for Material Readiness	LTG H. F. HARDIN, JR.	10S06	49700	DRCDMR
Deputy CG for Material Development	LTG R. J. LUNN	10N06	49705	DRCDMD
Deputy CG for Resources & Management	MG R. L. BERGQUIST	10E20	49640	ORCDRM
Chief of Staff	MG W. H. SCHNEIDER	10E14	49638	DRCCS
Deputy Chief of Staff	COL L. A. HERGENROEDER	10S60	49644	DRCDCS

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XO	COL C. W. BIRTON	10E01	49925	DRCCO
Admin Asst	CW2 G. A. LAMEKA	10E03	49925	DRCCO
Secretary	MISS D. MONTA	10E09	49938	DRCCO
Secretary	MS L. HAGEN	10E14	49753	DRCCO
Speech Writer	Vacant	10E14	49535	DRCCO

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CSM W. R. TAPP, JR.		10S48	48257	DRCCSM

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Dep Secy Gen Staff	LTC R. D. KIELSBURGH	10S60	49659	DRCGS
Asst Secy Gen Staff	MAJ J. H. FISH, JR	10S54	49645	DRCGS
Asst Secy Gen Staff	CPT C. E. REES, JR.	10S54	49645	DRCGS
Asst Secy Gen Staff	CPT C. S. VARNOL	10S54	49645	DRCGS
Asst Secy Gen Staff	MAJ C. H. CANDON	10S54	49646	DRCGS
Chief, Retrieval Office	MS R. S. BRAVAR	10S60	49659	DRCGS-P
Administrative Officer	MR. C. W. LELAND	10S55	49660	DRCGS-A

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Asst Deputy for MR	MR. E. GEEINER	10S56	49701	DRCDMR
Executive Officer	COL B. MALSTEAD	10S56	49703	DRCDMR
Task Group	MR. L. M. DANNER	10S10	45896	DRCDMR-TG
Task Group	LTC D. A. CAREY	10S10	45896	DRCDMR-TG
Task Group	LTC P. J. DABROWSKI	10S10	45896	DRCDMR-TG
Task Group	LTC L. VARELA, JR.	10S10	45896	DRCDMR-TG
PM Coordinator	MS B. PARKER	10S10	45896	DRCDMR-TG
Admin Off	MS. S. REDER	10S10	45896	DRCDMR-TG

OFFICE OF THE DEPUTY CG FOR MAT DEVELOPMENT DRCDMD

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Asst Deputy/Science & Technology	DR. R. L. MALEY	10N12	49560	DRCDMD-ST
Asst Deputy/Intl RD&S	MR. B. R. DUNETZ	10N12	49252	DRCDMD
Executive Off	COL W. G. YARBOROUGH	10N06	49710	DRCDMD
SA for M'ntnce Prog	MR. J. STOKARICK	10W12	49559	DRCDMD-MP
Task Group	LTC D. A. SULLIVAN	10W12	49555	DRCDMD-TG
Admin Off	MS. T. SHIFFERT	10W12	42692	DRCDMD

OFFICE OF DEPUTY CG FOR RESOURCES & MGT DRCDRM

Executive Officer	COL W. J. HENNIGAN	10S20	49640	DRCDRM
Ofc of Resources & Mgt Analysis	MR. ALDEN (Act)	7538	49190	DRCDRM-RMA

DIRECTORATE FOR SECURITY ASSISTANCE DRCDS

Director	MG T. F. HEALY	5E22	43383	DRCDS
Deputy Director	MR. R. E. BEAM	5E22	43383	DRCDS

HQ US ARMY SECURITY ASSISTANCE CENTER DRSAC

Commander	MG T. F. HEALY	5E22	43383	DRSAC
Deputy for Plans & Mgt	MR. R. E. BEAM	5E22	43383	DRSAC-M
Chief of Staff	COL W. WILSON	5E22	43384	DRSAC-S
SDS	MAJ J. H. TOLSON	5E36	43393	DRSAC-SD
Comptroller	MR. C. H. RUDENA	5E07	47733	DRSAC-C
Directorate for Plans Systems & Analysis	MR. F. J. BROTT	5N14	49895	DRSAC-MS
Directorate for Program Management	COL P. H. McALLISTER	5N16	49892	DRSAC-MP
Directorate for Military Assistance	COL G. K. TODD	5E22	43451	DRSAC-MM
Directorate for Europe	COL O. O. JONES	5E34	43399	DRSAC-ME
Directorate for Asia Pacific	COL C. M. MARSHALL	5E10	43371	DRSAC-MA
ROKIF	MR. J. C. THOMAS, Sr.	9E19	43323	DRSAC-ROKIF

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Deputy Director	MR. R. E. HEINBACH	8S06	48007	DRCMM
Executive Off	MAJ J. H. BOLSON	8S06	48007	DRCMM
Admin Offr	MR. W. L. STEPHENS	8W17	49266	DRCMM-A
Assoc Dir for Requirements & Resources	Vacant	8W22	48041	DRCMM-R
Assoc Dir for Supply & Distribution	COL O. C. OGDEN, JR.	8S08	49271	DRCMM-S
Assoc Dir for Evaluation	MR. P. C. RAISH	8N06	49785	DRCMM-E
Assoc Dir for Maintenance	COL H. W. ROTH, JR.	8S28	43756	DRCMM-M
Programs & Project Ofc	COL B. T. HEMES	8L44	49487	DRCMM-L
Ward Processing Center	MRS. S. L. GOTT	8S43	49216	DRCMM-WPC
Materiel Interservice Spt Mgt Ofc	MR. M. SANDUSKY	8S44	49395	DRCMM-MI

DIRECTORATE FOR READINESS DRCRS

Director	BG A. H. HOLMES, JR.	5N38	49719	DRCRS
Deputy Director	COL P. D. HAUN (Act)	5N38	49718	DRCRS
Executive Officer	LTC L. R. PITT, JR.	5N38	49720	DRCRS
Admin Officer	MAS. B. WEBB	5N36	49473	DRCRS-A
Associate Director for Integrated Logistics Support	COL R. J. MORRISSEY	5N42	47759	DRCRS-I
Associate Director for Force Status & Customer Assistance	COL J. EDGE	5N26	49807	DRCRS-F
Associate Director for Equip Improvement	MR. G. THOMPSON	5N54	47756	DRCRS-E
Associate Director for POMCUS	COL P. D. HAUN	5N25	49580	DRCRS-TF
Associate Director for Force Modernization	COL R. L. NIDEVER	1S07	45865	DRCRS-M

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Deputy Director	MR. W. E. CLEMONS	9E06	48187	DRCPP
Executive Officer	MAJ D. M. EMING	9E06	48187	DRCPP
Plans & Admin Office	MS. A. E. ARRINGTON	9E19	48170	DRCPP-A
Assoc Dir for Cost Performance Reporting	COL R. E. PRYE, JR.	9E35	48319	DRCPP-K
Assoc Dir for Production	LTC J. W. FRINGER, JR.	9E22	48189	DRCPP-I
Assoc Dir for Procurement	COL W. A. MOORE (Act)	9N56	41262	DRCPP-S
Assoc Dir for Programs	Vacant	9E54	48339	DRCPP-P

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SADBU Specialist	MS E. S. HILLSWELL	9N13	45195	DRCSB
SADBU Specialist	MS C. HASE	9N13	45188	DRCSB

DIRECTORATE FOR PLANS, DOCTRINE & SYS DRCPS

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Deputy Director	MR. W. J. FLAHERTY	9S28	48747	DRCPS
Executive Officer	CPT E. J. SHIMKO	9S28	48297	DRCPS
Admin Office	MRS. B. PADDEY	9S22	42745	DRCPS
Assoc Director for Concepts & Doctrine	COL P. W. GRUEN	9S37	48034	DRCPS-C
Assoc Director for Systems	COL V. B. HAMMOND	9S12	48245	DRCPS-S
Assoc Director for Military Plans & Operations	COL C. T. RICHARDSON	4S39	49476	DRCPS-M
War Reserve Ofc	MR. D. L. WATERSHOT	9S18	49531	DRCPS-MW

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Deputy Compt	MR. A. T. WALKER	3N50	49139	DRCCP
Executive Off	LTC R. E. DAVCT	3N50	49137	DRCCP
Administrative Ofc	MS L. D. LAVE	3N57	49930	DRCCP-A
Ward Processing Ctr	MRS. B. HAOSTROM	3N47	49673	DRCCP-WPC
Cost Anal Div	MR. B. O. WEDEMMUELLER (Act)	3S24	49000	DRCCP-E
Fin & Acct Div	LTC C. NARTIES	3N54	49931	DRCCP-F
Internal Review & Audit Compliance Ofc	MR. M. O. ARTHUR	3S26	49020	DRCCP-I
Mgt Review & Anal Div	MR. W. A. CHAVET	3N06	49170	DRCCP-S
Ofc of Productivity Mgt	MR. J. T. NICKERSON	5W05	49487	DRCCP-P
Resources & Programs Division	COL J. P. GUIKEM, JR.	2E10	49509	DRCCP-B

DIRECTORATE FOR PERS, TNG & FORCE DEV DRCPT

Director	MG H. HOCTOR, JR.	2E14	43155	DRCPT
Deputy Director	MR. F. P. CIPOLLA	2E14	43195	DRCPT
Executive Off	MAJ J. D. LLOYD	2E14	43195	DRCPT
Plans & Admin Ofc	MR. C. W. ROWEER	2E10	43421	DRCPT-A
Civ Pers Div		2W20	49187	DRCPT-C
Force Dev Div	MR. O. E. TAGEMEYER	2E07	43215	DRCPT-S
Mil Pers Div	COL R. J. BRAZEEL	2S56	47335	DRCPT-M
Cmd Recrt Ofc	SGM D. W. BROWN	2S44	49105	DRCPT-MF
Alcohol & Drug Abuse Ctr	MR. G. J. MERRIG	2E03	49716	DRCPT-H

STAFF SUPPORT ACTIVITIES

Schools Div	COL P. N. GILSON	2N37	43961	DRXMM-S
HQ Mgr Ofc	MR. P. R. ZEKAN	2N46	49974	DRXMM-SM
HQ Mil Pers Ofc	CPT C. D. CONRAD	2N45	49335	DRXMM-MR
HQ Counseling Svcs Ofc	MR. D. J. MERRIG	2N03	49780	DRXMM-AD

DIRECTORATE FOR PLANS & ANALYSIS DRCPA

Director	COL H. L. HARRISON	4N34	48676	DRCPA
Deputy Director	MR. F. G. SILVEY	4N24	45076	DRCPA
Executive Officer	CPT J. BRAZEALE	4N24	48676	DRCPA
Admin Officer	MR. J. ALLEN	4N09	43945	DRCPA
Mission & Org Div	MR. C. SCHIPP	4S18	48345	DRCPA-O
Program, Plans & Policies Div	MR. R. VERBEKE	4S21	45554	DRCPA-P
Resource Analys's & Eval Div	MR. E. SAMSSON	4N17	49155	DRCPA-R
Sys Anal Div	COL R. BOES	4N15	49027	DRCPA-S

DIRECTORATE FOR INSTALLATIONS & SERVICES DRCIS

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Deputy Director	MR. J. W. ROECHER	5W12	49941	DRCIS
Plans & Programs Ofc	MR. J. A. LUGER	5W18	49076	DRCIS-P
Engineer Div	COL C. H. MITCHELL	5N06	49390	DRCIS-E
Energy Office	LTC D. J. CROW	5W31	48696	DRCIS-C
Environmental Quality Division	MR. W. N. HASSELKUS	4W06	48822	DRCIS-N
Services Div	MR. D. W. DIETRICH	5S06	49239	DRCIS-S
Housing Mgt Div	MR. W. H. McDONALD	5W05	49252	DRCIS-H
Installations & Services Activity	COL J. G. McNAIL, Rock Island, IL AV 793-5018			DRCIS-RI

MISCELLANEOUS NUMBERS

STAFF DUTY OFFICER	01C06	49703
AMBULANCE (During Duty Hours, Call the Clinic)	1551	43295
(After Duty Hours, Call the Guard)	Lobby	9-557-1144
OSD BLDG ADMINISTRATOR	1524	49009
DARCOM GERRATIONS CENTER	01C00	43806
ESSA HQ SUPPORT DIVISION	4N28	45686
DARCOM PERS SPT ACTV	2E18	49459
CIVILIAN EMPLOYEE HEALTH SVC (Clinic)	1351	48296
CLASSIFIED MAIL CENTER	02W07	49565
COMMAND CONFERENCE ROOM	10N48	48908
BATTLEFIELD ELECTROMAGNETIC ENVIRONMENT Ofc	01C00	45815
CONFERENCE ROOM SCHEDULING	1N37	43468
CONUS Sec	1546	43110
OCONUS Sec	1505	43115
CREDIT UNION/DARCOM	Lobby	43311
DARCOM EDUCATION CENTER	7515	48434
DARCOM AUTO DATA MGT BR	4551	49202
DRIVERS SERVICE	01S01	40091
DSSW, ALEXANDRIA, VA	7N28	43878
FORMS MANAGEMENT OFFICER	1806	48151
GUARD OFFICE	Lobby	9-557-1144
LOCATOR SERVICE (MIL PERS)	2C45	49939
LOCATOR SERVICE (CIV PERS)	2C50	49491
PHOTOGRAPHIC FACILITY	1C44	48426
PRINTING & DUPLICATING	02C57	49600
PUBLICATIONS SECTION	1806	45149
PUBLICATIONS STOCK ROOM	03C21	49661
RECEPTIONIST	Lobby	49181
RESERVATIONS & TICKETS (OFFICIAL)	1538	48108
SPECIAL SECURITY COMMAND, DARCOM	02C60	49985
TELECOMMUNICATIONS CENTER (Mag)	03C24	49010
TELECOMMUNICATIONS CENTER (DATAFAX)		46503/2
TELEPHONE Service Control Off	03W18	49000
TOP SECRET REPOSITORY	03W09	49390
UNCLASSIFIED MAIL CENTER	03C16	49594
USA EQUIP AUTHORIZATIONS REV ACTV	4C32	49752
USACC CE SVCS DIV	1N37	43787
WESTWOOD MANAGEMENT OFFICE Rm 01 Lobby 751-5599		

OFFICE OF THE COMMAND COUNSEL DRCGC

Command Counsel	MR. B. M. BLAIR	7E06	41046	DRCGC
The Deputy Command Counsel	Vacant	7E06	45045	DRCGC-P
Deputy Command Counsel/Command Staff Judge Advocate	COL J. C. SILSBROWN	7N56	48003	DRCGC-S
Executive Off	MR. J. K. GAISER	7E06	41045	DRCGC-A
Administrative Officer	MRS. W. K. BEASTON	1514	40079	DRXIO-X
Advisory Proceedings Div	MR. R. I. BARDAVID	7N49	41080	DRCGC-B
Investigations Division	COL G. B. CATHOUN	1509	42064	DRXIG-V
Mil Law/Legal Svc Div	COL J. C. SILSBROWN	7N56	45063	DRCGC-S
Eastern Inspection Division	COL W. E. TERNT	1524	40084	DRXIG-E
Patent Law Div	MR. N. EDEBERG	7E06	48031	DRCGC-L
Procurement Law Div	LTC H. H. FOARCH, JR.	1524	40095	DRXIG-P
Procurement Inspection Div	COL J. E. ALEXANDER	Alabama 693-3447		DRXIG-W
Western Inspection Division	Vacant	7E06	48046	DRCGC-P
Plans & Operations Ofc	MR. J. K. GAISER	7E06	48046	DRCGC-A

DIRECTORATE FOR MGT INFO SYSTEMS DRCMS

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Deputy Director	MR. J. CIANTUONE (Act)	4E16	42626	DRCMS
Executive Off	LTC C. D. WALTERS	4E16	42626	DRCMS
Administrative Off	MR. L. L. JOHNSTON	4E13	46310	DRCMS-A
Mat Dev Sys Div	Vacant	4E08	48946	DRCMS-I
Mat Rdy Sys Div	MR. J. E. SMITH	4S52	49140	DRCMS-E
Resources Div	Vacant	4E22	49430	DRCMS-T

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Staff Chaplain	COL J. A. DUVEAUX, JR.	10S29	49439	DRCCH
Chaplain	LTC G. H. GRAY	10S29	49439	DRCCH
Chaplain	MAJ J. J. KAISING	10S29	49432	DRCCH

OFFICE OF THE SURGEON DRCSG

Surgeon	COL T. NOWOSIWSKY, M.D.	10S24	49470	DRCSG
Occupational Medicine	LTC S. J. CHEUOFEV, M.D.	10S24	49470	DRCSG-O
Environmental Quality	LTC K. VOERAHN	10S24	49470	DRCSG-S
Medical Physics	MAJ G. W. GASTON	10S24	49470	DRCSG-R
Medical Entomologist	MAJ C. W. JOHNSON	10S24	49470	DRCSG-E
Industrial Hygienist	MR. C. J. JORDAN	10S24	49470	DRCSG-I

PUBLIC AFFAIRS OFFICE DRCIN

Chief	COL R. L. NORVATH	10S25	49010	DRCIN
Public Affairs Officer/Industry Relations	MR. J. J. FOLEY	10S35	45010	DRCIN
Comd Info	MR. E. DUGGAN	10S35	45015	DRCIN-CI
Public Info	MR. J. W. PENTON, JR.	10S58	45012	DRCIN-PI
Community Relations & Special Projects	MS. E. P. HANCE	10S35	45015	DRCIN-CRSP

SECURITY OFFICE DRCSS

Chief	COL C. A. HAMMAKER, JR.	10E54	49013	DRCSS
Physical Security/Preservation of Law & Order	LTC O. L. ADDERLEY	10N44	49714	DRCSS
Intelligence/Personnel Security Mgr. R. S. KUTCH		10N54	49454	DRCSS
Sety Spt Arty	LTC R. JOHNSON, Ft. Clifton AV 797-5020			DRXPK

SAFETY OFFICE DRCSF

Chief	MR. L. L. MOTHERSBAUGH	10N56	49475	DRCSF
Aviation	LTC R. L. GWENS	10N56	49475	DRCSF-A
Chemical	Vacant	10N41	49540	DRCSF-C
Engineering	MR. P. J. RUTLEDGE	10N41	42549	DRCSF-E
Health Physics	MR. D. H. TAKAG	10N41	49540	DRCSF-P
Occupational Safety & Health	MR. J. E. BARKIN	10S36	49475	DRCSF-S

SPECIAL ASSISTANTS DRCSA

Joint Activities	LTC W. FEDOROCHKO, JR.	10S18	42694	DRCSA-JJ
Congress Affairs	MR. C. R. SMITH	10S32	42103	DRCSA-C
Technical Relations	MR. H. HANDLER	10E54	49500	DRCSA-T

AVIATION OFFICE DRSTS-X

Chief	COL R. A. SMITH	St. Louis, MO	AV 693-2618

NUCLEAR-CHEMICAL OFFICE DRCNC

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Nuc Affairs	MR. R. MILLER	10W18	49554	DRCNC
Chem Affairs	LTC S. L. NORTLUND	10W18	49456	DRCNC
Nuc/Chem Affairs	LTC J. STEVENS	10W18	47406	DRCNC
Chem Affairs	LTC J. PITTMAN	10W18	43194	DRCNC

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SAFUS ARNG	COL J. O. KEELING	10S49	40690	DRCSA-NG
SAFUSA RESERVE	COL J. L. WOHLFARHT	10S38	49689	DRCSA-AR

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DARCOM INSPECTOR GENERAL ACTIVITY

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Coordination & Control Division	MR. R. V. HUJARRY	1514	40072	DRXIG-X
Administrative Officer	MRS. W. K. BEASTON	1514	40079	DRXIO-X
Investigations Division	COL G. B. CATHOUN	1509	42064	DRXIG-V
Eastern Inspection Division	COL W. E. TERNT	1524	40084	DRXIG-E
Procurement Inspection Div	LTC H. H. FOARCH, JR.	1524	40095	DRXIG-P
Western Inspection Division	COL J. E. ALEXANDER	Alabama 693-3447		DRXIG-W

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Special Studies/Historical Services	MR. A. A. FUTIONANO	01W18	42192	DRCHO
Historical Sources/Archives	MR. V. J. CORPOLA	01W18	42192	DRCHO

DIRECTOR OF COMM ELECTRONICS & US ARMY COMM COMMAND-DARCOM DRCCE CCNC

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Commander	COL B. B. TABOR	3S10	49050	CCNC-C
Deputy Commander	COL J. E. VERCELLONE	3S10	49053	CCNC-DC
SGT Major	SGM J. HEININGER	3S10	49056	CCNC-SM
Operations Div	MR. A. SCHWARTZ	3S19	49073	DRCCE-O
Plans Div	MR. J. E. DOTTRERER	3S00	49063	DRCCE-P
Resources Div	MR. A. E. PAIGE	3S14	49071	DRCCE-R

USA DARCOM SERVICE SUPPORT ACTIVITY DRXAM

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Deputy Director	MR. L. E. KORTUM	1E14	48134	DRXAM
Admin Off	MS P. S. ELLIOTT	1S46	45999	DRXAM
Admin Svc Div	MAJ J. L. TILT	1E10	48139	DRXAM-A
Mail Management Br	MR. R. C. COBBERT	01C08	48341	DRXAM-AM
Printing & Publications Br	MR. E. S. NAZZARO	1E10	48141	DRXAM-AB
Administrative Management Br	MR. E. M. THORNE, JR.	1E06	49141	DRXAM-AR
Audio-Visual Presentations Ofc	MR. R. W. ADKINS	1C13	48451	DRXAM-P
Audio-Visual Spt Br	MR. J. GOODMAN	1N37	43455	DRXAM-PA
Graphics Br	MR. R. W. ADKINS (Act)	1C22	48490	DRXAM-PG
General Services Div	MR. F. WELSH (Act)	1S52	49005	DRXAM-G
Space & Svp	MR. F. WELSH	1S58	49095	DRXAM-G
Equip Mgr	MRS. R. ELSER	1S58	49093	DRXAM-GA
Travel	MR. J. N. BARGET	1S52	49006	DRXAM-GT
HQ Budget & Prog Ofc	MS M. J. KRUYER	1E10	48128	DRXAM-B
HQ Security Ofc	MRS. B. E. MILLER	1E10	49066	DRXAM-S
Staff CE Off	CPT T. GRAHAM	01C00	42051	DRXAM-CE
Staff Librarian	MS. I. O. OMDAHL	7S35	48787	DRXAM-L
HQ Tech Library	MR. J. FRAGALE, JR.	7S35	45152	DRXAM-TL

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Executive Asstst	MS. R. E. SMITH	4W22	48909	DRCQA
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Engineering Div.	MR. A. M. NORDSTROM	4W06	48912	DRCQA-T
System Assessment Div.	MR. R. DuBOIS (Act)	4W22	42925	DRCQA-S

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EO Ofcr	VACANT	2S55	49358	DRCEE
DARCOM Fed Women's Prog Mgr	MS A. G. BENNETT	10S15	49691	DRCEE
DARCOM Hispanic Emp Prog Mgr	MR. R. A. MORABAR	10S15	49692	DRCEE

HQ OFFICE OF EQUAL OPPORTUNITY DRCEE-H

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HQ Federal Women's Program Manager	MS C. A. PAGE	7S44	45021	DRCEE-N
HQ Hispanic Emp Prog Mgr	MR. R. E. BLAKELY	7S44	49055	DRCEE-H
HQ Equal Opper Spt Ctr Ofcr	CPT S. R. DEITZ	1W07	49428	DRCEE-H

HQ CIVILIAN PERSONNEL OFFICE DRCCO

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Position & Pay Management	MR. D. SHERMAN	2S23	49493	DRCCO-PC
Recruitment & Placement	MR. R. A. LOWEIR	2S24	49446	DRCCO-RP
Technical Services	MS V. SHEPPARD	2C33	49491	DRCCO-TS
Training & Development	MR. A. D. HYSLOP	2W18	49412	DRCCO-TD
Learning Resource Center	MS M. A. CANADY	1517-49214		DRCCO-TD-LRC

ORGANIZATIONAL EFFECTIVENESS OFFICE DRCOE

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DIRECTORATE FOR DEVELOPMENT & ENG DRCDE

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Deputy Director	Vacant	8E08	49490	DRCDE
Executive Officer	LTC J. S. ZIMMERMAN	8E09	49493	DRCDE
Associate Directors				
Battlefield Auto Mgmt	COL J. F. CAMPBELL	4S30	49144	DRCDE-C
Systems Development	MR. D. L. GRIFFIN	8N54	43350	DRCDE-D
Air Defense	COL W. J. WELCH	8N48	48604	DRCDE-DA
Cmd & Control	COL G. S. KOURAKOS	8N28	43392	DRCDE-DE
Field Artillery	COL W. V. MURET	8N48	40890	DRCDE-DF
Ind Sot/Eng Dev/Spt	COL F. M. KANE	8N48	48605	DRCDE-DG/DS
Aviation	COL H. M. RAWET	8N28	43392	DRCDE-DH
Spec Munitions	MR. C. RUBEN	8N48	43970	DRCDE-DM
Armor/Infantry	COL F. W. McDONALD	8N48	40870	DRCDE-DW
Sgl Int/EW	COL J. E. HAY	8N28	40065	DRCDE-DX
Foreign S & T	MR. B. G. FALES	8N47	48283	DRCDE-E
Prog & Bud	MR. R. G. GREENE	8E14	49849	DRCDE-P
Sys Eval & Test	MR. J. A. LOCKERD	8N22	49815	DRCDE-R
Spec Tech & Eng	MR. J. KICAK	8N14	43928	DRCDE-RE
Test Assessment	Vacant	8N41	49851	DRCDE-RR
Testing	COL G. ROSTINE	8N22	49811	DRCDE-RT
Prog Spt Ofc	MR. G. R. SCOTTA	8N05	45537	DRCDE-S
Admin	MS. B. T. HEARN	8N56	45537	DRCDE-SA
HQ R&D Budget	MS. D. D. ROSEMARES	8N05	45537	DRCDE-SB
WPC	MS. F. M. WEIGEL	8N41	42832	DRCDE-SW
Army RDA Mng	MR. V. L. MARSAWALD	8N29	41856	DRCDE-SM
Intl Svc Ind Info Ctr				
ARMY-MAVEDAF	MS. D. F. MAHON	8E58	42945	DRCDE-TIID

OFFICE OF PROJECT MANAGEMENT DRCPM

Chief	COL W. J. WALTON	10N10	49371	DRCPM
Asst Chief	MR. R. L. MCNELLON	10N10	49370	DRCPM
Admin Off	MS. E. R. COYEE	10N19	42220	DRCPM
Project Offices				
PM TOW	Vacant	10N19	49372	DRCPM
PM CHAPARRAL	MR. B. B. NOLLEY	10N19	49373	DRCPM
MSE INT	Vacant	10N33	49373	DRCPM
MGT INT	LTC J. D. EISENHITZ	10N33	49372	DRCPM
MGF INT	MR. J. H. DAVIDSON	10N33	49372	DRCPM
MSE INT	MRS. B. DECATUR	10N33	48372	DRCPM
ARROCOM, ARRADCOM	MR. E. H. MEADE	10N25	49379	DRCPM
	MR. J. M. CLARK	10W13	45671	DRCPM
AVRADCOM, TSARCOM	MR. N. A. VAISLANT	10N25	49379	DRCPM
	MR. D. E. EEADEY	10W13	45671	DRCPM
CERCOM/CORADCOM/ERADCOM	MRS. M. MASEK	10N25	49581	DRCPM
RECAP/DISLOGCAP	MR. G. B. LEVY	10N25	49581	DRCPM
TACOM	MR. H. C. MERVIN	10W13	45671	DRCPM
TACOM/AVRADCOM	MR. G. D. DUNCAN	10W13	45671	DRCPM
MICOM/SAR	MR. P. O. ANGIE	10W13	45671	DRCPM

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HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

5001 EISENHOWER AVE., ALEXANDRIA, VA 22333

NOVEMBER 1981
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