TRADOC ANNUAL COMMAND HISTORY

1 JANUARY TO 31 DECEMBER 1993

HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23651-5000

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U.S. ARMY TRAINING AND DOCTRINE COMMAND
ANNUAL COMMAND HISTORY
1 January to 31 December 1993

(RCS CSHIS-6 (4))

By
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Editor

Office of the Command Historian
U.S. Army Training and Doctrine Command
Fort Monroe, Virginia

July 1994

GENERAL FREDERICK M. FRANKS, JR.
COMMANDING GENERAL
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
23 August 1991 -

FOREWORD

This volume is the official historical record of the work executed for the United States Army during 1993 by Headquarters Training and Doctrine Command. It is written in order to best serve present and future commanders and staff--from the commander's perspective. Any review of the year will mark the publication of Army and joint-service post-Cold War operations doctrine as the event of first significance in 1993. But the year included many other important projects, such as lead-up work--at the TRADOC Battle Laboratories--toward the institution of major tactical and force-design change based on the application of highly integrated communications and information technology. Such major topics are presented in chapters focused on TRADOC's principal mission and support functions. Chapters in this history treat the development of the Army's post-Cold War doctrine; the significant joint, theater, and other doctrinal projects for which TRADOC was responsible; force design and equipment requirements; training and leader development; the Modern Louisiana Maneuvers effort; training support; and mission support. An Introduction discusses the thrust of change under TRADOC Commanding General Frederick M. Franks, Jr., the emergence of Hampton Roads in 1993 as the nation's military doctrine center, TRADOC's 20th year commemoration, and the organizational changes occurring in the framework of the post-Cold War era and the historic drawdown of U.S. Army strength.

The 1993 Annual Command History is the most recent volume in a continuous documented record of TRADOC since its establishment in July 1973. It fulfills the Command's regulatory requirement to the Army Historical Program. The Command's annual histories place at the disposal of contemporary and future Army decision makers, planners, and researchers a detailed record of the work of the Army's overall development agency in the 20 years spanning the end of the Vietnam War; the ensuing era of modernization and reform of the Army's training, doctrine, weaponry, and tactical organization; and the historic changes proceeding from the collapse of communism, the end of the Cold War, the 1991 war in the Persian Gulf, and the development of the smaller force projection Army of the early 1990s. Together with book-length historical monographs and studies published by the Office of the Command Historian, the TRADOC annual histories furnish both a documented record and historical perspective to inform and aid decisions on preparing the Army for war and charting its future.

A set of volumes containing key historical documents supplement the narrative volume. Those and other documents, oral interviews with staff personnel having first-hand knowledge of events, and semiannual staff historical reports are the basis of the narrative. The latter reports, which outline the hundreds of development projects and initiatives for which Headquarters TRADOC was responsible, are maintained as an important component of the total year's history. Footnotes in the narrative volume document all sources. Those references include appropriate security indication. They also identify the significant appended documents by chapter and number, a list of which appears in the back of the volume. Graphics, tables, and charts support the narrative. They appear in appendices and in the resource data section, along with photographs of the Headquarters General Staff, in the back of the volume and are listed in the table of contents. Illustrations have been added to this year's history. An index facilitates location of specific topics.

The Office of the Command Historian extends sincere thanks to the Headquarters staff for the documents, interviews, and reports they provided and without which the annual command history could not have been written. The volume was cooperatively produced. Mr. John L. Romjue, Chief of Historical Studies and Publication, wrote the doctrine chapters, force design coverage, and overview section of the Introduction, and coordinated planning and production. Dr. Anne W. Chapman, Research Historian, wrote the chapters on the Modern Louisiana Maneuvers, training and leader development, and training support, and prepared the organization section of the Introduction. Dr. James T. Stensvaag, Chief of Historical Programs and Policy, wrote the mission support chapter. Dr. Susan Canedy, Archivist, wrote the Battle Laboratories, combat developments management, and weapons coverage in the force design and equipment requirements chapter. Dr. Charles H. Cureton, Staff Curator, selected and prepared the illustrations. Format development, manuscript production, and a wide range of editorial tasks were well executed by Mr. Joseph H. Mason III, Archives Technician. Overall editorial responsibility for the volume rests with the undersigned.

8 July 1994

HENRY O. MALONE, JR., Ph.D.
Chief Historian
Training and Doctrine Command

TABLE OF CONTENTS

Appendices

Resource Data

Commander and General Staff Photographs

Illustrations

Cover Photo: U.S. Army soldier today: mobile, trained professional, meeting the requirements of a force projection Army

Troops in deployment training. The end of the Cold War led to the creation of a smaller, force-projection Army based primarily in the United States.

INTRODUCTION

The Post-Cold War Era

The post-Cold War era that followed upon the collapse of communism and the dismantlement of the Soviet state and empire during 1989-1991 introduced major military-strategic change affecting the United States Army and its overall development agency, the Training and Doctrine Command (TRADOC). In briefest summary, that change had encompassed the Army's rapid drawdown and reorientation from a substantially Europe-based Cold War force. That force, which had been focussed on the primary, Soviet armored threat to NATO Europe, gave way to a smaller force-projection Army based preponderantly in the United States.[1] At a strength of 780,000 and 18 Active Army divisions at its peak in the mid-1980s, the active force had shrunk to 641,000 by the end of September 1992, with an active division count reduced to 14 by the end of that year. Fourteen divisions remained in the Active Army at the close of 1993, but with active strength dropping below 600,000. Of the 14 divisions, Only 3 remained overseas, 2 in Germany and 1 in Korea. Further reductions to 535,000 personnel and 12 active divisions or lower by 1995 had been projected by the Bush Administration Base Force planning. Equivalent reserve component cuts were to accompany the active drawdown. In September 1993, results of the follow-up Defense Department "Bottom-Up Review" of the Clinton Administration proposed still deeper reductions, to 10 active divisions and approximately 500,000 personnel. As earlier editions of this history have noted, the Cold War's end and the sharp troop reduction affected TRADOC across all its development missions for the Army in the early 1990s.[2]

Concomitantly with the world political-strategic events and Army force reorientation occurred the significant military operations that began in 1989. Operation Just Cause, the U.S. intervention of December 1989-January 1990 in Panama to assure installation of the legally elected government, was followed shortly by Operations Desert Shield and Desert Storm, the major United Nations operation of 1990-1991 to drive back and defeat the Iraqi invasion of Kuwait. In December 1992, the United States joined other U.N. forces to launch Operation Restore Hope, an international relief expedition to ameliorate widespread starvation conditions in Somalia caused by warring tribal factions. The three military actions--a swift unilateral coup de main, a major coalition war that defeated a serious threat to world oil supply, and a significant multinational humanitarian mission requiring constrained military power--were dramatic demonstrations of the new era at hand.

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1. For a summary of the major events of 1989-1991 noted and their impact on TRADOC, see TRADOC Historical Monograph, John L. Romjue, Susan Canedy, and Anne W. Chapman, Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command, 1973-1993 (Ft. Monroe, Va.: Office of the Command Historian, 1993) (hereafter: Prepare the Army for War), pp. 115-23.

2. (1) Profile of the Army: A Reference Handbook, Arlington, Va.: Association of the United States Army Institute of Land Warfare, Jan 1993, p. 27. (2) Reuter Transcript Rept, Department of Defense News Conference, Topic: DOD Bottom-Up Review, Participants-SecDef Les Aspin, CJCS General Colin Powell, Pentagon, Washington, D.C., 1 Sep 93.

As the U.S. Army adjusted to the strategic shift and new range of military challenges, TRADOC's charge and responsibility was to lead the Army through the intellectual change required to prepare it for power projection in the new era. That charge, directed by Chief of Staff of the Army General Gordon R. Sullivan, accorded with TRADOC's regulatory missions. Those missions were: to conduct combat developments and guide, coordinate, and integrate the Army's total combat developments effort; to conduct concept and doctrine development; to develop and maintain the training system by which the total Army trained to fight; and to command its organizations and installations. In the new world of 1993, TRADOC saw the essence of its mission to be to set training standards and run the Army "schoolhouse;" to provide viable materiel investment options as the Army's user representative that would retain the battlefield edge; to help the Army look to the future in warfighting, including joint and combined operations; and to foster organizational excellence. In sum and essence, TRADOC's basic purpose continued to be to prepare the Army for war and to be the architect of the Army's future.[3] That purpose was carried out from its headquarters at Fort Monroe, Virginia through 2 major subordinate commands, 6 initial entry training centers, 27 service schools, the ROTC Cadet Command, and the analytic and other activities it directed on its own 16 installations and on 11 installations of other Army commands.

The Franks Command

The year 1993, which would mark the twentieth anniversary of TRADOC's establishment, saw the fruition of important doctrinal work and steady progress in other highly focused development projects. Assuming office as the eighth TRADOC commander in August 1991, General Frederick M. Franks, Jr. had set initiatives in motion late that year and in 1992 that promised to have far-reaching impact on TRADOC and the Army in the 1990s decade.

General Franks' preceding assignment had been command of VII Corps. He had supervised the strategic deployment of that force from Germany to the Persian Gulf between November 1990 and February 1991 and had led it in the concerted military maneuver by which the allied forces had encircled and defeated the Iraqi Army. Franks took command of TRADOC as the final events were playing out in the Soviet Union leading to the disintegration of that state into independent republics at the close of 1991. In the new strategic era emerging, new doctrinal assumptions were apparent. At the direction of the Army Chief of Staff, General Franks had early begun the revision of fundamental Army doctrine. He also began and supported other initiatives directed toward General Sullivan's charge to TRADOC to lead the Army through the intellectual change needed to meet the United States' ground force requirements in the post-Cold War era.

New Doctrinal Basis for the Army

Awareness that a new strategic era was at hand--with the end of the Soviet threat and the advent of the Gulf War--had prompted TRADOC to start the significant revision of the Army's basic manual of doctrine, FM 100-5, Operations, in August 1991. Building on work

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3. Briefing slides, TRADOC Vision in Support of the Force Projection Army, briefing presented to TRADOC Liaison Officer Conference, Hampton, Va., 17 Mar 93.

by his predecessor, General John W. Foss, but departing significantly from it, General Franks and his writing team and staff formulated a revised doctrine for the post-Cold War Army, published in June 1993.

Reoriented to a force projection Army and strategically widened to accommodate the Army's need for a new versatility to meet the deployment challenges of the new era, the 1993 doctrine retained a strong focus on warfighting. It left behind the descriptor of the Army's predecessor doctrine, AirLand Battle, that had focused on the Soviet armored threat to NATO Europe. Significant new concepts were articulated, centered on the "battle dynamics" that were seen to encapsulate the critical main points of battlefield change in the 1990s. General Sullivan saw the doctrine as the Army's instrument and basis for change. Pursuing that approach, General Franks viewed the emerging doctrine as the basis for all TRADOC's work. We will discuss the development and publication of the new 1993 Army doctrine below in this history.[4]

Other TRADOC Initiatives

Several other significant new approaches to the training and doctrine mission marked Franks' command during 1991-1993. Of first importance was establishment, by the Chief of Staff of the Army, of the Louisiana Maneuvers project at Fort Monroe in May 1992. Emulative of the Army's Louisiana Maneuvers of 1941, the modern Louisiana Maneuvers were a multiyear effort, employing major simulated exercises at the theater level of operations, to bring together and focus the forces of change and cohesion in the transition to the power projection Army.[5]

Another significant initiative, begun by General Franks, was establishment of "Battle Laboratories" on several TRADOC installations in May 1992, Employing experimentation, simulations, exercises, analyses, and "virtual reality" technology, the Battle Labs were created as a means to more rapidly develop force projecting Army capabilities in specific areas in which the dynamics of battle were undergoing sharp change in the early 1990s. In the areas of early entry, lethality, and survivability; depth and simultaneous attack; mounted (armor) battle space; dismounted (infantry) battle space; battle command; and combat service support, the Battle Labs in 1993 worked to particularize, intensify, and accelerate the development process across all the TRADOC missions.[6]

Another element of the ongoing work was the attention focused on the command link to the region-assigned commanders-in-chief. That program of TRADOC high level visits and interchanges served as a valuable conduit for accommodating the development needs of those commands directly and expeditiously. In the ongoing era of shrinking resources, the

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4. For a summary of the doctrine development effort culminating in 1993, see below, pp. 23-24.

5. For a background summary of the Louisiana Maneuvers project through December 1992, see TRADOC ACH, CY 92, pp. 19-29. For a summary of 1993 developments, see below, pp. 129-49.

6. TRADOC ACH, CY 92, pp. 5-6, 79-82. For 1993 Battle Lab developments, see below, pp. 92-94.

TRADOC commander also initiated a program of divestiture to eliminate TRADOC activities, tasks, and missions within the command that had clearly receded to marginal value and relevance or had poorly defined purpose.[7]

Noteworthy for TRADOC's leadership training objectives was a series of TRADOC pamphlets prepared under the title, Leadership and Command on the Battlefield. Prepared by the Commander's Planning Group, the pamphlets were based on the insights of interviewed commanders and leaders in Operations Just Cause and Desert Storm. The aim was to present a crystallized, concise, highly readable record, taken from those recent operations, of the experience of leadership and command in order to assist current and future combat leaders. Following the inaugural pamphlet on battlefield leadership at higher levels, published in 1992, TRADOC published a second pamphlet on battalion and company leadership and command in 1993. Projected were further pamphlets on battle staff, the noncommissioned officer corps, family support, and operations other than war.[8]

Other important work was in progress under General Franks' direction: continuing efforts to improve training and leader development, significant work in Army and joint doctrine, conceptual future battle efforts, major strides in the application of simulations to training and to development, important interchanges with allied armies and in international fora, and internal activity to "re-engineer" the command structurally to maintain training and doctrinal excellence even as command manpower and resources were shrinking with the downsizing Army of the early 1990s. All those topics and other aspects of TRADOC's role in the readiness and future of the Army-in-transition will be discussed below in this history.

Emergence of Hampton Roads as Military Doctrine Center

Several important organizational and doctrinal events in 1993 culminated trends that led to the emergence of the Hampton Roads area of Virginia that year as the leading military doctrine center for the U.S. armed services.

The Service Development Commands

The Hampton Roads co-location of important service commands with tactical doctrine roles dated from 1946 when General Dwight D. Eisenhower, the Army Chief of Staff, had moved the Army Air Forces' newly created Tactical Air Command (TAC) and Headquarters Army Ground Forces both to adjacent locations on the lower Virginia Peninsula: Langley Air Force Base and Fort Monroe, respectively. The decision logic was that they could there work on common issues with each other and with the Navy's Atlantic Fleet headquarters based across Hampton Roads harbor at Norfolk. The Army's doctrine mission remained through the period at the Fort Monroe headquarters of the Army Ground Forces' successor commands--Office, Chief of Army Field Forces, Continental Army Command, and TRADOC--

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7. TRADOC ACH, CY 92, p. 6.

8. (1) TRADOC Pam 525-100-1, Leadership and Command on the Battlefield: Operations Just Cause and Desert Storm. Fort Monroe, Va.: HQ TRADOC, 1992, Doc Intro/1. (2) TRADOC Pam 525-100-2, Leadership and Command on the Battlefield: Battalion and Company. Fort Monroe, Va.: HQ TRADOC, 1993, Doc Intro/2. These projects were led by Lt Col Toby W. Martinez, CPG, assisted by Dr. Susan Canedy, OCH.

except for an 11-year hiatus between 1962-1973 when that mission resided with the Combat Developments Command at Fort Belvoir, Va. in the Washington, D.C. area. In 1973, the Combat Developments Command and Continental Army Command were disestablished and TRADOC and the Forces Command created.

The Tactical Air Command retained its Langley Air Force Base location, a 15-minute auto trip from Fort Monroe. Air Force doctrine responsibilities, unlike those for the Army, were centralized in the Air Staff, and the TAC concern with tactics and techniques was therefore not service-wide. But the common bi-service interest, centering on Air Force close air support of Army ground action, made contacts between the two service command headquarters on Hampton Roads fruitful through the period.[9] The commonality of interests led to a much closer relationship when Headquarters TRADOC, acquiring the Combat Developments Command doctrinal mission, replaced U.S. Continental Army Command at Fort Monroe in July 1973.

The new TAC-TRADOC relationship was given impetus by the two service heads, General Creighton Abrams, Chief of Staff of the Army, and his Air Force counterpart General George S. Brown. The service chiefs' cooperation grew out of the increased cooperation at the operational level engendered during the Vietnam conflict. General Abrams urged the new TRADOC commander, General William E. DePuy, to further the Air Force-Army dialogue at his own level. A concomitant TAC initiative helped set up a formal "TAC-TRADOC Dialogue" in October 1973 that soon led to establishment of the first of a number of joint agencies. Many cooperative ventures came out of TRADOC's work with TAC and, beginning in 1992, with the Air Combat Command (ACC) when that command replaced TAC at Langley Air Force Base, with responsibility for all Air Force combat forces, both tactical and strategic.[10] Also noteworthy were the beginnings of cooperative work by TRADOC in the late 1970s with the U.S. Military Airlift Command headquartered at Scott Air Force Base, Illinois, in bi-service communications and logistics matters.

The Air Force and Army shared the common combat interest of bringing military force to bear in land campaigns. Such close mission ties did not exist at the tactical and operational levels with Naval forces proper. However, Navy interest in studies and programs ongoing between TAC and TRADOC led to frequent Atlantic Fleet participation in them. As that interest grew, the TAC and TRADOC commanders and the Commander-in-Chief, Atlantic Fleet signed a 3-service memorandum of agreement in 1984 on the development of joint operational concepts, tactics, and procedures.[11]

As the Navy's arm for land power and air power projection from the sea, the Marine Corps shared with the Army many similar battlefield challenges, as well as much common equipment. That conjunction of interests had early led, in 1974, to a TRADOC dialogue with the Marine Corps Development and Education Command (MCDEC), located at Quantico, Va.,

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9. For a summary of the background of Air Force-Army developments, see Richard G. Davis, The 31 Initiatives: A Study in Air Force-Army Cooperation (Washington, D.C.: Office of Air Force History, 1987), pp. 5-24.

10. Prepare the Army for War, p. 66.

11. TRADOC Hist R, 84-86, pp. 98-99. (SECRET --Info used is UNCLASSIFIED)

Force projection of U.S. Army troops provided for rapid movement of key units to meet security challenges around the world.

and to a TAC-TRADOC-MCDEC memorandum of agreement. In 1984, the three service commands signed a new memorandum of agreement similar to the Atlantic Fleet document earlier noted.[12]

Mission Expansion of the U.S. Atlantic Command

A further doctrinal link was to grow out of the mission expansion in 1993 of the U.S. Atlantic Command, a unified command headquartered at the Norfolk Naval Base and the unified parent command of the U.S. Navy Atantic Fleet. A number of factors brought about the mission expansion. The Department of Defense reforms following the 1986 Goldwater-Nichols legislation led to stronger subsequent roles for the region commanders-in-chief. Joint and combined operations both attained new prominence in the 1991 Gulf War. In the face of budgetary and force downsizing and overseas withdrawals, President Bill Clinton signed in September 1993 a Unified Command Plan that made U.S. Atlantic Command (USACOM) the joint command for the continental United States and the largest unified command. The Atlantic Command commanded the Atlantic Fleet, Air Combat Command, Army Forces Command, and Marine Forces Atlantic. USACOM kept its mission of keeping the sea lanes to Europe open, and its commander remained as Supreme Allied Commander Atlantic. But the new authority made USACOM responsible for joint training and readiness of U.S. forces. The Atlantic Command was expected to work with the services in developing and testing joint doctrine.[13]

The Joint Agencies

The cooperative ventures of TRADOC with the Tactical Air Command, the Marine Corps Development and Education Command, and subsequently with the Atlantic Fleet required putting in place joint agencies to serve as integrating mechanisms. Three such agencies, differing and changing in composition, were established. Two were situated locally at Langley Air Force Base, with the third at Scott Air Force Base, Illinois. As the interservice relationships evolved, an early concentration on procedures to improve joint capabilities and to implement existing doctrine grew into an increasing focus on the development of integrated multiservice and joint doctrine.[14]

Following establishment of a joint actions steering committee and the first of a series of joint working groups, the TRADOC and TAC commanders established the Air-Land Forces Application (ALFA) Agency[15] in July 1975. The ALFA charter was to supervise the working groups and manage the air-land efforts of the two commands and their subordinate organizations. ALFA was established with a small mixed Air Force-Army staff, its command rotating

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12. (1) TRADOC ARMA, FY 74, p. 258. (2) TRADOC Hist R, 84-86, pp. 98-99. (Both SECRET -- Info used is UNCLASSIFIED)

13. "Atlantic Command Becomes Largest U.S. Unified Command," The Wheel, Ft. Eustis, Va., 28 Oct 93.

14. For the documented historical record of the origins and development and extensive work of the joint agencies, see TRADOC annual historical volumes, FY 1974 through CY 1992.

15. Originally Air-Land Forces Application Directorate

annually. The TAC Deputy Chief of Staff for Plans and, initially, the TRADOC Deputy Chief of Staff for Combat Developments (later the DCS for Doctrine) chaired the steering committee. Important joint procedures manuals, concepts, and agreements including documents treating airspace management, offensive air support, and joint attack of the enemy second echelon came out of the ALFA work. Those efforts expanded when the Army and the Air Force, in April 1983, launched the 31 Initiatives Program. That multiyear effort aimed at remedying the services' "jointness" difficulties highlighted by the operationally flawed Grenada operation of 1982. As the service commands moved increasingly into the writing and publication of multiservice doctrine, ALFA continued through the 1980s and early 1990s to contribute doctrine volumes and joint concepts.

Atlantic Fleet membership on the ALFA joint actions steering committee had followed in March 1984, and in 1985, the Chief of Naval Operations authorized the Atlantic Fleet to speak for the entire Navy concerning ALFA projects. Also in May 1984, as noted, the Marine Corps Development and Education Command became a member of ALFA. In November 1987, that command was reorganized as the Marine Corps Combat Development Command (MCCDC), and in a new memorandum of agreement, the director of the Marine Air-Ground Task Force Warfighting Center became the fourth member of ALFA's joint action steering committee. Participation of Navy representatives, however was not continuous in the ensuing years.[16]

In the wake of Operation Desert Storm experience in all-service cooperation, ALFA underwent change in 1992. In a new and more formal and permanent arrangement presaging heavier Navy involvement, ALFA was redesignated in August 1992 the Air Land Sea Application Center (ALSA). A June 1992 memorandum of agreement placed the Director for Plans and Policy, Atlantic Fleet on the ALSA joint actions steering committee together with the MCCDC deputy commander, the Air Combat Command's DCS for Plans, and TRADOC's DCS for Doctrine. As Navy involvement in joint doctrine developed further and a Naval Doctrine Command (to be discussed below) was established, the commander of that agency formally replaced Atlantic Fleet on the ALSA joint committee by a revised memorandum of agreement of 1 October 1993.[17]

Joining ALFA as a result of the 31 Initiatives Program were two other joint agencies. An initiative on intratheater airlift led to establishment by TRADOC and the Air Force Military Airlift Command (MAC) of the Airlift Concepts and Requirements Agency (ACRA), at Scott Air Force Base, Illinois, by a memorandum of 16 August 1984. ACRA was chartered to coordinate and integrate TRADOC-MAC efforts in developing and promulgating joint airlift concepts and doctrine. ACRA's joint actions steering committee consisted of the MAC Deputy Chief of Staff for Plans and TRADOC's DCS for Doctrine. A further memorandum of

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16. Interview of Brig Gen Timothy J. Grogan, DCS for Doctrine, HQ TRADOC, by John L. Romjue, Ft. Monroe, Va., 22 Jan 93.

17. (1) TRADOC AHR, CY 87, p. 94. (SECRET -- Info used is UNCLASSIFIED) (2) TRADOC ACH, CY 92, p. 38. (3) MOA between HQ USATRADOC, HQ USAF ACC, Naval Doctrine Command, HQ USMCCDC, subj: Air Land Sea Application (ALSA) Center, 1 Oct 93, Doc Intro/3. (4) The Cdr, Naval Doctrine Command actually assumed membership on the ALSA joint action steering committee effective 21 Jul 1993. Msg, COMNAVDOCCOM to distr, 211130Z Jul 93, subj: NDC Assumption of Duties and Responsibilities as Joint Action Steering Committee Member at the Air Land Sea Application (ALSA) Center, Doc Intro/4.

agreement of September 1985 widened ACRA to include MCDEC representation, and in May 1987, the Atlantic Fleet was named executive agent for Navy airlfit matters. When MAC was reorganized as the Air Mobility Command in the 1992 realignment of Air Force commands and functions, the DCS for Plans and Programs of the Air Mobility Command assumed the steering committee role in ACRA.

In September 1993, the commanders of TRADOC, MCCDC, the Air Mobility Command, and the new Naval Doctrine Command signed a memorandum of understanding that changed ACRA from a bi-service to a 4-service agency and retitled it the Mobility Concepts Agency (MCA), effective 1 October 1993. The mission of MCA was at that time expanded from airlift to include all modes of transportation. In line with the centralization of service doctrine agencies in Hampton Roads, plans became firm late in the year to relocate MCA in 1994 to Fort Monroe.[18]

A third joint agency also came out of the 31 Initiatives of the 1980s. The two service headquarters established the Army-Air Force Center for Low Intensity Conflict, or CLIC, at Langley Air Force Base in January 1986 as a focal point for study of military operations in the broad realm generally described as low intensity conflict and to provide recommendations to the ARSTAF and Air Staff. A general officer executive council, constituted of one Army and two Air Force major generals and the CLIC commander exercised general supervision. The TRADOC DCS for Doctrine served as the Army representative, while the Air Force members were the DCSs for Plans from TAC and MAC. The CLIC commander position, like that of the other agencies, rotated annually between Air Force and Army. However, CLIC was not only bi-service oriented; it carried a charter to work with other agencies of the Department of Defense and the rest of the federal government. In June 1990, Army oversight of CLIC was transferred from Headquarters TRADOC to the ARSTAF Deputy Chief of Staff for Operations and Plans. TRADOC retained, however, a close relationship with CLIC for assistance in low intensity conflict concept, doctrine, and training matters.[19]

Doctrine Writing at Headquarters TRADOC

The service doctrine, tactics, and procedures work and the joint-agency activity which TRADOC, TAC, and MCCDC carried out--in which the increasing interest of Atlantic Fleet was apparent--had in the 1980s made the Hampton Roads area an important focus of doctrinal activity. But late in that decade, Headquarters TRADOC itself emerged as an important doctrine writing location. That activity was exclusive of the headquarters' management of Army-wide doctrine writing and its management and support of joint doctrine writing through the TRADOC schools and major subordinate commands. Before the late 1980s, headquarters doctrinal work had been largely restricted to program management, production management, concept development, and allied Army staff talks and international fora activity. However, in 1988, TRADOC moved the responsibility for writing echelons-above-corps

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18. (1) TRADOC AHR, CY 87, p. 98. (SECRET -- Info used is UNCLASSIFIED) (2) SSHR, ODCSDOC, CY 93/II, pp. IX-1to IX-2. (3) MOA between HQ USATRADOC, Cdr Naval Doctrine Command, HQ USAF AMC, HQ USMCCDC, no subject [expansion and retitling of Airlift Concepts Requirements Agency to Mobility Concepts Agency], n.d. [effective 1 Oct 93], Doc Intro/5.

19. (1) TRADOC Hist R, 84-86, pp. 102-03. (SECRET -- Info used is UNCLASSIFIED) (2) TRADOC ACH, CY 90, p. 16.

doctrine from the Combined Arms Center at Fort Leavenworth to Fort Monroe in line with "Vision 91" decisions of that year. The Vision 91 directives had set clear TRADOC doctrine writing responsibilities by branch school, integrating center, and headquarters, the latter becoming responsible for writing theater doctrine.[20] The echelons-above-corps decision moved the proponency for a number of Army field manuals directly to the Headquarters TRADOC Office of the DCS for Doctrine.

In the early 1990s, work on the theater level manuals at Fort Monroe proceeded, their progress strongly influenced and necessarily slowed in most instances by theater and combined operations lessons eventuating from the Gulf War and evolving operations doctrine. The headquarters wrote and published theater-level Army field manuals on mobilization, deployment, redeployment, and demobilization in October 1992, and on domestic support operations in August 1993. Work on further theater manuals was intense during 1993. Five were scheduled for 1994 publication, manuals treating the Army in theater operations, combined army operations, Army operational support, peace support operations, and Army pre-positioned afloat concerns.[21]

Paralleling the Army theater-level doctrine writing at Fort Monroe was Headquarters TRADOC direct involvement in the Joint Doctrine Program launched by the J-7 directorate of the Joint Chiefs of Staff (JCS) in 1987, to be discussed below in this history.[22] Of the comprehensive set of manuals planned to provide joint doctrine for the four services, a significant portion fell to the responsibility of the Department of the Army. Of those, many were assigned to Headquarters TRADOC proponency. TRADOC subordinate commands and schools had major roles in the TRADOC-assigned joint manuals, which the headquarters coordinated. In addition, however, the headquarters itself was proponent for major manuals under the JCS program. Of first-order importance was the basic joint operations manual Doctrine for Joint Operations, JP 3-0, written at Fort Monroe and published by the JCS on 9 September 1993. Headquarters doctrine writers were active with JCS manuals for command and control of joint operations, doctrine for joint fire support, and doctrine for campaign planning during 1993.[23]

The New Doctrine Centers

In 1993, both the U.S. Air Force and the U.S. Navy established doctrine centers in Hampton Roads, joining the Army's Training and Doctrine Command. In addition, JCS decisions late in the year announced selection of Fort Monroe as the location for a new Joint Warfighting Center, organized administratively at Norfolk Naval Air Station In July 1993.

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20. TRADOC AHR, CY 88, pp. 22-24. (FOR OFFICIAL USE ONLY -- Info used is not protected)

21. SSHR, ODCSDOC, CY 93/II, pp. III-2 to III-3. See below, pp. 49-50, for further information on 1993 development of theater doctrine.

22. For a discussion of joint doctrine developments, see below, pp. 41-49.

23. (1) Interview of Col Ricky Rowlett, Dir, ODCSDOC Joint Doc Dir, by John L. Romjue, OCH, 4 and 15 Feb 94. (2) SSHR, ODCSDOC, CY 93/II, pp. IV-1 to IV-3.

On 12 March, the Naval Doctrine Command was established and opened its offices at the Norfolk Naval Base under the command of Rear Admiral Frederick L. Lewis, with approximately fifty Naval and Marine Corps personnel assigned. By mission, the Naval Doctrine Command was to be ". . . the primary authority for the development of naval concepts and integrated naval doctrine, serve as the coordinating authority for the development and evaluation of Navy service-unique doctrine, provide a coordinated USN/USMC naval voice in joint and combined doctrine development, and ensure naval and joint doctrine are addressed in training and education curricula and operations, exercises, and war games." Establishment of the command reflected the Navy's post-Cold War reorientation from open-sea warfare against the Soviet threat, to the philosophy laid out in the 1992 Navy White Paper, "From the Sea," directed to operational maneuver from sea to littoral in smaller conflicts worldwide.[24]

The Air Force Doctrine Center was established on 21 July at Langley Air Force Base with Col. Robert D. Coffman, USAF, reporting directly to the Air Staff Director of Plans, assigned as its first commander. Initial staffing of the center was forecast at approximately 20 military and civilian personnel. The mission of the new doctrine center was to develop and publish basic and operational doctrine for the Air Force and direct participation in joint and combined doctrine development. Creation of the center was intended to centralize Air Force doctrine development and streamline and simplify doctrine responsibilities previously diffused in other commands, and to work closely with joint and service development organizations. Defining the Air Force future use of space was another primary goal of the Air Force Doctrine Center.[25]

Already existent in 1993 and situated at the Naval Air Station, Norfolk, was the Joint Doctrine Center, a field operating agency of the JCS J-7. As that agency's doctrine planning moved forward early in the year, the Joint Doctrine Center, together with the Joint Warfare Center at Hurlburt Field, Florida, were organizationally combined to form the Joint Warfighting Center. Pending decisions on its permanent location, the new center was organized administratively at Norfolk Naval Air Station on 1 July 1993. Plans were that it would be fully operational by 1 October 1994. In December 1993, the Joint Chiefs of Staff announced establishment of the Joint Warfighting Center and the selection of Fort Monroe for its permanent location. Transition team activities began at Fort Monroe that month.

The Joint Warfighting Center was planned to provide core expertise to assist the planning, execution, and assessment of joint exercises and training activities. As a joint war gaming and simulation center, it would facilitate the joint doctrine development process,

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24. (1) Capt Donald Luebbeck, USN, "Service Initiatives: Naval Doctrine Command," A Common Perspective, Norfolk, Va., Joint Warfighting Center, Vol. 1, No. 1, Apr 1993, p. 7. (2) A.J. Plunkett, "Navy Opens Think Tank in Norfolk," (Newport News, Va.) Daily Press, 13 Mar 93.

25. (1) Lt Col Tim Gann, USAF, "Service Initiatives: Air Force Doctrine Center," A Common Perspective, Sep 1993, p. 10. (2) A.J. Plunkett, "Doctrine Center Opens at Langley," (Newport News, Va.) Daily Press, 22 Jul 93.

An important tribute paid during TRADOC's 20th year celebration was memorialization of the headquarters command building as DePuy Hall. General William E. DePuy was TRADOC's first commander and driving force behind the Army's post-Vietnam doctrine and training reform. In this 1945 photograph, DePuy, a much decorated soldier, receives the Distinguished Service Cross.

serving as a focal point for emerging warfighting concepts. A center staff was planned of approximately sixty Army, Air Force, Navy, Marine, and civilian personnel, augmented by contract employees.[26]

By the close of 1993, the establishment of the new Navy, Air Force, and JCS doctrine centers in Hampton Roads brought U.S. service and joint doctrine activities together with joint agencies, service development commands, and important warfighting and planning hubs, all in close proximity to the newly established joint services integrator, U.S. Atlantic Command.

TRADOC Celebrates 20 Years

An important event in 1993 was TRADOC's celebration of the twentieth year of its establishment on 1 July 1973 in the STEADFAST Reorganization of Army commands in the continental United States. Chief of Staff of the Army General Gordon R. Sullivan and TRADOC commander General Frederick M. Franks, Jr. officiated at anniversary ceremonies held in Continental Park. Addresses by General Sullivan, General Franks, and General Paul Gorman, USA Ret., TRADOC's first DCS for Training and later U.S. Southern Command commander-in-chief, paid tribute to TRADOC's historic role in the modernization and reform of the Army in the 1970s and 1980s. Special tributes were paid to the role of the late General William E. DePuy, the architect of the STEADFAST Reorganization and driving force behind the significant training reforms and innovations and doctrinal formulation of the early and mid-1970s. In ceremonies, the headquarters command building (Building 37) was dedicated as DePuy Hall, and announcement made of the establishment of the William E. DePuy Chair of Leadership to connote the position of Deputy Commandant of the Command and General Staff College. Significant seminars were held at Fort Monroe in conjunction with the anniversary commemoration during 30 June-1 July, treating the topics, "The Face of Future Conflict--A New Era," "The Nature of Future Conflict," and "TRADOC--Looking to the Future."[27]

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26. (1) Col Jim Wood, "Transition to the Joint Warfighting Center," A Common Perspective, Sep 1993, p. 3. (2) "Joint Warfighting Center to be Located at Fort Monroe," Casemate, Ft. Monroe, Va., 3 Dec 93. (3) A.J. Plunkett, "Fort Monroe to Open Warfighting Center," (Newport News, Va.) Daily Press, 3 Dec 93.

27. (1) MFR, OCH, subj: TRADOC 20th Anniversary Ceremony, Ft. Monroe, Va., 1 Jul 93, dated 1 Jul 93. (2) Bklt, USATRADOC 20th Anniversary Ceremony, Ft. Monroe, Va. (3) Msg, Cdr TRADOC to distr, 181010Z Jun 93, subj: Agenda for Seminar Program in Support of TRADOC's Twentieth Anniversary, 28 June-1 July 1993. (4) For a discussion of the seminars and other "futures" work at Headquarters TRADOC, see below, pp. 55-57. For a historical overview of TRADOC's 20 years, see Romjue, Canedy, and Chapman, Prepare the Army for War. For a retrospective of early years efforts, including interviews of former commanders and other personnel, see Casemate, TRADOC 20th Anniversary Edition, 25 Jun 93.

TRADOC Organization in 1993

In 1993, TRADOC continued to respond to the pressures on the military structure as a result of reductions in the defense budget. In addition, a number of actions were ongoing as the command complied with the directives of the 1988 and 1991 Base Closure and Realignment Commissions (BRAC I and BRAC II). During 1993, another BRAC considered additional military installations for closure or realignment. At TRADOC headquarters, the commanding general, General Frederick M. Franks, Jr., began planning to "reengineer" the command to make it more responsive to the post-Cold War environment.

TRADOC functioned as a major command of the United States Army, dedicated to preparing the Army for war and serving as the architect for the Army's future. The Combined Arms Command (CAC) at Fort Leavenworth, Kan. and the Combined Arms Support Command (CASCOM) at Fort Lee, Va. continued as major subordinate commands. Both commanders wore "dual hats" as Deputy Commanding General. During 1993, CASCOM underwent a major reorganization, discussed below. Also dual hatted was the Deputy Commanding General and Chief of Staff of TRADOC. Two other deputy commanding generals, one for the U.S. Army Reserve and one for the Army National Guard, continued to serve in their reserve capacities. The ROTC Cadet Command headquartered at Fort Monroe and the TRADOC Analysis Center (TRAC) at Fort Leavenworth with elements at Forts Monroe, Lee, Benjamin Harrison, and White Sands Missile Range, functioned as major subordinate elements.

Within the headquarters (Appendix A) the TRADOC Chief of Staff was assisted by seven General Staff deputies. As manned during 1993 (Appendix B), those positions included the Deputy Chief of Staff for Base Operations Support (DCSBOS), Training (DCST), Doctrine (DCSDOC), Combat Developments (DCSCD), Resource Management (DCSRM), Information Management (DCSIM), and Analysis (DCSA). The commander of the TRADOC Analysis Center was dual hatted as DCSA. TRAC was redesignated from "Command" to "Center" on 18 June 1993. On 17 June, the general officer position of commander was replaced by Director, TRAC, when Mr. Michael F. Bauman of the Senior Executive Service assumed the top position. Since TRAC was no longer resourced with a general officer, the senior colonel became commander of troops. The TRAC director reported directly to the TRADOC commander; in his role as Deputy Chief of Staff for Analysis, the TRAC director reported to the TRADOC Chief of Staff. At TRADOC headquarters, Fort Monroe, Va., an Assistant Deputy Chief of Staff for Analysis represented TRAC.[28] At the direction of the TRADOC commander, the position of DCS for Intelligence was established in the HQ under the DCS for Doctrine. On 17 June 1993, the TRADOC Chief of Staff approved transfer of six billets from Headquarters CAC to the Intelligence Directorate of the Office DCS for Doctrine. The Directorate head functioned as the newly designated DCS for Intelligence.[29] Constituting the TRADOC commander's special staff were the Chief of Public Affairs, the Staff Judge

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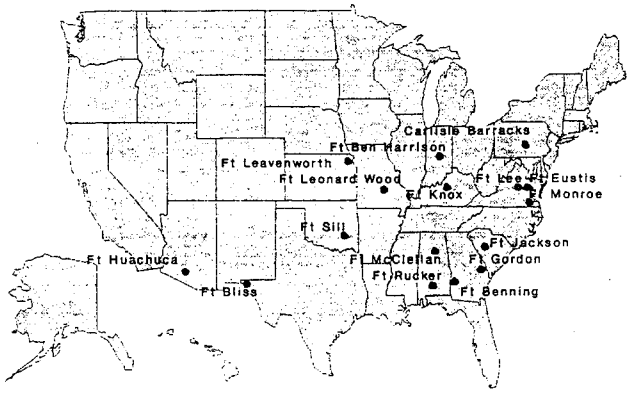
28. (1) TRADOC ACH, CY 92, p. 7. (2) Msg, Cdr TRADOC to distr, 161323 Jul 93, subj: Command of United States Army TRADOC Analysis Center and TRAC, Doc Intro/6. (3) Memo ATCG, General Frederick M. Franks, Jr. to Brig Gen Michael A. Canavan, Cdr TRAC, 7 Jun 93, subj: Command of U.S. Army TRADOC Analysis Center (TRAC), w/encls, Doc Intro/7.

29. SSHRs, ODCSDOC, CY 93/I, p. vi-2; CY 93/II, p. vi-1.

Advocate, the Inspector General, the Office of Internal Review and Audit, the Command Historian, and the Command Safety Office. Also designated special staff were the foreign Army liaison officers to TRADOC.

In addition to functions at headquarters, TRADOC operated several field operating agencies, organizations with special missions that reported directly to the headquarters from a variety of locations. The Army Training Support Center (ATSC) at Fort Eustis and the Security Assistance Training Field Activity (SATFA) in Hampton, Va. reported to the command through the Deputy Chief of Staff for Training. Other field operating agencies included the TRADOC Management Engineering Activity (TRAMEA), centered at Fort Monroe with satellite offices around the command; the TRADOC Library and Information Network (TRALINET), also at Fort Monroe; the Peninsula Civilian Personnel Support Activity which served Forts Monroe, Eustis, and Story from a location in Newport News, Va.; the TRADOC Contracting Activity at Fort Eustis; and the TRADOC Field Element which coordinated the network of TRADOC liaison officers to sister services and foreign armies, from Fort Monroe. Organizations with special missions included the U.S. Disciplinary Barracks at Fort Leavenworth and the Joint Readiness Training Center (JRTC). The latter underwent a change in status and location. During the development of the light forces training center and until 30 June 1993, the JRTC was solely a TRADOC operation located temporarily at Little Rock Air Force Base, Ark., with forward element at Fort Chaffee, Ark. Between June and September 1993, the center moved to a permanent home at Fork Polk, La. The Forces Command commanded the relocated JRTC, whose Operations Group reported to TRADOC. TRADOC headquarters provided direction for twenty major organizations on sixteen TRADOC installations, and nine organizations on installations operated by other major commands at the close of the year. The map below shows the location of TRADOC installations in the United States at the close of 1993. A list of subordinate commands and principal commanders as of 1 October 1993 appears at Appendix C. TRADOC suppported several interservice agencies as previously noted. Resident as a tenant at the headquarters was the Louisiana Maneuvers Task Force, a Department of the Army agency[30]



Source: TRADOC Pam 350-8, TRADOC Primer, 1 Feb 88, as adapted. (UNCLASSIFIED)

30. (1) Fact Sheet ATCS-O, Ofc of the Chief of Staff, 20 Sep 93, subj: TRADOC Vision of DOD Consolidation/Base Closure and Realignment (Near and Far Term), Doc Intro/8. (2) TRADOC Perm Ord 36-4, 9 Apr 93, effective 30 June 1993. The orders redesignated the JRTC as the JRTC Operations Group, Doc Intro/9. (3) For a discussion of interservice agencies supported by TRADOC, see above, pp. 7-9. For a discussion of Louisiana Maneuvers, see below, Chapter V.

Combined Arms Support Command Reorganization

During 1993, elements of the Combined Arms Support Command (CASCOM), located at Fort Lee, Va., underwent a major reorganization. Involved were the combat developments, training developments, proponency offices, evaluation and standardization, and selected school overhead and support functions of the following TRADOC agencies: the Ordnance Missile and Munitions Center and School at Redstone Arsenal, Ala.; the Aviation Logistics School and the Transportation School, both at Fort Eustis, Va.; the Transportation Center at Fort Eustis; the Quartermaster Center and School at Fort Lee, Va.; the Ordnance Center and School at Aberdeen Proving Ground, Md.; the Soldier Support Center at Fort Benjamin Harrison, Ind.; and the Army Logistics Management College at Fort Lee. There were two exceptions to this broad action. First was the Aviation Logistics School where the stated functions of elements unique to aviation would be realigned to Fort Rucker, Ala. The Aviation Logistics School would then be redesignated the Aviation Maintenance Training Activity. Second, was the U.S. Army Chaplain Center and School at Fort Monmouth, N.J., which would restructure to retain all the functions stated above in the school because the Chaplain branch proponency rested in the Office of the Army Chief of Chaplains. In addition, the proposed reorganization would not change the BRAC 91 decision to move the Soldier Support Center to Fort Jackson. Authorizations would be eliminated at the schools and reorganized at CASCOM.[31]

Plans were for the functions of each agency to be performed centrally, but to maintain the unique character of each branch. The school brigades would be augmented from school assets to absorb the functions previously associated with the school secretary. In effect, only instructors and command and control elements would remain at the "school house," with a primary mission of instruction. Only the Chaplain School would be an exception in that it would retain all the functions including the Troop Program Headquarters Company as a single site school. Under the Base Realignment and Closure guidelines of 1993, the Chaplain School would move to Fort Jackson early in 1997.[32]

The reorganization action was scheduled to be fully implemented by 1 October 1994. The rationale for the action was that the downsizing of the Army and severe reductions in the defense budget had begun to degrade the ability of CASCOM schools to accomplish their fundamental TRADOC missions. Under the 1993 organizational structure, it was expected that FY 1994 and FY 1995 reductions would make the schools incapable of performing the functions of combat developments, training developments, proponency, and evaluation and standardization. By centralizing those functions at Headquarters CASCOM, planners hoped to maintain the integrity of the instructional departments at the schools to meet already programmed student training. The proponents' offices, with the exception of the Chaplains School, would be at CASCOM to oversee and conduct work in the four functional areas by

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31. Realignment Summary attached to Memo ATCL-CG, Cdr CASCOM, THRU Cdr TRADOC for HQDA, Attn: DAMO-FDO, 12 Aug 93, subj: U.S. Army Combined Arms Support Command (CASCOM) Reorganization AR 5-10 Documentation, Doc Intro/10.

32. Ibid.

branch "cells" in existing CASCOM directorates. The alternatives to the proposed plan were to take no action or to effect partial consolidation. Neither course of action would provide the necessary savings.[33]

The proposed consolidation of functions at Fort Lee was expected to result in a net military savings of 569 military position authorizations and approximately the same number of civilian positions. Personnel at the schools would be given strong consideration in competing for jobs created at CASCOM. Planners did not expect any major construction or renovation costs to be associated with the reorganization. Eliminations at the Quartermaster School situated at Fort Lee would release physical space for new CASCOM employees. At the end of 1993, the plan had been approved by the TRADOC and CASCOM commanders, and approval by Headquarters Department of the Army was expected in January 1994.[34]

Re-engineering TRADOC

Early in 1993, TRADOC commander General Frederick M. Franks, Jr. announced an ongoing effort to "reengineer" the command to make it "a lean, agile, flatter, more competitive, information-age organization." He stressed that what he had in mind was not "just a smaller version of what we presently have." He went on to say:

> I intend to sustain those core missions of TRADOC, the essence, but not necessarily the individual parts of the command. Sustain does not mean standing still. It means adapting methods to achieve the essence that is right to meet the Army's requirements for the changing times.

General Franks saw TRADOC's "essence" as a three-part core mission to operate the Army's institutions for training and leader development; to be the architect for the future operational Army; and to achieve organizational excellence while accomplishing the first two. As part of re-engineering, TRADOC headquarters would assume responsibility for the integration of all doctrine, training, leadership development, organizational design, materiel requirements, and soldier support (DTOLMS). Thus the headquarters would assume the integration function traditionally held by CAC and CASCOM.

The re-engineering effort was aimed at improving processes to make the organization more effective. It was aimed at eliminating "middle layers" for which value was not added in a large way. The new environment would be designed to allow the command to manage change rather than react to it and to lead the Army through change. In General Franks' words, "It must be a long-term, corporate focus to evolve TRADOC into an organization continually able to meet and stay out in front of the rapidly changing requirements of a force-projection Army."

To help re-engineer TRADOC, General Franks chartered several Process Action Teams (PAT) to explore methods to better accomplish the integration function. Each team concentrated on different TRADOC mission areas, such as training and mission support. To develop

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33. Ibid., p. 2.

34. Ibid., p. 6. HQDA approved the reorganization plan on 14 Jan 94, and it was released to Congress on 26 Jan 94.

its recommendations, PAT members visited TRADOC schools; Battle Laboratories; Air Force, Navy, and Marine Corps units; and Headquarters Department of the Army. As a member of one of the teams stated: "We talked to people from general officers level down to the worker bees to see how integration was working out in the field, and how, if they were in charge, they would make it happen."

On 6 December 1993, General Franks directed the activation of a Commander's Integration Group (CIG) at TRADOC headquarters. The group, which eventually would have approximately twenty-five members, would work to develop a long-term capability for horizontal integration of the TRADOC domains of DTLOMS. For example, the group would study such situations as one in which a hypothetical piece of equipment was delivered to a brigade commander who had no trained soldiers to operate it and maintain it, no manuals on how to use it and maintain it, and no knowledge of the doctrine for its employment. The CIG's members, both civilian and military, would be drawn from headquarters organizations. The core of the group would come from the Integration Team Study Group formed by the Deputy Chief of Staff for Resource Management in September 1993.[35]

Base Realignment and Closure Actions

Fort Dix and Air Base Ground Defense Training

The Commission on Base Realignment and Closure (BRAC) had recommended, among other things, that Fort Dix be realigned to semiactive status, concentrating on reserve component activities. The changes in function for Fort Dix meant a transfer of the base from TRADOC to the U.S. Army Forces Command (FORSCOM) which also commanded the Army Reserve. The transfer took place on 1 October 1992. On 22 June 1992, the last accession took place at Fort Dix's Army Training Center. Two issues related to the realignment of Fort Dix had received much attention from the TRADOC BRAC Office: air base ground defense (ABGD) training, and the future of the New York Area Command, a subcommand of Fort Dix. Initially, planning for ABGD training, which remained a TRADOC function, centered on moving the training to Fort Knox, Fort Benning, or Fort McClellan. The Department of the Army had determined that relocation of ABGD training had to take place before 1 October 1995. During 1993, the training remained at Fort Dix, but the Army began exploring the possibility of the U.S. Air Force taking over the function. In November 1993, representatives of the Army and Air Force met at Randolph Air Force Base, Tex., at the request of the Air force, to discuss the possibility of the Air Force conducting ABGD training at an Army post. The request resulted in TRADOC submitting cost data to the Air Force for operations at Fort Dix, Fort McClellan, and Fort Leonard Wood, in December 1993. At the end of the year no decision had been made. As to the New York Area Command, it was transferred to FORSCOM along with Fort Dix in October 1992.[36]

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35. (1) "Re-Engineering TRADOC," Command Information Package, TRADOC Public Affairs Office, April 1994. (2) E-Mail Msg, TRADOC Chief of Staff to distr, 1 Jan 94, subj: Staffing and Support for the Commander's Integration Group.

36. (1) TRADOC ACH, CY 92, pp. 11-12. (2) SSHR, Operations Directorate, CY 93/II, p. 4.

Fort Ord and the Defense Language Institute

In late January 1990, the Secretary of Defense's BRAC Commission had put forth initiatives which became known as BRAC II. Those initiatives included the proposed closure of Fort Ord, Calif., a FORSCOM post. Besides being the home of the 7th Infantry Division (Light), Fort Ord provided most of the base operations support for the Defense Language Institute Foreign Language Center (DLI), a TRADOC school located nearby at the Presidio of Monterey. In October 1990, Congress had established another commission, which in July 1991 submitted a new list of recommendations to President George Bush, who approved it. The new recommendations reconfirmed the closure of Fort Ord and the move of the 7th Infantry Division (Light) to Fort Lewis. To provide base operations support to the Presidio of Monterey, housing and administrative elements of Fort Ord were redesignated the "Presidio of Monterey Annex." The Presidio of Monterey itself was scheduled to be transferred to TRADOC on 1 October 1994. The support section at Fort Ord would be transferred to TRADOC in FY 1995.[37]

Fort Huachuca and Fort Devens

On 1 October 1990, command and control of Fort Huachuca had passed from the U.S. Army Information Systems Command to TRADOC. The transfer was part of the overall move to consolidate intelligence schooling at Fort Huachuca rather than at Fort Devens, Mass., as had earlier been recommended by the 1988 Department of Defense Base Closure Report. Fort Huachuca was scheduled to assume all military intelligence enlisted training from Fort Devens by the end of Fiscal Year 1994. Intelligence training from Fort Devens had begun moving to Fort Huachuca in October 1992. Starting in December 1992, $100 million for construction was turned over to Fort Huachuca. The first transferred courses began training there on 8 February 1993.[38]

Base Realignment and Closure 1993

On 15 January 1993, the Secretary of Defense published the selection criteria that would govern the 1993 base realignment and closure process with regard to the Department of Defense recommendations to the 1993 Base Realignment and Closure (BRAC 93) Commission. First on the list was consideration of current and future mission requirements and the impact on operational readiness of the total force. Next on the list was the availability and condition of the land and facilities at existing or potential receiving locations. The Defense Department also looked at the ability of a facility to accommodate contingency, mobilization, and future total force requirements at existing or potential receiving locations. Next the Department considered the cost and manpower implications as well as how long it would take for savings to exceed the costs of closure or realignment. In addition, considera-

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37. (1) TRADOC ACH, CY 92, pp. 12-13. (2) Msg, Cdr FORSCOM to distr, 151800Z Jan 93, subj: Manpower Validation of Fort Ord Implementation Plan, Doc Intro/11.

38. (1) TRADOC ACH, CY 91, pp. 11-12. (2) E-Mail Msg, ODCSRM to OCH, 17 Mar 93, subj: BRAC Update.

tion was given to the economic impact on communities and the ability of communities' infrastructure to support forces, missions, and personnel. Last, the environmental impact of potential action was examined.[39]

On 15 March 1993, the Secretary of Defense released the list of bases to be considered for closure or realignment. The list included a total of 165 facilities from all the services. After many public and private complaints about facilities that were not on the list, the BRAC 93 Commission, in a public hearing on 21 May 1993, voted to add 47 more facilities as alternatives to the 165 recommended by the Department of Defense. Nine Army installations were added, among them TRADOC's Fort Lee and Fort Monroe, the command's headquarters. In the case of the latter, planning envisaged that TRADOC headquarters would be relocated to Fort Eustis, approximately thirty miles away. At least one commissioner visited every major installation, and community representatives were afforded the opportunity to testify in public hearings.[40]

In a public hearing in Washington, D.C. on 23-24 June 1993, the BRAC Commission voted on the recommendations and prepared a list to send to the President and the Congress. A number of actions affected facilities or installations belonging to TRADOC or on which TRADOC had functions. The commission voted to reject the recommendation that Fort McClellan be closed and the Chemical and Police Schools moved to Fort Leonard Wood, Mo. They also rejected the recommendation that the Presidio of Monterey, site of TRADOC's Defense Language Institute (DLI), be closed and DLI relocated to Fort Huachuca. In the case of Forts Lee and Monroe, no motion was made for closure. Consequently, both would remain open. On 1 July 1993, the commission submitted their findings to the President for his approval or disapproval. On 15 July, after approving the commission's recommendations, President Clinton sent the list to Congress where it was also approved.[41]

School of the Americas

Late in 1992, General Franks, TRADOC commander, provided General Sullivan, Chief of Staff of the Army, a concept paper for the conversion of TRADOC's School of the Americas at Fort Benning, Ga., to a Department of Defense school and its consolidation with the Inter-American Air Force Academy and the U.S. Naval Small Craft Instruction and Technical Training School. The Army Staff reviewed the concept and agreed in principle that a Department of Defense School of the Americas (DODSOA) was a "good idea." They suggested, however, that TRADOC consider establishing such a school with the Army as executive agent rather than placing it under the Defense Security Assistance Agency as the concept suggested. TRADOC would then serve as the implementing agent, and the command and

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39. Briefing Slide, Operations Directorate, subj: BRAC 1993.

40. Msg, HQDA to distr, 270830Z May 93, subj: Defense Base Closure and Realignment -- Additional Bases Recommended for Closures.

41. Briefing slide, Operations Directorate, subj: BRAC 1993. Public Law 101-510 governed the BRAC process. Had the President not approved the list, it would have been sent back to the commission, and, on 15 Aug 1993, resubmitted to Congress. Congress had 45 legislative days from receipt of the BRAC recommendations from the President to issue a Joint Resolution of Disapproval. The President could veto the joint resolution. Should the joint resolution fail, the recommendations became law.

control structure would be the same as that used for DLI. The key issue, however, was resources. The Army Staff feared that the Army might be taking on additional missions for which the other services or the Office of the Secretary of Defense would not provide adequate funding or personnel. There was also the question of whether all spaces would be converted to joint billets or maintained as service billets. At the end of 1993, the issue remained unresolved.[42]

42. Msg, HQDA to CDRS TRADOC and SOA, 151329Z, subj: DOD School of the Americas Proposal, Doc Intro/12.

Chapter I

THE ARMY'S POST-COLD WAR DOCTRINE

Background

In June 1993, a new post-Cold War doctrine of Army operations replaced the doctrine of AirLand Battle as the principal body of ideas governing war fighting. First issued in 1982 and updated in 1986, AirLand Battle was the doctrinal heart of the post-Vietnam modernization and reform of the Army carried through in the 1970s and 1980s.[1] A doctrine whose emphasis on initiative, offensive spirit, and deep attack presented significant problems to Warsaw Pact war planning against NATO Europe, AirLand Battle saw highly successful application in the Gulf War in February 1991, even as the historic Soviet-Warsaw Pact threat in Europe came to an end.

Why was the U.S. Army doctrine that so decisively shaped and steeled the land-force deterrent in the Cold War and that succeeded so well against the armored assault of Iraq on Kuwait supplanted? The new 1993 doctrine was written because a new strategic era had emerged. With it had come new doctrinal assumptions arising from the decline and demise of the Soviet threat, the resulting sharp drawdown of American Active Army strength, the reorientation to a U.S. Army projection force based primarily in North America, and the indications of a new face and dynamic of war that had been revealed in the leading-edge weaponry and systems and in the operational experiences of the Gulf War.[2]

Early work on the revision of FM 100-5, Operations, had begun in April 1990, but was interrupted by Operations Desert Shield and Desert Storm and suspended in January 1991 with the onset of combat operations in the Gulf. Doctrinal work concentrated instead on the TRADOC mid-future concept document, TRADOC Pam 525-5, Airland Operations as a projected basis for FM 100-5 revision. The completion of AirLand Operations occupied the final months of General Foss's tenure as TRADOC commander. The FM 100-5 project resumed in August 1991 when General Franks assumed command. Through 1991 and 1992 Franks prosecuted the revision of the Army's basic operations manual, producing a final draft published on 19 January 1993. Franks was assisted by Col. James McDonough, Director of the School of Advanced Military Studies (SAMS) in the Command and General Staff College, the project's principal doctrine writer, who supervised a six-man SAMS writing team headed by

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1. For chapter digests of the training, doctrine, force design, and materiel components of the 1970s-1980s modernization and reform, see Romjue, Canedy, and Chapman, Prepare the Army for War. For a documented study of the formulation of AirLand Battle out of the doctrinal ferment and debate begun with publication of the Active Defense doctrine in 1976, see TRADOC Historical Monograph, John L. Romjue, From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982 (Ft. Monroe, Va.: Historical Office, TRADOC, 1984) (hereafter AirLand Battle).

2. For a discussion of Army and TRADOC adjustment to the Cold War's end, see Romjue, Canedy, and Chapman, Prepare the Army for War, pp. 115-23.

Col. Rick Rowlett. The SAMS writers worked under the supervision of the deputy commandant of the college, Brig. Gen. William M. Steele, and the commander of the Combined Arms Command, Lt. Gen. Wilson A. Shoffner. General Franks managed the overall effort primarily through his Deputy Chiefs of Staff for Doctrine, Brig. Gen. Timothy Grogan through December 1992 and Brig. Gen. Lon E. Maggart from January 1993 to the end of the project at midyear. In that office, the Director of Army Doctrine, Col. Fred Berry, with Lt. Col. Bobby J. McCarter as main project officer, supervised the larger project. Previous annual histories have recorded the progress of the effort through December 1992.[3]

Publication of FM 100-5

Following final revisions and editing, the new FM 100-5 was published by the Department of the Army and presented to the Chief of Staff of the Army, General Gordon R. Sullivan by General Franks on 14 June 1993, the Army's 218th anniversary date. Fourth in a noteworthy line of Operations manuals since 1976, the 1993 volume, like its predecessors, reflected the renaissance and centrality of doctrine as the actuating spirit of the Army. In a press conference the same day, Sullivan denoted doctrine as "the centerpiece of everything that we do." In a message to Army commands on 16 June, he described the new body of ideas as a significant milestone in the Army's "intellectual bridge" to the future.[4]

As the Army doctrine for a new and as yet undefined strategic era, what were that doctrine's assumptions, fundamentals, critical points, and joint-service and combined force guidelines? What were its strategic implications as a doctrine primarily for war fighting but also more sharply attendant to the challenge of the whole category of operations other than war? What was the new battlefield framework, and what was different in the dynamic and face of war since the mid-1980s?

Full-Dimensional Operations

General Franks and his doctrine writers made prominent the war-winning purpose of the manual and its necessary focus on all the levels of war. Thus, it treated the strategic context of the application of force, it dealt with operational art as the means by which battle was translated into strategic objectives, and it fixed tactics as the sound basis of all operations. The 1993 doctrine reflected Army thinking for a new strategic era and reflected the shift to stronger joint operations. It allowed for the increased incidence of combined operations, and operations across the range of military challenges. In the new strategic world of force projection, the writers saw their work as a doctrine for "full dimension operations," a doctrine to deter the enemy, despite the removal of tactical nuclear weapons from the Army inventory, and as a doctrine that, should deterrence fail, would enable the U.S. Army to win

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3. TRADOC ACHs, CY 90, pp. 45-50. (FOR OFFICIAL USE ONLY -- Info used is not protected); CY 91, pp. 65-71; CY 92, pp. 31-35. The development of the 1993 doctrine and its implementation is the subject of a TRADOC Historical Monograph which will provide a comprehensive documented account.

4. Msg, DA to distr, 221755Z Jun 93, subj: CSA-Transcript of CSA Conference. (2) Msg, DA to distr, 161456Z Jun 93, subj: Army Birthday Celebration.

as part of a joint force, globally projectable. The new FM 100-5 was meant to reflect "the collective wisdom of our Army against the background of history," conveying lessons learned from recent experiences and current strategic and technological realities.[5]

The new FM 100-5 specified doctrine as "the statement of how America's Army, as part of a joint team, intends to conduct war and operations other than war... the condensed expression of the Army's fundamental approach to fighting, influencing events in operations other than war, and deterring actions detrimental to national interests."[6] The manual saw doctrine as establishing The Army's shared professional culture and approach to operations, permeating the entire Army structure and setting the direction for modernization and training. Doctrine was versatile, to enable forces to deal with the gamut of challenges, including drug-trafficking, disasters, regional conflicts, civil wars, insurgencies, and extremist acts anywhere in the world. Doctrine had to be sufficient to enable a force to shift rapidly between types of commitment. It had to reflect and accommodate the most advanced technology obtainable to give U.S. forces overwhelming and decisive combat power while minimizing risk. The new doctrine placed a premium on quick force projection.[7]

The 1993 doctrine emphasized its roots in "the American way of war" growing out of values stated in the nation's founding documents and dependent on the special relationship between the government, the military, and the people. Subordinate to the National Command Authority, Army forces had to attend to the reality of the American people's requirement for decisive victory and no unnecessary casualties, and to deal with the media impact on events. The manual kept clear the three levels of war--strategic, operational, and tactical--applicable both in war and operations other than war and vitally linked.

All operations occurred in a strategic context set by current national security strategy. The U.S. military's fundamental obligations were strategic deterrence and defense, forward presence in vital areas, effective response to crises, and retention of a national capacity to reconstitute. Those obligations led to the all-service strategic principles of readiness, collective security, arms control, maritime and aerospace superiority, strategic agility, power projection, technological superiority, and decisive force. Significant factors were forethought and preparation for operations leading to the desired strategic end-state.

The doctrine emphasized the Army as a strategically decisive force, based on its ability to react promptly and on its strategic staying power. Its requirements in the new era were a capability for full-dimensional operations; a trained readiness as part of a joint, combined, United Nations, or interagency force; its packaged strategic deployability; its rapid expansibility; and its capacity to attain decisive victory. The doctrine repeated an injunction going back to 1976: "On the day of battle, soldiers and units will fight as well or as poorly as they are trained."[8]

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5. FM 100-5, Operations, HQ DA, 14 Jun 93, pp. v, vi, Doc I/1.

6. Ibid., p. 1-1.

7. Ibid., pp. 1-1 to 1-2.

8. Ibid., pp. 1-2 to 1-5.

Army troops in Somalia. The new FM 100-5 laid the basis for future training and modernization efforts to enable American forces to deal with a wide variety of global and regional challenges.

1993 Army doctrine emphasized the requirement for leadership and close-knit team work.

Fundamentals of Army Operations

A key chapter laid out the doctrinal fundamentals of Army operations in the ambiguous post-Cold War world. The doctrine defined the range of military operations to include war (both limited and general) and two activities that were operations other than war--conflict, and Army peacetime activities. Conflict comprised strikes and raids, peace enforcement, support to insurgency, antiterrorism, peacekeeping, and noncombatant evacuation operations. Peacetime activities employing or requiring Army forces included counterdrug operations, disaster relief, civil support, peace building, and nation assistance. The states of peacetime, conflict, and war could all exist at once in a theater commander's realm. Noncombat operations might occur during war, and some operations other than war might require combat. Notwithstanding the range of operations, the manual made clear the primary focus of the Army: war fighting.

More emphatically than before, the 1993 doctrine stressed that the Army would not operate alone, but as part of a joint, combined, or interagency team. Operations would integrate all Army capabilities: active, reserve, and civilian; and armored, light, and special operations forces.

Balance was a key concept. The components of battle could exist in complex combinations. Elements of the defense were within every offense, and vice-versa. Firepower permitted maneuver; and maneuver, firepower. Forces focused on the enemy, but attended to terrain. Unconventional and conventional warfare could exist side by side. Army forces always sought to increase their options while limiting the enemy's. The manual cited a distinction made by Field Marshal Erwin Rommel. There were options that were risks and options that were gambles. Recovery was possible from a failed risk taken, but not from a gamble gone awry.

The 1993 doctrine carried forward the Sun Tzu maxim that was at the center of AirLand Battle: to throw the enemy off balance by striking blows from unexpected directions. But the new doctrine shaded the maxim to unexpected dimensions, including denial of the enemy's reconnaissance and intelligence sensing. The doctrine emphasized as before the combined arms, but now in more dispersed and noncontiguous formations and in a full, synchronized manner overpowering and devastating to the enemy. The new manual noted the U.S. strength in advanced technology of war which, however, required integration with doctrine and required doctrine as the engine to exploit it.[9]

The 1993 doctrine also emphasized the requirement for disciplined operations: mental and physical toughness, close-knit teamwork, adherence to applicable rules of engagement based in international law and in specific condition and circumstance, limiting the collateral damage of combat, and regard for human rights. "How the Army fights is a mark of what it is and what it stands for."[10]

The new doctrine laid out the foundations of Army operations in the nine Principles of War: directing military operations toward a clearly defined, decisive, and obtainable objec-

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9. Ibid., pp. 2-2 to 2-3.

10. Ibid., pp. 2-3 to 2-4. Quotation from p. 2-3.

tive; seizing, retaining, and exploiting the initiative; massing the effects of overwhelming combat power at the decisive place and time; economy of force; maneuver--placing the enemy at disadvantage through flexible application of combat power; unity of command and effort; security and never permitting the enemy an unexpected advantage; surprise by striking at the place or in a manner for which the enemy was unprepared; and simplicity of plans and orders.[11]

The foundations of operations also included the tenets required for victory. Initiative was imperative, with all that it comprised--an offensive spirit, constantly depleting the enemy's options, anticipating events, acting independently within the framework of the higher commander's intent, allowing the enemy no recovery, decentralization of decisions to the lowest practical level. Agility was the ability to react faster than the enemy in order to seize and hold the initiative, and it had both mental and physical aspects needed to overcome the inevitable friction of war.

The significant tenet of depth, first introduced by AirLand Battle doctrine, meant the extension of operations in time, space, resources, and purpose in order to influence those operations throughout the depth of the battlefield. In an important departure from the 1980s understanding of depth, the doctrine shifted away from attacking deep in order to influence close-in operations, to a new requirement to think in depth, forecast, and anticipate in order to carry through simultaneous attack throughout the depth of the battlefield with full joint capabilities in all modes and dimensions. Synchronization was arranging activities in time and space to mass at the decisive point, including massing the effects of combat power, jamming enemy communications, suppressing enemy air defenses, shifting reserves, and employing synchronized main and supporting attacks. Synchronization was a paramount necessity for the force projection Army with its complex requirements for distant contingencies, early entry, phased operations, and joint and combined battle.

New in the 1993 doctrine was a fifth tenet--versatility, the ability of units to meet the diverse mission requirements of the strategic world of the post-Cold War. Commanders needed to be able to shift power, tailor forces, and move from one role or mission to another rapidly and efficiently and in quick succession, across the full range of military operations.[12]

War fighting was fundamentally about combat power, created by combining the four primary elements of maneuver, firepower, protection, and leadership. Army doctrine in 1993 sought and stressed overwhelming combat power to achieve victory at minimal cost. Maneuver was defined as "the movement of combat forces to gain personal advantage...to deliver--or threaten delivery of--direct and indirect fires." Maneuver and firepower were "inseparable and complementary dynamics of combat." Either maneuver or firepower might dominate, but it was the synchronized effects of both that characterized all operations. Firepower provided the destructive force essential to defeat the enemy, and the greater reach and precision to which it had evolved were significant. Firepower effects applied to and needed to be synchronized for all levels--strategic, operational, and tactical.[13] Protec-

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11. Ibid., pp. 2-4 to 2-6.

12. Ibid., pp. 2-6 to 2-9.

13. Quotes from ibid., p. 2-10.

tion had four vital components--operations security and deception, soldiers' physical welfare, safety, and fratricide avoidance--the latter a reaffirmed and media-highlighted lesson of the Gulf War.

The "most essential dynamic of combat power" was "competent and confident officer and noncommissioned officer leadership." In development of that critical quality, the doctrine urged the study of leadership's human dimension as well as its tactical and technical sides and recommended the regular study and teaching of military doctrine, theory, history, and biography. It was the moral qualities of soldiers and leaders--duty, courage, loyalty, discipline, combined with stamina and skill-that provided the decisive edge.[14]

Exercise of key combat functions enabled commanders to build and sustain combat power: intelligence, maneuver, fire support, air defense, mobility and survivability, logistics, and battle command. In the concept of battle command, the 1993 doctrine introduced a significant distinction. The relatedness of the functions of command, control, and communications and intelligence--the so-called "C3" and "C3I" agglomerates--had acted over the years to dilute the centrality of command itself as the core focus of the commander in battle. Against the size and complexity of the information flow at a command post in the 1990s, the 1993 doctrine restored and clarified battle command as the commander's central focus. "Commanders command while the headquarters and staff coordinate and make necessary control adjustments consistent with the commander's intent." Command had two vital components--decision making and leadership. Decision making was knowing if, and then when and what, to decide; leadership was taking responsibility for decisions and providing an atmosphere of loyalty, inspiration, teamwork, moral and physical courage, and vision. Command was "more than an art than a science...often guided by intuition and feel...." And commanders needed to know the intent of their own commanders two levels above.[15]

Weighing heavily in combat power in the 1993 doctrine was its exercise as a part of joint-service operations--the dominating framework of U.S. military actions evolving since the late 1980s. The new doctrine covered significant areas of joint war fighting and other operations. Those included the rapidly expanding area of space operations, already remarkable in Operation Desert Storm, through space-based systems; joint interdiction; the many aspects of air operations including air interdiction and close air support; joint maritime operations; joint surveillance and reconnaissance; the airlift and sealift operations critical to Army forces; and special operations. The doctrine specified the Army tactical unit types that organizationally constituted combat power, and it laid out the functions of the five types of infantry forces--light, airborne, air assault, Ranger, and mechanized--as well as the combat roles and functions of the other Army branches and supporting units.[16]

Force Projection

Prominent in the new doctrine and placed in a front chapter of the manual was force projection, a key element of the U.S. strategic power projection capability. Operations Just

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14. Ibid., pp. 211-12, quotes p. 2-11.

15. Quotes, ibid., pp. 2-14, 2-15.

16. Ibid., pp. 2-15 to 2-24.

Cause and Desert Shield and Desert Storm were vivid recent illustrations of the new force orientation and its execution. In the new power stance, joint operations, rapid deployment, forcible entry, and versatile mixes of types of forces--light, armored, and special operations--loomed large. The doctrine designated contingency-bound units as forward presence, crisis response, initial reinforcement, follow-on reinforcement, and reconstitution organizations.

The doctrine laid out important force-projection considerations, both in war and operations other than war. Immense planning, intelligence, mobilization, deployment, operations, and logistics difficulties were present in the U.S. mission for global force projection to conduct operations whose purpose itself could radically shift in a short period of time. Credible, lethal force had to be introduced early. Commanders had to be mentally anticipative and prepared for deployment to the world regions of focus. Quick force tailoring to the deployment's specific requirements was a necessity. Early arrival of key intelligence units was essential. Battle command presented major challenges in situations of simultaneous deployment, entry, and combat. Logistics doctrine considerations included the need for tailorable flexible logistics dependent on availability or nonavailability of in-theater stockage, host nation support, and port and transportation infrastructure. The concept of split-based logistics was significant in 1993 doctrine, a concept relying on assured communications systems that allowed much of the logistics base to remain in the United States; those elements received and acted on information and sent necessary supplies forward. Training during contingencies needed to be constant and relatable to such problems as separation of soldiers from their full equipment. Force projection would frequently have to attend to the requirements of combined operations with allies. Of great import in modern warfare was the impact, by the media and media war images, on operations at every stage; the requirement was to anticipate and deal with such impact. Post-conflict considerations had to be anticipated at the outset of actions, and the desired strategic end state and the transition to peace had to be planned for.[17]

Force projection operations fell into the doctrinal categories of mobilization, predeployment activity, deployment, entry operations, operations, war termination and post-conflict operations, redeployment and reconstitution, and demobilization. The elements of that sequence could well be blending or overlapping. A new doctrinal manual, FM 100-17, Mobilization, Deployment, Redeployment, Demobilization, was directed and written during the course of the 100-5 project and published in October 1992 to provide focused guidance.

Joint and Combined Operations

Like force projection, joint operations became a more central element of Army doctrine in 1993, and the new FM 100-5 gave it prominence. Though historically integrated at the strategic level and frequently at the operational level, the military activities of the Army, Navy, Air Force, and Marine Corps had evolved increasingly toward joint operations throughout the theater of war. Army doctrine in 1993 emphasized the joint nature of most warfare and operations other than war in the period ahead. The manual laid out the command relationships of the service elements of joint forces, specifying the two distinct chains of command --one for operations, tracing through unified and specified commands and joint task forces; and one for administrative and logistics matters, tracing through the separate service component chain of command (Appendix D). Also detailed were the types of

17. Ibid., pp. 3-1 to 3-7.

command--unified combatant, specified combatant command for broad continuing missions, joint task force for limited missions of short duration, and service component commands--as well as the theater structure.[18]

Combined operations also assumed increased importance with the 1993 doctrine. The recent Gulf War experience was a harbinger of that new emphasis. In the realm of allied or combined operations, considerations of military doctrine and training, equipment capabilities, cultural differences, language, teamwork and trust all were important. The doctrine laid out planning and execution guidelines in the areas of command, maneuver, fires, intelligence, logistics, and liaison and combined staffs.[19]

Planning and Executing Operations

At the heart of the 1993 doctrinal manual was a chapter on planning and executing operations. Contained in that chapter was the doctrinal framework not only for the conduct of war at the operational level but, as introduced by the 1993 manual, the strategic link of operations. The manual noted that in Cold War Europe, many strategic, operational, and even tactical choices had already been made before the day of war. In the new era, a more open strategic, operational, and tactical horizon was apparent.

A significant change in the 1993 doctrine was the extension of operations into the strategic realm in keeping with the wide latitude of U.S. military actions permitted by the collapse of the Soviet threat and the new doctrinal emphasis on joint and combined operations and operations other than war. All Army military actions were thus more directly linked to the major U.S. strategic guides--the National Security Strategy, National Military Strategy, Unified Command Plan, and Joint Strategic Capabilities Plan--and to strategic planning and a strategic vision generally. In peacetime, theater commanders and their staffs conducted theater-strategic planning, using the Joint Operation Planning and Execution System, or JOPES, from which a family of theater operations plans were promulgated. Strategic planning and, in wartime, strategic decisions, had direct bearing on the conduct of operations. The 1993 doctrine stressed the importance of conducting operations not in an open-ended manner but with a clear understanding of the desired strategic end state and with a readiness to shift rapidly to other war aims or phases at that time as determined by the National Command Authority.

Likewise a clear grasp of the levels of war and their interlinks placed Army military actions in a clearer framework, as noted earlier. The levels of war helped commanders visualize a logical flow of operations. Military policy and requirements, deriving from strategy, were the starting points of campaign plans. The campaign plan set theater-strategic goals and was the basis for operational-level planning. The operational level was the vital link between national- and theater-strategic plans and the tactical employment of forces on the battlefield. At the operational level, joint and combined forces conducted subordinate

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18. Ibid., pp. 4-1 to 4-6.

19. Ibid., pp. 5-1 to 5-5.

campaigns and major operations, and commanders exercised the operational art of weighing ways and means to achieve their larger ends. Tactics was "the art and science of employing available means to win battles and engagements."[20]

Joint operations planning required an appreciation of the simultaneous nature of operations, an awareness of the total mission, teamwork, sequencing operations, deception, rehearsals, and training against the effects of weapons of mass destruction. The doctrine emphasized high-tempo simultaneous operations with actions synchronized at each level of war to destroy, disrupt, and demoralize the enemy. Total mission awareness meant the commander's attendance on the big picture of events around him. The doctrine emphasized the fundamentals for the commander of clear mission, knowing and acting within the higher commander's intent, making and continually updating commanders estimates, and developing a concept of operations.

The doctrine pointed up the importance of will: "War is a contest of wills....when will is lacking, so is combat power; when will is strong, it multiplies the effectiveness of military forces." "Leaders are the main source of will." Fundamentals of planning and conducting operations also included massing effects against the enemy's identified center of gravity--his main source of power, whether a mass of combat units, or an abstract factor such as public opinion. Other important planning and operating concepts were lines of operation, decisive points, culmination points in an attack or defense; the art of attack was to secure the objective before reaching culmination--the point where strength receded.[21]

The doctrine delineated the commander's need to determine the best sequence of operations through planning and execution phases, branches or contingency plans, and sequels or follow-ups for various outcomes. Rehearsals both at tactical and operational levels, such as that of the VII Corps in Saudi Arabia just prior to Desert Storm, were highly useful. The need to prepare for action in hostile environments of mass destruction weapons was a sobering requirement in doctrine pitched to the uncertain world of the 1990s and beyond, and the manual laid out guidelines.

A significant element of the 1993 doctrine was the delineation of a battlefield framework as a means to help commanders relate their forces to one another and to the enemy in time, space, resources, and purpose. Within a given strategic situation, a commander chose and erected his battlefield framework or visualization according to the dictates of the doctrinal "METT-T"--mission, enemy, terrain and weather, troops, and time available. A major consideration of the battlefield framework was the commander's designated area of operations.

Battle space, another new concept in the 1993 doctrine, was part of the battlefield framework. Battle space was "a physical volume that expands or contracts in relation to the ability to acquire and engage the enemy. It includes the breadth, depth, and height in which the commander positions and moves assets over time." Battle space was in essence the commander's view and vision of the space and means of operation that he could affect. The

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20. Quote, ibid., p. 6-3.

21. Quote, ibid., p. 6-7.

commander visualized his battle space to organize and arrange his forces and to synchronize deep, close, and rear operations. It was a hallmark of the 1993 doctrine that such operations proceeded, where called for, simultaneously for maximum effect.[22]

Recognizing in Operation Desert Storm that a blurring had occurred in the useful three levels of war delineation, when advanced weaponry showed that it could strike the enemy simultaneously at both tactical and operational depths, the 1993 doctrine highlighted that notion in its central chapter. The manual writers employed the examples of Desert Storm for the offense and the Israeli defense of the Golan Heights at the outset of the 1973 Yom Kippur War for the defense. The 1993 manual maintained clearly the offense as the decisive form of war. But it also noted that the defense could be stronger, and laid out the METT-T conditions that necessitated resort to the defense.

Offense and Defense

Chapters on the offense and the defense and on planning and conducting those operations and on retrograde carried the strategic-operational doctrine of FM 100-5 more focally into the tactical realm. The 1993 manual continued in the tradition of its predecessors to describe the offense as "the decisive form of war." Seizure and retention of the initiative came with offensive action. The main feature of an offensive battle was outflanking or bypassing the defender, avoiding his main strength, turning him out of his defensive positions, forcing him to fight in an unintended direction over ground he had not prepared, and destroying the coherence of his defense and support.

The doctrinal tenets came together in the violently executed attack--initiative, agility, synchronization, joined by surprise, audacity, and the concentration of power in order to mass effects without massing large formations. Tempo, a combination of speed and mass, was significant in the attack and was controlled, so as to be either fast or slow according to the dictate of METT-T conditions. Since attack operations were increasingly fluid, an ease in shifting between different forms of offense--movement to contact, attack, exploitation, and pursuit--was critical. As before, the 1993 volume emphasized maneuver, an art in the selection of whatever form--envelopment, turning movement, infiltration, for example--to apply as the commander's vision determined. As noted, depth in the 1993 volume was advanced in meaning to denote offensive operations simultaneously throughout the depth of the battlefield. That sustained and continuous operation required well-synchronized deep, close, and rear operations.[23]

Offensive operations were "characterized by rapid shifts in the main effort to take advantage of opportunities by momentum and by the deepest, most rapid, and simultaneous destruction of enemy defenses possible." Commanders at all levels planned and synchronized joint intelligence and fires with their combat and combat support systems to gain full advantage of their ability to see and strike the enemy simultaneously throughout the depth and space of their area of operations. Brigades and divisions accomplished major offensive tasks as part of corps or joint task force operations. Battalions attacked,

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22. Quote, ibid., p. 6-12.

23. Ibid., pp. 7-1 to 7-14; quote, p. 7-0.

M1A1 Abrams main battle tanks in the ground offensive of Operation Desert Storm. The main feature of an offensive battle was outflanking or bypassing the defender.

Postal service alone was a significant operation in Desert Storm. Logistics, in force projection doctrine, meant global military support and supply.

delayed, or defended as a function of the larger mission. Unchanged, too, were the concrete considerations, in all actions, of mission, enemy, terrain and weather, troops, and time available.[24]

An idea unchanged from traditional doctrine was that defensive operations were part of major operations and campaigns and were fought in combination with offensive operations. Military forces defended "only until they gain sufficient strength to attack." The characteristics of the defensive were preparation, including rehearsals and counterattack plans; security; disruption of the integrity of the enemy's attack; massing and concentration during the battle; and flexible planning and agile execution.

American doctrine specified mobile and area defense as the two primary forms. Mobile defense emphasized drawing the enemy into exposed positions for counterattack by a mobile reserve. Area defense focused on retaining terrain from an interlocking series of positions and destroying the enemy largely by fires. A key element of the defense, as the attack, was comprehensive simultaneous operations in depth--close, deep, and rear. At the operational level, both defense forms were normally employed, and the factors of METT-T were ruling factors at tactical and operational levels.[25]

Logistics

The 1993 doctrine writers saw unique logistics requirements arising from the advent of the predominantly force projection Army. Not only would future logistics operations be conducted joint and combined; logistics for the American Army would mean global military supply--often to undeveloped or little-developed theaters. U.S. Army logistics thus had strategic as well as operational and tactical venues. The manual discussed each and the links between them. Logistics characteristics included anticipation of requirements and logistical conditions, integration of logistics with operations, all the factors assuring continuity, responsiveness across a great variety of scenarios, and the gift and skill of improvisation. Emphasized in the doctrine also was the concept of "total asset visibility." In addition, logistics doctrine in the 1990s had to attend not only to the great variation in operations, but to operations other than war. For both categories, the logistics system based in the continental United States was transoceanic and global.

In 1993, Army doctrine introduced the split-based logistics concept: the carrying-out of selected logistics management functions from the Stateside base or from the forward-presence location, as the situation dictated. That advance in logistics efficiency and responsiveness was newly practicable because of the major advances in enhanced and secure communications. In the new split-based logistics doctrine, materiel management center cells deployed to an area of operations with the force they supported, electronically linked to the United States-based materiel management centers.[26]

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24. Ibid., pp. 8-1 to 8-3.

25. Ibid., pp. 9-0 to 9-6, 10-1 to 10-6; quote, p. 9-0.

26. Ibid., pp. 12-1 to 12-9.

Operations Other Than War

In the new strategic world of the 1990s, operations other than war had assumed new importance. Although the U.S. Army's primary responsibility was to fight and win the nation's wars, the world presented many additional security challenges not classifiable as war. Those noncombat contingencies existed in a considerable array whose components sometimes straddled categories. Operations other than war stood nonetheless apart as a different type of operations. It shared with war operations some common principles and tenets, but it exhibited other principles peculiar to it alone. Operations other than war tended to be longer in duration than wars and conflicts. They involved often complex and sensitive political situations "when victory comes more subtly than in war." They might precede or follow war, or occur simultaneously with it in the same theater. Operations other than war included noncombat operations in the United States. By doctrine, operations other than war were commonly joint operations, and might be combined operations as well. Other U.S. Government agencies were frequently co-involved.

Thus, the prosecution of operations other than war required adherence to the war principles of objective, security, and as modified, unity of effort. But also doctrinally central were three other principles. Legitimacy meant sustaining the willing acceptance by the people of the right of the government to govern or of a group or agency to make and carry out decisions. Perseverance was preparing for the measured, protracted application of military capability in support of strategic aims. Restraint was applying appropriate military capability prudently.

Operations other than war were defined as including noncombat evacuation operations, arms control, support to domestic civil authorities, humanitarian assistance and disaster relief, security assistance, nation assistance, support to counterdrug operations, combatting terrorism, peacekeeping operations, peace enforcement, show of force, support for insurgencies and counterinsurgencies, and attacks and raids.[27]

The Combat Environment

Just as had the FM 100-5 editions of 1982 and 1986 embodying AirLand Battle doctrine, the 1993 manual emphasized the human and physical dimensions of the environment of combat. Army doctrine saw soldiers as "the centerpiece of the Army's doctrine and warfighting ability." Soldiers were the most vulnerable and the most valuable part of the war fighting system. Their spirit and perseverance, will to win, dedication, devotion to their fellow soldiers and their unit were the human elements that made the difference between victory and defeat. Operating globally, U.S. Army soldiers faced a physical environment often severe.

Soldiers were "the foundation of the Army's will to win." Leaders had special responsibilities toward them and the physiological, psychological, and ethical challenges they faced. Soldiers had to be physically hardened and healthy. In combat, they needed to be held together in teamwork and mutual support against adversity. Soldiers had to adhere to the highest standards of professional conduct reflecting the ideals of American values--to be

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27. Ibid., pp. 13-0 to 13-8; quote, p. 13-1.

U.S. Army operations other than war included United Nations peacekeeping operations and peace enforcement.

Soldiers -- "the foundation of the Army's will to win." FM 100-5 stated that American soldiers were expected to adhere to the highest standards of professional conduct.

"counted on to do what is right even when no one is watching." The 1993 doctrine issued the reminder that "Wars are fought and won by soldiers, not machines," and that the human dimension would be decisive in the campaigns and battles of the future, as in the past.

The doctrine laid out the range and extremes of the global physical environment in which the Army would operate, each presenting a unique set of physical characteristics requiring a unique set of operational and tactical guidelines. Those operations included mountain, jungle, desert, cold-weather, and urban operations. Terrain and weather had immediate impact on every operation, offering both obstacles and opportunities. The infrastructure of varied areas of operations was a paramount reality and planning concern.[28]

Implementation Planning

Issued on 14 June 1993, the new FM 100-5 was distributed to the Army, a process completed in July. To introduce and explain the concepts presented in the new manual, TRADOC prepared, through the Army Training Support Center, a special education package consisting of several items. A compact disc - read-only-memory or CD-ROM provided an executive summary of the manual and included technology permitting access and comparison between the 1986 and 1993 editions. The CD-ROM also contained teaching points and new concepts with illustrated historical examples. The package supplied in addition an introductory videotape, a 35-mm. slide presentation, and a readers' guide. The latter item furnished an official interpretation of the doctrine and concepts. Plans were to field the FM 100-5 education package during January 1994.[29] By plan, the package would go to all Army divisions as well as to the TRADOC school system. In December 1993, Military Review devoted that month's edition to the new keystone doctrine, featuring articles by General Franks, Colonel McDonough, and others.[30]

As early as April 1993, a conference of the TRADOC school tactics directors convened at Fort Leavenworth, hosted by the resident Center for Army Tactics and the Concepts and Doctrine Directorate, to discuss the impact of the new FM 100-5 on subordinate doctrine and curricula. Planners hoped to quicken the integration of the new doctrine, and they looked toward development of a comprehensive and coordinated doctrine literature management plan as well as corps and division operations concepts to serve as bases for revising subordinate doctrine.[31]

In the course of the last half of 1993, the new doctrinal ideas of Operations were introduced into the curricula of the TRADOC Army schools. For example, at the Armor School plans were developed during July-October to familiarize first the small group instructors and

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28. Ibid. pp. 14-1 to 14-5; quotes, pp. 14-1, 14-2.

29. SSHR, ODCSDOC, CY 93/II, pp. III-1 to III-2.

30. General Frederick M. Franks, Jr., "Full-Dimensional Operations: A Doctrine for an Era of Change," pp. 5-10; Col James R. McDonough, "Versatility: The Fifth Tenet," pp. 11-14, Military Review, December 1993.

31. Msg, Comdt CGSC to distr, 301402Z Apr 93, subj: After Action Report, Tactics Directors Conference (TDC), Doc I/2.

doctrine writers. The next step was introduction of the main doctrinal points into the precommand course and Armor Officer Advanced Course, including "train the trainer" classes. Revised lesson plans emphasized leading doctrinal notions, including the battlefield framework, battle command, battle space, force projection, versatility, joint and combined operations as the norm, overwhelming combat power, simultaneous operations, and tempo. Plans were made to incorporate the new doctrinal ideas into the subordinate doctrinal manuals FM 71-3, Armored and Mechanized Infantry Brigade; FM 71-100, Division Operations, and FM 101-5, Staff Organization and Operations.[32]

At the Air Defense Artillery School, FM 100-5 was also integrated into curricula with little delay. The doctrinal manual and its effect on future air defense artillery missions and joint operations were chain-taught to all department instructors. Presentation to the ongoing precommand, advanced and basic, and warrant officer courses took place in the June 1993 and subsequent classes. Those classes and small group instruction units discussed the major elements, principles, and changes. All students were issued copies of the new keystone manual. A new war fighting map exercise which emphasized the new doctrinal terms, was designed to exercise staff in support of an unopposed entry force projection operation. Operations other than war were addressed specifically, emphasizing various unit non-MOS missions and taskings. The entire officer education system program of instruction was put under review and revision to assure the complete integration of the new doctrine. In addition, Air Defense Artillery magazine featured 100-5 articles in its September-October 1993 issue. The war fighting class and map exercise for Command and General Staff College branch training incorporated the new doctrine. The air defense capstone manual, FM 44-100, was scheduled for revision and publication in 1994, to be followed by its derivative organizational and materiel system focused manuals.[33]

At a third school, the Army Transportation School, field manuals for movement control, force projection, and motor transportation were updated and published consonant with the doctrine in late 1992 or were projected for publication during 1994-1995. FM 55-1, Army Transport Services in a Theater of Operations, was scheduled for publication by late 1994. In institutional training, the school undertook revision of its officer basic and advanced courses, incorporated lessons learned, began joint movement control training, and added operations other than war to the basic and advanced field training exercises. The Transportation School's unit training measures to implement the new doctrine included developing exportable material, preparing deployment and movement control mobile training teams, preparing an ARTEP mission training plan deployment module, and providing lessons learned through its professional bulletin. In the realm of transportation organizations and materiel, the school undertook the restructuring of rail units and movement control units and focused

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32. Briefing slides, briefing, FM 100-5 Impact Analysis: Merging FM 100-5 into Training, Academic Year 1993, US Army Armor Center, presented to Nature of Future Conflict Seminar, Fort Monroe, Va., 30 Jun-1 Jul 93, Doc I/3.

33. Fact Sheet ATSA-TAC, Lt Col Thomas E. Christianson, Dep Dir, Combined Arms and Tactics Department, US Army Air Defense Artillery Center, 15 Sep 93, subj: Integration of FM 100-5 into OES.

on improved palletized load system (PLS), combat heavy equipment transport (HET), and cargo handling companies. The Transportation School continued to refine its PLS and HET and other programs.[34]

34. Briefing slides, Briefing, FM 100-5 Implementation, presented by Transportation Center and School to TRADOC Commanders Conference, Ft. Knox, Ky., 5-7 Oct 93. ARTEP: Army Training and Evaluation Program.

Chapter II

DOCTRINE

The issuance by the Department of the Army of the revised keystone manual, FM 100-5, Operations, in June, followed by Joint Chiefs of Staff publication of the key Joint Publication 3-0, Doctrine for Joint Operations in September, charted 1993 as a landmark year for Army and joint operations doctrine.[1] The 1993 revision of FM 100-5 and publication of the inaugural edition of JP 3-0, which was written at Headquarters TRADOC and was closely consonant with the Army keystone manual, provided a war fighting doctrine for the new strategic era. As bible and guide to the strategic-operational-tactical challenge, the new doctrine provided the Army's basic vision of war and non-war operations in the 1990s and beyond. It would serve not only as the engine of change in the strategic transition occurring, but as the mainspring of future doctrine, organization, training, materiel, leadership, and soldier development.

TRADOC's doctrine mission included many tasks supporting and contributing to the cycle of keystone doctrine development of which 1993 was a milestone. Significant work continued in joint doctrine and in Army and combined doctrine. An important new round of future battle concept development began, even as work continued on individual concepts that would lead to specific future doctrine. Staff talks with the armies of U.S. allies and cooperation in international fora were active through the year. From its headquarters, TRADOC managed the commandwide production of Army doctrine literature and assigned joint doctrine literature. General Franks administered the doctrinal mission through the headquarters DCS for Doctrine. That position changed hands twice in 1993. On 1 January 1993, Brig. Gen. Lon E. Maggart replaced Brig. Gen. Timothy J. Grogan, who retired from the Army. On 1 November, Brig. Gen. Maggart was reassigned as Assistant Commandant, U.S. Army Armor School, and on 11 November 1993 Brig. Gen. Morris J. Boyd assumed the doctrine deputy position.[2]

Joint Doctrine

We have noted the emergence in the early 1990s of the Hampton Roads area of Virginia as the leading military doctrine center for the armed services.[3] The focal Army headquarters for that activity, TRADOC's work in multiservice doctrine went back to the establishment of the command in 1973. The multiservice effort had acquired a second joint dimension in 1986. That year, the Joint Chiefs of Staff (JCS) were directed by the Goldwater-Nichols Defense Reorganization Act to assume responsibility to develop doctrine for joint use by the armed forces. The resulting JCS Joint Publication System, or Master Plan, of April 1988

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1. For a discussion of the development of the 1993 FM 100-5 and a digest of its contents, see above, Chapter I.

2. SSHRs, ODCSDOC, CY 93/I, p. I-1; CY 93/II, p. I-1.

3. For a discussion of the location of doctrinal agencies in Hampton Roads, see above, pp. 4-13.

brought together all JCS-directed joint doctrine. It established a systematic hierarchy linking doctrine and procedures under single capstone manuals, and included its own implementation plan. TRADOC was assigned to develop many of the joint publications for which the Army had responsibility and to review others in progress by other services and Army agencies. TRADOC major subordinate commands and schools had major roles in drafting the TRADOC-assigned joint projects, which the headquarters coordinated. The joint agencies, the Air Land Sea Application (ALSA) Center, Airlift Concepts and Requirements Agency (ACRA), and Center for Low Intensity Conflict, also wrote or contributed to selected JCS publications. Those agencies were active in multiservice publications and projects as well. Previous editions of this history provide a continuous record of TRADOC's work down the two tracks of joint doctrine development.

The field of joint doctrine, gaining increasing emphasis with each passing year, marked important advances in 1993 as more and more of the publications projected by the master plan came to fruition. To that end, the new constellation of doctrinal agencies noted in the Introduction to this history played an important part.[4]

Doctrine for Joint Operations

As with many doctrine publications in preparation in the early 1990s, Joint Publication 3-0, Doctrine for Joint Operations had seen delay owing to the strategic shift and to lessons from the doctrinal laboratory of the Gulf War. TRADOC Headquarters had written it and the Joint Staff had released it as a test publication in January 1990. However, the review consensus was that while adequate on preparing a theater of war, it lacked sufficient information on joint war fighting. A consensus on that fundamentally central joint concern, with its numerous doctrinal points and issues, was not easy to come by. Fundamental theater campaign questions such as the Army and Air Force respective responsibilities on either side of the doctrinal forward support coordination line, and airspace command and control, joint fires, as well as other issues were involved.

TRADOC's resulting concept, which it developed with Joint Staff concurrence, had gone to the ARSTAF in mid-1992. Subsequently refined and then debated at the Joint Staff level, it had failed to gain Air Force support over the issue of the forward support coordination line. The Air Force felt that it should control all operations forward of that line, though Army doctrine and systems reached beyond the line. The issue was resolved when on 23 November 1992, the JCS chairman General Colin L. Powell signed a document underwriting the Army position, titled "A Doctrinal Statement of Joint Operational Concepts." That very specific doctrinal text was issued to serve as "the authoritative baseline" for the development of JP 3-0 and other joint manuals. TRADOC was directed to see that its contents were transferred into Doctrine for Joint Operations.[5]

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4. For a discussion of the perspective of the TRADOC commander on these developments, see General Frederick M. Franks, Jr. and Col Gary B. Griffin, "The Army's View of Joint," Naval Institute Proceedings, May 1993, pp. 54-60, Doc II/1.

5. (1) Interview, Col Ricky Rowlett, ODCSDOC Director, Joint Doc Dir, by John L. Romjue, HQ TRADOC, 4 and 15 Feb 94. (2) CJCS Paper, A Doctrinal Statement of Selected Joint Operational Concepts, Office CJCS, 23 Nov 92, s/Colin L. Powell, Doc II/2. (3) TRADOC ACH, CY 92, pp. 39-40.

The assigned TRADOC doctrine writers, Colonel Ricky Rowlett, the joint doctrine director, assisted by Lt. Col. Charles Burgdorf, rewrote JP 3-0 during early 1993. They closely followed the Powell document. Contributions came from a working group set up with the Air Combat Command, U.S. Atlantic Fleet, the Marine Corps Combat Development Command, and the Center for Low Intensity Conflict. The manual's central tenet of joint team work took its cue from a statement in the November 1991 JP 1, Joint Warfare of the U.S. Armed Forces. That statement declared that the rightly crafted team of air, land, sea, and space forces and capabilities provided "joint force commanders the ability to apply overwhelming force from different dimensions and directions to shock, disrupt, and defeat opponents."[6] Army Field Manual 100-5, which was then nearing its June 1993 publication, had major influence on JP 3-0. The joint manual adopted FM 100-5's six principles for operations other than war, the three levels of war schematic, and the concept of force projection. Keystone Air Force and Marine doctrine were fully considered, as the writers worked to craft joint constructs and perspectives. TRADOC forwarded the manual draft to Headquarters Department of the Army in April.

Subsequent ARSTAF review precluded a forthright enunciation of certain ground combat considerations TRADOC felt were important. Though the Army view on the forward support coordination line was retained, TRADOC felt strongly about omissions resulting from department attempts to develop acceptable compromises in order to gain all-service consensus. When the ARSTAF-revised draft was coordinated in May, General Franks wrote the ARSTAF deputy for operations and plans, Lt. Gen. John H. Tilelli, Jr. on several points. General Franks enumerated the missing joint functions framework, elimination of discussion of unified operations, deletion of a clear joint fires model, deemphasis of the services' joint battle contributions, and deletion of graphic depictions of the organization of operational areas. An overruling consideration, however, was the need both Department of the Army and TRADOC planners felt to obtain the JCS chairman's approval of the keystone joint operations doctrine despite compromises. It had been several years in development. General Powell approved it, and it was published on 9 September 1993 shortly before the end of his tenure. TRADOC planners felt that the points at issue might be solved in subsequent subordinate joint manuals. Despite necessary service concessions, TRADOC doctrine planners believed, as did the TRADOC commander, that JP 3-0 represented good work for the Army that was important for joint operations.[7]

Setting forth doctrine and military guidance to govern operations of the armed forces of the United States in joint action, JP 3-0 was the capstone document of the joint operations series. It described how to think about directing, planning, and conducting joint and multinational operations, as well as interagency operations, across the full range of military operations. It served as the guide for planning and execution of combatant command strategy, campaigns, and joint operations. Chapters treated the strategic context, fundamentals of

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6. Cited in JP 3-0, Doctrine for Joint Operations, Ofc CJCS, 9 Sep 93, p. I-1, Doc II/3.

7. (1) Memo, General Frederick M. Franks, Jr., Cdr TRADOC to Lt Gen John H. Tilelli, Jr., DCSOPS DA, 14 Jun 93, subj: Joint Pub 3-0, Doctrine for Joint Operations, Doc II/4. (2) Rowlett Interview by Romjue, 4 and 15 Feb 94. (3) Draft Proposed Final Pub, Joint Pub 3-0, Doctrine for Joint Operations, HQ TRADOC, 28 Jun 93, Doc II/5. (4) Joint Pub 3-0, Doctrine for Joint Operations, Ofc CJCS, 9 Sep 93, Doc II/3.

joint operations, planning joint operations, joint operations in war, military operations other than war, and multinational operations. Joint operations doctrine was bound to national strategy and alliance or coaltion objectives.

The manual laid out clear fundamentals of campaign planning and elucidated the elements of the operational art employed by the joint force commander such as synergy, simultaneity and depth, anticipation, balance, timing and tempo, operational reach and approach, and centers of gravity. It noted and explained key planning considerations such as operating flexibly within the commander's intent, and air apportionment. Historical examples taken from Operations Desert Storm and Just Cause and more distant actions such as the March 1943 Battle of the Bismarck Sea illustrated joint campaign planning and conduct. The six Army principles of operations other than war--objective, unity of effort, security, restraint, perseverance, legitimacy --were adopted, clarifying the distinction between operations and non-war operations that the FM 100-5 doctrine writers had labored to distinguish.[8] The development of the first capstone JCS operations manual was a significant contribution to the synchonized joint conduct of future battle.

Joint Publications

Beyond Joint Pub 3-0, numerous joint publications were in development or review by TRADOC during 1993. Of major importance among them were the headquarters-written Command and Control of Joint Operations (JP 3-56), which neared final publication stage and was scheduled to go to the ARSTAF in January 1994; Doctrine for Joint Fire Support (JP 3-09), a critical doctrinal volume in a controversial area for which work continued apace, supported by a joint fires concept paper and aided by the Field Artillery Center; and Doctrine for Joint Campaign Planning (JP 5-00.1) in the drafting stage in 1993.[9] TRADOC had primary review authority (authorship responsibility) for several joint manuals. A commercial contractor, Military Professional Resources, Inc., assisted in many of those projects.

Joint publications written by TRADOC that were published by the close of 1993 were the following:[10]

JP 3-0	Doctrine for Joint Operations	9 Sep 93
JP 3-07.1	JTTP for Foreign Internal Defense	30 Dec 93
JP 3-07.2	JTTP for Antiterrorism	25 Jun 93
JP 3-09.1	Joint Laser Designation Procedures	1 Jan 91
JP 3-09.2	Radar Beacon Operations	23 Apr 93
JP 3-10	Rear Area Operations	26 Feb 93
JP 3-10.1	JTTP for Base Operations	15 Mar 93
JP 3-15	Barriers and Mine Warfare	30 Jun 93

8. Joint Pub 3-0, Doc II/3.

9. Rowlett Interview by Romjue, 4 and 15 Feb 94.

10. All the following tabular data from: (1) Listing, HQ TRADOC, ODCSDOC Joint Doc Dir, Published [JPs], encl to SSHR, ODCSDOC, CY 93/II. (2) SSHR, CY 93/II, ODCSDOC, pp. IV-1 to IV-3.

The status of significant joint publications in development under TRADOC proponency during 1993 was as follows. All were projected for 1994-1995 publication.

JP 3-01.5	Joint Theater Missile Defense	Proposed Pub
JP 3-07	Military Operations Other Than War	Final Draft
JP 3-07.3	JTTP for Peacekeeping	Prop Final Pub
JP 3-09	Joint Fire Support	First Draft
JP 3-11	Joint Doctrine for NBC Defense	Prop Final Pub
JP 3-18	Joint Forcible Entry Operations	First Draft in Devel
JP 3-18.1	Joint Airborne and Air Assault Operations	First Draft in Devel
JP 3-56	Command and Control for Joint Operations	Prop Final Pub
JP 4-01.3	Movement Control	Prop Final Pub
JP 4-06	JTTP for Mortuary Affairs	First Draft
JP 5-00.1	Campaign Planning	First Draft in Revision

Numerous joint publication drafts and proposed final publications written by other agencies were also reviewed during the year. A schematic of the overall Joint Publication Program is at Appendix E.

Support to Commanders-in-Chief

TRADOC continued its program of special support as the Department of the Army's executive agent to the U.S. world-regional commanders-in-chief and Army component commanders. TRADOC teams visited the headquarters of U.S. Forces Korea, U.S. Pacific Command, U.S. Central Command, U.S. European Command, and U.S. Southern Command and U.S. Army South during the year. Visits to U.S. Atlantic Command, U.S. Forces Command, and U.S. Space Command were scheduled for the first two months of 1994. The high-level visits enabled TRADOC, acting on the Army's behalf, to iron out specific joint doctrinal, organizational, training, materiel, leadership development, and soldier issues. In the visits, TRADOC sought out the commanders' particular needs and concerns, to which it responded in a regularized quarterly process. Literally hundreds of issues were identified during these visits in the course of 1993, most of which were satisfactorily resolved. TRADOC attended the eighteenth meeting of another recurring interservice forum, the Joint Projects Review, which convened at U.S. Transportation Command headquarters at Scott Air Force Base, Ill. on 2-3 February.

TRADOC was actively involved in 1993 with joint implementation working groups of the U.S. Atlantic Command in plans to implement unified command plan changes, as Atlantic Command prepared to carry outs its encompassing joint training and other functions noted earlier in this history. Late in the year, the two commands drafted a memorandum of under-

standing projected for signature in 1994 to codify efforts and agreements between the two commands and to establish communications links and procedures to carry out joint initiatives.[11]

Airlift and Joint Mobility

TRADOC had prosecuted airlift doctrine developments with the U.S. Air Force Air Mobility Command and its predecessor, the Military Airlift Command, through the joint Airlift Concepts and Requirements Agency, or ACRA, established at Scott Air Force Base, Ill, in 1984. Late in 1992 TRADOC and the Air Mobility Command took steps to broaden ACRA's charter and to change its useful but narrow airlift focus to include joint mobility issues for all four services. Work on a memorandum of understanding followed in 1993, aided by in-depth study of ACRA's mission, organization, and future functions and leading to the agreement earlier noted by which the bi-service ACRA was retitled on 1 October the Mobility Concepts Agency (MCA) with four-service representation in TRADOC, the Air Mobility Command, the Marine Corps Combat Development Command, and the Naval Doctrine Command. Concomitant action by the joint actions steering committee determined that MCA would move to Fort Monroe between February and August 1994 in order to co-locate with the majority of organizations with which it worked.

ACRA had completed a revised concept in 1992 for multiservice employment of the C-17 aircraft, but in 1993 the concept saw further revision, adding the Navy as a signatory. Test loading of M1 tanks and other equipment was carried out at Fort Hood, Texas and Edwards Air Force Base, Calif. The new cargo aircraft was projected to be operable in January 1995. MCA's future theater airlift study continued, with status briefings in March 1993 by the major builders of the different propulsion systems in consideration; that program, however, subsequently slowed due to a lack of FY 1993 funding. MCA collaborated with ALSA on a draft multiservice manual on forcible entry, which was in staffing in 1993. MCA sent observers to and monitored air movement aspects of joint training at the Joint Readiness Training Center during the year. The agency worked through the year in support of logistics aspects of the Army draft field manuals on theater operations and theater operational support. Late in the year, MCA began work on a project to find ways to improve intransit visibility of personnel and equipment en route to a war theater, and effort to assist the Army program to pre-position equipment for a heavy brigade aboard ships. MCA also worked closely with the Battle Laboratories in forcible entry concepts and equipment and logistics ramifications, air space coordination, command and control interoperability of ground and airlift forces, and other issues.[12]

Other Joint Doctrine Matters

Joint Communication Concerns. Several joint communications projects continued. A field manual for multiservice procedures for radar beacon operations during combat was revised and expanded to include joint tactics, techniques, and procedures, and was pub-

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11. (1) Fact Sheet ATDO-J, ODCSDOC, 16 Jan 94, subj: TRADOC Support to CINCs and Component Commanders. (2) SSHRs, ODCSDOC, CY 93/I, pp. IV-4 to IV-5; CY 93/II, p. IV-3. (3) For information on the mission of the U.S. Atlantic Command, see above, p.7.

12. SSHRs, ODCSDOC, CY 93/I, pp. IX-1 to IX-2, w/encls: "Project Status" and "Battle Lab Initiatives;" CY 93/II, pp. IX-1 to IX-2, w/encl: "MCA Projects."

lished in April. The update of a draft pamphlet detailing standardized multiservice communications procedures for the SINCGARS radio continued.[13] The revision of a previous ALSA publication on AWACS-Army contingency voice operating procedures to provide doctrine on establishing links between the AWACS system aircraft and ground-based air defense units was published in December 1993.[14]

The several-year project to produce a manual on a Theater Air-Ground System (TAGS) explaining each service's contributions regarding the air power role in support of the joint task force commander saw completion of a final draft, with completion expected in 1994. Close air support at the National Training Center and Joint Readiness Training Center was studied by a multiservice team under ALSA aegis in 1993 with the idea of improving air-ground training. Major findings were that the Air Combat Command's Air Warrior programs were an adequate means to that purpose, but that participating units were not effectively integrating air and ground operations because of deficiencies in pre-rotation training, inadequate post-rotation feedback, and inadequate dissemination of close air support lessons learned. At the close of the year, a first draft neared completion to standardize and clarify multiservice procedures for planning, coordinating, executing, and controlling close air support; that project was being recast as a joint publication at the year's close. ALSA was assigned by the Air Staff in June to develop JP 3-09.3, JTTP for Close Air Support.[15]

A joint publication on campaign planning was written by ALSA in first draft and was in revision at the close of the year. Work continued on a joint manual on forcible entry, which completed coordination with all the services in November 1993 and was scheduled for publication in April 1994. In another action, begun in late 1992, the initial draft was completed for a manual to develop techniques and procedures to effectively integrate Marine and Army units of marine expeditionary forces and corps size and smaller for joint operations; publication was expected in mid-1994.

In electronic warfare projects in 1993, ALSA began work on an unclassified reference handbook of general guidance for joint electronic warfare operations. The reference would contain concise critical information enabling staffs to start up and carry out multiservice electronic warfare operations. A first draft went out for review by all the services in October 1993. The final draft of a manual on spectrum management in joint operations was completed by a joint working group, preliminary to expected approval in early 1994. A manual outlining procedures for requesting reconnaissance information in joint operations was in preparation by ALSA for submission for approval in early 1994.

In other projects, a manual providing tactics, techniques, and procedures for integrating Army and Air Force elements in planning and executing the defense of air force bases was signed by the TRADOC and Air Combat Command commanders but was held at the close of the year for a publication decision. ALSA completed revision of a 1989 pamphlet on multiservice procedures for joint application of firepower; the printing process was under way.

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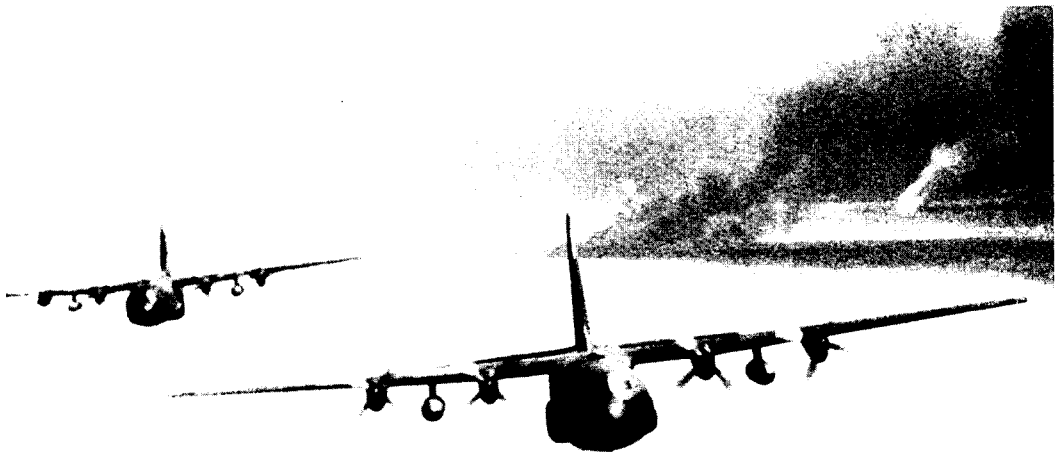
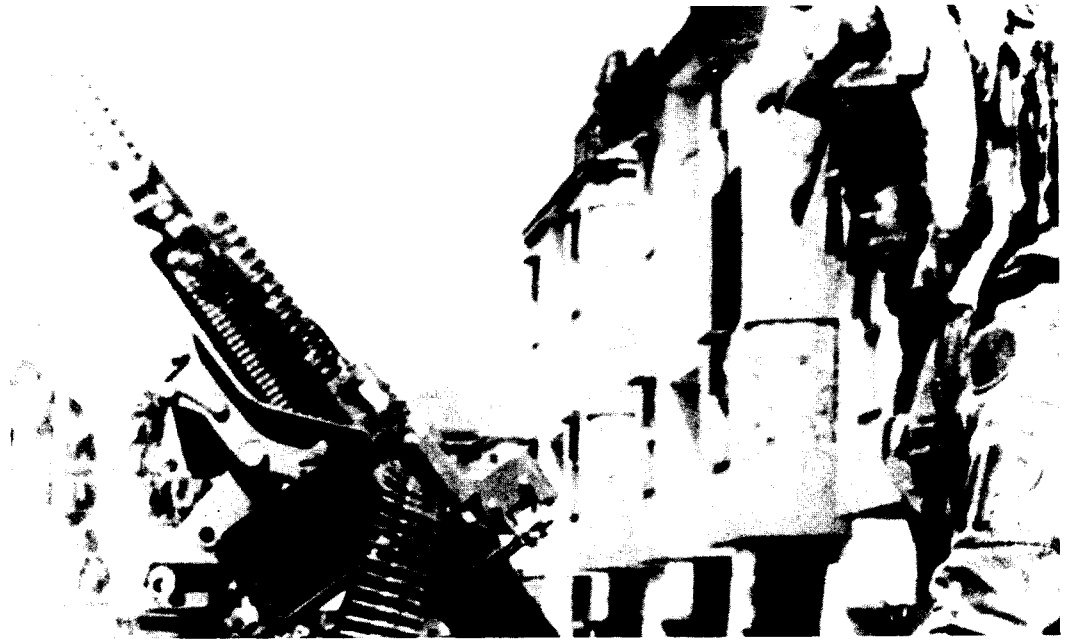
13. SINCGARS: Single Channel Ground and Air Radio System

14. SSHR, ODCSDOC, CY 93/II, pp. VIII-2 to VIII-3.

15. (1) Ibid., pp. VIII-2 to VIII-4. (2) Msg, Joint Staff to distr, 171846Z Jun 93, subj: Joint Pub 3-09.3, Joint Tactics, Techniques, and Procedures (JTTP) for Close Air Support (CAS) Program Directive, Doc II/6.



C-130s fly over burning oil wells in Kuwait during Operation Desert Storm. Work on many doctrine publications had been delayed owing to the strategic shift following the end of the Cold War, and to the need to assess the lessons of the recent war.



An MP keeps watch during Operation Just Cause. Experiences such as the action in Panama illustrated the diverse nature of the post-Cold War challenge.

All four services approved a manual on integrated combat airspace command and control in December 1993, with publication expected in early 1994. ALSA also began development of a tactics, techniques, and procedures (TTP) pamphlet, co-sponsored by U.S. Atlantic Command, on humanitarian assistance. A manual of TTP was undertaken to provide a document to consolidate references to service capabilities and procedures concerning anti-radiation missile employment in a joint environment. A project to develop a high-speed air drop container was cancelled by the U.S. Army Special Operations Command.[16]

Army and Combined Doctrine

Headquarters TRADOC continued to manage the decentralized development of field manuals for Army doctrine, including doctrine for combined operations with U.S. allies. Forty-eight Army field manuals wre published during the year. Chief among the doctrine projects was FM 100-5, Operations, published in June and discussed earlier in this history.[17]

Army Doctrine Manuals

Completed in preliminary draft in August 1990, The Army in Theater Operations, FM 100-7, was revised during 1991 following the Gulf War, in order to incorporate the theater-level experience and lessons of that recent conflict. Headquarters doctrine writers sent out a final coordination draft electronically in November 1992. However, the 1993 completion of FM 100-5 acted to interrupt publication plans once again. The impact was significant. Added emphasis was given to operations other than war, and in October 1993, a review council convened to synchronize the contents of the theater army manual with joint publications, FM 100-5, and the force projection concept. Out of that review also came a recommendation to change the name of the theater army commander to "army service component commander" (ASCC) and to change the manual to represent the functions that commander provided the theater commander-in-chief, as opposed to organizations. Further review by senior officers was scheduled for the first half of 1994, with publication rescheduled after mid-year for the retitled FM 100-7, Decisive Force: The Army in Theater Operations.[18]

TRADOC continued its several-year effort to produce an Army theater logistics manual, FM 100-16, a planned publication that had gone under several titles since theater-level doctrine proponency had been transferred to the headquarters in 1988. A coordinating draft of Support Operations: Echelons Above Corps was well under way at the close of 1992. Like its companion theater operations manual, FM 100-7, FM 100-16 was subject during 1993 to the developing ideas at the Army operational level. Retitled Army Operational Logistics, the FM 100-16 coordinating draft was sent out in early 1993. Following a

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16. SSHR, ODCSDOC, CY 93/II, pp. VIII-2 to VIII-5.

17. For a discussion of Army doctrine production management, see below, pp. 52-54.

18. (1) TRADOC ACH, CY 92, p. 36. (2) SSHRs, ODCSDOC, CY 93/I, p. III-2; CY 93/II, p. III-2.

"council of colonels" review in October 1993, an updated draft was ready in December for senior-officer review in early 1994, with publication of FM 100-16 projected for June of that year as Army Operational Support.[19]

Planning had begun at the close of 1992 toward a new manual, FM 100-19, tentatively titled Army Support to Civil Authorities. By direction of General Sullivan and General Franks, work started at the headquarters in January 1993, the project speeded and aided by on-line computer writing and staffing. The headquarters' initial field manual venture in that process, FM 100-19 gained Armywide consensus and was co-published with the U.S. Marine Corps in August 1993, titled Domestic Support Operations. The new manual defined and described the concept and principles; roles and responsibilities of the president, the numerous federal agencies involved, the departments and agencies of the Department of Defense, and state and local governments; legal considerations and restraints including the posse comitatus provisions; the many details of logistics and support operations; the several actions required in environmental missions, missions in support of law enforcement, and community assistance; and education and training.[20]

Begun early in 1993 through an accelerated electronic staffing process was FM 100-23, Peace Operations. The manual would provide commanders with the guidance for conducting the full range of missions in support of international peacekeeping and peace enforcement efforts. A doctrine conference at Fort Monroe between 27 September-1 October 1993, including representatives from throughout the Army, supported the project. An advanced draft was in staffing to the Army's senior leadership at the close of the year. Publication was expected in June 1994.[21]

In April 1993 Headquarters Department of the Army assigned TRADOC, under the Army strategic Mobility Program, to develop doctrine supporting force projection which would focus specifically on the "pre-position afloat" mission. Desired was doctrine to instruct the heavy brigade commander in the steps and process to get to his pre-positioned afloat equipment, secure it, and move through the port to a tactical assembly area, secure the lodgement, and be prepared for follow-on missions. Doctrine planners developed an initial draft manual in June and staffed it widely in the Army and to the commanders-in-chief. Projected publication date was summer 1994. Far from hypothetical, this concept was aimed at placing a set of equipment for a combat brigade on ships in the Indian Ocean on station by April 1994. A critical factor was how long it took for the brigade, once married with its pre-positioned equipment, to achieve readiness. Early plans to test the concept with an actual unit gave way late in 1993 to plans to approach the issue through computer simulation.[22]

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19. SSHRs, ODCSDOC, CY 93/I, p. III-2; CY 93/II, p. III-2.

20. (1) FM 100-19/FMFM 7-10, Domestic Support Operations, 1 Jul 93. (2) SSHRs, ODCSDOC, CY 93/I, p. III-2; CY 93/II, p. III-3.

21. SSHRs, ODCSDOC, CY 93/I, p. III-2; CY 93/II, p. III-3.

22. Ibid., CY 93/I, p. III-3; CY 93/II, pp. III-2, V-1.

Combined Army Operations

A significant project at Headquarters TRADOC was Combined Army Operations, FM 100-8, begun in late 1989 and, like several other doctrinal manuals, interrupted in its progress by the Gulf War. TRADOC officers had been sent to the Persian Gulf theater to register the combined army lessons of that war. A final draft was completed in December 1992. Revised during the year, the final draft was reissued in October 1993 for review, with planned publication rescheduled from late 1993 to late 1994. The manual would furnish a comprehensive guide for combined army operations at the tactical and operational level for the combined-army component of a combined theater force.[23]

U.S.-Russian Peacekeeping Doctrine

TRADOC took the Army lead in a project to establish joint U.S.-Russian peacekeeping doctrine to serve as a basis for both unit-level training and joint exercises. Meeting at Headquarters TRADOC in July 1993, members of the Russian General Staff indicated that the Russian Army, despite staff and fiscal constraints, was willing to proceed with a peacekeeping exercise scheduled for 1994.

Meeting at Fort Leavenworth in December 1993, planners created a framework for developing combined Russian-U.S. peacekeeping tactics, techniques, and procedures for a division-division exercise and for conducting a Battle Command Training Program seminar in March 1994 to validate the TTP. Headquarters doctrine planners managed the program through a TRADOC/Russian Cooperation Panel and Peacekeeping Working Group, which was responsible for developing the 1994 meeting in coordination with the Russian General Staff. By plan, that meeting would lead to publication of the combined peacekeeping TTP that would form the basis for a division-division exercise in July 1994.[24]

Warfighting Augmentation

During 1992, TRADOC had developed a concept for "battle rostering" of TRADOC subordinate organizations. The idea was to ready and have on call specialized teams of TRADOC-assigned personnel who, at the onset of a contingency, could be infused rapidly into the contingency action. Also referred to as warfighting augmentation, that concept was implemented by General Franks in 1993. In April, the TRADOC commander informed Army Chief of Staff General Sullivan of the teams' availability in TRADOC and their readiness for such application. The units included six 23-man mobile liaison teams with organic transportation, communications, and language capability, replete with Desert Storm experience and current Kuwait experience and usable in all theaters; a 20-man joint movement control center that had augmented the joint task force during Hurricane Andrew in Florida; a 42-man unmanned aerial vehicle unit with organic capability to operate Pioneer or Hunter

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23. (1) TRADOC ACH, CY 92, p. 45. (2) SSHRs, ODCSDOC, CY 93/I, p. III-2; CY 93/II, p. III-2.

24. SSHR, ODCSDOC, CY 93/II, pp. III-3 to III-4. For further information on the Russian-U.S. Army exchange during 1993, see below, pp. 63-65.

systems, for tactical use; and a J-STARS operational detachment equipped with six ground stations with liaison officers and contract support capability of match-up with the U.S. Air Force J-STARS aircraft.[25]

Other Projects

In August 1993, Headquarters TRADOC, the Combined Arms Command, Combined Arms Support Command, the Infantry and Armor Schools, JFK Special Warfare Center, Center for Low Intensity Conflict, and Air Land Sea Application Center formed a working group to develop an action plan for operations other than war across the TRADOC development fields. The plan would provide for the review of doctrine publications; training plans; organization, materiel, and soldier support issues; and joint force integration for operations other than war. Conferences in October and December 1993 pointed toward a report on this project to the TRADOC commander in February 1994.[26]

In April 1993 the Secretary of Defense directed the Army and Navy to develop joint procedures to provide additional armor support to the U.S. Marine Corps. The Armor School developed a White Paper on U.S. Army armor support to the Marines. Staffed at Headquarters Department of the Army and the Forces Command, the paper outlined the concept of providing an Army armor brigade in augmentation of a Marine expeditionary force. Presentation of the White Paper to Headquarters Department of the Army was projected for March 1994.[27]

During 1993 TRADOC revised its Blueprint of the Battlefield, TRADOC Pamphlet 11-9. That document was an analytic hierarchical listing of functions performed by Army, joint, and combined forces at each of the three levels of war. The revision was recast to the post-Cold War era. Dynamics Research Corp. aided the project under a TRADOC contract. Publication was scheduled for summer 1994.[28]

Doctrine Program Management

Policy Regulations

Proponency for policy and integration of doctrine, including the TRADOC doctrine policy regulations TRADOC Reg 25-31, TRADOC Armywide Doctrinal and Training Literature Program, and 25-32, TRADOC Doctrinal Literature Master Plan, was transferred internally within the Office of the DCS for Doctrine from the Program Management and Integration

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25. (1) TRADOC ACH, CY 92, p. 38. (2) Msg, Cdr TRADOC to HQ DA for General Sullivan, 141728Z Apr 93, subj: TRADOC Warfighting Augmentation Capabilities, Doc II/7.

26. SSHR, ODCSDOC, CY 93/II, p. III-4.

27. (1) PROFS Note, Autodin Postmaster to HQ TRADOC, 212055Z Jun 93, subj: Army Armor Support to Marine Corps, Doc II/8. (2) Paper, "Army Armor Support to the Marine Corps, Executive Summary and Interim White Paper, n.d. [Oct 1993], U.S. Army Armor School, Doc II/9. (3) SSHR, ODCSDOC, CY 93/II, p. III-4.

28. SSHR, ODCSDOC, CY 93/II, p. III-3.

Directorate to the Directorate of Army Doctrine in March 1993. Revision of the two doctrine regulations had begun in 1992 in order to accommodate policy changes and guidance since their issue in March 1990. However, a TRADOC "divestiture" initiative aimed at training and doctrine regulation streamlining resulted in plans in 1993 to bring together the two regulations and over a dozen others in a single consolidated regulation under the auspices of the Office of the DCS for Training. At the close of 1993, the consolidated TRADOC Reg 350-XX, Training Development Process, Management, and Product Development, was in the drafting stage.[29]

Pending revision of regulations and pending changes that would result from the initiative begun in 1993 to reengineer the TRADOC subordinate structure, the headquarters continued to manage doctrine production during 1993 according to a general framework in place the past several years. Branch school commandants wrote branch doctrine and selected multiservice and general subject publications. The commanders of the major subordinate commands wrote corps, division, and combined arms brigade, multiagency, and general subject doctrine. The TRADOC commander wrote Army echelons above corps, combined army, and joint doctrine. Doctrine approval was hierarchical, the TRADOC commander retaining responsibility for approving the keystone FM 100-5, ten capstone field manuals, and five other major Army doctrine manuals.[30]

Doctrine Support Contracts

Support contracts had been let in 1989 and 1990 with Military Professional Resources, Inc. (MPRI). The two contracts continued in force in 1993, providing support to the headquarters and to the subordinate organizations. The DCSDOC Doctrine Support Contract procured subject matter expertise and review by "emeritus councils" of senior retired military officers to aid the development of joint, multiservice, combined and Army doctrine. The Headquarters TRADOC Concepts, Doctrine, and Scenario Support, or Omnibus, Contract assisted in development of those efforts throughout the command. In December, the headquarters awarded a new Concepts and Doctrine Support Contract, consolidating the two contracts in force.[31]

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29. (1) TRADOC ACH,CY 92, pp. 49-53. (2) SSHR, ODCST, CY 93/I, p. 4; ODCSDOC, CY 93/I, pp. II-1, II-2. (3) MFR, Office Command Historian, 22 Mar 94, subj: TRADOC Regs 25-31 and 25-32. The Program Management and Integration Directorate, reorganized as the program Management and Operations Directorate, retained doctrine resourcing, information management, FM editorial and design, and other doctrine management responsibilities for the ODCSDOC.

30. See previous editions of this history for summaries of doctrine literature management policy and changes year to year. For a list of the 16 doctrinal FMs requiring CG TRADOC approval, see TRADOC ACH, CY 92, pp. 51-52.

31. Contract amounts obligated during CY 1993 were: DCSDOC Doctrine Support Contract: $1.1 million; Omnibus Contract: $1.4 million. SSHRs, ODCSDOC, CY 93/I, p. II-2; CY 93/II, p. II-1.

Doctrine Literature Production

During 1993, forty-eight field manuals were published by TRADOC headquarters, the major subordinate commands, and the schools. Among important field manuals besides the keystone operations doctrine were tactics, techniques, and procedures for infantry division operations, and for corps artillery, division artillery, and field artillery brigade headquarters; the mechanized infantry platoon and squad; domestic support operations; general supply in theaters of operation; and psychological and civil affairs operations. A list of field manuals published during 1993 is at Appendix F.

Future Battle Concepts

In June 1993, the doctrine that had served as the engine of change for TRADOC and the Army during its 1991-1993 formulation period was on the street. Some months before the new doctrine to prepare the Army for war was published, TRADOC planners were taking steps to recast the command's approach to its other major mission requirement: planning the Armys' future architecture. That effort, which would result in early drafts of a future concept for full dimensional operations by the close of 1993, will be described following a brief survey of the TRADOC "futures" work that led up to it.

Background: TRADOC Future Concept Development

Such had been the immediacy of TRADOC's near-to-mid-future development tasks in training, doctrine, equipment requirements, and force design in the 1970s that it was not till 1980 that the command had first turned attention to the mid-to-far-future realm. As they set about that task, TRADOC future planners were aware of the pitfalls of futuristic visions and sought to base the future concepts they developed during the 1980s on projections from current and emerging strategic, political, technological, and doctrinal trends. That attempt notwithstanding, the successive concepts of the early 1980s--"AirLand Battle 2000," "Focus 21," and "Army 21"--had generally been viewed as representing too drastic a leap into the future and had not gained Army consensus that they were sufficiently credible and feasible to serve as a principal basis for long-range development.

Facing that problem, TRADOC had announced in late 1986 a closer focus on the mid-future part of the future realm in a general schema which it termed the "Architecture of the Future." Outlined in early 1987 was an expressly evolutionary approach which delineated the period beyond the budget years and out to 15 years as "AirLand Battle-Future." The architecture set that period apart from the far-future, 15-30-year period, which fell under the resurrected designator Army 21. Though subsequent work on a new Army 21 concept was sporadic and not completed, significant mid-future conceptual efforts proceeded into the early 1990s on the AirLand Battle-Future concept and on a separate, NATO-focused AirLand Battle-Future (Heavy) concept. Although the major strategic shift that began with the Revolution of 1989 in Eastern Europe rendered the heavy concept obsolete, the principal AirLand Battle-Future concept saw intensive work by the Combined Arms Command and headquarters planners in 1989 and after. In 1991, AirLand Battle-Future evolved into the

"AirLand Operations" concept, which was published as TRADOC Pam 525-5 in August of that year and which served as one of the conceptual underpinnings for the 1991-1993 re writing of FM 100-5.[32]

Organizing the Future Battle Project

Establishing a new Future Battle Directorate in his doctrine office on 1 April 1993, General Franks charged headquarters doctrine planners to study the effect of change on the Army and its impact on modern and future conflict. The new unit was directed to assist in preparation of future Army umbrella-type concepts (the term given to AirLand Battle-Future and AirLand Opertions) and to assure that the individual operations concepts developed by TRADOC were consistent with the future vision as it took form. Required here was an active effort to develop and maintain a wide acquaintance and contacts with strategic and military technological trends and ongoing scholarship and debate within the defense establishment and in the professional and academic and related industry sectors. The TRADOC network to accomplish that end was described as a "living systems" net. It reached out to TRADOC combat developments and training offices, the Louisiana Maneuvers Task Force, Battle Labs, Command and General Staff College and School of Advanced Military Studies, as well as to the Army War College, School of Advanced Aerospace Studies and School of Advanced Amphibious Warfare, and to the foundations including RAND and the Brookings Institute. Col. Gary Griffin was named on 1 April to head the new future battle effort.

Early effort went into briefings and papers outlining ideas for a future battle vision and for command and control in nonlinear operations. Accompanying the "vision" effort were concept papers on a range of related topics. They included electronic battlefield control measures, the media effect on military operatons, liaison for future combined and coalition operations, sensor to shooter targeting, an "afloat" joint task force, the strategic Army, and robotics.

The vision documents laid down the general idea of post-industrial warfare geared to both the dictates and the rapidly developing technology of the information age. Postulated were rapid and far more lethal force projection operations producing quick decisive results based on understanding and harnessing the leading edge of technology in sophisticated and integrated sensor-shooting systems. A part of the vision was the expectation that sophisticated command and control visualization, including a "living operations map" and real-time terrain, enemy force, location, strength, and status information for the units and systems involved--both U.S. and enemy-- would facilitate synchronized nonlinear battle, all portrayed digitally for the commander. Shared situational awareness and real-time force synchronization based on command and control of the combined arms on the move and automated

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32. See previous TRADOC annual histories for the continuous documented record of TRADOC's futures work beginning in 1980, especially TRADOC Hist R, 84-86, pp. 89-98; TRADOC AHR, CY 87, pp. 83-89 (Both SECRET -- Info used is UNCLASSIFIED); TRADOC ACH, CY 89, pp. 32-40 (FOR OFFICIAL USE ONLY -- Info used is not protected); and TRADOC CY 91, pp. 54-60.

transmission of threat location data made possible the "digitization of the battlefield."[33] The commanding general's "Vision of the Future Battle" was staffed Armywide in April and was approved by General Franks in November 1993 as a contributory document to the planned revision of TRADOC Pam 525-5.[34]

During 30 June-1 July 1993 on the occasion of the TRADOC 20th anniversary commemoration at Fort Monroe, the command sponsored a seminar program on "The Nature of Future Conflict." Attended widely by active and retired Army, sister-service, media, defense, and academic representatives, the program was both a means to present TRADOC's "future vision" thinking and to solicit interest and response. Three seminars were held. The first, "Future Conflict--A New Era," discussed the new strategic and military-technological assumptions as a foundation and focus. The second, "The Nature of Future Conflict," provided fora for dialogue on the changing nature of conflict, character of future military operations and the Army's role, challenges implicit, and to aid in determining concepts for future exploration. The final seminar, "TRADOC--Looking to the Future" provided updates on current programs and initiatives and a forum for discussion of the TRADOC role.[35]

Work began in September 1993 on a draft of the concept, to be published as a new edition of the traditional umbrella document, TRADOC Pam 525-5.[36] It would differ, however, from previous editions. General Franks gave it the function not of a one-time-basis document for future doctrine, but as a "living" concept that would continually evolve and be annually updated and from which a body of ideas or selected ideas could be annexed into a new Operations or other manual. It would be the catylst to harness thinking, focus ideas, and generate discussion on future Army operations. Franks also made the decision to write the concept not, as traditionally, at the Combined Arms Command, but in the headquarters doctrine office.

Printed in a first draft and limitedly circulated within TRADOC on 20 December 1993, the draft pamphlet was described as an umbrella concept for Army operations in war and operations other than war in the early decades of the 20th century. The primary idea of the concept as it stood at the close of the year was "knowledge-based operations." Concept writers saw it as a revolutionary approach to the function of command, made possible by

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33. (1) Briefing, Future Battle Vision, Col Gary Griffin, Dir, Future Battle Directorate, n.d. [June 1993], Doc II/10. (2) Paper, Preliminary Vision of Future Battle (draft), HQ TRADOC, 22 Apr 93, Doc II/11. (3) Paper, Tools of the Trade--C2 of Nonlinear Operations or How Do We Get There From Here, HQ TRADOC, n.d. [June 1993].

34. SSHRs, ODCSCD, CY 93/I, pp. VI-1 to VI-2; CY 93/II, pp. VI-1 to VI-2

35. (1) Briefings packet, TRADOC 20th Anniversary Seminar: The Nature of Future Conflict," 30 Jun-1 Jul 93, Doc II/12. (2) SSHR, ODCSDOC, CY 93/I, p. V2 to V-3. At the close of the year, a booklet of articles based on the 20th anniversary seminars was in preparation.

36. TRADOC Pam 525-5 was initially published 25 Mar 81 as Military Operations: Operational Concepts for the AirLand Battle and Corps Operations--1986, and its ideas were among the bases of AirLand Battle doctrine published in the FM 100-5 Operations of 20 Aug 82. TRADOC Pam 525-5 was again published, as AirLand Operations: A Concept for the Evolution of AirLand Battle for The Strategic Army of the 1990s and Beyond, on 1 Aug 91 and influenced the writing of 1993 Operations doctrine.

advances in information technology enabling strikes to succeed through rapidly developed knowledge and shared situational awareness of the battlefield and through the application of effects rather than the massing of fires. Planners laid out a four-phase course toward publication: review through a variety of fora to solicit a wide body of thinking through March 1994, Army staff and further internal Army and outside contribution through May, publication in June 1994, and subsequent refinement and validation. We will discuss this important concept in detail in the subsequent edition of this history.[37]

Concept Development and Management

Administered by the DCS for Combat Developments, concept development was an integral part of doctrine formulation as well as materiel and force design projects. The development of concepts by the headquarters, the major subordinate commands, and the branch schools was governed by TRADOC Reg 11-16, Development and Management of Operational Concepts. That regulation, last published in August 1986, had been in revision since 1990 as the command sought to manage properly the writing and coordination of the several types of concepts tied to the Enhanced Concept Based Requirements System in use in the early 1990s. In 1991 TRADOC had delineated concepts of two types: the overall, or umbrella concept; and subordinate operations concepts. Classes of the latter were battlefield functional mission area concepts, branch concepts, and system or functional concepts. In 1992, battle dynamic concepts were added as a conceptual framework for the new Battle Laboratories, and technology concepts were added to assist the branch chiefs, Battle Labs, and proponents in their exchange of ideas with the materiel development community.[38]

The revision of TRADOC Reg 11-16 continued through 1993. As TRADOC gained experience with the new Battle Labs and the Louisiana Maneuvers process, a set of concept types more relevant to those new development agencies in support of the force projection Army was tentatively prescribed. Umbrella, operational, and battle dynamic concepts were retained. System/organizational concepts replaced technology concepts. In the revised guidelines, concept development time was shortened. The latest draft revision of the regulation was staffed within the command in December 1993.[39]

Space Concerns

Beyond the communications, navigation, weather information, and mapping capabilities introduced for ground forces with the advent of orbiting satellites, space technology exhibited high potential for influencing land combat. That realization had prompted an active Army Space Program during the past decade since President Ronald Reagan's March 1983 announcement of the Strategic Defense Initiative (SDI) with its dramatization of the revolution-

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37. (1) Interview of Col Gary Griffin, Dir, Future Battle Dir, by Dr. Susan Canedy, HQ TRADOC, 1 Feb 94. (2) SSHR, ODCSDOC, CY 93/II, pp. V-2 to V-3. (3) See the 25 Feb 94 draft booklet, Future Full -Dimensional Operations: A Concept for the Evolution of Full Dimensional Operations for the Strategic Army of the Early 21st Century, TRADOC Pam 525-5 (draft).

38. TRADOC ACH, CY 92, pp. 54-54.

39. SSHR, ODCSCD, CY 93/II, p. VI-3.

ary military potentialities of the "high frontier." [40] Despite waning funding support by the U.S. Congress for the SDI space-based anti-missile defenses as the Soviet threat receded and collapsed, the potential military uses of space remained evident. That potentiality saw affirmation in the new intelligence, land navigation, and command and control capabilities based on U.S. satellite system technology demonstrated in the Gulf War.

Army space planning and initiatives thus held steady interest in the late 1980s and early 1990s, with many agencies involved, toward the realization of an Army role in space that would be focused on support of the tactical ground forces. In 1992 the Chief of Staff of the Army approved for staffing a new Army Long-Range Plan for Space, drafted by the Combined Arms Command. Also nearing completion was Joint Pub 3-14, Doctrine for Joint Space Operations. As the architect of the Army's fighting future, TRADOC in 1993 continued its involvement in the many development aspects of the space dimension: requirements, concepts, analyses and studies, as carried out at the headquarters, CAC and CASCOM, the TRADOC schools, the TRADOC Analysis Command, the Battle Laboratories, and in the analytical mechanism of the "Warfighting Lens."[41] TRADOC's effort was only a part of the larger Army and multiservice space network that included at the Department of the Army level the Army Space Council and the TENCAP General Officer Steering Committee, as well as the U.S. Space Command with its Army component, the U.S. Army Space and Strategic Defense Command.[42]

An important 1993 decision was the establishment on 1 October of a new Space and Electronic Combat Directorate in the combat developments office at Headquarters TRADOC. Put in place to focus TRADOC activities in those two areas, the new element had broad direction and oversight and integration responsibilities for them across all the TRADOC missions. In a charter signed on 17 November, General Franks named Col. Michal R. Robinson as director and charged him to develop and integrate doctrine, establish requirements, coordinate and integrate the exploitation of technology, oversee the appropriate training and leader development programs, and represent TRADOC in the space and electronic warfare communities. Franks told the new director to "normalize space, with the goal that its effective, optimum use becomes second nature to our Army forces."[43]

In December 1993, planners completed a preliminary draft concept for space support to land forces, projecting its internal staffing in early 1994. Assuming space as a fourth operational dimension, TRADOC intended the document, when completed and approved, as a foundation for informing, educating, and stimulating thinking regarding the best application of space-based systems into Army operations. Drawing on previous space doctrinal work,

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40. For a summary of the TRADOC effort in the Army Space Program, see TRADOC ACH, CY 91, pp. 61-63. For organizational background of that program and TRADOC's involvement, see TRADOC Hist R, 84-86, pp. 79-81. (SECRET -- Info used is UNCLASSIFIED)

41. For information on the Warfighting Lens Analysis, see below, pp. 89-91.

42. Paper graphic, Space Map, w/encl: Linkages on the Space Map, ODCSCD Space and Electronic Combat Dir, n.d. [1993], Doc II/13. TENCAP: tactical exploitation of national capabilities.

43. Certificate of Charter appointing Col Michal R. Robinson as the Director, Space and Electronic Combat, HQ TRADOC, s/General Frederick M. Franks, Jr., 17 Nov 93, Doc II/14.

the draft set out the four space functions of force enhancement, force application, space control, and space support, and outlined near-, mid-, and far-term development phases. The concept saw space capabilities as imperative to successful execution of the Army's doctrinal tenets and to the success of military operations in the 21st century.[44]

Among other important space efforts were completion of Army Science Board and Science Applications International Corp. studies. Preparation of FM 100-18, Army Support to Space Operations, neared completion and was sent out for final review in December. Preparation of a memorandum of understanding with the Army Space and Strategic Defense Command was in progress.[45]

Fratricide and Combat Identification

Always a serious concern, the problem of fratricide from "friendly fire" had been highlighted by U.S. and allied soldier losses in the 1991 Gulf War. The Army Chief of Staff had directed TRADOC to form a task force with the Army Materiel Command (AMC) to lay out a comprehensive Army program addressing short and long term requirements and solutions. Department of the Army, AMC, and TRADOC study, planning, and materiel actions to deal with the problem and to develop combat identification measures had resulted, as noted in previous annual volumes. A requirements document approved by TRADOC in November 1992 was approved by the Department of the Army in March 1993. A Program Integration Office--Combat Identification had also been established at Headquarters TRADOC in 1992 to lead the ongoing cooperative planning, in which the Joint Combat Identification General Officer Steering Committee also figured. Under the aegis of the TRADOC office, noteworthy efforts continued during 1993.

Based on a requirements document for a Battlefield Combat Identification System (BCIS) prepared in 1992, an active program went forward in 1993. The BCIS program would employ millimeter wave question and answer technology as a combat identification measure for Army ground-to-ground systems and would examine that technology as a possibility for an air-to-ground identification system. The BCIS contract for prototypes to test was awarded in August to TRW Corp. TRADOC published an operational concept for combat identification on 31 August, a document emphasizing a dual approach based on situational awareness and on positive, immediate target identification. It described a concept employable in any environment, without impinging on the ability to attack. The program integration office continued to manage identification development in quick-fix devices and in the near-term, mid-term, and far-term programs. Integration of "fiendly" targets in gunnery exercises was approved as a training measure to reduce fratricide risk. The steering committee approved, in September, two quick fix devices for Army use: combat identification panels employing

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44. (1) Paper, the Concept for Space Support to Land Force Operations, Summary, HQ TRADOC, n.d. [Dec 1993], Doc II/15. (2) SSHR, ODCSCD, CY 93/II. p. X-10.

45. (1) SSHR, ODCSCD, CY 93/II, pp. X-1, X-3, X-8. (2) Article, Andrew Weinschenk, "Army Trying to Boost Its Space and Electronic Combat Prowess," Defense Week, 25 Oct 93.

thermal tape for affixing to vehicles, and infrared lights for individuals and equipment and visible with night vision devices. Army Combat Training Centers continued to collect fratricide incident data in order to help identify specific causation.[46]

Nonlethal Operations

Work by the headquarters on a concept for the employment of nonlethal weapons had begun early in 1991. An initial draft prepared that year had been revised and staffed in June 1992 and revised again in a draft completed the following December. The draft concept did not provide incipient doctrine on specific nonlethal military capabilities, but argued the value of developing offensive and defensive measures that could achieve military aims without killing or causing excessive material and environmental destruction and within humane and international law constraints. At issue were such materiel-defeating, security, and attack measures as disorienting with intense light, blinding optical sensors, polymer agents, deactivating enemy electronics, voiceprint devices, and defeat of modern composite materials.

As a result of an article appearing in the 4 January 1993 editorials of the Wall Street Journal and containing extracts from a September 1992 draft of the concept, TRADOC received a private citizen letter alleging copyright infringement for unauthorized use of written material. Subsequent TRADOC internal investigation concluded that the TRADOC contractor, Military Professional Resources, Inc. (MPRI) had improperly used copyrighted material in its work on the draft concept. TRADOC denied subsequent freedom of information requests for the concept, it being a draft only and as such not approved. Work by MPRI in the meantime went forward on the operational concept for nonlethal capabilities, which it delivered to the headquarters in October. As planned at the close of the year, the concept would be the starting point for an expanded new and retitled minimal force operations concept.[47]

Battle Dynamics Concepts

During 1992 the TRADOC commander had identified five battle dynamics which as we have seen, he incorporated into the heart of the new operations doctrine. General Franks had, at the same time, established parallel Battle Laboratories on six TRADOC installations to focus on the identified dynamics as those aspects of doctrine undergoing the most rapid change resulting from the technological and historical forces of the early 1990s.[48] The last

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46. (1) TRADOC ACHs, CY 91, p. 63; CY 92, pp. 58-59. (2) TRADOC Pam 528-58, Military Operations: U.S. Army Operations Concept for Combat Identification, 31 Aug 93, Doc II/16. (3) SSHR, ODCSCD, CY 93/II, pp. XI-1 to XI-2. (4) Msg, Cdr USACAC to Cdrs, NTC, JRTC, and Tng Area Hohenfels, 282021Z Jun 93, subj: Combat Training Centers Fratricide Data Collection, Doc II/17. (5) Fact Sheet ATCD-GT, HQ TRADOC, 12 Mar 93, subj: Combat Identification, Doc II/18. (6) Briefing slides, briefing by TPIO to TRADOC Liaison Officers Conference, 16 Mar 93, subj: Combat Identification, Doc II/19.

47. (1) TRADOC ACHs, CY 91, pp. 63-64; CY 92, pp. 57-58. (2) SSHRs, ODCSCD, CY 93/I, pp. VI-3 to VI-4; CY 93/II, pp. VI-3 to VI-4.

48. For a discussion of the Battle Laboratories, see below, pp. 92-94.

half of 1992 had seen considerable work on initial concepts for the focal doctrinal areas of early entry, battle space, depth and simultaneous attack, command and control and tempo, and combat service support. The initial drafts went to General Franks in December 1992.

In April 1993, TRADOC told the Battle Labs to revise the battle dynamic concepts to reflect the thinking embodied in the future battle vision document noted earlier in this history. Since that document would serve as a primary basis for the new future overall concept, the battle dynamics formulation effort would anchor each Battle Lab to a concept looking out beyond the 1993 doctrine. Four of the six concepts revised by the Battle Labs were completed by November 1993, when General Franks approved them. Plans were to publish all the battle dynamic concepts as pamphlets in the TRADOC 525-5 series.[49]

Operations Other Than War

In August 1993, General Franks directed efforts to determine what further conceptual work was needed in operations other than war, given the activities of U.S. Army 1993 missions in Somalia, Bosnia, and Macedonia. Planners determined that a more specific concept for transitioning units from wartime footing to operations other than war was needed, and began its formulation. Projected for staffing in early 1994, the concept would be one element of a larger operations other than war integration plan also scheduled for 1994 completion. Related was a concept in preparation in 1993 dealing with military operations with unfamiliar forces in operations other than war.[50]

Other Concepts

Among other concept work in 1993 was completion by Vector research, Inc. in June of an information campaign concept study focused on attacking enemy information flow points and systems on the battlefield. The study indicated high payoff and laid out a methodology and approach. Work began at Headquarters TRADOC on a draft command and control warfare operations concept to realize the aim of destroying, disrupting, and controlling enemy information while concurrently protecting the U.S. tactical information function. Late in the year, the Aviation Center began work on a new concept for Army airspace command and control reflecting changed aviation mission, roles, and control measures. Another concept which saw 1993 work was a family support concept presenting historical information on successful family support groups and the methods that aided in that success during Operations Just Cause and Desert Storm; a pamphlet was drafted, and its distribution was expected during 1994.[51]

Scenarios

The headquarters continued to provide policy for scenarios in TRADOC, the combat developments tool used to examine concepts, doctrine, forces, and weapons in standard

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49. (1) TRADOC ACH, CY 92, p. 57. (2) SSHRs, ODCSCD, CY 93/I, p. VI-2; CY 93/II, p. VI-2.

50. SSHRs, ODCSCD, CY 93/II, pp. VI-2 to VI-3; ODCSDOC, CY 93/I, p. V-3.

51. SSHRs, ODCSCD, CY 93/II, pp. VI-4 to VI-6; ODCSDOC, CY 93/I, p. V-2; CY 93/II, p. V-3.

regional or tactical frameworks. Three types of scenarios were in use and development in the early 1990s: theater resolution scenarios (TRS) for the world regions for which a unified commander-in-chief had responsibility, and low-resolution operational-level and high-resolution tactical-level scenarios--both within specific theater contexts. In January 1993, the TRADOC DCS for Combat Developments approved a scenario long-range plan to better set priorities. The next month, an overall high resolution scenario plan was developed by the TRADOC Analysis Command (TRAC). Late in the year, each of the six TRADOC Battle Labs reviewed the current set of TRADOC scenarios to determine their pertinence and potential. The review revealed that the scenario variety satisfied most Battle Lab requirements and that future additional needs would be addressed.

Joining the Southwest Asia TRS 1.0 completed by TRAC in 1992 was a second theater scenario, Northeast Asia TRS 1.0, approved by the DCS for Combat Developments in July 1993. That scenario represented all military forces, joint and combined, including maneuver corps, carrier battle groups, and air forces, throughout a five-phase campaign lasting approximately 120 days. Gamed in the Tacwar model, the scenario posed 80 days of combat. Completed by TRAC in December was a third theater scenario, European Command-North TRS. That scenario provided for a high-intensity limited war fought against a technologically sophisticated enemy. It remained pending at the close of the year, awaiting certification of its threat forces by the Defense Intelligence Agency. The concept for development of a fourth theater scenario, European Command-South TRS, was approved in September.

Among low-resolution scenarios, the Atlantic Command LRS 1.0 gained approval by the DCS for Combat Developments in March. That operational-level scenario depicted a short-notice, forced-entry situation involving a military operation in urban terrain in the year 2004, employing a U.S. corps with 1999 weapon systems and Army of Excellence force structure. Also approved in 1993 was the Pacific Command LRS 1.0, the first scenario to address operations other than war. It described U.S. assistance efforts to a nation dealing with an insurgency.

Five high-resolution scenarios were approved in 1993 by the TRAC commander and a sixth was completed. HRS 37, Mechanized Brigade Attack-Europe, depicted a U.S. attack against a high technical threat on European-type terrain. HRS 38, Airborne Infantry Task Force Defense-Southwest Asia, portrayed a task force in defense against an enemy mechanized brigade in Southwest Asia. HRS 40, Breach-Southwest Asia, depicted two U.S.. battalion task forces of a mechanized brigade breaching an enemy obstacle belt and attacking a reinforced enemy mechanized battalion in prepared positions. HRS 41, Air Assault Battalion Attack-Northeast Asia, represented a U.S. brigade in air assault to block and prevent enemy counterattack. HRS 44, Armored Brigade Attack, depicted a U.S. armored brigade meeting two enemy armored brigades in Southwest Asia. And HRS 43, Air Assault Defense, completed in December 1993 and continuing HRS 41, just noted, focused on a U.S. air assault battalion defense following a successful brigade-sized air assault operation.[52]

52. SSHRs, ODCSCD, CY 93/I, pp. VI-4 to VI-6; CY 93/II, pp. VI-6 to VI-8.

International Relations

The 1973 TRADOC merger of the U.S. Army missions of modernizing and training the future fighting force had drawn the early interest of allied armies. Supported by the Department of the Army's desire to establish and strengthen mutually beneficial allied army-to-army ties, an incipient program of army staff talks had begun in the mid-1970s and, in the 1980s, had expanded significantly. Staff talks had started in 1975 with the army of the Federal Republic of Germany, followed by staff talk exchanges with the United Kingdom in 1978, and France in 1979. Army staff talks were opened with Korea and Brazil in 1984, with Italy in 1985, with Canada and Japan in 1986, and with Spain in 1987. Annual battlefield conferences with Israel had begun in 1988, resting on traditional military ties and less formal exchanges. Longstanding multilateral exchanges in the North Atlantic Treaty Organization (NATO) and America-Britain-Canada-Australia (ABCA) fora, predating TRADOC's establishment, had been carried forward through the entire period. Numerous informal bilateral subject-matter and other exchanges with other armies in Latin America and elsewhere took place in addition to those formal programs. The Army Materiel Command and other major Army commands participated in many of the large and small exchanges, as warranted by agenda topics and theater interests.

During 1993, formal army-to-army staff talks took place with eight nations: Germany, United Kingdom, France, Italy, Spain, Canada, Brazil, and Korea. No staff talks were held with Japan during the year. Last convened in October 1992, the Japan-U.S. Army Staff Talks were scheduled to resume during 15-18 February 1994 at the Presidio of Monterey, California.[53] Bilateral visits, steering committee meetings, and exchanges and correspondence related to the talks complemented and continued the formal meetings. The U.S. Army Israeli Defense Force Battlefield Conference again convened during the year. Contacts with the Russian General Staff toward a peacekeeping cooperative project were noteworthy.

Russia

With the breakup of the communist world and the Soviet Union, TRADOC had begun in 1992 to work on proposed U.S. Army initiatives to support military contacts with Eastern European armed forces. Of foremost consequence was the future military stance of the major former Soviet state, Russia. The situation arising from the historic change in the world strategic balance, by which the army of the former self-declared implacable enemy of the United States became the object of possible military cooperation with the U.S. Army, opened a new chapter in international army programs.

Building on joint staff talks with the Ministry of Defense of the Russian Federation and the U.S. Department of Defense during 3-7 May 1993 in Washington, Headquarters TRADOC was charged to pursue a program of cooperation with the Main Staff of the Russian Ground Forces. At the early May Washington talks, the Russians had agreed to a list of 16 military-to-military contacts involving TRADOC. On 27 May at Fort Leavenworth, the initiatives were taken up by the TRADOC DCS for Doctrine, Brig. Gen. Lon E. Maggart, with Gen. Col. Kuzvin, commander of the Frunze Military Academy.

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53. SSHR, ODCSDOC, CY 93/II, p. VII-4.

Following thereon, TRADOC hosted the meeting of the assembled TRADOC/Russian Cooperation Panel at Fort Monroe during 27-30 July to develop plans to carry out the actions agreed to in the early-May joint talks. The Russian delegation was led by Gen. Lt. Vitaly Dubrovin, First Deputy Chief of the Operations Directorate of the Army Main Staff. The U.S. delegation was led by Brig. Gen. Maggart and consisted of Headquarters TRADOC, CAC, and CASCOM representatives, with observers from the ARSTAF, U.S. European Command, and U.S. Army Europe. The primary focus was on cooperative peacekeeping possibilities.

Intense negotiations, influenced by Russian protocol concern that a higher U.S. staff level than Headquarters TRADOC was more appropriate, as well as by Russian financial constraints, produced plans for the following seven agreed initiatives. All were to be U.S. funded: a U.S. visit to Russia in October 1993 for collection by the Center for Army Lessons Learned (CALL) of information on Russian peacekeeping in Tadjikstan; convening of a peacekeeping working group in the United States in November 1993 to develop an approach to combined peacekeeping training, including links between the U.S. 3d Infantry Division and the Russian 27th Guard Motorized Rifle Division; a TRADOC visit to the Frunze Academy in fall 1993; faculty exchange visits between TRADOC and the Vystrel Combined Arms Academy in spring and fall 1994; U.S. Army branch chief visits to Russia in spring 1994; a U.S.-Russian conference of branch chiefs at Fort Leavenworth in November 1994; and a peacekeeping simulation exercise in the United States involving the two aforementioned divisions, to lead to a subsequent field training exercise in Europe.

At the Fort Monroe meeting in July, TRADOC gave the visiting Russians briefings on TRADOC, doctrine, training, and peacekeeping initiatives. The Russians briefed on future army force structure, emerging Russian strategic doctrine, and training programs. Both sides briefed on further bination initiatives. Reporting to the Chief of Staff of the Army on 25 August, General Franks described the meeting as very successful. A framework had been established, specific plans firmed up, and a basis laid for long-term ties.

By the end of summer 1993, however, the Russian General Staff had initiated a significant slowdown in the pace of activities, cutting the planned U.S. Army military-to-military proects by more than half. Of the remaining activities, TRADOC had responsibility for the CALL visit to Russia, the peacekeeping working group, the Vystrel Combined Arms Academy visit, the branch chiefs conference, a peacekeeping seminar evolving from the projected peacekeeping simulation, and--newly agreed--a Russian visit to CASCOM headquarters to discuss logistics training and operations.

During 13-17 December 1993, the Combined Arms Center hosted the planned peacekeeping working group meeting at Fort Leavenworth. The Russian delegation was led by Gen. Col. Eduard Vorob'yev, First Deputy Commander-in-Chief, Russian Ground Forces, and included Gen. Maj. Aleksandr Arinakhin, Chief, Peacekeeping Directorate, Ministry of Defense. The U.S. delegation was led by Lt. Gen. John E. Miller, Deputy Commanding General and Commander, Combined Arms Command, and included Maj. Gen. John P. Herrling, TRADOC Chief of Staff; Brig. Gen. Morris Boyd, DCS for Doctrine; and Brig. Gen. Randolph W. House, Deputy Commandant, Command and General Staff College. Also participating were ARSTAF, Office of Sectretary of Defense, Joint Staff J-5, European Command, U.S. Army Europe, and 3d Infantry Division representatives.

At the December meeting, both sides described aspects of peacekeeping doctrine and experience, procedures, and terminology. Looking toward future combined training, the Russians were given translated copies of the joint manual JP 3-07.3, Joint TTP for Peace-

keeping Operations and draft FM 100-23, Peace Support Operations. The Russian delegation agreed to four planned events, as adjusted: a peacekeeping seminar on the Battle Command Training Program model in March 1994 at Fort Leavenworth; the division-division exercise, to occur during June or July 1994, with the question of the exercise type (map or troop) not yet clear; a peacekeeping lessons learned visit by a CALL team to Russia in November 1994; and a command-staff exercise in the United States, date and scope to be determined. The two parties also agreed to the joint development of a U.S.-Russian manual on peacekeeping tactics, techniques, and procedures.

At the December 1993 meeting, the Russian delegation stressed their army's exclusive and projected long-term role in peacekeeping in the republics of the former Soviet Union. The Russians also stressed the desire to exclude their two-division peacekeeping force from Conventional Forces in Europe Treaty limits. They also stated their desire to administer peacekeeping operations as a multilateral United Nations or other mandate. Discussions helped clarify terminology distinctions. Potential areas of future discussion were identified as peacekeeping operational planning at the national level, and media relations. A protocol outlining accomplishments and agreements was concluded. Reporting again to General Sullivan on 28 December 1993, General Franks relayed the Russians' desire to expand contact, but at a pace subject to decision by the Russian political leadership.[54]

Germany

The end of the Cold War had affected the strategic and military stance of the Federal Republic of Germany as it had no other U.S. ally. The reunification of the two Germanies under the political authority and economic system of West Germany in October 1990, together with the collapse of communism and dismantlement of the Soviet Union, had consequential impacts on the German Army. At the 1993 staff talks, Lt. Gen. Ernst Klaffus, Commander, German Army Office (Heeresamt), noted the unprecedented combination of efforts under way. The German Army was simultaneously reducing, reorganizing, absorbing elements of the former East German Army, supporting the withdrawal of former Soviet forces, and preparing for new missions.

Realities of drawdown by both armies, resource scarcity, and the related necessity of combined planning and development were factors influencing the oldest and most highly developed of the staff talks programs in 1993. At the same time, the security and force needs of both nations encouraged undiminished cooperation. As in previous years, a bilat-

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54. (1) Msg, Cdr TRADOC to CSA, 251707Z Aug 93, subj: TRADOC/Russian Cooperation Panel Meeting, Doc II/20. (See this document for proposals rejected or not considered by the Russian delegation). (2) Msg, Col Keith F. Merritt, ODCSOPS USAREUR to CINCUSAREUR, n.d. [July 1993], subj: Executive Summary - TRADOC/Russian Cooperation Panel 26-29 Jul 93, Doc II/21. (3) Memo ECJ5-J, Lt Col Keith L. Snyder, USAF, EUCOM Political Military Officer to Dep Dir for Military-to-Military Contact Program, 5 Aug 93, subj: Trip Rept: U.S.-Russian Cooperation Panel, Ft. Monroe, Va., 27-30 Jul 93, Doc II/22. (4) Msg, Cdr TRADOC to CSA, 281306Z Dec 93, subj: Russian Peacekeeping Working Group, Doc II/23. (5) Protocol [of Russian Peacekeeping Working Group Meeting, 13-17 Dec 93, Ft. Leavenworth, Kan.], n.d. [Dec 1993], Doc II/24. (6) Memo, Maj Gen John C. Ellerson, Dir of Strategy, Plans and Policy, ODCSOPS HQ DA to Sec Army, n.d. [Dec 1993], subj: U.S.-Russian Peacekeeping Conference at Fort Leavenworth--Info Memo, Doc II/25. (7) SSHRs, ODCSDOC, CY 93/I, pp. VII-4; CY 93/II, pp. VII-5 to VII-6.

eral steering committee meeting accompanied and supported the staff talks, and a network of TRADOC liaison officers at the German Army Office in Cologne and at nine school branch locations further supported the comprehensive effort.

Prepared and supported by a steering committee meeting in November 1992, the 1993 German-U.S. Army Staff Talks convened at Fort Jackson, South Carolina during 19-23 April, the twenty-second round of the series. Lt. Gen. Klaffus headed the German Army delegation, which also included Brig. Gen. Hans-Dietrich Kams, Chief, Division I (Army Policy), and Brig. Gen. Hans-Hermann Schwede, Chief, Division III (Armaments), both in the German Army Office, together with German Army staff representatives. General Franks led the host delegation, which also included Maj. Gen. Larry G. Lehowicz, the DCS for Combat Developments.

The conceptual dialogue of 1992 continued at center stage in 1993, focused on information as to how each army derived its planning and concepts and doctrine from national security policy through the defense department and ministry documents and guidance to the armed forces processes and systems. Specific information was provided on the German peacetime, crisis, and wartime organizations of army leadership, both national and multinational. The extensive work of the Army Armaments Working Group, focused on bilateral materiel cooperation, was reviewed. In that effort, chief of staff initiatives for the combat net radio, uni-modular propellant charge, and low-level air picture interface were deemed on track, with further projects proposed including J-STARS and MILES technology.[55] The two sides agreed to formalize a link between the Army Armaments Working Group and the Battle Labs and Louisiana Maneuvers project to assure cooperation on pertinent issues, and to schedule German participation in the planned 1994 digitized battlefield demonstration at the National Training Center.

The United States presented briefings on tentative division redesign plans; the Louisiana Maneuvers project; and the Battle Labs. Late in the year, the Germans took steps toward participation in the latter two efforts. The U.S. side also briefed the ongoing initiatives in leadership training, including planned U.S.-German exchanges of battalion and company commanders, officer candidates, precommand course students, and unit and personnel exchanges, as well as semiannual staff rides in each country. The United States also outlined its Eastern European military-to-military contact program, and the two sides agreed to continue exchange of information on their relationships to the central and Eastern European countries.

The German delegation briefed on the German Army Operational Guideline document and HDv 100/100 manual--the doctrinal counterparts of the U.S. Army's FM 100-5. The comparison indicated basic similarities in operational and tactical thinking. The German concepts were to be presented to NATO working groups for the NATO doctrinal documents, Allied Tactical Publication-35, and Allied Joint Publication No. 1.

The Bi-nation Combat Support Study results were presented, indicating artillery as a significant contributor on the nonlinear, post-Conventional Forces in Europe Treaty battlefield. But the study emphasized the need for liaison officer peacetime training and for automated links for command and control and intelligence systems. Noted at the 1993 staff talks was the

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55. J-STARS: Joint Surveillance and Target Attack Radar System; MILES: Multiple Integrated Laser Engagement System

establishment of the planned Multinational Force by a memorandum of understanding signed by the German Ministry of Defense and the U.S. Secretary of Defense. The implementation agreement was signed on 10 February 1993 by Headquarters U.S. Army Europe and the German Army Staff, further defining basic terms and conditions for integration of national divisions into the binational corps. An inauguration ceremony for the Multinational Force was conducted on 22 April.

Noteworthy steering committee efforts included establishment of a Fire Support Future Development Program to coordinate developments in that field and enhance interoperability. The bination Transportation Interoperability Handbook was signed by General Franks and forwarded for German signature. A bination Army Aviation Interoperability Handbook was completed for printing. The bination Armored Combat Developments and Exchange Program and the Infantry Future Development Program continued their activities.

In 1993 a wide-ranging agenda of German-U.S. cooperation was evident. The TRADOC commander emphasized the efficiencies to be gained thereby. The Heeresamt chief stressed the growing importance of coalition operations and the need for the German Army to work with its partners. Indeed, in November 1993, following several years of planning, the German-French-Belgian Eurocorps was officially inaugurated in Strasbourg, France. Its purpose was to carry out international crisis missions inside and outside central Europe. Built initially around the German-French Brigade and the 1st Belgian Mechanized Division, it numbered about 850 German, French, and Belgian corps staff at the close of 1993, with a fully operational 40,000-man corps projected by October 1995.

The bination steering committee met again in November 1993 in Munich, Germany to follow up on 1993 developments and plan for the next talks, scheduled for April 1994 at the Ordnance School in Aachen, Germany. By agreed plan, German delegation responsibilities would shift from the German Army Office to the German Army Staff, with the Vice Chief of Staff of the German Army as delegation head. New staff talks terms of reference were to be presented for signature at the 1994 talks. Working groups on army armaments, supply and transport, and maintenance were active during the year, with merger of the latter two into a logistics working group recommended. The Chief of Staff of the German Army, Lt. Gen. Helge Hanson, visited Headquarters TRADOC on 13 August.[56]

United Kingdom

Preceded by a steering committee meeting at Fort Monroe in April, the 1993 United Kingdom - U.S. Staff Talks were held during 20-23 September at Fort Lee, Virginia, the twenty-fifth set since started in 1978. Maj. Gen. Larry G. Lehowicz led the U.S. delegation, which hosted the British party led by Maj. Gen. Mike Willcocks, Director General Land Warfare in the newly formed Headquarters Doctrine and Training, the first staff talks repre-

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56. (1) Memo ATDO-YN, Maj Duncan M. Lang, Ger Prog Mgr to DCSCD, 28 Jul 93, subj: Minutes of German/U.S. Army Staff Talks 1993 (GE/US ST 93), Doc II/26. (2) SSHRs, ODCSDOC, CY 93/I, p. VII-3; CY 93/II, p. VII-3. (3) Memo ATDO-YN, Maj Duncan M. Lang, Ger Prog Mgr to DCSCD, 5 Jan 94, subj: Minutes of German/U.S. Army Steering Committee 1993 (GE/US SC 93), Doc II/27. (4) Memo ATFE-GA, Col James P. McGourin, Senior TRADOC LO, Germany, to DCSCD TRADOC, 22 Dec 93, subj: German (GE) LNO Net Overview Nov/Dec 93. (5) Memo ATFE-GOM, TRADOC LNO, Ger Army Ord Sch to Comdt, USA Ord Cen and Sch, 14 Dec 93, subj: Liaison Officer Activities Rept.

sentation of that new command. The 1993 talks reflected the changing dynamics of the new strategic situation and the operational consequences flowing from it. Maj. Gen. Willcocks noted the prominence of continued civil wars and terrorism on the international scene--security problems that would have to be faced on a basis of diminishing resources.

The two sides presented a series of paired briefings. Complementing the U.S. outline of design and structural planning for the force projection Army, the British briefed their drawdown plans, which included use of reservists and cadreization, together with planning for the Allied Command Europe Rapid Reaction Corps. Both sides treated the nature of future conflict in the new era and concepts to meet it. Maj. Gen. Lehowicz highlighted the advanced war fighting demonstrations and simulations at the Battle Labs, and both sides discussed battle command on the future battlefield. The two sides briefed on doctrine and training for peace support operations. Developments and doctrine for soldier modernization plans in both armies were presented. Co-briefings on the Louisiana Maneuvers project outlined future issues and the British approach to, and participation in, that simulation-supported theater-level exercise.

In other briefings, the British provided an overview of their army relationship with the Commonwealth of Independent States and the Eastern European nations, noting the need for the Western allies to avoid duplicating their bilateral efforts. The U.S. party detailed aviation brigade design and structure changes and the U.S. Army military intelligence concept to support force projection operations. The United States outlined the C^4I [57] Warrior concept and the related U.S. Army Enterprise Strategy. The U.S. side also briefed on the need for targeting doctrine for joint and combined forces in order to implement the doctrinal aim of simultaneous attack through the depth of the battlefield. Revision of the terms of reference governing the staff talks was set in motion. The 1993 meeting included a tour of the Petersburg Battlefield and the Virginia state capitol building.

The two sides agreed on specific visits, information exchanges, and other actions to continue and implementation of the foregoing and other ongoing cooperative projects. TRADOC liaison officers at the British Ministry of Defence, Army Staff College, Soviet Studies Research Institute, and Doctrine and Training Command supported the exchange. Of new significance was British agreement confirming British participation in the Louisiana Maneuvers project and the U.S. Battle Labs. The 1993 talks highlighted operations other than war and peacekeeping and peace enforcement as major sectors of interest in both armies in the early 1990s.[58]

France

The French exchange continued its productive course in 1993 based on an historic alliance, common interests, and shared appreciation of post-Cold War world security problems. Steering committee meetings and the work of subject-matter expert exchanges

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57. C^4I: command, control, communications, computers - intelligence

58. (1) Memo ATDO-YN, Erika L. Mitchell, UK Program Mgr to DCSCD, 3 Dec 93, subj: Minutes of United Kingdom/United States Army Staff Talks XXV (UK/US ST XXV), Doc II/28. (2) SSHRs, ODCSCD, CY 93/I, pp. VII-4 to VII-5; CY 93/II, p. VII-6.

supported the annual talks. TRADOC liaison officers at the French Army Headquarters and French War College, French Army Staff College, and at six French Army schools backed up the exchange.

The twentieth set of French-U.S. Army Staff Talks convened at Grenoble, France during 24-28 May. Maj. Gen. Christian Piroth, Deputy Chief of Staff for Studies, Plans and Finance on the French Army Staff, and Maj. Gen. Lehowicz, TRADOC DCS for Combat Developments, served as delegation heads. The principal accomplishment was completion and signing by the heads of delegation of an agreed interoperability plan to focus the two armies' future efforts within the staff talks framework. Covering numerous doctrine, training, equipment, and organization fields and topics, the plan called for such coordinated efforts as the sharing of doctrinal and concept information, including the nuclear-biological-chemical area, cooperation in combat identification (fratricide) procedures, pursuance of interoperability logistics concepts, an exchange of training concepts and strategies, simulation information exchanges, harmonization of materiel requirements, and systematic work to solve the problems of combined binational fighting units.

Among topics briefed at the May talks in Grenoble were French presentations on the Artist Multinational Interoperability System, training for peacekeeping operations, intelligence preparation of the battlefield in Somalia, the French-German Eurocorps planned for 1995, robotics, and the tactical unmanned ground vehicle. The U.S. side briefed the topics of depth and simultaneous attack, Battle Labs and Louisiana Maneuvers, and emerging doctrine on civil authorities. Reciprocal briefings were given on operations other than war, use of simulators and simulations to train units, and special operations on the future battlefield.

The French additionally briefed on the crèation of their new Doctrine and Training Command (Commandement de la Doctrine et de l'Etrainement (CDE)), the proposal for which the French Army had approved on 30 April. The responsibilities of the new command were doctrine, training for combat, special studies, and interoperability procedures with allies and the Air Force. Maj. Gen. Marc Waymel was assigned as first commander of the new CDE, which was expected to be fully operational by mid-1994.

Eight subject matter expert exchanges were held during the year at locations in France and the United States. Topics included simulations, the future battlefield, nuclear-biological-chemical matters, logistics, satellite communications, directed energy weapons, Battle Labs, and the the Louisiana Maneuvers effort. These productive exchanges included such projects as tests to demonstrate the interoperability of French and U.S. tactical satellite radios and switches, and French briefings on lessons learned in peacekeeping actions in the former Yugoslavia. General Franks visited the French Army Headquarters, French Schools Command, the Ecole de Guerre, the Armor School, and the French 9th Infantry Division during 31 January-4 February.

The Army Chief of Staff, General Gordon R. Sullivan, travelled to France between 10-14 July to meet his French counterpart General Monchal and to visit several units and commands, including the headquarters of the Rapid Action Force. During the visit, the two chiefs of staff agreed in principle to broader contacts between the armies through increased individual and unit training exchanges. A memorandum of agreement on reciprocal unit exchanges was subsequently drafted and, in September 1993, sent to the French Army for consideration. During his July visit, General Sullivan encountered an army that, like the U.S. Army, was in the midst of post-Cold War reshaping and one that shared similar views of military threats and current operations and interest, including involvement in operations

other than war. Like other NATO armies, the French acknowledged continued strong commitment to NATO, but with concerns focused elsewhere in the world. Many productive mutual interests were manifest, including simulations, logistics, and the Louisiana Maneuvers framework in which the French were well involved. General Sullivan believed the strong partnership with the French Army of importance as the two nations increasingly found themselves operating together in times of change. In December, the bination steering committee met at Fort Monroe in preparation for the 1994 talks, to be held in May at Fort Bliss, Texas.[59]

Italy

The Italy-United States Army Staff Talks were convened in their eighth session during 30 August-3 September 1993 at Fort Knox, Kentucky. First held in 1985, the annual talks had been realigned to a biannual basis following the previous meeting, in Rome in June 1991. A steering committee meeting at Fort Monroe in March 1993 preceded the talks. Leading the Italian delegation at the Fort Knox meeting was Maj. Gen. Nicola Vozza, DCS for Logistics on the Italian Army General Staff. Maj. Gen. Walter J. Bryde, Jr., TRADOC DCS for Base Operations Support, headed the U.S. delegation.

At the Fort Knox meeting, the Italian party brought the U.S. side up to date on organization and mission changes of the past two years. The visiting delegation additionally gave presentations on Italian artillery systems, including fire support coordination; land mine warfare developments; the Italian Army's role in law enforcement against organized crime; and lessons learned in Italian humanitarian operations in Albania, Somalia, and Mozambique. TRADOC briefers gave presentations on the U.S. officer education system; the developmental Armored Gun System; air assault doctrine, organization, roles, and missions; and an introduction to the Louisiana Maneuvers effort and the Battle Labs. A tour of the Mounted Battle Space Battle Lab was also provided. Both parties briefed on the topic of multinational contingency forces.

Preceding the talks, the formal terms of reference were updated, and they were approved. Agreement was reached on several actions to be undertaken. The two armies agreed to begin a subject matter expert exchange on operations other than war. The U.S. side agreed to staff an Italian request for full membership in the quadrilateral Army Communications and Information Systems Interoperability Group or in the Quadrilateral Interoperability Program. The two parties further agreed to reexamine their current liaison arrangements. With the U.S. Army Signal Center, the Italian representatives agreed on a command and control expert exchange. Work also continued on the long-term effort to develop an Italian-

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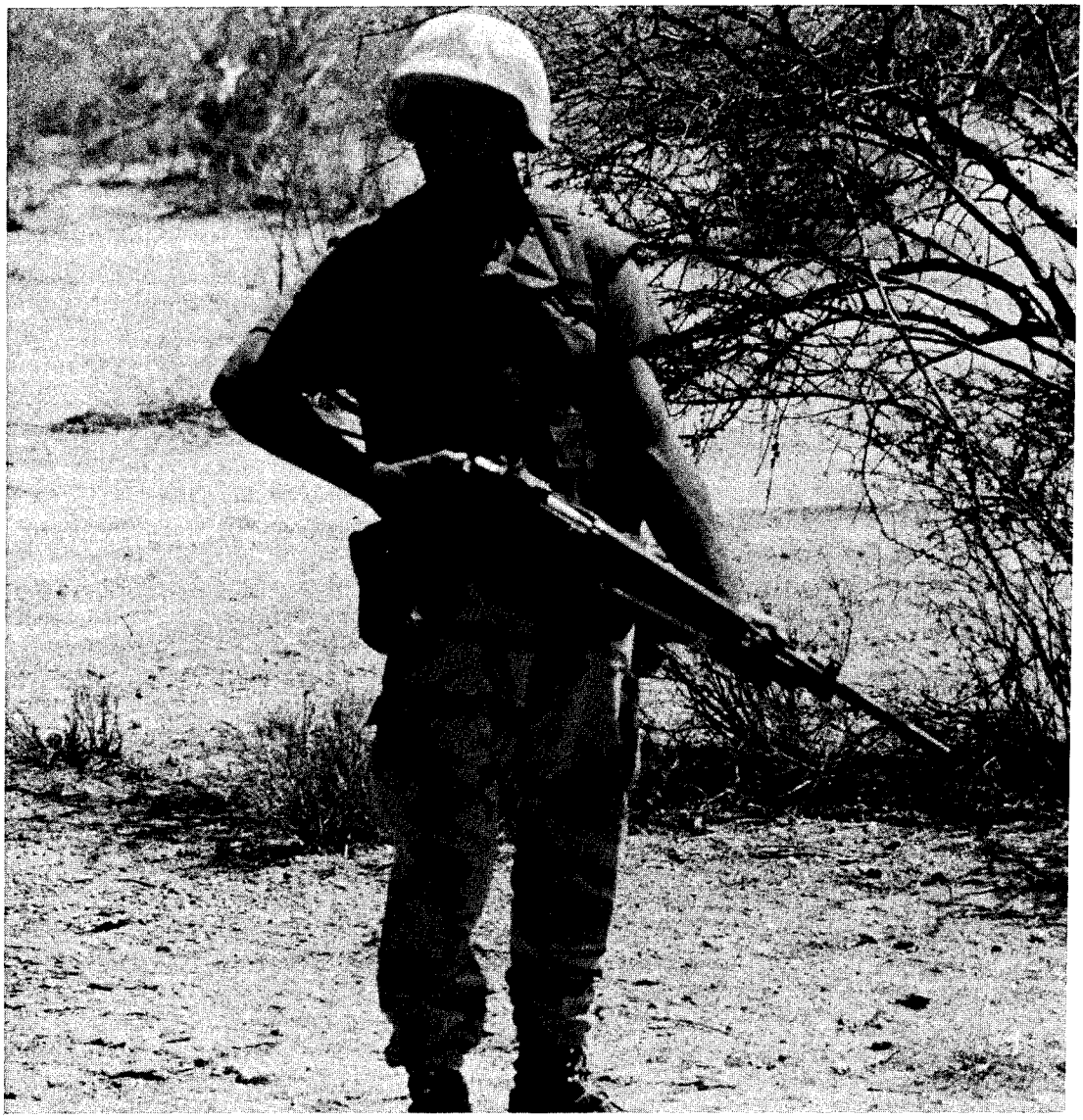
59. (1) Paper, Interoperability Plan, s/27 May 93, General de Division Christian Piroth, and Maj Gen Larry G. Lehowicz, Doc II/29. (2) Memo ATDO-YN, Col Richard L. Bevington, Dir IAPD to distr, 22 Apr 93, subj: Admin Instructions for French/U.S. Army Staff Talks (FR/US ST) XX, Doc II/30. (3) Paper, Doc and Tng Cmd (translation, n.d. [May 1993], encl to SSHR, ODCSDOC, CY 93/II), Doc II/31. The CDE did not have corresponding TRADOC responsibilities of institutional training and leader development (administered by the Fench Schools Command) or combat developments (the French AMC-equivalent and Army Staff). (4) For details of the subject matter expert exchanges, see reports attached to SSHRs, OdCSDOC, CY 93/I and II. (5) Memo DACS-ZAA, General Gordon R. Sullivan, CSA to distr, 15 Jul 93, subj: CSA Trip to France, 10-14 July 1993, Doc II/32. (6) SSHRs, ODCSDOC, CY 93/I, pp. VII-2 to VII-3; CY 93/II, pp. VII-2 to VII-3.



Italian paratrooper on security duty in Somalia, March 1993. That same month, Fort Knox hosted United States-Italy Army staff talks, where the Italians' experience in humanitarian operations in Somalia and elsewhere was presented.

U.S. explosive ordnance disposal interoperability handbook, to be completed by 1994. Following the staff talks, Maj. Gen. Vozza visited the Joint Readiness Training Center to observe the use of simulators and simulations in unit training.[60]

Spain

Inaugurated in 1987, the annual talks with the Spanish Army proceeded to their seventh round during 8-12 November in Madrid, Spain. Brig. Gen. Juan Narro Romero, DCS for Plans and Organization Division on the Spanish Army General Staff, headed the host delegation. The visiting TRADOC party was led by Maj. Gen. Bryde, the DCS for Base Operations Support. A steering committee meeting in Madrid in May prepared the final agenda. The annual talks were conducted according to formal terms of reference, a document most recently updated on 6 November 1992. Within the talks' framework, the exchange was intended as a results-oriented forum for exchanging information widely. Through the framework, the two sides were committed to program activities to enhance cooperation particularly in professional military development, instruction and training, personnel and small unit exchanges; to treat interoperability issues; and to analyze and exchange information on equipment development, standardization, and interoperability.

At the 1993 talks, the Spanish delegation briefed on the topics of command and control of combined organizations, the new organization of the Spanish Army, peacekeeping operations, the Rapid Reaction Force, and the U.S.-Spanish Exercise Replay 93. the U.S. delegation made presentations on combined organizations command and control, the force development process, the Battle Labs (with a detailed briefing on the Combat Service Support Battle Lab), and combat identification. The Madrid talks included a visit to the Spanish Artillery Academy in Segovia.

Numerous army-to-army exchanges between the Spanish Army and U.S. Army Europe and TRADOC units and installations were carried out during the year. They included exchange visits by brigade commanders; infantry and air defense artillery branch school commandants; infantry, armor, and signal company commanders; subject matter expert and other officer visits and competition exchanges. The reciprocal company-battalion size training exchange continued in 1993, with a Spanish Army unit travelling to Germany in November to train in the field with USAREUR units. An expert working group meeting was held in conjunction with the staff talks on the topic of command and control in combined operations.

By agreement, a similar program of exchanges was outlined for 1994 in both the institutional-educational and training realms. Plans were made for an April 1994 steering committee meeting at Fort Monroe to lay the groundwork for the next talks, to occur at Fort Leon-

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60. (1) Memo ATDO-YN, Col Richard L. Bevington, Jr., Dir IAPD, to DCSBOS, 17 Mar 93, subj: Italy/United States Army Steering Committee (SC) Meeting, Doc II/33. (2) Memo ATDO-YN, Col Stephen E. Whittenberg, Dir IAPD to distr, 6 Aug 93, subj: Admin Instructions for Italy/United States Army Staff Talks (IT ST) VIII, Doc II/34. (3) Memo ATDO-YN, Maj Gen Walter J. Bryde, Jr., to distr, 28 Sep 93, subj: Italy/United States Army Staff Talks (IT/US ST) VIII Agreed-to-Actions, Doc II/35. (4) SSHRs, ODSCDOC, CY 93/I, p. VII-3; CY 93/II, p. VII-4.

ard Wood, Missouri in November 1994. In its seventh year, the mutually beneficial exchange provided both armies valuable information and insights.[61]

Canada

The Canadian-U.S. Staff Talks, which went from a one-year to a two-year cycle following their last occurrence in September 1991, were convened during 6-9 July 1993 at Fort Leavenworth, Kansas. Prepared by a steering committee meeting in Ottawa, Canada in January, the 1993 round was the seventh since the formal exchange had begun in 1986. Brig. Gen. Maggart headed the U.S. delegation. Brig. Gen. Bruce Jeffries, Director, General Land Force Development, National Defence Heaquarters, led the visiting Canadian party.

The Canadian side presented briefings on the downsizing of the Canadian Land Forces and highlighted their participation in peacekeeping operations, in the ABCA fora, and in the Conference of American Armies. The Canadians briefed additionally on the topics of light armored reconnaissance and Canadian training areas, which U.S. Forces Command units utilized. Combined briefings were presented on battlefield identification friend-or-foe, reserve component training, and simulators and simulations. The intensive ongoing U.S. battlefield identification programs were described; the Canadian side offered thoughts on multinational rquirements. The U.S. outlined in detail its seven-part Bold Shift reserve components training program. Both sides briefed on programs and concepts regarding simulators and simulations in training. The U.S. briefing focused on the U.S. Army strategy for training commanders and their battle staffs at all levels through command and control simulations. The Canadians revealed plans to procure a generic battalion battle simulation system.

U.S. conferees also gave detailed presentations on the Louisiana Maneuvers project and the Battle Laboratories, the new FM 100-5 Operations doctrine, and emerging doctrine on fighting deep and close simultaneously, with an overview of the Depth and Simultaneous Attack Battle Lab and functions of the Deep Operations Coordination Center. A presentation on U.S. combined arms training strategy elicited discussion on the notion of North America as a contiguous binational training area for the two armies. Also of note was a visit by the 1st Canadian Division commander and staff to observe the Battle Command Training Program at Fort Leavenworth during April.

Agreed-to actions included a U.S. invitation to visit Headquarters TRADOC for discussion of the new operations doctrine and its background. Other invitations extended were for the Canadian Army to view the field test of the U.S. battalion battle simulation at Fort Riley, Kansas, and for further discussion at the next staff talks of U.S. reserve component training and the Future Army Schools Twenty-One project. The subsequent round of talks was tentatively set for summer 1995. The shared traditional responsibility for the defense of

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61. (1) Memo ATDO-YN, Maj Gen Walter J. Bryde, Jr., DCSBOS to distr, 19 Jan 94, subj: Action Plan for Spain/United States (SP/US) Army Staff Talks (ST) VII Agreed-to Actions, Doc II/36, w/encl: Agreed-to Actions; Terms of Reference, 6 Nov 92; Record of Proceedings (Aide Memoire), 7th USA-Spain Army Staff Talks, 12 Nov 93. (2) SSHRs, ODCSDOC, CY 93/I, p. VII-4; CY 93/II, p. VII-6.

North America, together with the continuing if changing NATO mission, and the peacekeeping responsibilities of both nations fostered many common outlooks and suggested the continuing value of the close exchange.[62]

Brazil

The Brazil-United States Army Staff Talks, which had been in progress yearly since 1984, convened in their tenth formal meeting at Fort Rucker, Alabama during 26-30 July. Brig. Gen. Gilberto Fernando Alfama Bandeira, DCS for Doctrine, Policy, and Strategy on the Brazilian Army General Staff, headed the visiting delegation. Brig. Gen. Carl Ernst, DCS for Training led the U.S. side.

The talks at Fort Rucker focused on the theme of science and technology in a modernizing army. The U.S. delegation presented six briefings, while the Fort Rucker hosts gave two additional orientations. Topics of focus were a model for development of national strategy and Army operational doctrine; the organization, logistics, and training of light infantry brigades and battalions; tactical fire support in a theater of operations; joint operations structure and planning; Army operations in unified commands; and preparing the Army for war. Discussions reflected Brazilian interests in many aspects of light infantry tactics and training, the translation of U.S. Army operational doctrine into the branches, and fire support planning and coordination. Working groups met to focus on joint and unified operations.

The visiting party briefed on five topics: Brazilian Army support and integration with the civilian community, peacekeeping operations, Brazilian Army modernization plans and programs, the Brazilian Army Technology Center, and that Army's present and future strategies. The Brazilian Army's considerable civic mission and function in such activities as public health, literacy programs, and government presence in border and remote regions was brought out, as was the Brazilian experience in international peacekeeping. Nine areas of army modernization were covered, an effort focused on the Brazilian Army and not yet at the stage of joint and combined considerations. The role and linkage of the Brazilian Army's Technology Center to subordinate organizations and to field units for operational testing were briefed. The Brazilians projected a picture of their national defense and constitution enforcement mission and appraisals of political and economic world trends as well as domestic imbalances and problems. Working group discussions brought out Brazilian interest in improving their joint capabilities.

TRADOC supported the staff talks with the major Latin American power as the cornerstone of the army-to-army relationship. Beyond maintaining close ties, the talks were a venue for defining areas of common interest in which cooperation could be a of mutual benefit.

Looking toward talks in 1994 on the overall theme of training, the steering committee met in Brasilia, the Brazilian capital, in late November. An additional goal of that meeting

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62. (1) Memo ATDO-YN, Brig Gen Joe N. Frazar III, Acting DCS for Training to distr, 5 Jan 94, subj: Canada/United States Army Staff Talks VII (CA/US ST VII), 6-9 Jul 93, Doc II/37. (2) SSHRs, ODCSDOC, CY 93/I, p. VII-2; CY 93/II, p. VII-2.

was to press forward with bilateral initiatives supported by General Sullivan during a commanders meeting at the Conference of American Armies. Two subject matter expert exchanges were planned for 1994.[63]

Korea

In a time of rising tensions resulting from North Korea's apparent drive toward nuclear weapons capability, the importance of the U.S.-Republic of Korea alliance loomed large. Army staff talks had begun in 1984. In the talks, TRADOC dealt with a similarly organized element of the Republic of Korea Army (ROKA), titled the ROKA Training and Doctrine Command. Prepared by a steering committee meeting in May at Fort Monroe, the tenth round of the Republic of Korea-U.S. Army Staff Talks was conducted during 18-21 October 1993 at Fort Sill, Oklahoma. Brig. Gen. Dong Jun Ro, DCS for Doctrine in the ROKA TRADOC, headed the South Korean delegation. His counterpart, Brig. Gen. Lon E. Maggart, led the U.S. TRADOC delegation.

Topics briefed by the U.S. side were a U.S. Army TRADOC update, a test and evaluation overview, joint and combined training strategy, the aviation restructure initiative, and the armor modernization program. Korean topics presented were a ROKA TRADOC update, employment of mechanized forces, field artillery employment, insurgency/counterinsurgency operations, and an update of the Republic of Korea modernization system. Two expert working groups met during the conference to examine in more detail the areas of test and evaluation procedures and targeting methodologies. Fort Sill representatives also gave a command overview and described work in progress at the resident Depth and Simultaneous Attack Battle Lab.

The Korean delegation indicated a special interest in test and evaluation methodologies as they looked toward developing quantifiable evaluation for military equipment procurement. Also indicated by the talks were prospects for establishment of a joint armed forces doctrine command. The next set of talks was tentatively scheduled for fall 1994 in the Republic of Korea. General Franks reported on the 1993 talks to General Sullivan on 1 November, noting the two allies' common problems of adjustment in the new era and the critical need to maintain the highly successful dialogue with an important ally.[64]

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63. (1) SSHRs, OdCSDOC, CY 93/I, p. VII-2; CY 93/II, p. VII-2. (2) Memo ATDO-YL, Brig Gen Carl F. Ernst, DCST to distr, 13 Oct 93, subj: Brazil/United States Army Staff Talks (BR/US ST) X, w/encls, Doc II/38. (3) Memo ATDO-YL, Col Stephen E. Whittenberg, Dir IAPD to DCST, 9 Dec 93, subj: Steering Committee for Brazilian/United States Army Staff Talks 94 (BR/US ST 94), Doc II/39. (4) Memo ATSS-DC, Col Fredrick E. Van Horn to Cdr TRADOC, 27 May 93, subj: Subject Matter Expert Exchange (SMEE) with Brazil, 19-23 April 93, After Action Report, Doc II/40.

64. (1) Msg, Cdr TRADOC to DA (General Sullivan), 011517Z Nov 93, subj: Republic of Korea/United States Army Staff Talks X (ROK/US ST X), 18-21 Oct 93, Doc II/41. (2) SSHRs, ODCSDOC, CY 93/I, pp. VII-3 to VII-4; CY 93/II, pp. VII-4 to VII-5. (3) Bklt, Army Staff Talks, ROK/US Army, Fort Sill, Okla., 17-21 Oct 93, Doc II/42.

Israel

No formal staff talks framework existed with the United States' Israeli ally, though TRADOC contacts dated from 1973 and the command's close study of the Yom Kippur War. However, a series of reciprocal " future battlefield conferences" with the Israeli Defense Forces, or IDF, had begun in 1988. The year 1993 saw convening of the seventh such conference, during 8-13 August. Commencing at Fort Hood, Texas, it continued at Fort Knox, Kentucky, and concluded as in previous years with visiting branch delegates joining their host counterparts at several combat arms installations. The senior Israeli delegate was Maj. Gen. Emanuel Sakal, Commander, IDF Ground Corps Command. General Franks led the U.S. delegation, which included the TRADOC Deputy Chiefs of Staff for Doctrine, Training, and Combat Developments and the commandants of the six combat arms schools. The Israeli delegation mirrored that of the TRADOC host party.

The Israeli conferees observed III Corps and 1st Cavalry Division training at Fort Hood and were briefed on corps training strategy and heavy corps employment. Emphasized were the training strategies of the Combat Training Centers, and those centers' assessments employing observer/controllers and after action reports at all levels from tank through corps. Displays of weapon systems demonstrated the combined arms integration of the M1A2 tank; Apache, OH-58D, and OH-58D(I) Kiowa Warrior helicopters; the Avenger; and the M113 vehicle with Inter-Vehicular Information System. Discussions included joint air attack team battle drills for Apaches and close air support across the FLOT deep corps operations.[65]

The future battlefield conference continued on 10-11 August at Fort Knox with a visit to the mounted warfare simulation training center and briefings on the methodology and initiatives of the Mounted Battle Space Battle Lab. Formal presentations by U.S. briefers included a doctrine update, Battle Labs and Louisiana Maneuvers overviews, the "owning the night" program, and principles of aviation employment during Desert Storm. IDF briefings included training aids, devices, and simulations; reserve component training; and defense doctrine on the Golan Heights. Major discussions included operations other than war, leader development, and the advantages and drawbacks of simulations. The Israelis noted the different type of training that operations other than war entailed. Discussion pursued the training of leaders to think intuitively and use intuitive judgement.

Commandant counterpart visits rounded out the August conference, with Maj. Gen. Sakal continuing the visit at U.S. Army Tank-Automotive Command and with the Chief of Staff of the Army. The 1993 battlefield conference provided the IDF a good exposure to U.S. Army training, training strategies, the U.S. array of training simulations, and simulators to support training and equipment design. The TRADOC commander found the conference valuable as a means to enhance the special relationship between the U.S. Army and the Israeli Defense Forces.[66]

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65. FLOT: forward line of troops

66. (1) MFR ATCG-P, General Frederick M. Franks, Jr., Cdr TRADOC, 1 Sep 93, subj: TRADOC/IDF Future Battlefield Conference Trip Rept (CONFIDENTIAL -- Info used is UNCLASSIFIED), Doc II/43. (2) SSHR, ODCSDOC, CY 93/II, p. VII-3.

Activities in Latin America

Besides the Brazilian exchange, TRADOC carried out cooperative activities with several other Latin American countries. These were chiefly subject matter expert exchanges. The expert groups supported the Secretary of the Army's Latin American Cooperative Program as well as standardization and interoperability goals. The command's activities complemented those of the U.S. Army South, the Army component of U.S. Southern Command headquartered in Panama, as well as those of the TRADOC-commanded U.S. Army School of the Americas at Fort Benning, Georgia.

Reciprocal visits with Argentina brought an Argentine Army party to Fort Knox, Kentucky during 27 March-3 April on the subject of armor training, and a Field Artillery School party to training locations in Argentina on artillery doctrine during 26 September-2 October. Three expert exchanges were conducted with the Chilean Army, on airspace management at Santiago, Chile during 26-30 April, on combat engineer operations at Fort Leonard Wood, Missouri on 24-28 May, and on logistics at Fort Lee, Virginia, 26-29 July. Expert exchanges were held with Venezuela on aviation training on 3-7 May at Fort Rucker, Alabama and on armor training during 24-28 May at Fort Knox, Kentucky. A TRADOC and U.S. Army 7th Special Forces Group party conducted a subject matter expert exchange with the Army of El Salvador on doctrine development and dissemination in San Salvador on 23-27 August. Another exchange, on officer professional development and training, was conducted there by the Center for Army Leadership during 19-25 September. A U.S. Army Engineer School group travelled to Mexico City, Mexico for an exchange on engineer combat training, organization, and operations during 25 September-3 October.[67]

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67. (1) Memo ATZK-AR, Col Donald N. Elder, Dir Ofc Ch of Armor to Cdr TRADOC, 2 May 93, subj: Advanced Infantry Training (AIT) Career Management Field (CMF) 12 Armor Subject Matter Expert Exchange (SMEE) with Argentina and Ft. Knox, 27 Mar-3 Apr 93, Doc II/44. (2) Memo ATSF-CD, Ernest B. Dublisky, Dep Dir DCD, USAFA Sch, 15 Oct 93, subj: Artillery Doctrine Subject Matter Expert Exchange (SMEE) with Argentina, Doc II/45. (3) Memo ALSA, Col Peter G. Kucera, US Delegation Team Chief to Cdr TRADOC, 20 May 93, subj: Airspace Management Subject Matter Expert Exchange (SMEE) with Chile, 26-30 Apr 93, Doc II/46. (4) Memo ATCL-CFV, Col Jake W. Wyatt, Dir Cons and Doc, CASCOM to Cdr TRADOC, 17 Aug 93, subj: Logistics Operations Subject Matter Expert Exchange (SMEE) with Chile After Action Report, Doc II/47. (5) Memo ATZL-SAH-CO, Maj Osscar V. Martinez-Mora, Asst to the Cdr to Cdr TRADOC, 24 May 93, subj: Subject Matter Expert Exchange (SMEE) with Venezuela, "Army Aviation Training," 17-21 May 93 at Ft. Rucker, Ala., Doc II/48. (6) Memo ATCD-M, Lt Col Horace L. Thrasher, Head of Delegation to DCSCD, 21 Sep 93, subj: Subject Matter Expert Exchange (SMEE) with El Salvadoran Army in El Salvador, 23-27 Aug 93, Doc II/49. (7) Memo ATZL-SWC-LD, Lt Col Philip L. Idiart, Ch Ldr Dev Ofc, Cen for Army Leadership to Cdr TRADOC, 21 Oct 93, subj: After Action Review: Officer Leadership Training and Development Subject Matter Expert Exchange (SMEE) with El Salvadoran Armed Forces, San Salvador, El Salvador (19-25 Sep 93), Doc II/50. (8) Memo ATSE-DAC-AR, Col Ben M. Colcol, Dep Asst Cmdt-Army Rsv, U.S. Army Engineer School to Mr. Santiago Benites, Jr., IAPD, HQ TRADOC, 19 Oct 93, subj: Subject Matter Expert Exchange (SMEE) with Mexico, 25 Sep-3 Oct 93, Doc II/51. (9) SSHRs, ODCSDOC, CY 93/I, p. VII-5; CY 93/II, p. VII-5.

NATO Standardization Programs

Besides the several sets of bilateral staff talks TRADOC conducted with NATO allies, the command also carried out numerous multilateral efforts for the Army within the NATO framework. Three types of NATO fora were involved: the working parties of the Military Agency for Standardization (MAS), which wrote and updated standardization agreements (STANAG) and allied publications; the NATO Army Armaments Standardization Group (NAAG), focused on future equipment standardization; and the standardization fora under the NATO Military Committee, which addressed communications and electronic warfare interoperability issues. Concerns continued to focus on the smaller, more mobile multinational NATO force of the post-Cold War.[68]

Revision of basic NATO doctrine, contained in Allied Tactical Publication-35, Land Force Tactical Doctrine, continued in order to bring it in line with the significant changes in Europe and changes in basic tactical war fighting concepts demonstrated by the Gulf War. That work proceeded under the aegis of the MAS Tactical Doctrine Working Party, which held its twenty-second meeting in September 1993. For production of a second important manual, the Allied Joint Operations Doctrine Committee was formed and assigned to develop Allied Joint Pub 1, Allied Joint Operations Doctrine; a first draft was in review at the close of the year.

The Tactical and Logistics Concepts Group, Panel XI of the NATO Army Armaments Group, held meetings at NATO headquarters in Brussels, Belgium in March and October, with Headquarters TRADOC representing the United States. The panel's 1993 focus was a study to determine and achieve critical standardization goals for NATO multinational forces. TRADOC chaired the fifty-first meeting of the Allied Data Systems Interoperability Agency Working Group 3 on Land Combat Combined Operations in October, which was engaged in developing procedures-oriented standards to satisfy operational information exchange requirements.

Headquarters TRADOC and the Intelligence Center took part in the May meeting in Brussels of the MAS Intelligence Interservice Working Party, which completed two STANAGs on the interrogation and handling of prisoners of war and reported significant progress on standardization procedures for data exchange among NATO military intelligence databases. The headquarters also helped make final changes to a STANAG on weapon danger areas for land launched guided missiles at a meeting of the MAS Range Safety Panel in London in May. TRADOC provided the principal delegate to the nineteenth meeting of the MAS Operational Procedures Working Party in Brussels in June in work on an allied administrative publication to provide a compendium of land forces messages. Additional 1993 work of that group involved revision of the STANAG on identification of land forces on the battlefield to take advantage of fratricide lessons learned in the Gulf War.

During the year, TRADOC subordinate commands and schools provided U.S. Army representation to other NATO fora. The Field Artillery school furnished the principal U.S. delegate to the twenty-first MAS Land Forces Artillery Working Party meeting in November. The Transportation School provided the principal delegate to meetings of the NATO Movement and Transport Panel, whose task was to develop a master plan for multinational

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68. The following two sections are based on SSHRs, ODCSDOC, CY 93/I, pp. VII-6 to VII-9; CY 93/II, pp. VII-7 to VII-9.

movement and transport by spring 1994. The Transportation School also provided the principal delegate to the twentieth meeting of the MAS Rail Movements and Transport Working Party in Brussels in April to address STANAG revisions on military trains crossing frontiers.

The Engineer School chaired the twentieth meeting, in February, of the MAS Combat Engineer Working Party, engaged in a study on engineer command-control-communications interoperability and revision of a standard agreement on minefields. The Combined Arms Support Command represented the United States at the eighteenth meeting of the MAS Land Force Logistic Doctrine Working Party in March to assist in revision of NATO's logistics doctrine manual. The Ordnance Center and School chaired the fourth meeting of the MAS Battlefield Recovery and Repair Working Party in Brussels in April; the working party's effort focused on a vehicle battlefield recovery data study. The Signal Center represented the command at the Allied Tactical Communications Agency-Land forum in Rome, which met in late June to address operational requirements for the interoperability of communications systems used to support NATO land-combat forces, as well as strategic communications for the Allied Command Europe Rapid Reaction Force. Two TRADOC schools, Chemical and Engineer, represented the United States on the NAAG Panel VI Countersurveillance Subpanel 7 at NATO headquarters in April in work on STANAGs on countersurveillance requirements and camouflage for equipment in snow.

Related to the regular work of the NATO groups was the activity of four NATO members--the United States, United Kingdom, France, and Germany--who constituted the four-power Senior National Representatives (Army) forum. The purpose of that forum was to enhance rationalization, standardization, and interoperability in armaments research, development and production. TRADOC was represented at the annual meeting, held in October at West Point, New York. The forum's combat identification working group furnished a single forum for integration of battlefield combat identification efforts.

ABCA Programs

Dating back to allied cooperation in the 1940s, the America-Britain-Canada-Australia, or ABCA, Program was an important cooperative forum for the U.S. Army. Its traditional framework was a major TEAL meeting with quadripartite working groups (QWG), each with a standing chairman who convened the group on an 18-month cycle. In addition, an annual meeting of the steering committees of the working groups was convened in Washington, D.C. by the ABCA Washington Standardization Officer. As with the NATO apparatus, TRADOC headquarters and its subcommands and schools provided delegates in relevant areas of cooperation. Significant program revisions owing to the shifting strategic climate and reduced military outlays had occurred in 1992, as noted in the previous history.[69] Program adjustments continued in 1993.

Working group activities were reviewed at an ABCA in process review meeting conducted at Headquarters Army Materiel Command on 7 July 1993. That forum also reviewed actions resulting from the last TEAL meeting, conducted in May 1992, and made preparations for ABCA Exercise Northern Lights scheduled for June 1994 and an ABCA command post exercise in 1996. The next TEAL meeting was scheduled for 1994.

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69. For a discussion of ABCA Program revisions during 1992, see TRADOC ACH, CY 92, pp. 47-49.

The 1993 Washington Standardization Officer meeting was conducted 28-30 September, with delegates welcomed by the Vice Chief of Staff of the Army, General J.H. Binford Peay III. All quadripartite working group standing chairmen outlined their plans of action in detail. A special working party on the ABCA administrative system also met to consider and implement various improvements to the modus operandi of the QWGs and the TEAL meeting.

Developments in 1993 included U.S. agreement to chair the important QWG for Doctrine. The U.S. relinquished the standing chairmanship of the QWG for Aviation. The QWG for Command and Control was redesignated QWG for Command and Staff Procedures; it convened in July. The QWG for Air Defense met in June, the QWG For Armor in October, and the QWG for Infantry in December. The Quadripartite Working Group for Intelligence, meeting in October, reviewed and reorganized its work program and considered the shift of its national point of contact location from Headquarters TRADOC to the Intelligence Center and School.[70]

Liaison Officers

During 1993, the TRADOC liaison officer network continued to provide links to the headquarters of certain U.S. military commands as well as military command headquarters, schools or military missions in 11 allied nations. TRADOC liaison officers served abroad in Germany, the United Kingdom, France, Spain, Italy, Turkey, Israel, Korea, Japan, Canada, and Brazil. In 1993, 13 nations sent liaison officers to TRADOC headquarters, including all the above plus the Netherlands and Australia. The Marine Corps also had liaison officers at Fort Monroe. A listing of those headquarters to which Headquarters TRADOC sent liaison officers appears in the headquarters organization chart, Appendix A.

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70. Bklt, MFR, Fifth Quadripartite Working Group on Intelligence (5 QWG Int), 18-22 Oct 93 (US, UK, CA, AS and NZ eyes only -- Info used is not protected), Doc II/52. "TEAL" was a nickname reference, not an acronym.

Chapter III

FORCE DESIGN AND EQUIPMENT REQUIREMENTS

Force Design

The U.S. Army in the field in the early 1990s was the "AOE Army" built on the unit designs developed and approved during 1983-1984 in the TRADOC force design effort known as the Army of Excellence. The AOE tables of organization and equipment were the fighting units of AirLand Battle, the doctrine in force in the U.S. Army between 1982 and 1993. With the development of new fundamental Army doctrine for the post-Cold War in the FM 100-5 edition of June 1993, preliminary attention again turned, in 1993, to the question of divisional reorganization. Work by the Combined Arms Command on future corps and theater army design and structure had already begun in September 1992, and force designers at Fort Leavenworth continued those efforts during 1993. At the same time, adjustments to the current Army of Excellence tables continued during 1993 as a consequence of ongoing equipment improvements and changes in doctrinal detail. The year-to-year adjustments were conducted by the Combined Arms Command (CAC) and the Combined Arms Support Command (CASCOM) and presented periodically by CAC for decision by the Chief of Staff of the Army in scheduled force design update presentations. Following the Fall 92 Update presented in December 1992, CAC presented two updates during 1993. The Winter 92 Force Design Update was briefed to General Sullivan on 3 February; the Summer 93 update was briefed to the Army Chief of Staff on 17 December.[1]

Division Design: Preliminary Planning

With the new operations doctrine approaching publication, the Army Chief of Staff, General Gordon R. Sullivan, directed the TRADOC commander on 6 January to start action to reshape Army combat organization based on the new doctrine. General Sullivan directed a focus on the division, to be dovetailed with the ongoing work on echelons above division by the Combined Arms Command. Activating the CAC and CASCOM commanders to start the effort, tagged the Division Redesign project, General Franks replied to Sullivan on 26 January, outlining plans to proceed. Franks at that time projected development of a concept by April 1993. Development and debate of conceptual alternatives by CAC would be followed by design of a force projection Army division by July 1994.

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1. (1) TRADOC ACH, CY 92, p. 74. (2) PROFS Note, Maj Dan Egbert, HQ CAC-CD (ATZL-CDF) to John L. Romjue, Ofc Cmd Historian, HQ TRADOC, 3 May 94, subj: FDU Data. The next scheduled force design update was FDU 94-1 (originally "Winter 93"), scheduled for May 1994. (3) See Romjue, The Army of Excellence, for a documented account of the origins, design, and transition to the AOE.

Preliminary planning by CAC, aided by CASCOM, followed. Smaller-sized divisions were anticipated, based on a more flexible view toward traditional echelonment of Army tactical organization. Other preliminary considerations were the brigade or regiment as the primary base, the division as a task-organized tactical echelon, the corps as the link between strategic objectives and execution by brigade or division, the pooling of certain organizational functions and elements, and logistics supportive of both war and operations other than war.

Army response to wide TRADOC briefing of the preliminary division redesign initiative was conservative. The Army in the field broadly supported keeping current echelons intact. "Don't fix what's not broke," was the common view. The field advised making changes only at the margins of the division. However, there was considerable interest in making the brigade more robust and self-sufficient. Support was overwhelming to design for warfighting, not for deployability. The prevailing view was to design now to accommodate current technology and to transition later to future technology.

In March 1993, General Sullivan directed that planning proceed via an interim division design in FY 1994, to be followed by experimentation and simulation that would lead to a final, objective design in FY 1997. However, plans soon changed. Consensus indicated that further 1993 action could be premature in the face of Army fiscal and end-strength uncertainties and the lack of a change mandate from the field. The field reaction was affirmed in subsequent Army division commander and TRADOC commandant conferences. Planned 1993 workshops were cancelled. The Division Redesign project was suspended in April by Department of the Army direction.[2]

With the Division Redesign project brought to a halt in April, major force design by TRADOC to accommodate the 1993 doctrine remained essentially on hold. The full extent of the active-force drawdown posed a major unknown factor in the reckoning. In the end, the comprehensive reorganization of the Army's divisions would rest on Department of the Army force structuring decisions.

Noteworthy, however, was a closely related initiative of the Early Entry Lethality and Survivability (EELS) Battle Laboratory. During 1993, the EELS Battle Lab studied two hypothetical early entry forces, one of 2,000 men, the other, 10,000. The 2,000-man force was modelled on a generic infantry brigade of the 82d Airborne Division, with technologies added to increase its lethality and survivability. At 2,045 design strength, it had 2 infantry battalions; armor, antiarmor, artillery, aviation, and air defense artillery companies; a forward support battalion; and other company and platoon-size units. Using the Castforem combat model and Northeast Asia, Southwest Asia, and Latin America scenarios, the design effort also included an airlift requirements analysis. The TRADOC Analysis Command modelled the force against a modernized red division of 3 brigades.

In the scenarios run, the 2,000-man force accomplished its lodgement mission. C-17 developmental aircraft were critical to deployment. The force mix of systems was the key to greater unit capability. Among major findings were that a mix of the Armored Gun

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2. (1) Msg, DA (General Sullivan) to Cdr TRADOC, 061325Z Jan 93, subj: Force Design, Doc III/1. (2) Msg, Cdr TRADOC to DA (for General Sullivan), 262050Z Jan 93, subj: Force Design, Doc III/2. (3) Historical Files, OCH. (4) Bfg slides from Bfg, Col Bill McCauley, ODCSCD, subj: Division Redesign for a Force Projection Army, to TRADOC LO Confer, 16 Mar 93, Doc III/3. (5) MFR ATMH, OCH, 20 Apr 93, subj: Division Redesign, Doc III/4.

System, 120-mm. mortars, and 105-mm. howitzers provided high lethality at low cost and that adding the developmental Non Line of Sight weapon increased lethality by 20 percent at small cost increase. The Apache Longbow helicopter was a significant improvement in lethality over the Apache-Hellfire alone. The combination of the Non Line of Sight weapon and either the Multiple Launch Rocket System or the developmental High Mobility Artillery Rocket System offered dramatic survivability improvement. Lift requirements were 44 percent more, but lethality increased by 50 percent, with a decrease in personnel losses by 45 percent over the generic division ready-brigade of the 82d Airborne Division. Recommendations were to continue studies to mature the concepts and to examine the 2,000-man force in relation to the ongoing Warfighting Lens Analysis,[3] the Louisiana Maneuvers project, and joint deployment considerations.

The 10,000-man early entry force was the follow-on force for the smaller unit and had the capability to retain a lodgement and conduct follow-on missions. This study used the Vector-in-Commander combat model and a Southwest Asia scenario. Using deep-ranging systems to engage targets throughout the whole battle space, the unit demonstrated deep-fight effectiveness, which established favorable conditions for the close fight. The 10,000-man force, tied to defending the lodgement, was vulnerable to enemy artillery, unmanned aerial vehicles, and tactical ballistic missiles. Plans were to expand this unit and adjust it to a "middleweight" force for examination in other scenarios.[4]

The Experimental Force and Digitization

As the Department of the Army and TRADOC looked toward more effective ways to develop the future force and its doctrine, materiel, training, leaders, and soldiers, TRADOC studied the institutional experience the Army had had using existent divisions to that purpose. Employment of a specific division as a "test bed" for examining new organizational, doctrinal, or materiel concepts had been tried a number of times. Such division design experience outside the normal combat developments process had included the tests of the airmobility concept culminating in the 11th Air Assault Division at Fort Benning during 1963-1964; the tri-capability armor, airmobile infantry, air cavalry TRICAP division testing at Fort Hood in the early 1970s; the Division Restructuring Evaluation at Fort Hood in 1977-1978 arising out of TRADOC's 1976 Division Restructuring Study; the High Technology Test Bed and High Technology Light Division and motorized division testing in the 9th Infantry Division at Fort Lewis beginning in 1980 and lasting to the end of that decade; and the certification of the Army's new light infantry division in the 7th Infantry Division during 1984-1986. Calling on that experience, combat developments planners in TRADOC headquarters developed a concept late in the year for a future brigade- and division-based "Experimental Force."

The aim stated in the Experimental Force concept paper was to start the planning process for conversion of two major Forces Command organizations--the 194th Separate Armor Brigade at Fort Knox and the 2d Armored Division at Fort Hood--to an Experimental Force organized, equipped, and trained to execute full dimensional operations as doctrinally de-

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3. For information on the Warfighting Lens Analysis, see below, pp. 89-91.

4. (1) SSHR, ODCSCD, CY 93/II, p. V-1. (2) Bfg slides, bfg presented by HQ TRADOC to TRADOC Commanders' Conference, 5-7 Oct 93, Fort Knox, Ky., subj: Battle Labs, An Update.

scribed by the 1993 FM 100-5. By concept, that future force, for which Department of the Army decisions were awaited in 1994, would itself be a division-sized organizational experiment in the Army's future doctrine and operations. Additionally, the force would conduct experiments and operational tests for TRADOC on Battle Lab initiatives. It would fulfill the same function for the Army's major operational test organization, the Operational Test and Evaluation Command (OPTEC) with OPTEC's Fort Hood-based Test and Experimentation Command component. Following planned Department of the Army action on the concept in 1994, budget planning to realize the concept would be tied to the 1998-2003 Program Objective Memorandum cycle.[5]

By plan, the Experimental Force, when fully developed, would take advantage of the new concept that TRADOC and the Army Materiel Command were developing during 1993 called "digitization of the battlefield." Digitization was a capability that resulted from the physical insertion of integrated computerized hardware and software components into the actual elements of the fighting force--helicopters, combat vehicles, individual soldier equipment. It increased exponentially the information flow, facilitating creation of a simultaneous common picture of the battlefield and greatly enhancing the ability of commanders at all levels to see and synchronize the fire, movement, and support of their systems. The digitization principle, once field-proven as a linking network providing situational awareness, would outfit the Experimental Force to test force designs toward development of the Army force of the 21st century. At the close of the year, simulations were in progress at the Mounted Battle Space Battle Lab, projected toward an advanced warfighting demonstration of a digitized task force in 1994 field trials at the National Training Center at Fort Irwin, California.

Cavalry Units

Work continued on several cavalry unit design projects in 1993. The Chief of Staff of the Army had approved the 10-HMMWV[6] design for the heavy division battalion scout platoon in 1989. Following CAC validation of that design in 1992, all units were converted to it by the close of 1993 with the exception of the 24th Infantry Division (Mechanized). That division determined to convert only upon availability of the "up-armored" HMMWV and the Scout Platoon Modification Kit. Early in the year, the Armor Center ran field trials of HMMWVs modified with the kit. The Armor Center also examined the possibilities of adding ballistic protection, and that requirement was added into an up-armored heavy HMMWV joint mission needs statement that TRADOC approved in September 1993. It would apply, along with the Scout Platoon Modification Kit, to all scout HMMWVs. Funding for the up-armored scout HMMWV with kit included 437 vehicles for FY 1994, with the first equipped unit--the 1st Armored Division--projected for late 1994. Selected to continue as the HMMWV scout platoon's night sight was the AN/UAS-12A system, the fielding of which was to begin in January 1994.[7]

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5. (1) Concept Paper, The Experimental Force, Exec Sum, n.d. [1993], developed by the ODCSCD Battle Laboratory Integration and Technology Directorate, Doc III/5. (2) SSHR, ODCSCD, CY 93/II, p. IV-1.

6. HMMWV: High Mobility Multipurpose Wheeled Vehicle

7. (1) TRADOC ACH, CY 92, p. 75. (2) SSHRs, ODCSCD, CY 93/I, p. VII-11; CY 93/II, pp. VII-6 to VII-7.

Following design by the Combined Arms Command of a light cavalry regiment during 1991-1992, the Vice Chief of Staff of the Army directed, on 7 January 1993, the fielding of a three-squadron light cavalry regiment of 3,759-man strength, with August 1994 as the target date.[8]

The Army Chief of Staff had in October 1991 approved adding tanks and a third ground troop for the heavy division cavalry squadron. For the ground troops, he had approved an organization of three mixed platoons, each to field two Abrams tanks and three Bradley Cavalry Fighting Vehicles. The tables of organization and equipment for this design were approved in June 1992, with fielding by the major Army commands scheduled for 1993. As the result of a Department of the Army requirements review council held on 31 March 1993, however, Headquarters Department of the Army approved and directed the conversion of the heavy division cavalry squadrons to organizations whose constituent cavalry troops would field not mixed platoons, but "pure" platoons of 4 tanks or 6 Cavalry Fighting Vehicles. Conversions were scheduled for completion in most heavy divisions during the course of 1994.[9]

Aviation Unit Redesign

Addressing longstanding AOE deficiencies and accommodating the drawn-down force, General Sullivan approved the Aviation Restructure Initiative, which had proceeded during the course of 1992, at the Winter 1992 Force Design Update in February 1993. The aviation restructuring significantly reduced the number of older aircraft--UH-1, OH-58A and C, and AH-1S models--in the fleet, thus reducing operations and maintenance costs. A significant change was made in the attack battalion, redesigned from 18 AH-64A Apaches, 13 OH-58A/C Kiowas, and 3 UH-60A Black Hawk helicopters to an interim design of 24 Apaches (15 attack and 9 in the scout role) until the developmental RAH-66 Comanche would come on line. The final objective design for the attack battalion was 15 Apaches and 9 Comanches. Displaced Apaches would then replace older AH-1 Cobras in turn. The change resulted from reallocating attack helicopter assets from two battalions in the division to one and from two regiments in the corps to one.[10]

In February 1993 the Chief of Staff of the Army approved the division aviation support battalion design and directed its implementation in the Total Army Analysis-2001 cycle. Changes included increasing the number and grade level of aircraft mechanics at unit level,

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8. (1) TRADOC ACH, CY 92, pp. 75-76. (2) Msg, HQDA to distr, 151820Z Jan 93, subj: Light Cavalry Regiment (LCR) Design and Fielding IPR, Doc III/6.

9. (1) TRADOC ACHs, CY 91, p. 107; CY 92, p. 76. (2) Msg, HQDA to Cdrs FORSCOM, USAEIGHT, and NGB and CINCUSAREUR, 192012Z Apr 93, subj: Early Conversion of Division Cavalry Squadrons to Four Tank x Six CFV Pure Platoon Design, Doc III/7.

10. SSHR, ODCSCD, CY 93/I, p. VII-13.

applying full manpower requirements criteria to personnel requirements, and increasing the overall aviation support available to aviation units. TOE documentation was in preparation.[11]

During the year, the Aviation Logistics School developed an aviation logistics branch "vision" document supporting the Aviation Restructure Initiative earlier discussed. It outlined projected capabilities and needs for logistics in support of combat aviation forces in the future, and was intended to serve as the foundation for development of aviation sustainment organization and doctrine as well as training, leader development, materiel, and soldier support. Significant changes to aviation maintenance unit organization were proposed. The new organizations would increase the ability of aviation companies to repair equipment at a lower maintenance level, improve support to task-organized forces, increase mobility for forward aviation maintenance units, and capitalize on new tool and maintenance automation technologies.[12]

Other Design Issues

A full review by the Department of the Army of light infantry division developments, earlier scheduled for January 1993, was postponed that month to the indefinite future, due to the Somalian deployment of the 10th Mountain Division (Light Infantry) and other factors rendering light division issues fluid during 1993.[13]

Another Battle Lab force design initiative was an advanced warfighting demonstration for lighter, more deployable forces. Directed by the Louisiana Maneuvers Task Force, this study was begun by the EELS Battle Lab in 1993 in support of the Army Materiel Command Tank-Automotive Research and Development Center.[14]

On 12 May, the Department of the Army announced its intent to terminate the Army's nonstrategic nuclear forces survivability, security, and safety program. The announcement followed related actions that since 1991 had drawn down and eliminated the Army's nuclear capabilities. The Army continued its participation in the Department of Defense-level nuclear weapons system survivability and security program.[15]

Pursuant to the announcement by the Secretary of Defense on 28 April opening Army combat aviation, including combat positions in attack aircraft, to officer and enlisted women,

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11. SSHR, ODCSCD, CY 93/I, p. IX-11.

12. SSHR, ODCSCD, CY 93/I, p. IX-11.

13. Msg, DA [CSA General Sullivan] to distr, 152005 Jan 93, subj: Light Infantry Division (LID) Review Postponement, Doc III/8.

14. SSHR, ODCSCD, CY 93/II, p. V-2.

15. Msg, DA to distr, 121610Z May 93, subj: Termination of the Army's Nonstrategic Nuclear Forces Survivability, Security, and Safety (NSNFS3) Program, Doc III/9.

the Combined Arms Command began the TOE-documentation process in June to implement the policy. All combat aviation positions were opened to women excepting special operations and regimental and divisional cavalry units.[16]

Managing and equipping the soldier as a "system," a 1991 initiative and cooperative program of TRADOC and the Army Materiel Command (AMC), continued in 1993, with focus on both near-term modernization under the Soldier System Process Action Team effort, and a next-generation Land Warrior program package involving digitization technology and other improvements. A major Soldier System Review was convened with presentations to the TRADOC and AMC commanders on 8 October 1993 at Fort Benning, Georgia. For Land Warrior outfitting, considerable investment was entailed, estimated at 175 percent over current cost. The near- and mid-term programs covered numerous weapon and equipment items, from flame retardant tanker boots to night vision equipment. The TRADOC commander stressed the need to provide the best current technology to deploying forces such as those in Somalia and Macedonia, and not to wait for mass-quantity fielding Armywide. General Franks also stressed the need not to sacrifice lethality improvements to digitization aims.[17]

Functional Area Assessments

Functional area assessments (FAA), the periodic Department of the Army-sponsored, TRADOC-supported comprehensive, analytical reviews of the status and developments in 19 Army branches and functional areas, continued as a format to review the effects of the Army drawdown on the individual branches and assure that each functional area had a well-coordinated and cost-effective transition plan. Further guidance for FAAs resulted from briefing of the Quartermaster FAA on 8 April 1993. The Vice Chief of Staff of the Army, General J.H. Binford Peay III, directed that future FAAs needed to emphasize the total force, including the reserve components. He further directed that FAA planners would brief and put in priority the "top 30" new materiel systems, and would additionally cover the highlights of the Department of the Army Deputy Chief of Staff for Personnel-sponsored functional reviews. General Peay directed that FAAs compare the current and future force structure of the functional area, include battalions by type and composition, as well as separate companies and detachments.

These significant reviews enabled the Department of the Army Deputy Chief of Staff for Operations and Plans to take focussed action on emerging individual branch deficiencies and problems. For example, following the Quartermaster FAA in April, he directed such corrective steps as adapting logistics doctrine to brigade POMCUS sets[18] and further attention to

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16. (1) Msg, Cdr PERSCOM to distr, 061350Z May 93, subj: Women in Attack Aircraft, Doc III/10. (2) Msg, Cdr USACAC to HQDA, 211814Z Jun 93, subj: Women in the Army: Combat Aviation, Doc III/11.

17. (1) TRADOC ACH, CY 91, pp. 113-14. (2) PROFS Msg, Maj Arnold Bray, ODCSCD to Col Charles E. Beckwith, ACofS, 10 Oct 93, subj: Minutes From the Soldier System Review 8 October, Doc III/12.

18. POMCUS: prepositioning of materiel configured to unit sets

the reserve component portion of equipment modernization. Another management concern unveiled resulting from that FAA was that, as the quartermaster community moved toward multifuctionality, it did not lose sight of maintaining functional area branch proficiencies.

The Aviation FAA was briefed on 23 September 1993, with a follow-up briefing on 8 December. Presented were the aviation vision concept and Aviation Restructure Initiative report noted earlier. Issues focused on funding for force structure, training base, digitization, and logistics and equipment.[19]

Force Management Study and Realignment of Force Management and Documentation Processes

In June 1992, the Vice Chief of Staff of the Army directed the ARSTAFF to study the Army's process for force management, including both its department and TRADOC elements. It was the view of the Vice Chief of Staff, based on comments from the major Army commands, that the process was not responsive enough to support the ongoing force reductions and concurrent personnel and equipment redistribution. TRADOC was directed in September 1992 to assist in the study. Involved for TRADOC were the TRADOC concept and documentation processes (the Concept Based Requirements System, force design updates, Battle Labs) and requirements documents processes (TOEs, incremental change packages, and consolidated TOE updates). Conducted under Department of the Army contract by a Military Professional Resources, Inc. team, the study began in February 1993 and its findings were presented to the Vice Chief of Staff on 24 June.

A major finding and recommendation of the 1993 Force Management Study was that the organization requirement (the TOE) and the authorization (modification TOE) processes and systems should be combined into one central department-controlled system. All the building blocks leading to the development and manning of Army TOEs--basis-of-issue-plans, qualitative and quantitative personnel requirements information, incremental change packages, base documents--would be part of the centralized system. Major Army commands would no longer develop modification TOEs adapted to their peculiar needs. Resourcing and authorizing and modifying organizations would be effected centrally. A single field operating agency, combining Headquarters Department of the Army and TRADOC elements, would centrally execute operation of the system and processes, with authorization control and process oversight retained in the office of the Deputy Chief of Staff for Operations and Plans.

Through the remainder of 1993, study recommendations related to the functional area assessments, the viability of the Enhanced Concept Based Requirements System, and the consolidation of requirements and TOE documentation, among other changes, were carried through. A concept plan for merging the Combined Arms Command Organization Directorate, elements of the Combined Arms Support Command, the U.S. Army Force Integration

19. (1) Msg, DA to distr, 101211Z May 93, subj: Functional Area Assessment Update, Doc III/13. (2) Msg, DA to distr, 292005Z Apr 93, subj: Quartermaster Functional Area Assessment Results, Doc III/14. (3) SSHR, ODCSCD, CY 93/II, pp. VII-10, IX-16.

Support Agency, and other agencies, was in preparation. It pointed toward establishment of a provisional merger of those agencies on 15 July 1994, with official establishment on 1 October 1994.[20]

Combat Developments Management

For 1993, the vision for combat developments closely mirrored that of the Commanding General's for TRADOC. The Deputy Chief of Staff for Combat Developments, Major General Larry Lehowicz, stated his mission to be "to define the very best requirements for equipment and organizations on a future battlefield, even with the reality of current resource cuts."[21] The decline of available resources greatly affected all aspects of the combat developments function and process, from concept development through research and development, acquisition, and fielding. As at the command level, the grim fiscal situation forced a review and realignment of combat developments processes. And, as at the command level, the review and realignment produced efficiencies and significant change.

As the whole combat developments process came under scrutiny with the changed threat environment, one of the first processes to be reexamined and altered was the Concept Based Requirements System, or CBRS. The CBRS process was initially designed to identify needs, identify and obtain solutions, and synchronize delivery of products. The CBRS process was continually updated and revised to incorporate changing analysis and doctrine and fed directly into the Battlefield Development Plan (BDP), the Army Modernization Memorandum (AMM), and the Long Range Army Materiel Requirements Plan (LRAMRP). The CBRS process drove the combat developments machine and was heavily dependent upon Cold War threat projections.[22]

With the demise of the Soviet Union, the combat developments function no longer had that yardstick with which to measure its capabilities against. The solution was an Enhanced Concept Based Requirements System, or ECBRS, a streamlined process retaining the essence of the CBRS. The ECBRS process aimed at identifying required capabilities across the range of military operations to maintain the battlefield edge for a post-Cold War force projection Army. The ECBRS process was designed to consider reduced Research, Development, and Acquisition resources, fewer system starts, "technology insertion" opportunities, and the value of integrating using the Warfighting Lens Analysis methodology. The process had three stages. Stage 1 began with strategic guidance from which TRADOC developed the overarching concept, or vision of future battle, and battle dynamic concepts. From Headquarters Department of the Army planning guidance, TRADOC developed guidance for the branch schools and proponents to begin development of their assessments. In Stage 2, the branches and proponents developed the branch concept of how they would support the

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20. (1) Msg DAMO-FDZ, DA to distr, 241428Z May 93, subj: Force Management Study, Doc III/15. (2) MFR ATMH, OCH, 4 May 94, subj: Force Management Study, Doc III/16. (3) Final Report, U.S. Army Force Management Study for DA ODCSOPS, 30 Jun 93 prep. by Military Professional Resources, Inc., Alexandria, Va., Doc III/17.

21. Interview with Maj Gen Larry Lehowicz, Deputy Chief of Staff for Combat Developments, HQ TRADOC, 1 March 1994, by Dr. Susan Canedy.

22. TRADOC ACH, CY 92, p.82.

AH-64A Apache Helicopter in Operation Desert Storm.

Soldiers of the 7th Infantry Division (Light) on patrol during an exercise. The demise of the Soviet Union removed the yardstick long used to measure combat capabilities and required doctrine and equipment for more versatile warfighting.

Army in the 21st century. They identified the capabilities required to support the vision of future battle and submitted their assessments to Headquarters TRADOC. In Stage 3, the headquarters consolidated the reviewed assessments and distributed them to the applicable deputy chiefs of staff for the integration of required capabilities across the functional domains. The DCS for Combat Developments then integrated, analyzed, and evaluated those assessments as to their contribution to battle dynamics, modernization objectives, force packages, and battlefield operating systems through the Warfighting Lens Analysis process.

Key insights of the Warfighting Lens Analysis of 1993 included the need to place emphasis on battlefield digitization and winning the information war, improve early entry lethality and survivability for the force projection Army, emphasize smart munitions and long-range systems, make rapid progress on horizontal technology insertion, and upgrade training centers and simulations.[23]

The results of the three-stage process delineated above were presented to the TRADOC Senior Leaders' Conference held 29-30 June 1993. The results were also presented to the Vice Chief of Staff, Army as recommended investment options. Further analysis was conducted and a list of "must have" capabilities was presented to Headquarters, Department of the Army for the Program Objective Memorandum 95-99 (Mini-POM) planning.[24]

That same process was conducted after receipt of Headquarters Department of the Army guidance for the FY96-10 Long Range Research Development and Acquisition Plan (LRRDAP). Headquarters TRADOC in turn issued guidance to the branches and schools for their input in September 1993. Conclusions and recommendations were passed back up, reviewed at the headquarters, approved on 15 November 1993, and briefed to Headquarters Department of the Army.[25]

The ECBRS process ensured that warfighting priorities remained focused on doctrine, training, leader development, equipment, and force design to maintain the battlefield edge and achieve land force dominance as the Army transitioned into the 21st century. Feedback

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23. (1) Brfg Slides, DCSCD Overview for TRADOC Commanders Conference, Warfighting Lens Analysis (WFLA), ATCD-EP, 11 Mar 93, Doc III/18. (2) Memorandum for General Gordon R. Sullivan, Chief of Staff, United States Army, ATCD-EP, n.d., subj: TRADOC Warfighting Lens Analysis, Doc III/19.

24. (1) SSHR, ODCSCD, CY 93/II, pp.III-2. (2) Memo ATCD-EP, Maj Gen Larry G. Lehowicz, DCSCD for Commanders, Unified and Major Army Commands, 10 Aug 93, subj: Warfighting Lens Analysis I (WFLA I) Results, Doc III/20. (3) Memo ATCD-EP, Maj Gen Larry G. Lehowicz, DCSCD for Commanders, TRADOC Installations and Commandants, TRADOC Service Schools, 6 Aug 93, subj: Warfighting Lens Analysis I (WFLA I) Insights, Doc III/21.

25. SSHR, ODCSCD, CY 93/II, p.III-3.

from the senior leadership within TRADOC, sister services, and the Pentagon supported the ECBRS process and the insights gained. Actions were initiated to revise TRADOC Regulation 11-15 to codify the work of the ECBRS process.[26]

Battle Laboratories

The concept of Battle Laboratories had evolved over winter 1991-spring 1992 as TRADOC reassessed requirements for the post-Cold War Army. Without a clear external threat driving materiel requirements, concepts of warfare and the associated equipment needed to be reevaluated. Further, the reevaluation had to take in consideration TRADOC's points of main effort. Those points were: lead the Army through intellectual change, sustain excellence and relevance in training and leader development, propose modernization alternatives to maintain the technological edge, foster organizational excellence, and focus on soldiers.

Greatly reduced funding levels, affecting manpower as well as projected procurement, restructuring of international power with apparent reduction of external threat, and the awareness and assessment of the battlefield dynamics of Operations Just Cause and Desert Storm combined to present the Army leadership with a unique challenge -- how would the Army maintain its proven edge in a politically changing and resource hostile environment?

The Commanding General of the U.S. Army Training and Doctrine Command was instrumental in assisting the Army to meet the challenge. General Franks had declared that there were some certainties in TRADOC and the way it did business that could not change. Noncompromisable areas included the need to modernize to preserve the existing technological edge, and the requirement to stay trained and ready. Change was imperative, however. Methods of setting priorities and determining equipment and force requirements did not allow the Army to meet budget decrements while maintaining the warfighting edge so carefully honed during Operations Just Cause and Desert Storm. General Franks presented the Battle Laboratories as a method of analyzing capabilities and requirements to determine the priorities for a power projection Army.

In the recent past, the Army had best integrated new warfighting ideas and developments in technology by examining, studying, and applying observed lessons. The Warfighting Lens Analysis methodology had been created as an analytical means to determine the impact of materiel options on organizations at division and below. As architect of the future, TRADOC would experiment in simulations and on ranges and maneuver areas with the new ideas and technologies. The Battle Laboratories were structured to provide future capabilities through technology insertions and modifications.

Battle Laboratories were organized to take advantage of the technology of distributive, interactive simulation. The simulation network would allow experts at the TRADOC centers and schools to advance ideas and exert ground-level influence. Still requiring units, troops,

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26. (1) Enhanced Concepts Based Requirements System (ECBRS) Overview Briefing, Updated December 1993. (2) Memorandum for Distribution ATCD-EP, 31 Mar 93, subj: Warfighting Lens Analysis (WFLA) General Officer Survey, Doc III/22. (3) Memorandum for Distribution ATCD-ZA, 30 Mar 93, subj: Enhanced Concept Based Requirements System (ECBRS) Implementation Guidance, Doc III/23.

ranges and training areas, the Battle Laboratories were purposely located at centers that had those resources as well. The Battle Laboratories were organized generically into six areas, where battle had appeared to change: early entry, mounted battle space, dismounted battle space, depth and simultaneous attack, battle command, and combat service support.

Each of the six battle labs was focused on one of the battlefield dynamics and had distinct unit affiliations. Battle space was divided into mounted and dismounted subsets and battle command was split geographically between two sites. The Early Entry Lethality and Survivability Battle Lab was located at Fort Monroe; its unit affiliations included the 24th Infantry Division, 82d Airborne Division, 10th Mountain Division (Light Infantry), 1st Cavalry Division, and Headquarters XVIII Airborne Corps. The Depth and Simultaneous Attack Battle Lab was at Fort Sill, aligned with the 101st Airborne Division (Air Assault), 11th Air Defense Artillery Brigade, and Headquarters III Corps Artillery. The Mounted Battle Space Battle Lab was located at Fort Knox, aligned with the 2d Armored Division, and 194th Armor Brigade. The Dismounted Battle Space Battle Lab was at Fort Benning, using 10th Mountain Division, 24th Infantry Division, 82d Airborne Division, 101st Airborne Division, and Headquarters XVIII Airborne Corps assets. The Battle Command Battle Lab was split between Fort Leavenworth, which concentrated on issues related to the art of command, and Fort Gordon, where technical and hardware issues were addressed, and was aligned with the 1st Infantry Division, 1st Cavalry Division, and Headquarters III Corps. The Combat Service Support Battle Lab was located at Fort Lee, and aligned with the 1st Infantry Division, and 1st and 13th Corps Support Commands.[27]

The Battle Laboratories were designed to work with one another, coordinating their activities like units on the battlefield, both horizontally and vertically. They were to identify concepts, analyze new technologies, and exploit capabilities in simulations that replicated reality. After conducting the simulations, the task forces at the Battle Laboratories would conduct further experimentation with soldiers and units at ranges and on training areas. The Army Materiel Command, a partner in the Battle Laboratory Program, provided representatives to all the Battle Laboratories as well as substantial support from its research and development organizations. Also, the Battle Laboratories established ties with science and technology organizations and private corporations.

The Battle Laboratories provided a major component of support to the Louisiana Maneuvers process designed to assist in the Army's transformation. In fact, the Louisiana Maneuvers 1994, similar to its predecessor organization of 1941, was termed a laboratory for learning about the Army of the 21st century. The original Louisiana Maneuvers of 1941, actual field training exercises, tested assumptions about doctrine, organization, and equipment. The 1941 maneuvers shaped the Army that fought in World War II. The new projected maneuvers, conceptualized by Chief of Staff of the Army General Gordon R. Sullivan, were more an interconnected series of agencies and exercises designed to provide the framework for change anticipated and expected of the Army in the 1990s. Louisiana Maneuvers 1994 was a simulation-based exercise plan linking computer simulation models with major exercises to test out the new roles and missions of a smaller power projecting Army.

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27. Brfg Slides, Battle Labs Advanced Warfighting Demonstrations, BLIT, 29 Jun 93, Doc III/24.

The Battle Laboratories were designed to fit into the Louisiana Maneuvers process. The Battle Lab Integration and Technology office at the headquarters in fact coordinated TRADOC's Louisiana Maneuvers issues for 1993 and 1994, and individual battle labs were lead agencies for most of the issues. TRADOC issues for 1993 included equipping, "owning the night," and battle command.[28] Over the course of 1993, Headquarters TRADOC funded and set in place the TRADOC Simulations Internet and the Battle Labs Information Management System to link the six battle labs as well as Louisiana Maneuvers office.

Each battle lab had a core initiative. The early entry lab worked at identification of 2,000- and 10,000- man early entry force mixes with enhanced lethality, survivability, and deployability. The Mounted Battle Space Lab explored the use of digitized communications to improve battlefield synchronization across the combined arms. The Dismounted Battle Space Battle Lab addressed night-fighting capabilities. The Depth and Simultaneous Attack Lab worked to reduce the sensor-to-shooter time in precision targeting. The Battle Command Battle Lab addressed battle command on the move, and the Combat Service Support Battle Lab tackled the issue of distribution of management for all classes of supply.

Tangible results were achieved within the year. Digitized communications were tested and demonstrated during constructive and virtual simulations in late 1992 and in a tactically competitive environment by Task Force 1-70 Armor in March 1993 at Fort Knox, when M1A2 tanks, M2 Bradley Fighting Vehicles, M106A2 self-propelled artillery, and OH-58 Kiowa Warrior helicopters were digitally linked. That experimentation continued with the 1st Cavalry Division's National Training Center rotation in July 1993, and an unprecedented 125 systems were scheduled to be linked and fielded during the Advanced Warfighting Demonstration at the National Training Center in April 1994. Advanced warfighting demonstrations were tools used by the Battle Labs to test concepts, equipment, soldiers, and force. They were a mix of progressive and iterative simulations and field trials conducted with soldiers and units in a combined arms and tactically competitive environment.

Other warfighting gains included successful field testing of total asset visibility with the Automated Identification Technology System, night fighting experimentation and successful development of second generation Forward Looking Infrared System (FLIR), movement of a battle command vehicle to Milestone II in the development cycle, and conceptualization and launch of Prairie Warrior (with gaming and student participation extending into 1994).[29]

Objectives for the Battle Labs in 1994 included institutionalization of Battle Lab methodology, continuation of senior officer reviews, institutionalization of the advanced warfighting demonstration concept, increased joint involvement, implementation of the horizontal technology insertion strategy, expanded simulations, and deeper alliance with Louisiana Maneuvers.[30]

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28. SSHR, ODCSCD, CY 93/I, p. IV-2.

29. (1) Brfg Slides, Battle Lab Campaign Plan, The Second Year, BLIT, 28 Jun 93, Doc III/25. (2) SSHR, ODCSCD, CY 93/I, p. IV-1.

30. (1) Brfg Slides, Battle Lab Campaign Plan, The Second Year, Commander's Intent II Msg, 7 Jun 93. (2) Paper, A Strategy for Institutionalizing Horizontal Technology Integration (HTI) in the Army, HQ TRADOC, n.d. [1993], Doc III/26.

Survey of Major Modernization Programs

Modernization had taken a decided downturn by the early 1990s. A lack of resources precluded large system or large dollar expenditures. Modernization, however, as proven in Operation Desert Storm, was critical as the Army drew into a smaller, power-projection force. Developing technologies supported five modernization objectives: project and sustain the force, protect the force, win the information war, conduct precision strikes on the battlefield, and dominate the maneuver battle.

Consistent with the previous year's trends, modernization efforts predominantly involved upgrades or product improvements rather than the development of new systems. Modernization initiatives included continued support of the RAH-66 Comanche helicopter, the Advanced Field Artillery System, the Javelin antitank missile, the Armored Gun System, and upgrades to the Abrams main battle tank, Bradley Fighting Vehicle, and the Apache Longbow helicopter.

Although big ticket items were absent from the modernization rolls, modernization was not. Armed with the weapons systems that would take the Army into the 21st century, improvements came in the form of upgrades, and some of that through software revision and digitization. Pioneering digital technology, the core weapon of the 21st century was looked to be the computer, with emphasis on simulation. Computer-generated troops and equipment maneuvered over electronic terrain, through all kinds of obstacles, testing doctrine, training, and leader development. Simulation combined with actual field testing would guide the Army into the next century.

To take full advantage of the emerging technologies and best apply them to the force, Headquarters TRADOC focused its efforts through advanced warfighting experiments. The concept was to apply resources against controlled experiments conducted in a tactically competitive environment.

With the changes in resource availability, political climate, and international scene, changes in acquisition procedure were likely to follow. The Chief of Staff of the Army, General Sullivan, noted in a keynote address at the Association of the United States Army Symposium in Orlando, Florida, in May 1993, that the acquisition system developed during the Cold War would not serve the Army well in the fast-paced and uncertain future. At Headquarters TRADOC, General Franks energized the command to begin to break down, by proposal, the linear and hierarchal acquisition system that was developed to counter the Soviet Union.[31]

Aviation

Certainly the Comanche helicopter, in 1993, was the bright star of the Army's modernization program. The armed reconnaissance helicopter was the Army's first fully digital-electronic aircraft, incorporating many advanced technologies. Its survivability was enhanced by its "low observables" design, and its systems designed so that damaged modules could be removed and replaced in the field. A portable intelligence maintenance aid, a new device in

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31. L. James Binder, "Welcome to the 21st Century," Army, July 1993, pp. 22-26.

rotary wing aviation, stored all necessary maintenance and technical manuals, recorded the aircraft's maintenance history, could identify and trouble shoot malfunctions, and even tie into supply databases. The Comanche was the first Army aircraft built entirely of composite materials, increasing the aircraft's supportability and survivability. Three prototypes were scheduled to be built and flight-tested during the demonstration - validation phase. The first flight was planned for August 1995.[32]

Until the Comanche was safely through its procurement and fielded, the OH-58D Kiowa Warrior served as the Army's armed reconnaissance helicopter. Developed in the 1980s to fill a functional hole between Vietnam-vintage observation helicopters and the not-yet-fully-foreseen Comanche, the Kiowa Warrior, with its mast-mounted sight and advanced navigation system, entered its tenth year of production. Force development testing was completed at Fort Bragg, North Carolina, in March, and in November at Fort Hood, Texas. That testing successfully validated Warrior gunnery requirements and standards as well as tactics and procedures. A formal report was scheduled to be distributed in early 1994. Approximately 30 percent of the programmed aircraft had been fielded, to include those to 4th Battalion, 17 Cavalry and 1st Battalion, 17 Cavalry at Fort Bragg and 5th Battalion, 17 Cavalry in Korea.[33]

As an example of upgrade ability, the Longbow Apache program represented the major portion of the Apache helicopter modernization plan. Under that plan, 227 of the 811 Apaches were to be remanufactured to AH-64D Longbow configuration, with the remaining fleet upgraded to a new baseline configuration, AH-64C. That included replacing old processors with a system processor and a weapons processor, increased electrical power generation, and redesign of crew stations. Further Apache modernization included fielding of Global Positioning System units, extra long range fuel tanks, and modified 30-mm gun. Engine modifications added additional horsepower and improved fuel control.[34]

Looking toward the future, an aviation mission need statement was forwarded to Department of the Army for approval in June 1993. Two capability voids were addressed. The first called for short-term upgrades or procurement of available cargo helicopters to keep the fleet mission capable. The second suggested long-term development for an advanced cargo aircraft.[35]

Close Combat

At year's end, the M1A2 Abrams tank program consisted of ten prototype tanks, 62 low rate initial production tanks, and the upgrade of 1,017 M1 tanks to the M1A2 configuration.

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32. (1) Geoff Sutton, "Comanche: A Warrior Worthy of the Name," Army, January 1994, pp. 25-29. (2) SSHR, ODCSCD, CY 93/I, p. VII-14.

33. SSHRs, ODCSCD, CY 93/I, p. VII-14; CY 93/II, p. VII-12.

34. (1) "Army Weaponry and Equipment," Army Green Book 1993-94, p. 304. (2) SSHR, ODCSCD, CY 93/I, p. VII-15.

35. SSHR, ODCSCD, CY 93/I, p. VII-15.

The M1A2 provided improvements which included a commander's independent thermal viewer, an independent commander's weapon station, position-navigation equipment, and a digital data architecture or intervehicular information system. The new systems allowed interchange of location and situation data between tanks and to digital weapons systems. They were part of the architecture scheduled to be tested at the Advanced Warfighting Demonstration in April 1994. Production numbers for the M1A2 were 120 per year with the first unit to be equipped anticipated during FY 1996.[36]

The Bradley Fighting Vehicle modernization effort proceeded apace with exclusive emphasis on upgraded capability. Upgrades included retrofit of a laser range finder, Global Positioning System units, combat identification, driver's thermal viewer, and missile countermeasure device. The M2A3 effort, which moved from program initiation to pre-Army systems acquisition review council consideration in December 1993, included the second generation Forward-Looking Infrared System and a data system compatible with the M1A2 tank and Longbow Apache helicopter.[37]

The Armored Gun System was proposed to replace the M551A1 Sheridan and provide direct fire support for light armor operational requirements. Projected capabilities included air transportability, 460-kilometer range, three levels of armor protection, integrated digital fire control system, laser range finder, and thermal sights. During 1993 the program's resources were cut, reducing procurement and forcing delay of first unit equipped to FY 1999.[38]

The Advanced Antitank Weapons System-Heavy consisted of a number of subsystems. The Line of Sight-Antitank (LOSAT) program focused on fielding a kinetic energy missile launcher on a modified Bradley Fighting Vehicle chassis. The LOSAT would operate out to the maximum range of direct-fire combat engagements and replace the current improved TOW vehicle. An "Alternate Chassis Study" was done over the course of the year, and in it, the Commander of the U.S. Army Infantry School recommended the basic Bradley chassis be modified to accommodate the modular weapon station. The modified chassis was evaluated through the Warfighting Lens methodology. Results did not support system funding or priority within the long range plan.[39] The Non-Line-of-Sight Combined Arms (NLOS-CA) system was developed to provide antiarmor capability well beyond the maximum range of tank guns or direct-fire antitank missiles. Over the course of the year, activities continued on development of accelerated acquisition, as directed by the Army acquisition executive, to reduce time and research, development, test and evaluation costs. Potential contractors set up prototype hardware and software displays at some TRADOC locations and Headquarters Department of the Army.[40]

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36. (1) "Army Weaponry and Equipment," Army Green Book 1993-94, p. 302. (2) SSHRs, ODCSCD, CY 93/I, p. VII-10; CY 93/II, p. VII-6.

37. (1) "Army Weaponry and Equipment," Army Green Book 1993-94, p. 304. (2) SSHR, ODCSCD, CY 93/II, p. VII-19.

38. (1) SSHR, ODCSCD, CY 93/II, p. VII-7. (2) Msg, Cdr 82d Abn Div to distr, 262100Z Jul 93, subj: Armored Gun System Development Review.

39. SSHRs, ODCSCD, CY 93/I, p. VII-8; CY 93/II, p. VII-4.

40. SSHRs, ODCSCD, 93/I, p. VII-9; 93/II, p. VII-5.

The Advanced Field Artillery System operational requirements document was approved by Headquarters TRADOC and Headquarters Department of the Army in October 1993. The program, in concept and definition phase, and which included the Future Armored Resupply Vehicle, would use advanced technologies to bring increased rates of fire, reduced crew size, and a fully automated ammunition supply vehicle. Affordability had become a major issue and an enhanced Paladin M109A6 155-mm. self propelled howitzer and Multiple Launch Rocket System were considered as alternatives. Fielding of the Paladin to units began in June 1993 with the 2d Battalion, 17th Field Artillery at Fort Sill, Oklahoma. Additionally, a platoon of the Paladins participated in a National Training Center rotation in March, exceeding all expectations. Fielding of the Paladin was expected to continue through FY 1998.[41]

The Army Tactical Missile System (ATACMS) was a ground-launched, conventional, surface-to-surface ballistic missile designed to be fired from the modified Multiple-Launch Rocket System launcher. In its third year of full-scale production, it was the first weapon system to be fielded in the modernization program for a suite of deep-fire weapons. Full rate production for the Block I missile continued over the year. Product improvements to the Block I were proposed as Improved ATACMS in October and included the antipersonnel, antimateriel warhead. Due to funding cuts which ended Army participation in the Tri-Service Standoff Attack Missile program, a Block II program was being initiated to integrate brilliant antiarmor submunitions into the missile.[42]

Combat Support

Proven in Operation Desert Storm, the Joint Surveillance Target Attack Radar System was a wide-area surveillance, battle management and targeting radar system. Data was transmitted over the omnidirectional surveillance and control data link to ground station modules. The ground station module was a mobile multisensor processing facility capable of receiving data and analyzing and disseminating intelligence and targeting information. The ground station module was developed in a block approach. In February 1993 a limited user test was conducted and the U.S. Army Operational Test and Evaluation Command recommended low rate initial production.[43]

In January 1993 a Joint Requirements Oversight Council requested the services relook their total unmanned aerial vehicle requirements with the aim of reducing quantities and cost. Subsequently, the Army requirement was revised and presented to the council in May. The requirement included 24 baseline short-range unmanned aerial vehicles, with a low rate initial production of seven Hunter systems approved. The Hunter was capable of staying aloft more than eight hours, with a range of 200 kilometers, providing electro-optic and infrared imagery to echelons above corps, corps, divisions, and armored cavalry regiments. Another piece of the unmanned aerial vehicle program, the very low cost hand-launched Pointer was successfully evaluated over the course of the year by III Corps to assess its usefulness to mechanized scout units. The Mounted Battle Space Battle Laboratory at Fort

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41. SSHRs, ODCSCD, CY 93/I, p. VII-18; CY 93/II, p. VII-13.

42. SSHR, ODCSCD, CY 93/II, p. VII-16.

43. (1) SSHR, ODCSCD, CY 93/I, p. VII-3. (2) "JSTARS Finishes Tests," Defense News, Feb 15-21, 1993, p. 36.

Knox assisted in the evaluation. III Corps' positive evaluation of the Pointer system initiated proposals for procurement.[44]

Combat identification received considerable attention resulting from lessons identified in Desert Storm and Somalia. Headquarters TRADOC took the lead on the subject of fratricide reporting and investigation. In addition, TRADOC actively participated in discussions with the U.S. Navy on the subject of a cooperative aircraft identification device. Representatives from the branch schools participated in work on situational awareness requirements. A battlefield combat identification system was developed using millimeter wave technology to provide positive target identification of friendly forces and maximize use of existing and projected system. The Army leadership had approved and an acquisition strategy was ongoing. Quick Fix devices included no-power battle boards, infrared lights, thermal tape, and thermal identification devices, all used successfully in Somalia.[45]

Combat Service Support

Operations in Somalia drew attention to the Army's need for and dependence upon seagoing vessels and logistics-over-the-shore equipment. Part of that equipment was modular causeway sections connected to form a floating causeway. The floating causeway would provide a road or bridge from offshore to beach, could be broken down into container size modules readily transportable, and readily set up in theater. They could also be used as dry ramps. In support of Army Strategic Mobility Program force deployment objectives, first article tests of the modular causeway system components were scheduled for September 1994 with first production delivery that December.[46]

Great strides were made in the management of the soldier as a system. A laydown of infantry, armor, and aviation combat uniforms and equipment was presented to General Franks in August 1993. A general officer panel was held in December to review acquisition strategy and funding requirements for associated issues. At the direction of the Chief of Staff of the Army a program evaluation group was established to increase soldier system visibility at Department of the Army level.[47]

Test and Evaluation

Concomitant with the internal reorganization in 1990, TRADOC's Test and Experimentation Command was transferred to merge with the U.S. Army Operational Test and Evaluation Agency to form the U.S. Army Operational Test and Evaluation Command (OPTEC). That consolidation had eliminated TRADOC's longstanding organic test and experimentation capability, a capability that the creation of the new TRADOC Battle Laboratories partially restored in 1992.

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44. (1) "Army Weaponry and Equipment," Army Green Book 1993-94, p. 274. (2) SSHR, ODCSCD, CY 93/I, p. VII-5.

45. SSHR, ODCSCD, CY 93/I, p. VIII-10.

46. SSHR, ODCSCD, CY 93/II, p. IX-6.

47. SSHR, ODCSCD, CY 93/II, p. IX-18.

On 19 July 1993, an update to the 24 October 1990 Memorandum of Understanding was signed between the U.S. Army Training and Doctrine Command and the U.S. Army Operational Test and Evaluation Command. The MOU update established basic agreement between the two commands for planning, conducting, and reporting Army operational testing and evaluation. It defined roles and responsibilities for accomplishing operational testing and evaluation of materiel systems and TRADOC products. Further, it facilitated mission accomplishment by expanding the Test and Evaluation Coordination Office (TECO) roles and co-locating TECOs with Battle Laboratories and linking with schools.[48]

48. USA Training and Doctrine Command - USA Operational Test and Evaluation Command Memorandum of Understanding on Conduct of Army Operational Test and Evaluation, 19 July 1993, Doc III/27.

Chapter IV

TRAINING AND LEADER DEVELOPMENT

Introduction

During 1993, the Army continued to consider training the cornerstone of readiness, and it remained the service's most important peacetime mission, despite major reductions to the force structure and in available resources. Uncertainty as to future threats, coupled with rapidly advancing technology, environmental concerns, and significant reductions in the defense budget, required a constant re-evaluation of training strategies and methods. Given all those factors, what was the best approach--or combination of approaches--to the training of soldiers, leaders, and units that would allow the Army to maintain a force that could respond on short notice? What should be the focus in the training of the reserve components that comprised more than half the available military manpower? Whereas doctrine guided how the Army trained to support the new National Military Strategy, training was what enabled soldiers to accomplish their prescribed mission. The challenge for TRADOC training managers and developers was to find training programs that were affordable and that would, at the same time, allow the Army to retain the level of readiness necessary to successful performance on the future battlefield, during "operations other than war," or in response to domestic emergencies. As TRADOC commander General Frederick M. Franks, Jr. put it: "We must not compromise our commitment to developing leadership, skills and talent, even as we are conditioning new methods for adapting to change."[1]

With regard to leader development, TRADOC continued to refine the many-faceted leader development programs designed to assure that the skills, knowledge, and professionalism of officers and noncommissioned officers (NCO) were built in a sequential and progressive manner. The Army's senior trainers believed that the outcome of Operations Desert Shield and Desert Storm, Provide Promise, and Restore Hope had proved that the leader development system was a success. That system rested on three "pillars": institutional training; operational assignments to units; and a self-development concept that placed responsibility on the individual soldier for a portion of his own training.

Leader Development Initiatives

The increasing importance of the development of leaders in all components of the Army (active, reserves, and Department of the Army civilians), in light of decreasing resources, required TRADOC to maximize every developmental opportunity. The leader development plan in place in 1993 was the result of a 1987 Leader Development Study conducted at the Combined Arms Center and the subsequent Leader Development Action Plan of April 1988. Resting on the doctrinal foundation of the aforementioned three pillars, leader development was described as a continuous process of education, training, experience, assessment, review, reinforcement, evaluation, and selection for the next leadership level. TRADOC was responsible for the institutional phase of leader development as officers and NCOs attended the service schools at various times during their careers. The second pillar, field assignments, provided an opportunity to apply the theoretical knowledge and skills acquired in the

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1. General Frederick M. Franks, Jr., "Where Tomorrow's Victories Begin," Army, October 1993, p. 55 (hereafter cited as Franks, Army, Oct 93).

A poignant moment from the Desert Storm deployment. PFC Carpenter, 18th Engineer Brigade, cradles his child prior to leaving for Saudi Arabia. Concern for the preparedness of families was an important part of creating an effective contingency Army.

schoolhouse. Self-development was attained through professional reading, correspondence courses, advanced civil schooling, research, and public service activities. The proponent for the Leader Assessment and Development Program (LADP) was the Center for Army Leadership (CAL) at Fort Leavenworth.

The leader development effort was guided by five Leader Development Action Plans (LDAP), one each for officers, warrant officers, noncommissioned officers, the reserve components, and civilians. TRADOC first introduced the leadership training plan in resident officer training courses during the first half of FY 1989. A review of the program indicated a need for revision. As a result, in FY 1990, a revised Leader Assessment and Development Plan was introduced in the Officer Basic Course (OBC), the Officer Advanced Course (OAC), the Combined Arms and Services Staff School (CAS^3), the Sergeants Major Academy, the First Sergeants Course, and the Advanced Noncommissioned Officer Course. Action plans for warrant officers and civilians were approved by the Army Chief of Staff in February 1992. In June 1992, the action plan for the reserve component was approved. Over time, the LADP was revised in response to problems at some of the schools and resource constraints.[2]

In June 1992, the Department of the Army Deputy Chief of Staff for Operations and Plans had signed an activation memorandum for the development of an "Army Family Team-Building Program." General Franks explained that the purpose of the program was "the development of both active and reserve component service and family members to build more self-reliant and self-sufficient families which would enhance family preparedness in the contingency Army of the future." At an initial action officer meeting in July 1992 at Hampton, Va., attendees identified the major issues the new program should address. The eight issues, which were later reduced to five, dealt with the following: a lack of spouse training at installations and of Army family training at Army school houses; the need for strong chain of command support if the program was to be a success; the need for an overall coordinator for family programs throughout the Army; the possibility that existing Army terminology, laws, regulations, and practices caused people not to accept responsibility for their own readiness. Pilot programs for command sergeant major designees and their spouses were completed by May 1992 and were very successful. Another pilot course was planned at Fort Jackson for advanced individual training (AIT) and one-station unit training (OSUT) students. As a result, General Franks requested that General Sullivan provide $200,000 for spouse travel, a request the Chief of Staff approved. TRADOC provided $65,000 for school costs. During October 1993, training support packages for the family support program were distributed to the schools. Instruction was scheduled to begin in military courses by the end of January 1994. Instruction was scheduled to begin in civilian courses in March 1994.[3]

The doctrinal support for the leader development program was contained in Leader Development Career Management Guides DA Pam 600-3, DA Pam 600-11, DA Pam 600-25, and ACTEDS (Army Civilian Education Training and Development System). The publications already existed, but underwent major revisions. Development of those guides continued in

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2. TRADOC ACH CY 92, pp. 91-92. For a detailed discussion of the establishment of the Leader Assessment and Development Program, see TRADOC ACH CY 91, pp. 129-32.

3. (1) PROFS Message, Fort Leavenworth, Center for Army Leadership, 29 Sep 92. (2)TRADOC ACH, CY 92, p. 93. (3) SSHR, ODCST, CY 93/II, p. 51.

A Command and General Staff College student using a terrain model. Professional ethics, decision-making, and technical and tactical skills were rated by students in 1993 as the most important leadership components.

1993. The three military publications featured similar purposes and formats, but each was focused on a different level. DA Pam 600-3, Commissioned Officer Development and Career Management, developed by CAL, was staffed Armywide in December 1992. At the end of FY 1993, DA Pam 600-3 awaited General Sullivan's signature. DA Pam 600-11, Warrant Officer Professional Development, was the responsibility of the Warrant Officer Career Center. The project, which began in February 1992, was scheduled for completion in mid-1994. DA Pam 600-25, U.S. Army Noncommissioned Officer Professional Development Guide, a CAL and Sergeants Major Academy project, was scheduled for staffing and publication in 1994. The civilian equivalent of the military guides, ACTEDS, was the responsibility of the U.S. Army Total Personnel Command (PERSCOM). Civilian proponents for each of ACTEDS fifty-two career fields would write the career planning documents. At the end of the year, twenty-two had been approved and fielded.[4]

In July 1993, the U.S. Army Research Institute for the Behavioral and Social Sciences published a study focused on identification of lessons learned about leadership in Operations Desert Shield and Desert Storm, which the Army could use to assess its leader development programs. In a questionnaire administered to 357 students at the Command and General Staff College (CGSC) who were veterans of the Gulf War, two questions were addressed. In a combat situation like the Gulf War, were any of the Army's nine leadership competencies--as set forth in FM 22-100--more important than the others? Was the Army's leader development program teaching the right things in the right way, or were changes needed.? The data for the study, which was sponsored by the Center for Army Leadership, was collected during the 1991-1992 Command and General Staff Officers Course and during two CAS[3] classes. The survey respondents were more than 90 percent male.[5]

Respondents to the questionnaire showed considerable agreement as to the relative importance of the competencies for their own leadership in Operations Desert Shield and Desert Storm. Competencies rated most important were professional ethics, decision-making, and technical and tactical skills. Those rated least important were teaching and counseling, the use of available systems, and supervision. The students evaluated the Army's leader development program positively and judged that the present leadership doctrine was correct as it stood. They also believed their own commanders during the Gulf War provided a high level of leadership for their subordinate officers. However, male officers rated their commanders more highly than did female officers.[6]

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4. Memorandum for TRADOC Commanders' Conference Attendees ATZL-SWC-LE, 21 Sep 93, subj: Update on Leader Development Career Management Guides, Doc IV/1.

5. The nine leadership competencies were as follows: professional ethics; decision-making; technical and tactical skills; planning; soldier-team development; communication; teaching and counseling; use of available systems; and supervision. Most of the study participants were captains. Joel M. Savell, Trueman R. Tremble, Jr., and Ross C. Teague, "Some Lessons Learned About Leadership in Operation Desert Shield/Storm," ARI Study Report 93-05, July 1993, Executive Summary, Doc IV/2.

6. Ibid. pp. 1-14. Male officers rated their commanders 8.3 on a scale of 10. Female officers rated their commanders 7.2 on the same scale.

Also during 1993, the first meeting of the TRADOC Military History Council was held. The council had been established by a memorandum of 17 August 1992, which transferred proponency for military history education from the Combined Arms Center at Fort Leavenworth back to TRADOC headquarters. The original TRADOC Regulation (TR) 350-13 of 19 January 1982, Military History Education, had vested proponency for the program in the TRADOC Chief of Staff, assisted by the Chief Historian and a Commander's Advisory Board. In 1983, proponency for MHEP was moved from Headquarters TRADOC to the commander of the Combined Arms Center (CAC), with executive agency authority vested in the Director of the Combat Studies Institute (CSI). The 1983 version of TR 350-13 set the requirement for all regular Military History Education Program (MHEP) management and classroom instruction to be performed by uniformed officers outside the command history program. However, a cadre of qualified uniformed instructors never materialized, and by 1992, all command history offices were involved in some aspect of MHEP. Also by that time, CSI staffing had been reduced and the MHEP Committee in CSI had been disestablished, despite an increasing workload.[7]

For those reasons, and others, the aforementioned TR 350-13 of August 1992 transferred MHEP proponency back to TRADOC headquarters and to the TRADOC Chief of Staff. The Chief of Staff chaired the TRADOC Military History Council, a senior-level steering committee responsible for advising the TRADOC Commanding General on military history, for making recommendations on the nature of MHEP, and for setting long-range goals. The TRADOC Chief Historian served as secretary. The Council met once a year. The MHEP Executive Committee managed the program and made recommendations to the chairman of the Council based on proposals and information gathered from MHEP coordinators, school commandants, major subordinate commands, the TRADOC Military History Workshop, and other sources inside and outside the command. The Executive Committee met at least semiannually. The first meeting of the Committee was held in February 1993, followed by a meeting in September after the Council meeting in June. At the end of the year, the latest version of TR 350-13 was being coordinated.[8]

Civilian Leader Training

As the Army drew down, the need for a high degree of competence in civilian leadership became increasingly important. The aforementioned Army Civilian Education and Training System set the standards for quality job performance and leadership from intern to senior executive service (SES) levels. As ACTEDS had evolved, the Center for Army Leadership had designed a program of courses that offered leader training at three major phases of civilian careers: intern, supervisory, and managerial. Those levels paralleled those in the officer leader development system. During 1993, development continued on a Manager Development Course, a correspondence course designed to teach skills at the GS-13 through GM-15 levels. The course was successfully field tested at nine locations, and was scheduled to

7. Position Paper, TRADOC Office of the Command Historian, 30 Jun 92.

8. TRADOC Reg 350-13, Coordinating Draft, 14 Feb 94.

begin in the second quarter of FY 1994. CAL also began development of a "Level IV" course targeted at GS-15s and newly appointed SES personnel assigned to leadership positions. A pilot course was scheduled to begin early in 1994.[9]

Another important initiative in the area of civilian training was the efforts to integrate courses in the management of civilian personnel into military courses. Such instruction for officers was incorporated into the Command and General Staff Officer Course, the Precommand Course, and was made an elective at the Army War College. For warrant officers, instruction in managing civilians was part of the Warrant Officer Staff Course and the Warrant Officer Advanced Course. Noncommissioned officers received the instruction during the Sergeants Major Course. In addition, the Supervisor Development Course served as the Army's standard training foundation for all first time military leaders of civilians.[10]

As civilians assumed more responsibilities in the sustaining base, increased attention was paid to training for those positions. During 1992, a study group examined the curriculum of thirteen schools for sustaining base programs. As a result of the curriculum review and the increased attention to sustaining base issues, then Under Secretary of the Army John W. Shannon designated TRADOC the executive agent for sustaining base training, effective February 1993, and authorized the command to pre-approve development and delivery of new sustaining base programs. Shannon also appointed the Assistant Secretary of the Army and the Department of the Army Deputy Chief of Staff for Personnel to co-chair a working group to clarify sustaining base doctrine and training responsibilities. In September 1993, the working group approved a Sustaining Base Training Management Charter and an implementation plan. The Acting Assistant Secretary of the Army (Manpower and Reserve Affairs) signed the charter on 25 October 1993, thereby activating TRADOC's executive agent role.[11]

The Army Training System in 1993 -- Statistics

The FY 1993 programmed enrollment in the Army's total training program, as reflected in the Army Training Requirements and Resources System (ATRRS) on 14 January 1994, was 374,546 students. That figure included the active and reserve components and all training centers, service schools, drill sergeants schools, and noncommissioned officer courses. The figures did not include Army students attending Air Force and Navy schools. The FY 1992 basic combat training, one-station unit training, and advanced individual training input into the training centers, and the number of enrollees and graduates of the service schools are at Appendices G and H, respectively.[12]

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9. SSHR, ODCST, CY 93/II, p. 49. For a detailed discussion of the civilian personnel management system see TRADOC ACH, CY 91, pp. 132-33 and TRADOC ACH, CY 92, pp. 93-95.

10. SSHR, ODCST, CY 93/II, p. 49

11. (1) TRADOC ACH, CY 92, p. 94. (2) SSHR, ODCST, CY 93/II, p. 49.

12. SSHR, ODCST, CY 93/II, p. 29.

Initial Entry Training

The focus of initial entry training was to provide the technical and tactical skills and knowledge necessary for a soldier to become an effective and contributing member of a unit and to master more complex unit training and exercises. The initial entry training program that was designed to establish that foundation had two components. The new inductee was first required to complete basic combat training (BCT) which was the same for all soldiers. BCT was conducted at four training centers in 1993. Following BCT, the soldier then reported for advanced individual training in which he was trained in the tasks required for his military occupational specialty (MOS). That training was provided in two ways: the soldier might take AIT at a different location from BCT, or he might remain at his original location for AIT. The latter plan was referred to as "one-station unit training," or OSUT. The following table reflects the BCT and OSUT structure for FY 1993 and that projected for FY 1994 and FY 1995:[13]

Installation	Number of Companies		
BCT:	FY 93	FY 94	FY 95
Fort Jackson	44	38	34
Fort Knox	10	10	10
Fort Leonard Wood	25	20	20
Fort Sill	10	10	10
Total	89	78	74
OSUT:			
Fort Benning	30	28	22
Fort Knox	11	15	13
Fort Leonard Wood	10	5	6
Fort McClellan	13	12	12
Fort Sill	6	6	9
Total	70	66	62

In November 1992, General Franks directed that an assessment team be formed to conduct a complete review of basic combat training and the BCT core curriculum of one-station unit training. The team, which was led by Brig. Gen. Marvin E. Mitchiner, Deputy Commanding General of the U.S. Army Training Center and Fort Jackson, included representatives concerned with BCT at Forts Benning, Sill, McClellan, Knox, Jackson, and Leonard Wood. TRADOC headquarters was represented by team members from the Office of the Deputy Chief of Staff for Training, the TRADOC Surgeon, and the TRADOC Nurse. General Franks instructed the team to determine "if and how we should adjust the way we meet the Army's BCT requirements." Of particular concern was a widespread feeling in the field that there were too many tasks to do in the time available. During January and February 1993, the assessment team visited all six sites where BCT was held. They also conducted inter-

13. SSHR, ODCST, CY 93/II, p. 29.

views at every level from drill sergeant to brigade commander. Questionnaires and video teleconferences provided additional information. In late February the team held a review and analysis session at Fort Jackson to prepare to brief the results of the study to the TRADOC Commanders' Conference at Fort Gordon in March.[14]

The assessment team reported that the Initial Entry Training Strategy and its accompanying action plan--sent to the field in 1990--was being implemented by both the active and reserve components, as constrained resources allowed. The program of instruction (POI) appeared to be well accepted, but the volume of tasks versus time available was causing "considerable concern." The group recommended a centralized review of the POI. The team found the quality of drill sergeants to be excellent but recommended a review of the selection process. The reserve components, the team reported, were "generally perceived as highly motivated and willing." Most reserve units, however, would require at least one cycle of training before they would be ready to perform their mobilization missions. Good medical care, the team found, was available at all six BCT sites, but often it was not readily accessible. The lack of physical fitness among inductees continued to cause concern. In general, the performance of reception battalions across TRADOC was excellent.[15]

Work continued in the Office of the Deputy Chief of Staff for Training in 1993 on vocational-technical (VOTEC) pilot studies. In order to reduce training costs, the use of civilian institutions as an alternative to training nonmilitary portions of the AIT curriculum was being investigated. The VOTEC model under study involved recruiting technically trained high school and post-secondary students, administering an MOS qualification test to determine their technical competence, and enrolling those who passed into a shorter AIT course. The first study, which was divided into three phases, employed the military occupational specialty 63B10, light wheel vehicle mechanic. In phase one, the content of the 63B10 course was compared to the curriculum in high school and post-secondary school VOTEC institutions. The conclusion was that VOTEC schools could teach 98 percent of the 63B10 portion of AIT at considerably less cost.[16]

In phase two of the study, researchers compared test performances of MOS 63B10 AIT students with those of their counterparts in high schools and post-secondary schools in Pennsylvania. The VOTEC students scored as high as the AIT trainees in the five technical areas tested. In fact, post-secondary school students scored significantly higher. Phase three of the study demonstrated that soldiers who passed an MOS qualification test and attended a four-week 63B AIT course, performed as well on AIT tests and physical training tests, and had equally as good course completion rates as 63B10 soldiers trained in the conventional thirteen-week course. After assignment to units, the VOTEC group did as well as, or better than, conventionally-trained 63B10s in hands-on tests of common tasks and technical tasks. The TRADOC Analysis Command at White Sands Missile Range projected a cost savings mainly in the reserve components due to reduced salaries and benefits because soldiers would spend less time on active duty. Tangible benefits for the active component

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14. Briefing slides, TRADOC Commanders' Conference, Fort Gordon, Ga., 17 Mar 93, Doc IV/3.

15. Ibid. For a detailed discussion of the development of the Initial Entry Training Strategy--beginning in 1987--see TRADOC ACH, CY 90, pp. 108-09.

16. SSHR, ODCST, CY 93/I, p. 13.

include such economic benefits as a reduced number of instructors and the capability of moving soldiers to their units more quickly. The major drawback to the projected VOTEC program was the difficulty of recruiting VOTEC students.[17]

During 1993, the U.S. Army Transportation Center at Fort Eustis requested support from FORSCOM headquarters to establish a "Regional Training Site-Transportation" pilot program at Forts Bragg, Hood, and Stewart to test the Army Commercial Driver's License (ACDL) program. The ACDL program was an initiative to centrally train Army drivers by enforcing strict knowledge and performance standards. ACDL was currently being used only to train and test motor transport operators and petroleum vehicle operators during AIT at Fort Leonard Wood. It was expected that the expanded ACDL program would reach those drivers who were not trained to ACDL standards.[18]

Noncommissioned Officer Education System

The Noncommissioned Officer Education System complied with leader development doctrine in that it provided sequential and progressive training through four levels of schooling. The Primary Leadership Development Course (PLDC) was a four-week non-MOS specific course that provided instruction in basic soldier skills. At the next level, the Basic Noncommissioned Officer Course (BNCOC) prepared NCOs for duties as staff sergeants. The Advanced Noncommissioned Officer Course (ANCOC) prepared staff sergeants and sergeants first class for duties as platoon sergeants or equivalent positions. ANCOC instruction was focused at the unit level. The Sergeants Major Course prepared selected soldiers for Sergeant Major and Command Sergeant Major positions. On 1 October 1993, the process of tying successful completion of each of the aforementioned courses to promotion was completed when ANCOC became mandatory for promotion to sergeant first class and the Sergeants Major Course became mandatory for promotion to sergeant major.[19]

Early in the year, the NCOES--as with all other facets of Army training--was forced to make training at the PLDC and BNCOC levels more difficult to obtain. On 23 December 1992, the Department of the Army announced that the Congress had mandated an $80 million reduction to training load accounts. After meeting with a number of his top advisors, the Army Chief of Staff approved the absorption of the $80 million and the reduction of training loads to comply with Congressional intent in order to avoid similar reductions in the future. As a result, only promotable sergeants would be sent to BNCOC in order to reduce attendance by 11 percent. Likewise, only promotable specialist 4s could attend PLDC. That action would produce a 15 percent reduction in attendance.[20]

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17. (1) TRADOC ACH, CY 92, p. 97. (2) SSHR, ODCST, CY 93/I, p. 13-14; CY 93/II, pp. 7-8.

18. SSHR, OSCDT, CY 93/II, p. 54.

19. TRADOC ACH, CY 92, p. 98.

20. (1) Msg, HQDA to distr, 071452Z Jan 93, subj: Congressional Budget Reductions to Training Load Accounts, Doc IV/4. (2) Msg, Cdr FORSCOM to distr, 011955 Jan 93, subj: Congressional Budget Reduction to Training Load Accounts, Doc IV/5.

An infantry grenadier (specialist 4) on patrol during an exercise. The challenge to the Noncommissioned Officer Education System during 1993 was formidable. Absorbtion of an $80 million funding reduction reduced training opportunities. Only promotable specialist 4s could attend the Primary Leadership Development Course.

In February 1990, General Carl E. Vuono, then Chief of Staff of the Army had directed TRADOC to develop a test that would motivate NCO self-development in grades sergeant through sergeant first class. The new test would replace the old Skill Qualification Test (SQT) that dated back to the days of the DePuy-Gorman training reforms. In July 1990, Vuono approved elimination of the SQT and adoption of the Self Development Test (SDT). TRADOC planners originally had planned to field the SDT in the active component in 1990 and in the reserve component the following year. Those dates were pushed back to FY 1992 and FY 1993, respectively, to allow units to return to a more normal status after Operation Desert Storm. During FY 1992, 125,000 soldiers took the test to validate the concept of having soldiers take some of the responsibility for their own career development. On 1 October 1992, reserve component NCOs began taking the test. They had a 12-month period in which to take the SDT, as compared to the 3-month period allowed the Active Army. The reserves also took the test only biennially, while active duty soldiers took it every year.[21]

For two years, TRADOC trainers fine-tuned the test based on scores and comments from the field. On 11 June 1993, the Army Chief of Staff approved the linkage of SDT with the Enlisted Personnel Management System (EPMS). That is, SDT scores would in the future be used to make important decisions about enlisted promotion and school selection. The new personnel management system was scheduled to go into effect for the active component in FY 1994 and for the reserves in FY 1995. Linking SDT with the EPMS would provide the Army an official means of identifying and rewarding NCOs with the initiative to pursue self-development.[22]

There were major differences between the new SDT and its predecessor, the SQT. The SQT had been designed primarily to support individual training in units and to provide training managers with information about soldiers' performance of MOS tasks. The SDT placed the responsibility for self development squarely on the soldier himself and linked advancement more directly with his own efforts. General Sullivan's letter to the field announcing the implementation of the program underscored the individual responsibility SDT placed on the NCO: "Leaders mentor and support NCOs in the SDT efforts, but the SDT must remain a measure of individual NCO self-development. SDT is not a unit training responsibility." Each noncommissioned officer rank in an MOS had a separate SDT. The multiple-choice test was divided into three sections. The leadership and training management sections each had 20 questions, while the MOS portion had sixty questions. The test took two hours to complete.[23]

General Sullivan's second major decision in 1993 with regard to NCO training had to do with the Sergeants Major Course (SMC). On 1 March he approved the expansion of the SMC from six to nine months. The lengthening of the SMC represented a significant change in the way the Army intended to train and educate future staff and command sergeants

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21.TRADOC ACH, CY 92, p. 99.

22. (1) SSHR, CY 93/I, p. 2. (2) Michelle Hirsch, "SDT: The Key to Your Career," Army Trainer, Fall 1993, p. 37.

23. (1) Jim Caldwell, "Soldiers Start SDT in October," Casemate, 10 Sep 93, p. 7. (2) Hirsch, p. 37-38. (3) Msg, Cdr ATSC to distr, 311331Z Aug 93, subj: Self-Development Test (SDT) Implementation, Doc IV/6.

major. As a result of that decision, the resident course would be conducted once instead of twice a year. That change came as a result of General Sullivan's concern that the Army was training too many soldiers in the SMC who never became sergeants major. In the future, the Army would apply what Sullivan called the "select for promotion, train, utilize" principle in scheduling students in the SMC. The non-resident course would remain a two-year program, but the resident phase would be extended from two to three weeks, and the additional week used for a command post exercise. In the revised course, students would be expected to master the leadership and warfighting skills needed by staff and command sergeants major using a "division activation model" which would take them through the entire nine-month program. Students would activate, train, deploy, fight, sustain, redeploy, and reconstitute a round-up division. Originally, the revamped SMC was scheduled to begin in August 1996. However, at General Sullivan's direction, the Sergeants Major Academy planned to implement the nine-month Sergeants Major Course in August 1995.[24]

Warrant Officer Training and Leader Development

Since World War II, the rapid growth in technology had increased the demand for specialists, a situation that launched new careers for warrant officers in many fields. The Army warrant officers' role had varied over time, but the basic requirements remained the same. Warrant officers were highly skilled officers that served in positions ranging from systems operations and maintenance to management and medical care. Warrant officers remained in their chosen fields for repetitive assignments.[25]

During 1984-1985, the Army had conducted the Total Warrant Officer Study, a comprehensive review of the warrant officer program. The purpose of the study was to determine whether accessions, placement, and retention could be improved to meet future requirements. From that study, a new definition of a warrant officer emerged:

> An officer appointed by warrant by the Secretary of the Army based on a sound level of technical and tactical competence. The warrant officer is the highly specialized expert and trainer who, by gaining progressive levels of expertise and leadership, operates, maintains, administers and manages the Army's equipment, support activities or technical systems for an entire career.

The emphasis on tactical knowledge, progressive levels of expertise, and leadership were new requirements for Army warrant officers.[26]

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24. (1) Jack D'Amato, "SGM Course Extends to Nine Months," The Monitor, 25 Mar 93, Fort Bliss, Tex., p. 1. (2) Msg, HQDA to distr, 301759Z Apr 93, subj: Nine Month Sergeants Major Course, Doc IV/7. In the force structure, as of the end of 1993, the Army had in addition to its Active Army units, "round-out" and "round-up" brigades in the Army National Guard. Five Army National Guard brigades and one Army Reserve brigade were assigned to active Army divisions. Upon mobilization, the round-out brigades would comprise the third maneuver brigade of their respective divisions. Two round-up brigades were to be utilized as reinforcements for their respective divisions.

25. "Army Updates Warrant Officer Management," Army Flier, 29 Jan 93, Fort Rucker, Ala., p. 8A.

26. Ibid.

Prior to 1987, Army warrant officer requirements were defined only by occupational specialty without regard to skill or experience levels. As a result, requirements varied by levels of skill within each specialty. The Total Warrant Officer study identified three distinct levels of skill and experience within most specialties. A revised Warrant Officer Training System that was fully implemented in late 1988, provided a three-level progressive and sequential certification for warrant officers. Training and certification occurred at entry, senior, and master levels. Warrant officers were assigned to positions commensurate with their rank and military education level.[27]

During 1993, Congress passed the Warrant Officer Management Act, which made major changes in the warrant officer system. Before those changes occurred, warrant officer management took place through a mixture of programs and "quick fix" policies that created perceptions of career uncertainty among the warrant officer corps. For example, some soldiers entered the program with no more than a year's prior service, while others entered with as much as 15 years. Thus, some soldiers had too little time remaining to compete for promotion to chief warrant officer 4. To help remedy the situation, a new personnel management system was created. The system consisted of personnel policy initiatives as well as legislative changes needed to align the system with the one which governed commissioned officers under the Defense Officer Personnel Management Act.[28]

The new system focused on moving soldiers into programs earlier, training and employing them efficiently, and retaining them longer. The two elements behind the new system were the Warrant Officer Management Act and the Warrant Officer Leader Development Action Plan. In the late 1980s, the Army initiated the Defense Department legislative proposal to provide the service secretaries with the management tools necessary to better manage their warrant officers. In June 1989, defense officials submitted a draft of the Warrant Officer Management Act to Congress. At that time the many unresolved issues and questions posed by the House Armed Services Committee delayed action on the bill. The bill was reintroduced in January 1991 and became law in the National Defense Authorization Act of FY 1992-93. The new law established a single promotion system in place of the dual one for temporary and permanent positions. The law also overturned the practice of counting all years of service toward mandatory retirement at the thirty-year mark. In the future retirement would be based on the years of warrant officer service only. In addition, the law established a new grade of Chief Warrant Officer 5.[29]

Officer Training and Leader Development

The officer training system in place in 1993 was progressive and sequential, and designed to prepare officers for the next level of responsibility. It was that system on which the changes in the Noncommissioned Officer Education System and the Warrant Officer Education System were based. Institutional training for officers immediately after commissioning began with the Officer Basic Course (OBC) which prepared lieutenants for their first

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27. TRADOC ACH, CY 92, p. 100.

28. "Army Updates," Army Flier, 29 Jan 93.

29. Ibid. For a discussion of the Warrant Officer Leader Development Action Plan see TRADOC ACH, CY 92, pp. 100-01.

duty assignment at platoon or section level. Next, the Officer Advanced Course (OAC) was branch specific, and the focus was on training in the skills necessary to command and train a company and serve on a battalion or brigade staff. The Combined Arms and Services Staff School (CAS^3) followed OAC and was a two-phased training experience that prepared captains to perform staff duties. The Army required attendance at CAS^3 as a prerequisite for attending any staff college course.

The next level of instruction for officers was the Command and General Staff Officers' Course (CGSOC) conducted at Fort Leavenworth, Kan. The CGSOC prepared field grade officers to serve as general staff officers and field grade commanders. Instruction at the Command and General Staff College (CGSC) focused on the operational level of warfighting and on combined and joint operations. For selected graduates, the School of Advanced Military Studies (SAMS), also at Fort Leavenworth, provided instruction in operational art and the application of Army doctrine. The course of instruction was designed to bridge the gap between the tactical and operational perspective of the CGSOC and the strategic focus of the Army's capstone training experience at the Army War College, located at Carlisle Barracks, Pa. There, officers were trained for critical positions in the Army, the Department of Defense, and other agencies concerned with national security.

At the heart of the leader development system for officers was the three-level Military Qualification System (MQS). The MQS program used manuals as a tool to support officer training and leader development. Each set of MQSs was divided into a military task component and a professional military education component. The former sought to teach the common skills and knowledge required at a particular grade level, while the latter focused on providing a foundation for future development. MQS I for precommissioning training was fielded in 1984. MQS II, for lieutenants and captains had begun in 1991. The MQS III Leader Development Manual for majors and lieutenant colonels was printed and distributed in August 1993.[30]

One of the major recommendations of the aforementioned Officer Leader Development Action Plan had been that the Army make a firm commitment to the refinement and continued development of the MQS system. Specifically, the plan's authors believed, MSQ should be tied more closely to the aforementioned three pillars of leader development: institutional training; unit training; and self-development. Accordingly, on 18 June 1993, the Chief of Staff of the Army directed the Center for Army Leadership (CAL) to conduct a "holistic and synergistic" review of the MQS program. On 8 September 1993, CAL presented its preliminary findings to General Sullivan. Those findings included a macro and micro look at MQS, possible courses of action, and an action plan to continue the study.

The CAL study group was generally somewhat critical of the MQS program. MQS I, they termed successful, but the program could be improved. For example, due to knowledge and skill decay, some branch commandants felt they had to reteach MQS I level skills in OBC before moving on to MQS II. The study group found more controversy surrounding MQS II. In the self-development pillar MQS II had a marketing and manual distribution problem. With regard to institutional training, the MQS II common core was a good concept that needed revision, especially in marketing, manual distribution, and the linkage of MQS to OBC and OAC programs of instruction. The connection of operational assignments to MQS II was largely misunderstood. The study group's general conclusion was that the leader

30. (1) TRADOC ACH, CY 92, p. 103. (2) SSHR, ODCST, CY 93/II, p. 194.

development needs of the Army and the intent and purpose of MQS II needed to be realigned. A marketing plan was especially needed to convince instructors in the field that MQS was a training resource, not a millstone. As for MQS III, strictly a self-development tool for majors and lieutenant colonels, it was too new to evaluate. The study team also examined MQS products such as manuals and training support packages and compared them to Army Training and Evaluation Program (ARTEP) mission training plans, leader doctrinal literature, and school POIs. Their conclusion was that there was too much redundancy, and a lack of synchronization, resources for development, and standardization, among other issues. General Sullivan directed CAL to continue and to expand the reexamination of the MQS program.[31]

After the briefing to the Chief of Staff, CAL continued to conduct surveys, make site visits, and conduct interviews in preparation for an MQS conference that would be the keystone of the "relook" efforts. The conference was held at Hampton, Va. on 1-5 November 1993. Participants examined the Army's officer leader development needs; attempted to define the role of MQS in meeting those needs; and looked at possible systems that might serve that purpose and the resources required to support such a system.[32]

In March 1993, the TRADOC commander decided to review CAS^3 with the intention of eliminating duplication between it and OAC and the CGSOC. The Command and General Staff College studied what progressive and sequential skills, knowledge, and behaviors (SKB) were required in CAS^3 that were not taught in OAC or CGSOC. As of May 1993, curriculum developers at CGSC had completed writing the SKBs for a new course. However, work had stopped because of a lack of qualified staff members to teach the current course and write a new one. Plans were to rewrite the course to keep it up to date doctrinally, fit the required SKBs, and remove duplication of instruction. It was expected that the length of the course would be somewhat reduced. Because of the delay, General Sullivan delayed a scheduled meeting of the Leader Development Decision Network indefinitely. His intent was to let the end state in strength and structure become more clear before trying to make decisions about the future.[33]

One of the most important efforts for the entire Officer Education System during the year was the distribution of the new FM 100-5 and the incorporation of the teaching of its doctrine in the various POIs. The major principles and changes were discussed in classes with an emphasis on combat functions and force projection operations. Testing of knowledge of FM 100-5 was included in the MQS II tests. Operations other than war were addressed specifically, emphasizing that various unit non-MOS missions were now possible.

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31. Memo for TRADOC Commander' Conference Attendees ATZL-SWC-LE, 21 Sep 93, subj: The Holistic and Synergistic Review of Military Qualification Standards (MQS), Doc IV/8.

32. Ibid.

33. PROFS Note, Ft. Leavenworth, Leader Development Update Bulletin Board, 1 Apr 93, subj: Decision to Review CAS^3.

Even before the release of FM 100-5, training developers at the U.S. Army Training Support Center at Fort Eustis were developing a computer disc, read only memory (CD-ROM) version for distribution to the field.[34]

Reserve Component Training

The Training Environment

The combination of factors which together ultimately described the environment within which Army National Guard (ARNG) and United States Army Reserve (USAR) units trained was complex and challenging. On the surface, the nature of the training challenge appeared to parallel that of the Active Army, albeit under far more time-limited conditions. Just beneath the outer layer of apparent commonality, however, lay a host of factors which affected the nature of planning, dictated the methods of managing and evaluating, and prescribed the limits within which training was and could be executed. Almost everything about the reserve component training environment was at least somewhat different from that of the active component. While the similarities between those two parts of the total force were important, it was the differences, and their ramifications which were critical to optimizing training. Overshadowing all other factors was that of time. Most reserve component units were allocated a total of only thirty-nine days annually for inactive duty and active duty training. In addition to time constraints, the reserve component force was widely dispersed. At the higher levels of command, few headquarters had all of their subordinate units in the same state. Further, the reserve components suffered from severe turnover of personnel. Many RC units had a turnover rate, at E5 and below, of up to 50 percent per annum. Also, the chain of command for most RC units was less uniform than that of the Active Army, and they reponded to more of its elements.

Given those differences, as the U.S. Army faced a future with a much smaller force and an uncertain threat, the meaning of the term "Total Army" took on greater significance. In a force projection army, how and for what should the Army train the reserve components? Increasingly, a small active duty force would be augmented with reserve component forces. In the event of full mobilization, the U.S. Army Reserve, the Army National Guard, and the Individual Ready Reserve would make up 70 percent of the Army's deploying forces. The Army was acutely aware that training the reserve components in a premobilization environment was a true challenge. That situation was further exacerbated by force structure changes and a shrinking defense budget. During 1993, in an effort to better integrate the two components and to standardize training, TRADOC continued some ongoing programs and began some new ones.

In 1989, the Army had formalized a comprehensive Reserve Component Training Strategy, a plan to address RC training readiness issues. To implement the training strategy, the Army published a Reserve Component Training Development Action Plan (RC-TDAP) that focused on thirty-nine issues that affected the conduct of realistic and effective training in the reserve components. On 17 June 1992, General Sullivan approved a Reserve Component Leader Development Action Plan (RC-LDAP) that took its place alongside the RC-TDAP.

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34. (1) Fact Sheet ATSA-TAC, ADA School, 15 Sep 93, subj: Integration of FM 100-5 into OES. (2) SSHR, ODCST, CY 93/I, p. 83. The integration of FM 100-5 into training is discussed at greater length on pp. 38-40.

In February 1993, the RC-LDAP was incorporated in the action plan. The LDAP took the same form as all the other leader development plans in that it rested on the three pillars of institutional training, operational assignments, and self-development.[35]

Future Army Schools Twenty-one

Historically, the U.S. Army had experienced difficulty addressing the gap between reserve unit capabilities and mobilization requirements. Most reserve units, with so little time for training, tended to focus on collective training to the detriment of individual training. To address those problems, in April 1992, General Sullivan had established at Fort Monroe what he termed the Future Army Schools Twenty-one (FAST) task force. TRADOC led the small group of professionals that made up the task force, with the support of FORSCOM, the National Guard Bureau, and the Office of the Chief, Army Reserve. FAST's mission was to "establish an effective and efficient Total Army School System (TASS) of fully accredited and integrated AC/ARNG/USAR schools that provide standard individual training and education for the Total Army." In other words, FAST was to find a way to combine the currently separate Army school systems into a coalition of Army schools that would provide all soldiers with quality training taught to a single standard. FAST would look at the Army's investment in its three school systems, identify resources and potential cost savings, and realign and accredit the school system. The task force envisioned a regionally consolidated system built from the assets of the RC training divisions and the RC training institutions.[36]

Task Force FAST focused new attention on matters such as accreditation, instructor certification, evaluator qualifications, and higher standards for exportable training materials. Accreditation teams would be made up of both AC and RC representatives. TRADOC would be responsible for the certification of instructors. By the close of 1992, FAST had moved from a concept to a prototype program.[37]

During 1993, the FAST Task Force continued to work to solve the many issues that consolidation of the active and reserve component schools generated. One problem from the beginning had been the lack of a joint active and reserve component Structure Manning Decision Review (SMDR) process. The solution was to have all components use the Army Training Requirements and Resources System (ATRRS). It was hoped that by the end of FY 1994 all students would be accounted for by the ATRRS. Another issue was accountability for real property. As schools were consolidated, realigned, or closed, there had to be a centralized system to account for desks, computers, training aids, etc. so that funds would not be used to buy what was not needed. Further, if a single consolidated Army school system was to be a reality, strong resistance within the active component to attending reserve component schools had to be overcome.[38]

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35. (1) TRADOC ACH, CY 92, p. 104. (2) PROFS msg, reserves bulletin board, Fort Leavenworth, Kan. 22 Jun 93, subj: RC LDAP Issues G-1 thru G-3.

36. (1) TRADOC ACH, CY 92, p. 105. (2) SSHR, ODCST, CY 93/II, Annex A to report of Quality Assurance Directorate, p. 3 [hereafter cited as Annex A].

37. TRADOC ACH, CY 92, pp. 106-07.

38. PROFS msg, CPG, 23 Jun 93, subj: FAST Briefing to CG.

During 1993, the FAST Task Force efforts were integrated with a similar Department of the Army study called the Total Army Training Structure (TATS) to produce the Total Army School System (TASS). A major TATS initiative was the aforementioned effort to merge the former RC Training Divisions and the former RC training institutions to form new training divisions. On 1 October 1993, Task Force FAST officially merged with the Quality Assurance Directorate of the Office of the Deputy Chief of Staff for Training to form a new organization known as the Total Army School System Coordinating Activity, or TASSCA.[39] TASSCA continued the FAST mission to establish a school system that would integrate the schools of all three Army components and served as the TRADOC executive agent for the FAST and TATS projects. On 29 September 1993, Task Force FAST briefed General Sullivan, who expressed his satisfaction with the FAST initiatives. In a message concerning the first FAST general officer steering committee, held on 20 November 1993, Sullivan tried to put to rest at least one of the concerns many had about such an ambitious project to consolidate all Army schools:

> My expectation is that, ultimately, the component of the school and/or instructor will be transparent to the student. Additionally, I believe that we are making leader development more accessible and less expensive and that we are making important strides in the integration of America's Army.[40]

Early in 1993, the time frame for implementation of the TASS was moved forward from FY 1994 to FY 1995 or 1996. Meanwhile, ahead for FY 1994 was the establishment of a "prototype" training region in the southeast. In the states of Florida, Georgia, North Carolina, and South Carolina, "colleges" would be established for the integrated training of active and reserve component soldiers. Plans were to establish colleges of leadership and officer development by 1 January 1994. By March the goal was to have established colleges of combat arms and health services. Finally, by May 1994, the task force hoped to have colleges of combat support and combat service support on line.[41]

Overseas Deployment Training

In addition to new initiatives like FAST, reserve component training included a number of long-standing and proven programs. One such program was the Overseas Deployment Training (ODT) program, designed specifically for RC units to receive realistic training in support of U.S. military commands around the world. The deploying RC units had an opportunity to become familiar with the terrain and political environment in potential wartime theaters, while contributing to peacetime U.S. forward presence. Reserve component units and soldiers had opportunities to receive training on mobilization, overseas deployment, and their wartime functions. After Operation Desert Storm, many RC commanders remarked

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39. The actual merger took place on 15 May 93, but did not become official until 1 October. SSHR, ODCST, CY 93/I, p. 3.

40. SSHR, ODCST, CY 93/II, p. 86.

41. Briefing slides, FAST briefing to CSA, 29 Sep 93, subj: Future Army Schools Twenty-one, Doc IV/9.

that ODT was the best preparation they had had for actual deployment. The gaining Active Army units benefitted from the experience of receiving and integrating RC units into their training programs.[42]

During FY 1993, approximately 40,000 soldiers participated in ODT in more than 50 countries. Many of the units took part in major JCS exercises, while others --especially medical and engineer units--performed missions that aided the citizens of their country of deployment. A major new ODT undertaking was support missions to assist with the withdrawal of AC units from Europe. The Army's goal was to program early deploying units (round-out and round-up units) for ODT a minimum of once every three years, and later deploying units once every five years.[43]

Brigade Command and Battle Staff Training Program

The mission of the Brigade Command and Battle Staff Training Program (BCBST) was to conduct realistic training for reserve component brigade and battalion commanders and their battle staffs.[44] RC ground combat maneuver brigades were the target audiences for the program. The plan was for the round-out and round-up RC brigades to participate in BCBST annually except in a year in which they were scheduled for an NTC rotation. Divisional and separate brigades and armored cavalry regiments participated every third year, the year before their parent headquarters took part in a Battle Command Training Program (BCTP) exercise. The RC program was divided into two parts. First, the commander and his staff attended a five-day seminar at the Army National Guard Leader Development Center at Fort Leavenworth. Next, three to five months following the seminar, they held a "MUTA-5" battle command post exercise at or near home station.[45] During the seminar, students produced the brigade and battalion operations plans they would use in the command post exercise (CPX). The team that led the seminar was authorized 26 Army and 1 Air Force officers, not all of whom had reported by the end of 1993. The first seminar was held in September 1993 with the 256th Infantry Brigade of the Louisiana National Guard, the

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42. John W. Shannon and General Gordon R. Sullivan, "Strategic Force--Decisive Victory: A Statement on the Posture of the United States Army, Fiscal Year 1994," March 1993, pp. 37-38.

43. Ibid.,37-38, 45. For an explanation of the round-out and round-up brigades, see note #25.

44. BCBST was the reserve component counterpart to the Battle Command Training Program (BCTP), one of the Army's Combat Training Centers. BCTP is discussed in Chapter VI.

45. Inactive duty for training time was allocated based on discrete periods called unit training assemblies (UTAs). Each UTA had to be at least four hours long. The typical unit was allocated 48 UTAs a year (or 24 8-hour days). When two UTAs were combined into a continuous training period, the result was called a multiple unit training assembly (MUTA). A MUTA-5 therefore was a continuous block of five UTAs, or at least 20 hours. U.S. Army Training Board, "Training and Organization of the US Army Reserve Components," 1988-1989, p. 1.

round-out brigade for the 2nd Armored Division. The brigade held the CPX at Fort Polk, La. in December. Meanwhile the 3rd brigade, 29th Infantry Division had completed the seminar.[46]

CAS^3 for the Reserve Components

As 1993 drew to a close, there was profound concern among both active and reserve senior leaders about the poor attendance of RC captains at the Combined Arms and Services Staff School (CAS^3). Completion of CAS^3 had been required for all active duty captains since 1983. In October 1994, that requirement would also apply to the Army's reserve component officer corps. CAS^3 for the RC was taught only by the Reserve Forces Schools. In 1993, enrollment in the program was lagging far behind expectations. With few captains meeting the new educational requirement, it was very likely that in the future a large number of RC captains would be ineligible for promotion to major and face the termination of their Army careers. That situation was sure to affect readiness and the availability of officers.[47]

Representative of the problem was the situation with the 2079th Reserve Forces School in Richmond, Va. The school served U.S. Army Reserve and National Guard units throughout Virginia, units which had a total of more than 850 captains. As of mid-1993, fewer than 100 of the 850 had completed CAS^3. Another 325 would be eligible for promotion prior to 1 October 1994, and therefore would not be required to meet the new requirement. That left approximately 425 captains currently in units who would have to complete CAS^3 to be promoted to major. The course took approximately fifteen months to complete. In 1992, only 25 captains completed the course with the 2079th, and in 1993 only 25 were enrolled. The course would be conducted only once more before 1 October 1994. For the entire USAR and ARNG, it had been predicted in 1991 that enrollment in the classroom portion of CAS^3 by training year 1993 would be about 3,600. When training year 1993 began, enrollment was expected at only 1,600.[48]

The low level of enrollment appeared to be the result of a number of factors. Lack of communication between the School of Corresponding Studies at Fort Leavenworth--which administered RC CAS^3, the Reserve Forces chain of command, and the potential students, likely played a role. In addition, a large number of captains had not completed the Officer Advanced Course (OAC), a prerequisite for enrollment in RC CAS^3. That situation seemed to be due to a shortage of seats in the final two-week active duty phase of OAC. At least one knowledgeable student of the RC CAS^3 problem believed that another important factor was that many battalion and brigade commanders had not actively promoted the program to their captains. Also contributing to the inertia was a widespread misconception that RC CAS^3

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46. Memo for TRADOC Commanders' Conference Attendees, ATZL-CT, 22 Sep 93, subj: Brigade Command and Battle Staff Training Program, Doc IV/10.

47. Col. Joseph P. Moore, USAR, "Reserve Component CAS^3: A Call for Action," Military Review, May 1993, p. 28. For a detailed description of CAS^3, see this article and TRADOC ACH, CY 88, pp. 125-26. The course trains senior company grade officers to be effective staff officers at battalion, brigade, and division levels.

48. Ibid.

constituted an additional educational burden, despite the fact that both OAC and CGSOC had been shortened to accommodate the insertion of the course. Lastly, some captains were unable to take an additional two weeks of leave to complete the active duty segment of the course. Unless their commanders would allow them to substitute attendance at CAS[3] for two weeks of active duty training, they were unable to meet the educational requirement. As 1 October 1994 drew closer, RC and AC leaders carefully watched the situation with RC CAS[3].[49]

Special Training Programs

Security Assistance Training

The concept and execution of security assistance to friendly nations began in 1947 with the Truman Doctrine, which was designed to support free nations in their struggles to resist takeover by other powers. Two years later, Congress passed the Military Assistance Program, based on grants to other nations, and the Foreign Military Sales (FMS) program which made U.S. weapons and military equipment available for sale to friendly powers. At that time, the United States began training foreign military personnel, mostly from European nations struggling to recover from World War II, on the equipment provided by the U.S. As European nations recovered, the focus of security assistance shifted toward developing countries in the Middle East, Latin America, and the Pacific. In 1976, the International Military Education and Training (IMET) program was established to provide via grants, professional, leadership, and management training for international military students (IMS). In most cases, those students trained with U.S. students in the United States. The one exception was the School of the Americas at Fort Benning, Ga., which conducted instruction in Spanish for Latin American students. Organizationally, TRADOC was the executive agent for Army security assistance training, while the Security Assistance Training Field Activity (SATFA) located in Hampton, Va. was responsible for managing and administering the program. In FY 1993, more than 9,000 students from 128 countries participated in U.S. Army training.[50]

In September 1993, Congress dealt a blow to the Security Assistance Training Program (SATP) when it cut the IMET appropriation by 50 percent for FY 1994. Total IMET funds for all the services combined were $21.25 million. Since the reduction in funding had not been expected, many countries had to make quick changes in approved programs, while other received no funds at all. The large budget cut caused uncertainty and cancellations in programming, with the full impact to the security assistance program not fully apparent at the end of the year. The School of the Americas predicted a drop in enrollment from approximately 1,400 to 700 in FY 1994.[51]

Meanwhile, the SATP experienced other programming difficulties. Uncertainty about what courses would be included in the TRADOC Distributed Training Program and about the location and starting date of the Combined Logistics Officer Advanced Course created prob-

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49. Ibid.,pp. 28-32.

50. (1) Brochure prepared by the ODCST and the Security Assistance Training Field Activity (SATFA), 1991. (2) SSHR, ODCST, CY 93/II, p. 131.

51. SSHR, ODCST, CY 93/II, p. 131.

lems in the programming of training for the international military students. SATFA officials expected that its difficulties in that regard would be compounded as installation resources diminished and courses were cancelled or altered. Further, as the Army grew smaller, fewer and smaller classes resulted in some classes ending up with large percentages, often as much as 20 percent, of international military students. Commanders at some schools claimed a negative impact on their instructors and on U.S. students. Such complaints, especially about the large percentages of international students in Officer Advanced Courses, triggered a proposal to limit OAC and other courses using small group instruction to not more than two IMS per group. Security assistance officials feared that proposal would have a significant negative impact on the Army's ability to carry out its security assistance mission.[52]

Early in 1993, at the direction of the Defense Security Assistance Agency, SATFA and the Army Directorate for Security Assistance began working with several Army schools to provide more human rights related training for international military students. As a model, planners looked to the School of the Americas which had recently integrated such training into field problems and practical exercises. For example, students in the urban combat course were asked to react to such hypothetical situations as a priest barring their entry to a church. In addition, U.S. instructors, as well as Latin American officers on loan to the school as instructors, received twelve hours of human rights training before they began teaching. Members of Congress, and other high ranking national, state and local government officials, as well as a human rights activist, were invited to take part in the guest speaker program.[53]

During the year, despite those programs, the School of the Americas, which had trained more than 56,000 students from Latin American countries since 1946, received very unfavorable publicity focusing on its training of personnel who went on to become despots and human rights abusers. A national news publication printed an article pointing out that such dictators as Manuel Noriega, Hugo Banzar Suarez, Leopoldo Galtieri, and others, were graduates of the school. Using many examples such as the fact that nineteen of twenty-seven Salvadorian officers involved in the brutal murders of six Jesuit priests in 1989 were graduates, the article questioned whether the school should be allowed to remain open.[54] As a result, the Department of Defense suggested the focus of the curriculum be changed to increase the emphasis on professional military education and human rights. At the end of the year, a SATFA proposal to accomplish that was under study.

In 1993, Saudi Arabia was the United States' biggest customer in terms of dollars, in the Foreign Military Sales portion of the Security Assistance Training Program. In 1991, the Armor and Ordnance Schools had begun developing a "Saudi unique" training program to

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52. SSHR, ODCST, CY 93/I, p. 66; CY 93/II, p. 132.

53. For a detailed discussion of the founding and development of the School of the Americas see TRADOC ACH, CY 89, pp. 198-99; CY 90, pp. 139-40. Both FOR OFFICIAL USE ONLY -- Info used is not protected) (2) Lt. Col. Victor M. Gonzalez, CMDR Juan Obdulio Sainz, Maj. Steven M. Seybert, and Maj. Victor Edwin Vargas, "Media Coverage Unfair," Military Review, January 1993.

54. Douglas Waller, "Running a 'School for Dictators'," Newsweek, 9 Aug 93. pp. 34, 37.

support the sale of M1A2 Abrams tanks to Saudi Arabia. By the end of 1992, there were also programs to train Saudi soldiers on the Bradley Fighting Vehicle System and the AH-64 Apache helicopter. The M1A2 program, termed Project SWORD, was designed to train cadre to serve in Saudi Arabian schools and assist the U.S. Army Technical Assistance Field Team and General Dynamics Land Systems personnel in fielding the tanks. Beginning in 1992, the overall M1A2 program had to be restructured when the Saudis experienced a cash flow problem and delivery dates were moved forward, tentatively, to late in 1994. However, the training in the United States continued on track. More than 100 students were in training at the Defense Language Institute English Language Center, and the first Saudi students arrived at Fort Knox in July 1993 for technical training. A second class would begin in January 1994.[55]

The Saudi Arabian Bradley Fighting Vehicle System (BFVS) Program was drastically curtailed, again because of financial constraints. Fielding continued during the year, but plans to create two mechanized infantry brigades were on hold indefinitely. By mid-year, 200 BFVS had been delivered, and 200 more were in production. Also during 1993, the Royal Saudi Land Forces initiated a new project to create their own training cadre. Twenty-five officers were identified for the project, which would feature 36 weeks of training in Saudi Arabia followed by 45 weeks of training in the United States, beginning in March 1994.[56]

Like the M1A2 and Bradley training programs for Saudi Arabia, a security assistance program to train Saudi soldiers on the Apache helicopter was affected by budgetary difficulties. Twelve AH-64 Apache aircraft were delivered to the Kingdom in March and April 1993. Although training of Saudi soldiers in the United States was on schedule, SATFA officials feared sustainment training programs might be in jeopardy. For FY 1994, the Royal Saudi Land Forces Army Aviation Command had authorized ATCOM (Aviation and Troop Command) to provide $7 million from a materiel case to support training. At the end of 1993, the amended case remained unsigned. Funding beyond FY 1994 remained unclear. Meanwhile, an in-country Technical Assistance Field Team continued to work to insure minimum requirements were met and were working with the Saudi Arabian army to effect a long-term solution to the lack of training funds. Plans for the Saudi purchase of the OH-58D Kiowa and the CH-47D Chinook aircraft were on long-term hold until the fiscal crisis was resolved.[57]

In 1993, Kuwait signed a letter of offer and acceptance (LOA) to purchase 218 M1A2 tanks. Projections called for the training of 48 crew and 40 maintenance personnel in a program much like the Project SWORD program for Saudi Arabia. At the end of the year, however, a sufficient number of qualified students for the maintenance training had not been identified. SATFA proposed modifications to the training materials designed to assist students in qualifying for the program. At the end of the year, Kuwait had not concurred with the proposals. The Kuwaiti military was advised that should their program not begin at the conclusion of the Saudi Project SWORD, considerable cost increases would result, since

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55. SSHR, ODCST, CY 93/I, pp. 66-67; CY 93/II, p. 133.

56. SSHR, ODCST, CY 93/I, p. 67.

57. (1) TRADOC ACH, CY 92, p. 111. (2) SSHR, ODCST, CY 93/I, p. 67; CY 93/II, p. 133.

SATFA planned to use the Saudi program as a springboard for the one for Kuwait. Kuwait had also signed an LOA for five Patriot launchers. At the end of the year an $81.9 million training package awaited Kuwaiti acceptance. The training program included a combination of TRADOC and contractor (Raytheon) training. Once initiated, training would continue through FY 1997.[58]

Another program with a Southwest Asia nation in progress during 1993 was one with the United Arab Emirates (UAE) to train personnel in support of 20 recently purchased AH-64 Apache aircraft. By the end of the year, 6 of the aircraft had been delivered, and a total of 16 Apache pilots had completed all required aviation training at Fort Rucker and returned to the UAE. Seven new pilots had been identified for training, but the UAE was still short 20 aviators to support the remaining Apaches to be delivered in January and March 1995. Meanwhile, the UAE had begun to discuss the purchase of an additional 10 Apaches.[59]

The Security Assistance Training Field Activity was involved in a number of other helicopter training programs for foreign military pilots and maintenance crews. Three maintenance courses for Latin American military personnel were being conducted--in Spanish--at Fort Rucker. Training was also ongoing for the Taiwan Republic of China OH-58D Armed Kiowa helicopter program.[60] That training would continue until the summer of 1995. Three Laotian UH-1 pilots were being trained to assist U.S. personnel in the U.S. POW-MIA operation in their country. Late in 1993, Israel received twenty-four AH-64 helicopters, bringing their total of Apache aircraft, which would require training programs, to forty-two. Greece signed a letter of offer and acceptance for twenty AH-64 aircraft for which training was scheduled to begin in June 1994. Training was also in progress for 110 AH-1P Attack helicopters and more than 100 UH-60 Black Hawk aircraft sold to Turkey.[61] The Netherlands requested training for pilots and flight engineers in support of their purchase of thirteen CH-47D Chinook helicopters from Canada and the United States. At the end of the year, Fort Rucker was still reviewing the Netherlands' request.[62]

As 1993 came to a close, two nations--Israel and Greece--had requested training for crews in support of their purchases of the Multiple Launch Rocket System (MLRS). Israel was scheduled to receive forty-eight MLRS Launchers beginning in December 1995. Greece was in the process of accepting an LOA for eighteen MLRS Launchers, with delivery scheduled for late 1994.[63]

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58. SSHR, ODCST, CY 93/II, p. 134.

59. SSHR, ODCST, CY 93/II, p. 134.

60. The OH-58D Kiowa came in two versions: armed and unarmed.

61. The AH-1P was developmental version of the Cobra helicopter.

62. SSHR, ODCST, CY 93/II, p. 135.

63. SSHR, ODCST, CY 93/II, p. 135.

TRADOC Counter-Drug Assistance Program

The Army continued to expand its counter-drug operations as an integral part of the Department of Defense execution of the National Drug Control Strategy. Support was provided to more than 40 federal law enforcement agencies and more than 2000 local law enforcement agencies throughout the United States. Army forces were also striking at drug sources by providing training for Latin American counter-drug forces. The focus of most of the training was on infantry skills, helicopter operations and maintenance, logistics, and intelligence. In the United States, active and reserve component counter-drug operations along the southwest border continued to increase. During 1993, four TRADOC organizations were involved in training non-Department of Defense law enforcement agents. The Military Police School provided training via mobile training teams and resident courses to a total of 543 local, state, and federal law enforcement agents. In addition, they taught seven sessions of the Rehabilitation Training Instructor's Course which was designed to provide instruction in the setting up and running of a military-style "boot camp" for youthful drug offenders.[64]

The Military Intelligence School provided sixteen mobile training teams to teach intelligence analysis and interrogation and interview techniques to 558 personnel. The school also served as a base for three operational counter-drug missions. The Defense Language Institute provided one resident and one nonresident ten-week Spanish language class for state narcotics officers and U.S. Coast Guard personnel. And, finally, the Ranger Training Brigade conducted a basic course for the Drug Enforcement Administration, for agents preparing to deploy to South America to work with host nation military and para-military forces.[65]

Environmental Training

A major theme in Army training in the 1990s was a greatly increased awareness of environmental issues. Since the 1960s, increasing public awareness of those issues, increasingly stringent legislation, and the concurrent development of weapons systems requiring more and more training land, often brought the Army into conflict with preservationists and conservationists, among others. In some cases, poor resource stewardship on military bases fostered strong public resistance to removing any more land from the public domain for military use or to the extension of existing land-use agreements between the federal government's land management agencies and the military services. In the late 1960s, concerns about the consequences of rapidly advancing technology led to the passage of the National Environmental Policy Act which required consideration of environmental factors to be part of any federal decision-making process such as establishing or expanding military bases.[66]

In the late 1980s and early 1990s, the Army's senior leaders realized that the lack of sound natural resource management might jeopardize the opportunity for troops to train, and for the military to obtain additional land needed for future expansion of training areas. Their

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64. (1) Posture Statement, FY 94, p. 43. (2) SSHR, ODCST, CY 93/II, p. 44.

65. SSHR, ODCST, CY 93/II, p. 44.

66. TRADOC ACH, CY 92, p. 113.

concerns increased when Congress approved the Federal Facilities Compliance Act of 1992 which meant that installations were no longer shielded from the necessity to comply with state and local regulations. It also meant that standardization of environmental training was difficult. Regulations varied from state to state and in many cases state and local regulations were stricter than federal regulations.

To achieve as much standardization as possible, then Secretary of the Army, Michael P. W. Stone and Army Chief of Staff General Gordon R. Sullivan made the Army's commitment to the environment a mission area and formalized it in a document entitled "The U.S. Army Environmental Strategy into the 21st Century." In support of the new emphasis on protection of the environment, General Franks sent a six-point memorandum to the TRADOC commanders on the command's environmental ethic, or the "greening" of the Army. To provide guidance to the field in training soldiers to respect their environment, the U.S. Army Environmental Center (USAEC) (formerly the U.S. Army Toxic and Hazardous Waste Agency) developed an Army Environmental Training Master Plan, which the Army Director of Environmental Programs and the Director of Training signed on 17 December 1992. The document directed TRADOC to develop environmental awareness products for initial entry training, NCOs, officers, and Army civilians. It also established a framework of twenty environmental programs to insure an educated work force with the skills, knowledge, and abilities to accomplish its military mission and protect the environment. Three primary agencies were involved in defining and executing new requirements under the master plan. The aforementioned Army Environmental Center would oversee the execution of the master plan and prepare annual progress reports. The Environmental Division of the Huntsville Training Directorate, U.S. Army Corps of Engineers, operated an environmental training materials repository to assist USAEC in preparing training development recommendations. The U.S. Army Engineer School at Fort Leonard Wood was proponent for integration of environmental awareness into the TRADOC military school system. The Engineer School would review and compare environmental lesson plans from all the schools. At TRADOC headquarters, the Office of the Deputy Chief of Staff for Training was developing a POI to train environmental compliance officers.[67]

Training for Operations Other than War

The Army was often called upon, in its role as a strategic force, to protect and further the interests of the United States at home and abroad in a variety of ways other than war. Missions that did not involve warfare were not new, but their pace, frequency, and variety had increased in the past thirty years. Field Manual (FM) 100-5, published in June 1993, established definitions and doctrine for operations other than war (OOTW). Late in FY 1993, the TRADOC commander directed that the Deputy Chief of Staff for Training develop a plan to support units preparing for such operations. The plan that resulted provided for OOTW training support packages to be produced for all echelons and for TRADOC to dispatch, on demand, subject matter expert teams to units alerted for OOTW missions. Training support packages for brigade level and below were being prepared by the Infantry School. Those for division and above were the responsibility of CAC. TRADOC trainers

67. (1) TRADOC ACH, CY 92, pp. 113-15. (2) SSHR, ODCST, CY 93/II, p. 52.

were also directed to lay the ground work for simulations support for OOTW. The Armor School was developing the training support package for heavy operations. The packages were scheduled for completion in June 1994.[68]

68. SSHR, ODCST, CY 93/II, p. 142. (2) FM 100-5, Operations, 14 Jun 93, pp. 13-0 to 13-8.

Chapter V

MODERN LOUISIANA MANEUVERS

> Louisiana Maneuvers, like its 1941 namesake, focuses on preparing the Army for what lies ahead. It offers tangible evidence that we have a plan. The plan is working. The one-rope bridges, the catwalks and a few treadways are already bridging the chasm that separates what is from what must be.
>
> --General Gordon R. Sullivan
> Chief of Staff of the Army[1]

A major challenge for the United States Army in 1993 was to determine how it should be restructured as a force projection army, given the absence of a Soviet or Warsaw Pact threat, the increased possibility of contingency operations against unfamiliar enemies, and the certainty of increasingly constrained resources. What policies, what decisions had to be made to bring the forward deployed army of the Cold War into the 21st century as a CONUS-based force projection army? As it looked into a very uncertain future, the Army had to "decide what should change, how much it should change, and when it should change." In addition, Operation Desert Storm had served to highlight what TRADOC commander General Frederick M. Franks would describe as the "glimmerings of a new dawn, perhaps the beginning of a revolution in battlefield information exchange." As the concepts of battle shifted, the Army needed a new and institutional approach to innovation and experimentation. Technological developments in simulation and information management offered increased opportunities for modernization. In the absence of a relatively predictable scenario, the Army needed to experiment, to explore its options, so that the right decisions to maintain readiness and create a smaller, more agile, and flexible force would be made. In consideration of all those factors, General Gordon R. Sullivan established the Louisiana Maneuvers (LAM) project to identify the issues and guide the restructuring of the force.[2]

In establishing the Louisiana Maneuvers of the 1990s, Sullivan borrowed a concept that had been used by one of his predecessors more than fifty years earlier. In the fall of 1941, Army Chief of Staff General George C. Marshall and the Army's senior trainer, Lt. Gen. Lesley J. McNair, conducted a series of General Headquarters-level field training maneuvers in Louisiana, and later in the Carolinas. Their purpose was to establish a vehicle for change and a laboratory for investigating issues. On the day Marshall had been sworn in as Chief of Staff, Germany had invaded Poland. He was acutely aware that his command was the smallest, worst-equipped army of any major power. Marshall used the Louisiana Maneuvers of 1941 to focus the Army, to refine emerging doctrine, to experiment with organizational design, to train the force, and provide insight into materiel requirements. The large-scale exercises gave Marshall a laboratory to aid in the decisions that had to be made if the Army was to be prepared for the coming war.[3]

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1. "America's Army--Into the 21st Century," Army, October 1993, p. 18.

2. General Frederick M. Franks, "Where Tomorrow's Victories Begin," Army, October 1993, p. 51. CONUS: continental United States.

3. General Frederick M. Franks' briefing to LAM General Officer Working Group I (hereafter cited as GOWG I), 15 Sep 92.

In late March 1992, Chief of Staff Sullivan approved a a concept he called Louisiana Maneuvers (LAM) 1994. While the modern Louisiana Maneuvers would not take place in Louisiana, nor would they include large-scale field training exercises, Sullivan, like Marshall before him, saw in the concept an intellectual process to guide the Army through the changes it would have to make. Unlike the Army of 1941, the 1992 Army was not expanding in response to a threat, rather it was shrinking. Also, unlike the 1941 force, it was a superbly trained Army with the most modern equipment. However, many of the issues Marshall had had to face, also faced Sullivan. How should the Army prepare for unseen challenges ahead? How could the Army identify and retain what was successful, although built for a Cold War army? What new initiatives should be undertaken to take the Army into the twenty-first century? Sullivan expected to use LAM to shape, energize, and guide the Army and to provide a framework for decisions by senior leaders.[4]

Concept

In its broadest terms, the concept of the modern LAM looked to identify policy issues across the full range of the Army's departmental responsibilities, as defined by Title 10 of the U.S. Code, and its "warfighting" (operational) responsibilities. To determine options LAM employed a series of unrelated exercises, demonstrations, experiments, and other means to assess the Army of the twenty-first century in the areas of doctrine, training, leader development, organization, materiel, and soldier support (DTLOMS). The project would take advantage of advanced and advancing technology to examine the issues through networked simulations, field exercises on instrumented battlefields, combinations of the two, and analysis tools such as seminars and conferences. From the beginning, those responsible for LAM had a difficult time dispelling the widely held notion that the project would focus solely on simulation. As noted above, among the questions that concerned those involved with LAM was how well could the Army meet its Title 10 responsibilities of organizing, training, equipping, and sustaining the force. To identify options, LAM would assess the full range of military operations from force generation, through force employment, conflict termination, and redeployment. The maneuvers would also cover the full spectrum of conflict--high-, mid-, and low-intensity. Likewise, it would involve the total Army: combat operations, combat support, and combat service support; and active and reserve components. Unlike the Army of the 1940s, the modern Louisiana Maneuvers would focus heavily on joint and combined campaigns.[5]

LAM 1994 was designed to validate or challenge the doctrinal concepts that emerged in conjunction with the publication of Field Manual (FM) 100-5, Operations, in June 1993. In the future, LAM would draw upon and feed future revisions of the Army's warfighting manual. Doctrine developers looked to the LAM process to help guide and solidify thinking on force structure, training, and materiel development.[6]

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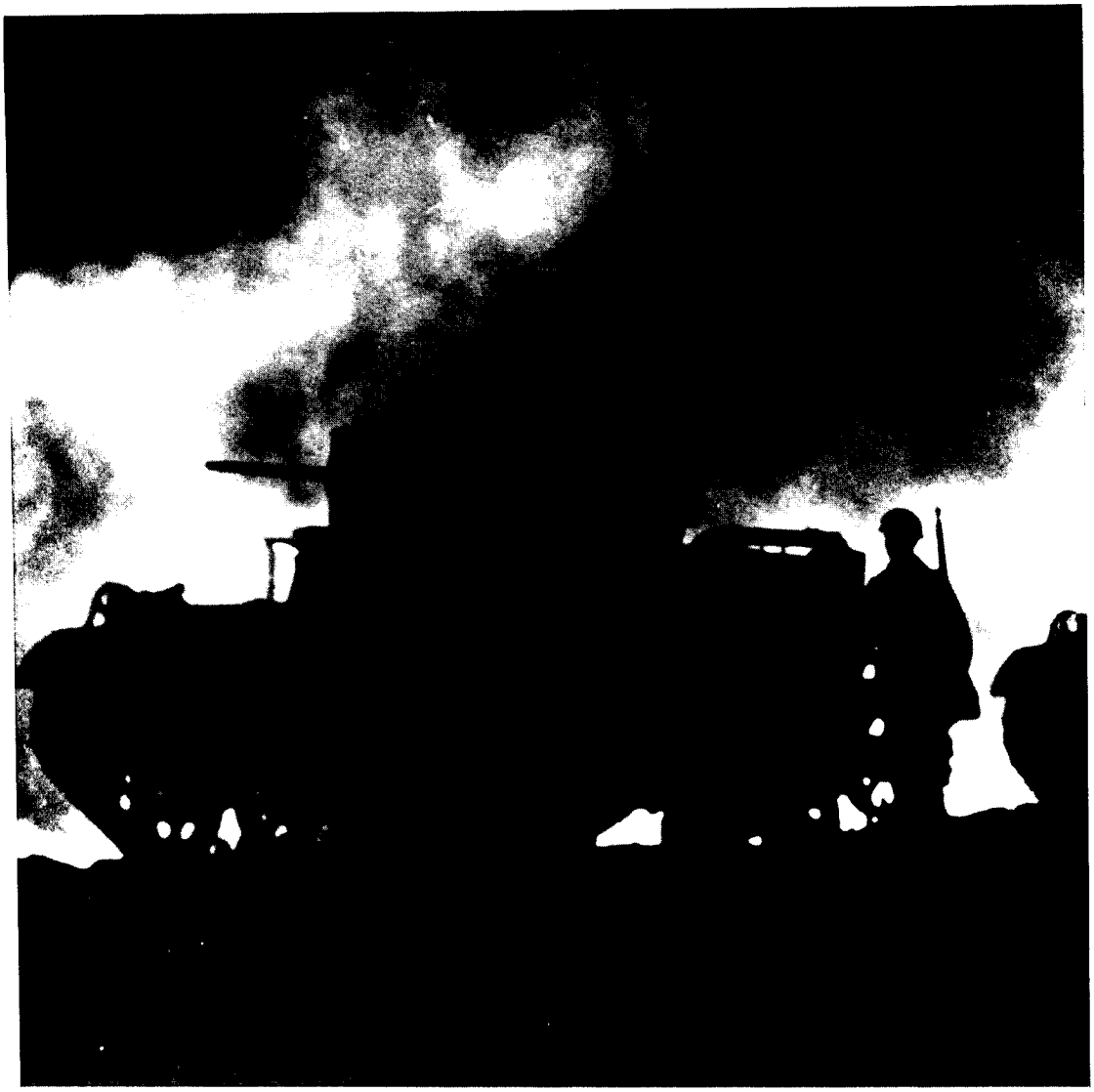
4. TRADOC ACH, CY 92, p. 19.

5. Ibid., pp. 20.

6. Memo for Brig Gen Tommy R. Franks, Director, Louisiana Maneuvers Task Force, from General Gordon R. Sullivan, 22 May 92, subj: Letter of Instruction for Louisiana Maneuvers (LAM) (hereafter cited as Sullivan LOI).

Louisiana Maneuvers 1941. The contrast between old and new is dramatic in this photograph of a cavalry column alongside an M2A1 Medium Tank. Mechanization of cavalry units accelerated in the latter part of that year. The original Louisiana Maneuvers shaped the Army that fought World War II. (Photo courtesy National Archives)



Tanks and infantry moving at night during the 1941 Louisiana Maneuvers. Like its predecessor, the modern Louisiana Maneuvers was focused on preparing the Army for the future.

LAM was also a high technology laboratory for experimenting with conceptual changes in equipment; command, control, and communications (C^3) procedures; intelligence systems; combat tactics, techniques, and procedures; logistics policies; joint operations; doctrine; and organizations. Plans were to create--using modern computing communications technologies--an information network linking all major military installations and organizations. The Army would then have the capability to conduct operations from widely separated facilities and capture and integrate the exercise test data. The advanced simulation technology would also be employed to test prototypes of weapons systems and new missions such as crisis response, theater missile defense, precision strike efforts, and peacekeeping. "General Headquarters Exercises" (GHQx) allowed the Army to assess its ability to respond to at least two concurrent emergencies and to "practice" the allocation of scarce resources. LAM capitalized on exercises already funded and scheduled, then supplemented them to bridge gaps in the scenarios. By harnessing the power of the microprocessor, LAM was able to control costs and overcome land use constraints. In short, simulation networking provided a laboratory for the evaluation of new concepts.[7]

Organization

The Louisiana Maneuvers initiative was built around six major components: the office of the Chief of Staff of the Army; the Army staff; the office of the TRADOC commanding general; a Louisiana Maneuvers Task Force; a LAM Board of Directors; and a general officer working group. General Sullivan was the LAM director, and General Frederick M. Franks, Jr., the TRADOC commander, served as deputy director. At the Pentagon, Department of the Army staff responsibility lay with the Office of the Deputy Chief of Staff for Operations and Plans. To initiate, organize, support, and institutionalize the modern Louisiana Maneuvers, Sullivan created a Louisiana Maneuvers Task Force which was organized as an extension of his own office and located at TRADOC headquarters at Fort Monroe, Va. as a field operating agency. The LAM Task Force members served as facilitators and integrators for the process. LAM's first and, as of the close of 1993, only, Director was Brig. Gen. Tommy R. Franks. General Frederick Franks served as Sullivan's on-site representative and provided stationing and support for the LAM Task Force. An organization chart is located at Appendix I.[8]

LAM's "four-star" board of directors was made up of the Chief of Staff of the Army, the Army senior commanders, The Vice Chief of Staff of the Army, the Department of the Army Deputy Chief of Staff for Operations and Plans, and the Commandant of the Army War College. General Sullivan, as Director of LAM, chaired the board. Each member of the board designated a general officer (usually a Major General) as a permanent member of the general officer working group. Membership also extended to representatives from France and the United Kingdom. Other agencies of the Army, such as the Chief of the Army Reserve and the Director of the National Guard appointed stand-by members of the working group who served as part of the group when issues arose that involved their proponency. The LAM Executive Director chaired it. Usually the board of directors and the general officer working group met twice annually. In 1993, the board of directors met in March during the Army

7. (1) TRADOC ACH, CY 92, p. 20. (2) John W. Shannon and General Gordon R. Sullivan, United States Army Posture Statement, FY 94, "Change and Continuity," March 1993.

8. Ibid., CY 92, p. 21.

Senior Leaders Conference at Carlisle Barracks, Pennsylvania. In early October, the group met again during the Association of the United States Army annual meeting in Washington, D.C. As scheduling would have it, the general officer working group met only once during the year, in late July in Hampton, Va.[9]

The LAM Task Force at Fort Monroe was organized into the Office of the Director and four directorates--three located at Fort Monroe and one at Fort Leavenworth, Kansas. An organization chart is at Appendix J. The Director's Office included an initiatives group which functioned as a planning and public affairs cell with responsibility for media relations, marketing strategy, and the preparation of briefings and speeches. The Operations Directorate at Fort Monroe coordinated with the analytical community to address policy issues and exploit the lessons learned from the LAM process. Also at Fort Monroe was the Issues Directorate, which coordinated with issue proponents and sponsors and had responsibility for planning, coordinating, and executing the general officer working group and board of directors meetings. The Management Directorate (formerly the Support Directorate) at Fort Monroe performed the traditional support roles of contracting, budget, security, and information management. It fell to the Exercise Directorate at Fort Leavenworth to coordinate the issue proponents' use of exercises to investigate the issues they "owned" with the Issues Directorate. The Exercise Directorate also coordinated the General Headquarters Exercise. Working closely with LAM and also at Fort Leavenworth was the Center for Army Lessons Learned. To facilitate the flow of information between the Department of the Army and the LAM Task Force, a LAM Liaison Office was located at the Pentagon.[10]

The Process

Even before the modern Louisiana Maneuvers and its supporting task force were a reality, General Sullivan had insisted that the project be regarded as a process and not a product. As noted above, to guide the process he established the LAM Task Force whose mission it was to act as the executive agent for the LAM process, as the Army determined what its missions, doctrine, force structure, weapons and equipment, and training system should be as it plotted its course into the 21st century. The Chief of Staff had designed LAM as an intellectual vehicle to determine hypotheses, experiments, and creative solutions, and turn them into command policy. The LAM process is graphically displayed at Appendix K. The first step in the process was the identification of what the potential problems were. What, in short, were the issues?[11]

The issues that would drive the LAM process were nominated from the field, with each major command focusing on what it thought it should take a hard look at in its areas of responsibility. The issues were then brought before the general officer working group. The two-star group then considered all the nominated issues, often added others, and determined which issues should be accepted for submission to the board of directors and which rejected. During the first working group meeting on 15-16 September 1992, the 1993 issues were "worked" manually with representatives from the RAND Arroyo Research Center serving as facilitators. The issues submitted by all the major Army command representatives

9. Ibid., CY 92, p. 22.

10. Task Force Organization Chart, LAM, [December 1993].

11. Briefing Slides, Briefing to CSA, 24 Mar 92, subj: Louisiana Maneuvers 1994.

were combined and displayed on a large screen. Participants then proceeded to eliminate duplicates, combine issues, and attempt to reduce the total list down to manageable length. Any issue already being dealt with elsewhere in the Army was eliminated. The first meeting began with approximately 150 issues and ended with 10. The group also recommended sponsors for each accepted issue and considered what "tools" should be employed in investigating the issue. How should information be collected and analyzed?[12]

Once the general officer working group portion of the process was completed, the issues were presented to the board of directors for approval. The board decided which of the issues to investigate and divided them into two categories: warfighting, or departmental as defined by Title 10 of the U.S. Code. Once the board determined which issues to approve, each was assigned a proponent: TRADOC, Forces Command (FORSCOM), or the Army Materiel Command (AMC). The proponents then developed analytical action plans identifying the available and applicable exercises, simulations, or other approaches for each issue. In short, issues had to be matched with tools and coordinated with the exercise schedule. The next step was to subject the issue to whatever approaches had been chosen. The results were then reported back to the board of directors. As a final step, the board would pass its recommendations to the Army Chief of Staff and Secretary of the Army for a final decision. The LAM process was cyclical. It was not like a rotation at the National Training Center at Fort Irwin, California that began, continued for fourteen days, and ended with an after action review. As soon as one set of issues had been refined and accepted by the working group for submission to the board, work had already begun on another set of issues. Thus, as the 1993 issues moved through the cycle, another cycle had already begun with the submission of new issues for FY 1994 and general officer deliberations. Thus, the LAM Task Force, the general officer working group, and the board of directors were considering two sets of issues simultaneously.[13]

At the second meeting of the two-star representatives on 7-8 December 1992, and thereafter, as the new issues were considered, the same process was followed. But at the December meeting, held at Fort Monroe, Va., the LAM Task Force took advantage of a new system developed at the University of Arizona, and known as the Electronic Meeting System. At that meeting, each participant was provided his own laptop computer to be used to enter each set of proposed issues. The computers were "networked" so that all the issues were combined in one data base. That data base was then combined with one containing deferred issues from the first meeting and another that recorded issues generated from discussions among the members at the second meeting. Duplicate issues were then eliminated by a "search and delete" process. Again, working with a facilitator from RAND, the group decided which issues to keep, which to delete, and which to include as subsets of broader issues. Then each participant voted for ten of the issues he wished to submit to the board of directors when it met in March 1993. The votes were tallied electronically and the "winning" issues were then further refined by the working group. The same procedure was used at the third meeting held 28-29 July 1993 at Hampton, Va.[14]

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12. Louisiana Maneuvers Fact Sheet, 21 May 93, subj: Louisiana Maneuvers -- It's About Change.

13. Briefing, Brig Gen Tommy R. Franks to GOWG I, 15 Sep 92, subj: Louisiana Maneuvers.

14. Significant Activities Report, Louisiana Maneuvers Task Force, 23 Nov 93, p. 1 [hereafter cited as SAR, followed by the date].

While not directly a part of the Louisiana Maneuvers process, another process known as Battle Laboratories, or "Battle Labs" for short, was closely tied to it. Unlike Louisiana Maneuvers which was sponsored by the Department of the Army, the Battle Labs were TRADOC organizations. The two programs were designed to be mutually supporting, and both were aimed at assisting the Army in identifying and accomplishing the changes that would be necessary as it moved into the 21st century. Beginning in May 1992, six Battle Labs were organized at various locations throughout TRADOC. The prototype laboratory at Fort Monroe focused on early theater entry and survivability. Forts Knox and Benning would look at mounted and dismounted battle space, respectively. Fort Sill, assisted by teams at Forts Bliss and Huachuca, would focus on questions of operational depth and simultaneous operations. Fort Leavenworth's laboratory would be primarily concerned with command, control, and operational tempo. Fort Lee would look at the Army's combat service support system. Like Louisiana Maneuvers, the labs were built around key elements of battlefield dynamics that appeared to have changed significantly. The Battle Labs would serve LAM by bringing experimentation, simulations, exercises, analyses, and prototypes to bear on the issues approved by the LAM Board of Directors.[15]

The FY 1993 and FY 1994 LAM Issues

In dealing with LAM issues, it must be understood that the issues identified by the general officer working groups and approved by the board of directors were not rigid, but fluid. The LAM process was dynamic, and as issues were refined and analyzed by the task force or the board of directors, changes could be made. Changes proposed by the sponsoring Army staff office, the proponent, or the Task Force were presented to the Army Chief of Staff and the Deputy Director of LAM for approval. Some issues experienced name changes over time. Some were combined. Others ceased to be stand-alone issues as they became subsets of broader issues. Still others, like the issue of deployment, were held over from one year to the next. The task force referred to all the issues by a shortened name; all, however, had more lengthy "issue statements" that defined the issue in greater detail. Often as the issues were "worked" by the proponent with the assistance of the Task Force. The issue statement approved by the board of directors was refined to make the meaning clearer by adding or subtracting subsets, moving subsets from one issue to another, or changing the language. This refining of the issues is discussed more specifically below with regard to individual issues.

At the first meeting of the board of directors on 14 October 1992, Brig. Gen. Tommy Franks presented the issues identified by the working group at its 15-16 September 1992 meeting. The board approved ten issues, five departmental (Title 10) and five warfighting (operational), for investigation in the maneuvers of FY 1993. TRADOC was the proponent for all of the warfighting issues and for one of the departmental issues. The warfighting issues were interoperability with other forces; headquarters, echelons above corps; battle command; "own the night"; and command, control, communications, computers, and intelligence (C^4I). TRADOC's lone Title 10 issue was "equipping." Three of the remaining four

15. For a detailed discussion of the Battle Laboratory program, see TRADOC ACH, CY 92, pp. 6, 79-82.

issues belonged to FORSCOM: mobilization; deployment; and the missions and roles of the numbered armies of the continental United States. To AMC went proponency for sustainment.[16]

The second board of directors meeting took place during the Senior Commanders Conference, 3-5 March 1993. A list of members of the second and third boards is at Appendix L. On 3 March, the generals received briefings on the status of the FY 1993 issues. In a session on 5 March, the group approved eight issues for FY 1994 that had been submitted in December 1992. TRADOC was assigned proponency for six of the issues: C^4I; new technologies; sustainment; lighter, smaller, more deployable forces; own the night; and weapons of mass destruction. Another issue concerning weather and mapping was split between two other issues. One issue, that of contingency operations, went to FORSCOM. AMC would investigate the issue of sustainment, and the new Space and Strategic Defense Command became the proponent of the space exploitation issue. Six of the issues submitted from the December 1992 meeting were declared "below the line" and not approved because they did not meet the objectives of Army modernization. The March 1993 board of directors meeting also held discussions on General Headquarters Exercises for FY 1993 and FY 1994.[17]

On 28-29 July 1993, the third working group meeting convened at Hampton, Va. A list of members is at Appendix L. Members of the group presented the current status of investigations of the LAM 1993 issues and decided how the findings would be presented to the board of directors meeting in October. The group also received briefings on the action plans for the FY 1994 issues.[18]

The following discussion of individual issues reflects their status as of the end of FY 1993. As already noted, changes were likely. Issues that were approved for FY 1993 and carried over to FY 1994, have been combined for the two years.[19]

Operations with Unfamiliar Forces

Initially termed "interoperability with other forces," the operations with unfamiliar forces project investigated the factors involved in U.S. Army participation in joint, combined-coalition, and interagency operations. The issue was divided into three areas for analysis: command and control, intelligence, and combat service support. The question LAM hoped to

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16. TRADOC ACH, CY 92, p. 27

17. (1) Msg, General Gordon Sullivan to distr, 191940Z Mar 93, subj: Louisiana Maneuvers Second Board Meeting. (2) Briefing slide, BoD II, 3, 5 Mar 93. (3) LAM SAR, 24 Jun 93, p. 5.

18. LAM SAR, 25 Feb 93, p. 3; 23 Nov 93, p. 1.

19. TRADOC ACH, CY 92, p. 27.

answer was "how should the Army look at organizations, command and control structure, systems, and doctrine, to more effectively operate with forces other than the U.S. armed services in operations other than war and in wartime?"[20]

Headquarters, Echelons Above Corps

Another issue focused on echelons above corps headquarters and addressed several questions. What headquarters above joint task force-corps were needed by a force projection army? Was there a need or a requirement for an Army headquarters above corps or for a theater army? If not, what organization would perform those functions currently provided by units such as Third Army; U.S. Army, Europe; or U.S. Army, Pacific? How should U.S. Army elements interface with the United Nations or other combined commands? Responsibility for investigation of this issue lay with the Combined Arms Command-Combat Developments, which issued a draft analysis plan on 23 December 1992. During 1993, General Franks directed that the echelon above corps issue be expanded to embrace operational forces.

Battle Command

The 1993 battle command issue initially focused on the horizontal integration of a mounted combined arms force at brigade level and below and the evaluation of the doctrinal employment of digitization to enhance battle command across the force. To collect data concerning digitized command and control, the Mounted Battle Space Battle Laboratory at Fort Knox arranged for key leaders to command and control from the M1A2 Abrams tank and M2A3 Bradley Fighting Vehicle during a July rotation at the National Training Center at Fort Irwin, Calif. The armored vehicles were equipped with the Inter-vehicle Information System (IVIS), which proved to greatly enhance "situational awareness" on the battlefield.[21]

Own the Night

The FY 1993 and FY 1994 issue of "own the night" sought to answer the question of how the Army could continue to dominate the night time on the battlefield as it had during Operation Desert Storm. That was an especially critical question in the face of continuing improvements in technology and the availability of sophisticated systems to potential enemies. In approving that issue, the board of directors decided that determination of the best ways to improve U.S. Army systems and training in order to maintain dominance of the "night fight" lay with the Dismounted Battle Lab and in targeted Combat Training Center rotations. Solutions being evaluated included a second generation Forward Looking Infrared System and the horizontal integration of night fighting systems. For FY 1994, "own the night" became a subset of "continuous operations," a broader category which included the investigation of how the U.S. Army could improve its capability to fight around the clock in contingency operations. The proposed FY 1994 issue of weather was added by the March 1993 board of directors to continuous operations.

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20. All information on the issues, unless otherwise noted, is taken from the LAM SARs of 25 Feb, 24 Jun, 23 Nov 93 and from the readahead for GOWG III, 28-29 Jul 93.

21. Msg, Cdr NTC and Fort Irwin, 031300Z Aug 93, subj: National Training Center Commander's Sitrep 93-10.

Patrol leader coordinates unit movements with other ground elements. A force projection Army required identification of means to standardize and integrate command, control, communications, computers, and intelligence, while maintaining the flexibility to accommodate unique theater requirements.

Soldiers of the 10th Mountain Division on patrol in Somalia. Reliable communication over long distances was an important requirement of Operation Restore Hope.

Command, Control, Communications, Computers, and Intelligence (C^4I)

The FY 1993 issue of C^4I continued to be evaluated in FY 1994 as "A Holistic Review of C^4I." The issue assessed the unique intelligence requirements of the force projection Army; new military intelligence concepts, doctrine, and organizations; and the U.S. Army's ability to broadcast intelligence. It also sought to identify ways to standardize and integrate C^4I while maintaining enough flexibility to accommodate commanders' unique theater level requirements. The object was to find ways to evaluate the appropriate mixture, effectiveness, and vulnerability of existing and developing strategic and tactical C^4I and doctrine for service specific, joint, combined, and coalition operations. During the year, the Intelligence Center collected data during exercises Dragon Hammer, Prairie Warrior, and Ulchi Focus Lens.

Equipping

As an issue, equipping the Army aimed to identify and assess new technology to improve lethality, deployability, and survivability. How vulnerable would a force projection Army be in the face of the availability of advanced technology to potential adversaries? What potential existed to accelerate and improve the acquisition process? During the year, Exercise Prairie Warrior 1993 was used as proof of principle for a "model-exercise-model" approach to analytical modeling of new systems. Equipping remained an issue in FY 1994 as a subset of a broader "new technologies" issue. New technologies concentrated on six Battle Lab initiatives. Being investigated were digital communications, advanced processors, fiber optic networks, and advanced fire control and navigation systems.

Mobilization

The mobilization issue focussed on the validity of mobilization policy revisions in the Army Mobilization and Operations Planning System (AMOPS) and aimed to expedite resolution of outstanding mobilization issues as outlined in the Army Mobilization Action Plan. Major subissues were to validate and exercise changes to allow early access to the Individual Ready Reserve, a lesson learned in Operations Desert Shield and Desert Storm; examine and exercise the concept of using eight to twelve installations as reserve component mobilization stations; and to examine current and projected command and control systems in support of mobilization and deployment. Originally the issue proponent, FORSCOM had planned to do most of its evaluation of the issue during Exercise Prime Directive 93, a Joint Chiefs of Staff mobilization exercise. When Prime Directive was cancelled because of the demands of Operation Restore Hope, selected aspects of the issue at Department of the Army and FORSCOM levels were examined during the 1993 General Headquarters Exercise. Other subissues at installation and unit level were investigated during Exercise Call Forward 93, a field training exercise designed to evaluate the effect of an initial surge on a mobilization station's capability to perform its mission.

Deployment

The deployment issue was adopted to determine if a CONUS-based, power projection, army could meet the deployment requirements of the new National Military Strategy to provide decisive combat power to a major regional contingency (3 divisions in 30 days and 5 divisions in 75 days). Major subissues were to determine the force structure required to deploy the 5-plus division force, examine and assess "fort to port" movement of the force in the continental United States, assess the deployment process for systemic problems from alert to the ports of debarkation, and identification of port infrastructure problems. Deployment as an issue would hold over into FY 1994 and FY 1995.

Continental U.S. Armies Command and Control

Another issue called for the examination and confirmation of command and control procedures, organizations, relationships, roles, missions, and assets for meeting continental United States contingency requirements for mobilizing and deploying the reserve component force. Subissues were reserve component post-mobilization training and validation of units for deployment. Central to the issue was the question of whether the numbered continental U.S. Armies were needed in light of the establishment of the U.S. Army Reserve Command. If so, what should be the roles, mission, and relationships of each. As a result of the cancellation of Prime Directive 93, the issue of the numbered armies command and control was proving difficult to investigate, since other exercises provided little opportunity to examine the issue.

Sustainment

The sustainment issue, for which AMC had proponency, was both an FY 1993 and FY 1994 matter. The question of sustainment involved the handling of war stockage, split logistics operations, and total asset visibility. To examine those issues, AMC developed a generic data collection plan that could be tailored to specific exercises. Sustainment issue data were collected during REFORGER (the annual return of forces to Germany exercise) 93, several XVIII Airborne Corps exercises, Prairie Warrior 93, Certain Support 93, and Ulchi Focus Lens 93, among others. Over time, the sustainment issue became so complex that AMC reduced the original thirteen subissues to four. The war stockage and total visibility assets issues remained. To them were added "support to deployed forces" and "acquisition streamlining." The last issue reflected the concern among the Army's senior leaders that in the past so much time had elapsed between the approval of weapons and equipment and their actual fielding. In FY 1994, the subissues of sustainment would be investigated in GHQx 94 and the Northern Lights and Ulchi Focus Lens exercises.

Weapons of Mass Destruction

The Dismounted Battle Lab, with assistance from the Chemical School, the Army War College, and Department of the Army headquarters, was investigating the questions raised about weapons of mass destruction (nuclear, biological, and chemical, or NBC). Primarily those agencies were conducting a review analysis of the long term threat of NBC proliferation and the capabilities of potential adversaries. What would be the impact of and the options following the use of those weapons on U.S. tactical or operational forces during contingency operations? The issue looked at both defensive and policy issues. The issue also addressed doctrine, training, leadership, organization, and materiel for fighting in an NBC environment. Could current procedures be validated, or should there be changes?

Lighter, Smaller, More Deployable Forces

The questions regarding lighter, smaller, more deployable forces were: how to make heavy forces more deployable; how to make light forces more lethal, mobile, sustainable, and better able to survive; the determination of the potential contributions to the battlefield of units light enough for rapid force projection, yet tactically mobile and lethal; and the investigation of alternative Army structures to meet future force projection requirements at brigade, division, and corps for major and lesser regional contingencies. The TRADOC issue was being "worked" at the Early Entry Battle Lab at the command's headquarters at Fort Monroe.

Commercial Space Package

The 1994 issue of potential use of space assets generally addressed the application of space based technology across the battlefield operating systems, in order to identify those space-based systems that could provide the greatest benefit for a force projection Army. The objectives of the issue were to provide a foundation for decision making in the areas of doctrine, training, leader development, organization, materiel, and soldier concerns as they related to space, and to embed mature technology in the combat developments and materiel developments areas. The proponent for space issues was the U.S. Army Space and Strategic Defense Command. The issue evaluation plan was completed and distributed in October 1993. Evaluation of the issue would be conducted in the GHQ exercises in 1994.[22]

Simulation, Simulators, and Louisiana Maneuvers Exercises

As noted above, not all the "tools" available for investigation of the issues were simulations or simulators, though Louisiana Maneuvers would use simulation to an unprecedented degree by linking standard simulations so that units could participate in simulated exercises from widely dispersed locations. The goal was to integrate the entire battlefield with a variety of simulation programs known collectively as Distributed Interactive Simulation (DIS), thereby allowing for joint simulated operations. DIS involved the on-line networking of large numbers of participants operating through simulators, actual equipment, and computer models of friendly and opposing forces in free-play exercises on a simulated battlefield. The term "distributed" referred to the fact that the simulation programs could be geographically separated, each hosted on a computer and connected via a communications network to create a shared synthetic environment. Distributed Interactive Simulation featured no central computer, but, rather, was linked by a system known as the Distributed Simulation Internet (DSI). DIS was "interactive" in that one participant's behavior could immediately impact on other participants' actions. The process had the potential of revolutionizing future work in collective training, system test and evaluation, the development and evaluation of tactical doctrine, and weapon systems concept analysis.[23]

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22. See Brig Gen Tommy R. Franks and Maj Kirby R. Brown, "Meeting the Challenges from Space," Army, December 1993, p. 26. The space issue was not a part of the original set of 1993 issues but was added later.

23. Norman E. Land and Earl A. Alluisi, "Fidelity and Validity in Distributed Interactive Simulation: Questions and Answers," Institute for Defense Analysis, November 1992. The Distributed Simulation Technology program was an Army-wide initiative begun early in 1992. The Army Materiel Command was the technical manager and TRADOC the functional manager. Within TRADOC, the Office of the Deputy Chief of Staff for Analysis acted as the policy-level office at the headquarters, while line execution was the responsibility of the National Simulation Center at CAC. A general officer steering committee (GOSC) provided guidance to the Deputy Chief of Staff for Operations and Plans in Headquarters Department of the Army, who handled requirements. The GOSC also advised the Assistant Secretary of the Army (Research, Development, and Acquisition), who implemented DIS research, development, and acquisition. When issues related to functional applications were to be discussed, the LAM TF was represented. Memo, General Frederick M. Franks, Jr. to Mr. Hollis, Deputy Under Secretary of the Army for Operations Research, 3 Sep 92, subj: Draft Charter for Distributed Interactive Simulation General Officer Steering Committee.

To identify existing models and simulation programs with potential for use in the LAM process, the LAM Task Force established a Long Range Model Simulation Plan. In 1993, the areas of greatest need were simulated exercises to evaluate mobilization and deployment. Already identified were two FORSCOM models called FORCEFLO and FORCEGEN. FORCEFLO was a tool to project the ability of a unit to meet the "fort to port" "availability to load" date. The model provided detailed analysis of unit movement capability as units moved through the installation to the sea or air ports leading to strategic deployment. FORCEGEN, still under development in FY 1993, was a force generation model that would assist in determining the right mixture of the total force: active, reserve, and National Guard.[24]

The U. S. Transportation Command was also identifying models and simulations that might be used in LAM exercises. The primary process under development was the "Analysis of Mobility Platform " (AMP), which incorporated the following three models to investigate mobility and strategic deployment. Enhanced LIST (Logistics Intra-Theater Support Tool) was a decision support system for evaluating the feasibility of a course of action given a theater's infrastructure and strategic sea and air lift allocations. Another model, MASS (Mobility Analysis Support System) was designed to simulate the interactions between strategic airlifters in the military airlift system. The third model, MIDAS (Model for Intertheater Deployment by Air and Sea) provided Joint Staff Planners with an intertheater deployment model that simulated the movement of combat and support units as well as sustainment for scenarios ranging from small contingencies to multitheater operations. As such, it allowed for detailed resource planning and provided for comparisons of the effectiveness of various lift forces.[25]

On 23 April 1993, the LAM Task Force hosted a demonstration of current developments in distributive simulation for General Franks, Deputy Director of the Louisiana Maneuvers effort. The demonstration focused on simulations that were being adapted for use over the DSI. One of these was the Brigade-Battalion Simulation-Simulation Network Linkage (BBS-SIMNET) being developed by the Advanced Research Projects Agency. The BBS, primarily a command post exercise (CPX), provided battalion and brigade commanders an environment to train in the execution of operations doctrine at the tactical level. Simnet, a set of simulations, would greatly expand the size of the wargames. Another of the simulations presented was the Mission Planning Rehearsal System (MPRS), developed by the U.S. Army Space Command. The MPRS was a technology that allowed the combinations of mapping data and digital terrain elevation data to create a three-dimensional perspective. A third system briefed was the Extended Air Defense (EAD) Simulation, a project of the EAD Test Bed Project Office. The EAD Simulation illustrated logistical constraints in deployment and employment planning. Users could balance theater requirements against available lift assets, set tradeoffs between unit arrivals and war stock buildups, and between deployed force elements and support slices. Another demonstration presented to General Franks concerned tactical surveillance and was known as the Global Protection Against Limited

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24. Louisiana Maneuvers, "The Tools: Models and Simulations," 27 May 1993.

25. "Tools," p. D-19. The U. S. Transportation Command is a JCS command headquartered at Scott AFB, Ill.

Strikes (GPALS) system. That system, developed by the Program Executive Office for Missile Defense in Huntsville, Ala., was a collection of simulations designed to assess and evaluate space systems. GPALS was able to simulate interceptors, command and control, sensors, early warning, and the environment.[26]

On 12 May, General Sullivan, along with General Franks, General J. H. Binford Peay III, Lt. Gen. John H. Tilelli, Jr., and Lt. Gen. Peter A. Kind received a similar demonstration. Three of the simulation systems demonstrated to the senior officers were the same as those briefed to General Franks earlier: GPALS, MPRS, and EAD Simulation. Two other systems were also presented. The Simulation Terrain Databases, collected and analyzed by the LAM Task Force, was a database that allowed commanders to have advance knowledge of the projected terrain before the battle. Finally, Imagery Capture and Transmission via simulation, a project of the U.S. Army Communications and Electronics Command was designed to enhance situational awareness on the battlefield.[27]

After the issues had been identified, refined, and approved, they were evaluated in simulated exercises using analytical models similar to those briefed to the aforementioned senior officers. The exercise "season" for FY 1993 began in May with Prairie Warrior and ended in August with a General Headquarters exercise, or GHQx 93. The exercise schedule is graphically displayed at Appendix M. After the issues were thus investigated, the outcomes of the exercises were analyzed and decision packages presented to the Board of Directors in October 1993. The LAM Task Force expected four possible outcomes from the 1993 maneuvers. First, post-exercise analysis might confirm the soundness of current policy. Second, the exercises might indicate that policy changes should be recommended to the Chief of Staff and the Secretary of the Army. Third, LAM might generate new concepts and ideas leading to new issues in the next cycle. Lastly, the maneuvers might produce a conclusion that an issue deserved a second look in the next round.[28]

Prairie Warrior was an end-of-course exercise for students in the Command and General Staff Officers Course. The simulated Prairie Warrior exercise took place as a part of the Battle Command Training Program (BCTP) which trained active and reserve division and corps commanders and their staffs in the combined arms, joint operations, logistics, and command and control skills necessary to win on the battlefield. Prairie Warrior 93 took place 21-28 May 1993. Six LAM issues, all assigned to TRADOC, were evaluated: equipping; operations with unfamiliar forces; headquarters above corps; battle command; owning the night; and force projection army command, control, and intelligence.

The second Louisiana Maneuvers exercise in FY 1993 took place in May during REFORGER 93. Prior to 1990, REFORGER had involved the employment of large numbers of actual troops. In 1990 and thereafter--for fiscal, political, and environmental reasons--the exercise was partially played out through the use of simulated wargames which took place

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26. (1) LAM SAR, 24 Jun 93, p. 2. (2) "Tools," pp. D-2, D-7, D-13, D-21.

27. LAM SAR, 24 Jun 93, p.2.

28. Briefing slide with text, LAM TF, 24 Mar 93.

on computer screens and employed an integrated simulation network.[29] Through that network, the commander's battle orders were relayed to the computer rather than to a complete force in the field. The heart of the REFORGER simulation was a sophisticated computer system called the Joint Exercise Simulation System, or JESS. Information on factors that could potentially influence the outcome of operations, such as weather, terrain, the capabilities of units and weapons systems, logistical support, and average failure rates for weapons, were entered into the database. Division commanders radioed orders into the exercise center where they were entered into the computers. The computer program then executed them against the opposing force, factoring in all possible factors that might influence the outcome of the engagement. The outcome--objectives reached, weapons lost, etc.--was then radioed back to the division commanders. Louisiana Maneuvers "piggybacked" on REFORGER 93 to evaluate the issues of sustainment, deployment, and headquarters at echelons above corps.[30]

A third exercise of which LAM took advantage during the year was a force projection logistics exercise (FPLX) called "Certain Support," which was held 6-18 June. Early in the year, a conference was held at the Transportation Command to determine simulation support for the exercise. The FPLX would take advantage of simulations termed "Dynamic Analysis and Replanning Tool (DART)," "Joint Flow and Analysis System (JFAST)," and "Logistics Intra-theater Support Tool (LIST)." The DART provided data management software; the JFAST allowed for the analysis of air, land, and sea transport; and the LIST was a decision support system for evaluating the logistical feasibility of a course of action. During Certain Support, LAM examined the issues of deployment, sustainment, operations with unfamiliar forces, and headquarters above corps. In addition, at General Franks' request, several other issues were evaluated: command and control issues for medical brigades; how well a centralized defense logistics structure could support the mission; logistics support for coalition forces and U.S. forces in dispersed locations; and decision-making methodology.[31]

Early in FY 1993, General Sullivan wrote "I want an exercise this fiscal year in which the headquarters participates and is forced to allocate scarce resources." In accordance with that guidance, the capstone exercise for FY 1993 was the General Headquarters exercise (GHQx), conducted in August 1993. The purpose of the 1993 GHQx was to demonstrate by an Army Staff-level exercise that the concept of the more robust GHQ exercise planned for 1994 was sound. GHQx 93 challenged the Army Staff to meet its Title 10 responsibilities while coping with two concurrent regional contingencies in Korea and Panama. GHQx 93 was driven by Commander-in-Chief U.S. Southern Command Exercise Fuertes Defensas and Commander-in-Chief United Nations Command and Combined Forces Command Exercise Ulchi Focus Lens. Data collection during GHQx 93

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29. For the sake of realism, some actual units were fielded, but there were fewer than half as many as in prior Reforger exercises.

30. (1) James Kitfield, "Training Today, Ready Tomorrow," Government Executive, May 1991, pp. 22-28. (2) LAM SAR, Jun 93, p. 10.

31. (1) "Tools" pp. D-6, D-14, D-17. (2) LAM SAR, 25 Feb 93, p. 5.

centered around five 1993 LAM issues: mobilization and deployment; sustainment; headquarters above corps; interoperability; and C^4I. The exercise team comprised thirty personnel spread over seven theater-level sites.[32]

Analysis of the data collected by CALL resulted in the identification of three overriding "lessons learned" at Department of the Army level. There was a need for the Department to have total Army asset visibility with regard to personnel, logistics, and all critical information requirements. There was also a need for the Department to have timely access to reserve component personnel in time of crisis, a lesson already learned in Operations Desert Shield and Desert Storm. Finally, there was a need to reconcile the commander-in-chief's requirements with conflicting Army readiness criteria.[33]

Even as GHQx 93 continued, the LAM TF and ODCSOPS began planning for GHQx 94. The initial planning conference was conducted 20-22 July 1993 at TRADOC headquarters, with representatives from Headquarters Department of the Army, TRADOC, FORSCOM, the Army War College, and the LAM Task Force in attendance. The purpose of the conference was to produce an exercise concept based on General Sullivan's guidance--as in GHQ x93--to examine the Army's Title 10 responsibilities within a scenario that forced the Army to contend with two concurrent major regional contingencies. The resulting concept was a four-phased exercise, designed to engage the Army Staff and supporting major Army commands over a nine-month period beginning in November 1993. At the close of 1993, the final results from GHQx 93 and subsequent Chief of Staff guidance were still pending, but would be incorporated into the GHQx 94 concept when available.[34]

A second planning conference was held 21-22 September 1993 with representatives from the Department fo the Army, the LAM Task Force, TRADOC headquarters, the Combined Arms Command, the Combined Arms Support Command, FORSCOM, the Army War College, and other field operating agencies. At that time, overall responsibility for each phase of GHQx 94 was assigned and 1994 milestones established. The 1994 General Headquarters exercise would be a series of interrelated events including command post exercises, field training exercises, senior leader seminars, and simulations, to examine selected mobilization, deployment, and crisis response procedures in a multiregional crisis. The exercise would provide a foundation for senior leaders to make decisions related to the allocation of Army warfighting capabilities and resources between the warfighting commanders-in-chief in accordance with current defense guidance. The exercise was also designed to allow the major Army commands and field operating agencies to analyze the impact of projected force structure changes and new materiel fielding. Participants in GHQx 93 included the Army

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32. LAM SAR, 23 Non 93, p. 6.

33. Ibid. The seven sites employed in GHQx 93 were the Combined Forces Command, Korea; Southern Command; Health Services Command; Forces Command; Army Materiel Command; Transportation Command; and Pacific Command.

34. (1) Msg, HQDA to distr, 291231Z Jun 93, subj: Louisiana Maneuvers General Headquarters Exercise (GHQ-X) 94, Planning Conference. (2) LAM SAR, 23 Nov 93, p. 10.

Staff, the major commands, selected field operating agencies, the numbered armies in the continental United States, U.S. Army Reserve Command, the state area commands, and major U.S. Army Reserve commands.[35]

The four phases of the exercise would be as follows: Phase I, Crisis Action, the responsibility of the AWC; Phase II, Mobilization and Deployment, the responsibility of FORSCOM; Phase III, Warfighting, the responsibility of TRADOC; and Phase IV, Redeployment, the responsibility of the Office, Deputy Chief of Staff for Operations and Plans. The scenario envisioned an initial crisis in the U.S. Central Command area of responsibility (Southwest Asia) that would generate the requirement for the call-up of selected reserve component units and deployment of a corps to the area. Subsequent events would generate a requirement to send an additional corps into the same area of operations which, in turn, would precipitate additional reserve mobilization and would culminate in warfighting. As the conflict was winding down, a crisis would arise in the Pacific Command area that would generate a request for major reinforcements. The additional theater requirement would drive the U.S. to an even higher level of mobilization, result in increased deployments from the continental United States, and possible redeployments from Southwest Asia to the Pacific Command area.[36]

Other 1993 Louisiana Maneuvers Activities

Chief among the events held in 1993 in support of the LAM main effort were an Exercise Coordination Conference during January and an Association of the United States Army (AUSA) Symposium at Simulation, Training and Instrument Team Command (STRICOM) in May featuring Louisiana Maneuvers and Distributed Interactive Simulation (DIS). The first LAM Exercise Coordination Conference was conducted 12-13 January at Fort Leavenworth. The purpose of the conference was to reach a consensus among the participants on a specific methodology for integrating LAM issues into the designated exercises and to establish milestones for the FY 1993 maneuvers. The conference brought more than seventy-five attendees representing senior Army exercise planners, the major Army command Louisiana Maneuvers issue proponents, major Army analytical agencies, CALL, and the LAM Task Force. In order to standardize data collection and analysis, conference participants agreed to accept the methodology used by CALL, since it was already established throughout the Army. However, CALL as an institution would not be used as a data collection agency for LAM. The participants established a schedule for issue integration into specific FY 1993 exercises. That schedule, as of January 1993, is at Appendix N.[37]

The AUSA Symposium, hosted by AMC, was held at STRICOM headquarters in Orlando, Fla., 24-26 May. It was the third of a series of three symposia AUSA conducted at the request of the Army Chief of Staff. The intent was to provide industry and the Army's senior leadership a vision of the future with an emphasis on Louisiana Maneuvers, Battle Labs, and the capabilities of microprocessors in simulation. Highlights of the meeting were a

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35. Msg, Cdr FORSCOM to distr, 091800Z Nov 93, subj: Initial Planning Guidance for HQDA Directed General Headquarters Exercise-GHQ 94.

36. Msg, HQDA to distr, 302020Z Sep 93, subj: General Headquarters Exercise 1994.

37. Memo, LAM Exercise Coordination Directorate to distr, 28 Jan 93, subj: Louisiana Maneuvers Exercise Coordination Conference. STRICOM was formerly P.M. Trade.

keynote address by General Sullivan emphasizing his vision for the future Army and an overview of the LAM process by Brig. Gen. Tommy Franks. Generals Jimmy D. Ross (AMC), Dennis J. Reimer (FORSCOM) and Frederick M. Franks (TRADOC) whose commands were the proponents for the issues discussed the 1993 issues. There were also presentations on the application of Distributed Interactive Simulation. A highlight of the symposium was an exhibit hall display, "Concept to Production," which demonstrated the role of simulation in accelerating and redefining the Army's materiel acquisition process.[38]

Also during the year, the LAM Task Force had VECTOR Research under contract to determine the requirements for a LAM database to be used by the issue proponents in the analysis of LAM issues. The contractor visited TRADOC, FORSCOM, and AMC to determine the types of data they needed, and determined the sources of the data. Their analysis resulted in recommendations for a network called LAMNET, an information management system focused on providing issue proponents with desk-top access to the LAM exercise data being maintained by CALL, and other relevant information. LAMNET would also provide an archive for issue development, evaluation plans, and decision packages for presentation to the LAM Board of Directors. The system was expected to be operational by the early summer of 1994.[39]

Conclusion

Following the third Louisiana Maneuvers Board of Directors meeting in October 1993, General Sullivan sent a message to the members of the board and to other senior Army leaders, giving his assessment of the current status of LAM. At the conclusion of that message, he included a paragraph giving his impression of what the modern Louisiana Maneuvers were:

> I am often asked, "But Chief, what exactly is LAM." I tell them that LAM truly is about changing the way we change. It is neither a program nor a budget line. It is not an exercise or a series of exercises. It is not a replacement for the test community; the POM process, CBRS [Concept Based Requirements System], or the Army Staff; nor is it a showcase for the Battle Labs or a way to inject me into your exercises. It does not belong to the TRADOC or any other command; it belongs to us all. . . . Over the next year we will continue to institutionalize this process and, as you transform your commands, we will break the cold war decision processes to be more responsive to warfighting requirements, to leverage technological changes, and to unleash the tremendous power of Army people.

Both General Sullivan and General Franks stressed that LAM would help train, educate, develop, equip, and sustain the Army. Many policies that had shaped the Army since World War II endured, while others were no longer applicable. It was expected that the modern-day Louisiana Maneuvers could help the Army know the difference.[40]

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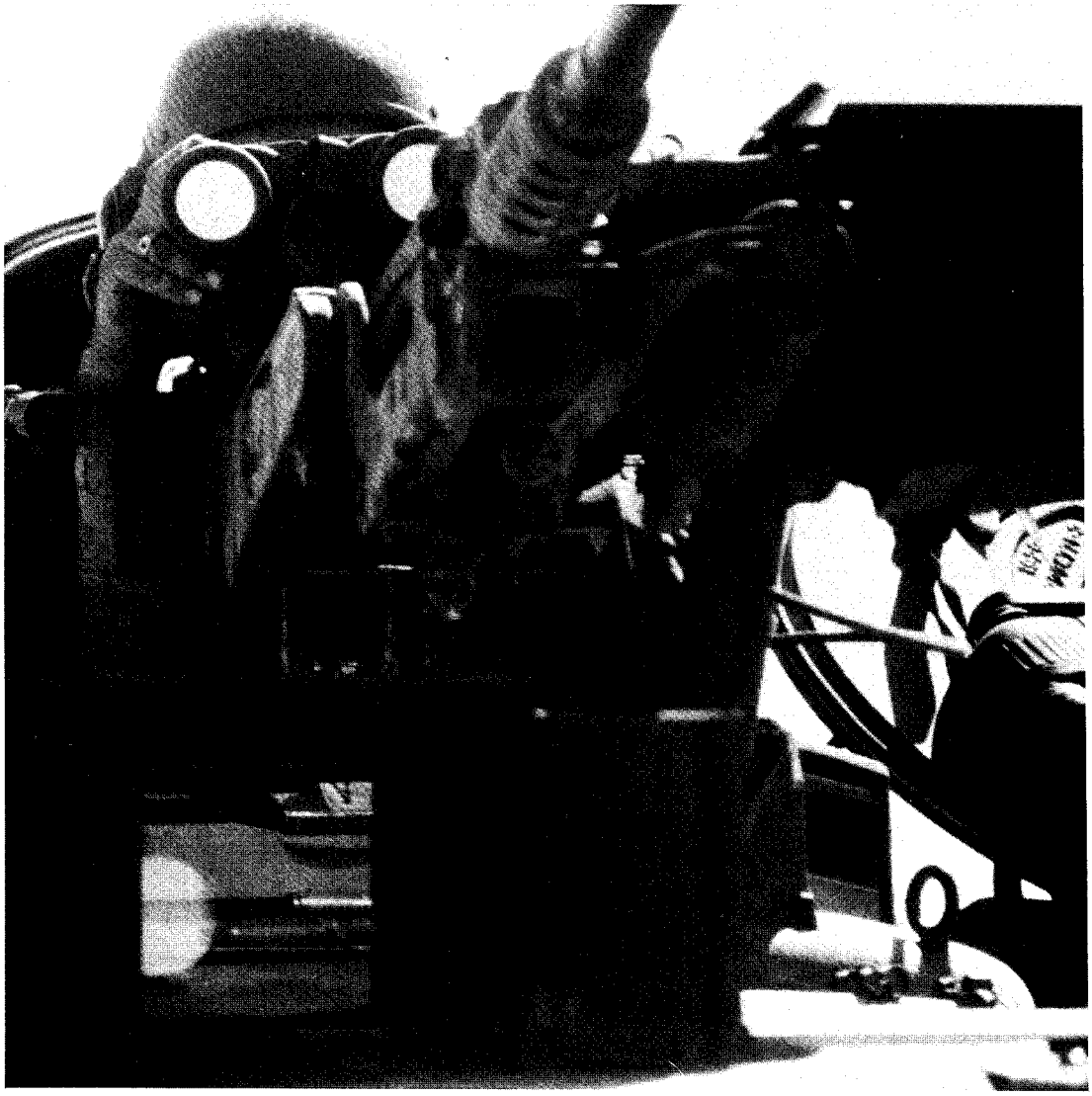
38. (1) Memo, General Gordon R. Sullivan to distr, 28 May 93, subj: Trip to Orlando, FL and Fort Leavenworth, KS. (2) LAM SAR, 24 Jun 93, p. 1.

39. LAM SAR, 25 Feb 93, p. 4; 24 Jun 93, p. 2; 23 Nov 93, p. 15.

40. Msg, General Sullivan to distr, 311200Z Oct 93, subj: Louisiana Board of Directors Meeting.



Searching for the enemy at the National Training Center. NTAC data supported the Chief of Staff of the Army's Louisiana Maneuvers project.
(Photo courtesy Greg Stewart)

Chapter VI

TRAINING SUPPORT

Introduction

As with so many U.S. Army functions in 1993, training support, including management and development, had to be conducted against a background of increasingly fewer defense dollars. For TRADOC trainers, the challenge continued to be how to make the best possible use of training programs already in place while taking on new initiatives to insure that the quality of training would not suffer. In short, the question was how to maintain soldier and unit readiness at lower costs. Within the evolving architecture of the Combined Arms Training Strategy (CATS), TRADOC planners in their search for alternative and less costly training strategies for institutions and units, turned more and more to training aids, devices, simulations, and simulators (TADSS). Increasingly, environmental concerns, safety, and the unavailability of adequate land for training on weapon systems with greatly extended ranges, accuracy and lethality, drove the search for more and better ways to employ rapidly advancing technology. In the future, much more reliance would be placed on artificial intelligence, satellite and video conference networks, digital imagery and laser technology, and "embedded" and "distributed" training. Army trainers continued to search for and debate what the best mixture of simulators, battle simulation, live-fire, and actual maneuver exercises should be. As 1993 drew to a close, TRADOC was in the midst of an era of unprecedented change and uncertainty as to the nature of the future threat. The command saw its training support mission to be the continued development of a training system to tie together the introduction of new equipment, new doctrine, and new organizational structures.

The Combat Training Center Program

The development of the National Training Center (NTC) beginning in the mid-1970s, the Joint Readiness Training Center (JRTC) in the mid-1980s, the Combat Maneuver Training Center (CMTC) and the Battle Command Training Program (BCTP) in the late 1980s represented the most ambitious, innovative, and costly training initiatives in peacetime U.S. Army history. Training at one or more of the four Combat Training Centers (CTC) was the capstone event of the Army's collective training program. As with the increase in the use of simulation in training, the increased range of modern weapons, safety and environmental concerns, the need to train both light and heavy forces in a realistic fashion, and the need for command and control training, led to the development of the CTCs. The programs supported highly demanding joint tactical training by addressing unit mission essential tasks at all echelons from squad and crew through corps staff. The NTC, JRTC, and CMTC were force-on-force maneuver facilities which employed tactical engagement simulation. The BCTP was a simulation based command post exercise. The CTCs provided a type of training that could not be replicated at home station, and after action reports to assist commanders in developing better training programs at home station.

In 1987, the four combat training programs had been brought under a single organization and became known collectively as the Combat Training Centers. Together the centers provided the Army with the capability to train heavy, light, and special operations forces across the spectrum of conflict and from squad through corps. The CTCs also provided, through the Center for Army Lessons Learned (CALL), a means of collecting and analyzing data concerning unit battlefield performance and the effectiveness of training under simulated conditions. Such data, according to the regulations of each of the centers and the overall

plan, could provide a source of guidance for the development of training systems, doctrine, force structure, and equipment requirements throughout the Army. A Combat Training Center Master Plan, which was updated periodically, established a centrally managed program with a single budget. The Master Plan also identified the objectives and training strategy necessary to support the program to the turn of the century.

In 1993, Egyptian military authorities continued a dialogue with U.S. Army officials concerning the establishment of an Egyptian combat training center on the model of the U.S. maneuver training centers. On 22 November 1993, Maj. Gen. Michael S. Davison, Jr., Chief of the Office of Military Cooperation at the American Embassy in Cairo, met with Maj. Gen. Mabrouk, Director of the Egyptian Armed Forces Training Authority, and Maj. Gen Sharara, Deputy for Requirements at the Egyptian Armed Forces Armament Authority. The Egyptian officers explained their plans for equipping their "Egyptian National Training Center" (ENTC). To that end they planned first to attempt to negotiate a direct sales contract, rather than establish a foreign military sales (FMS) agreement with the U.S. Army. Should they be unsuccessful in finding a suitable contractor, they planned then to request equipping the new center through the FMS program. Maj. Gen. Davison found that after several trips to visit the U.S. Army's combat training centers, the Egyptians' "overall concept . . . reflects significant movement in Egyptian thinking towards the essential pillars of the US Army's combat training centers." Indeed, their concept did include training for armored and mechanized infantry forces, instrumentation, an opposing force (OPFOR), observer/controllers, prepositioned equipment, and after action reviews. Equipment for the rotating units would be a mixture of equipment of eastern and western origins. Equipment for the OPFOR would be all of eastern origin. Maj. Gen. Davison noted that the basic purpose of the ENTC appeared to have changed from the initially stated purpose of unit evaluation to training, and urged senior U.S. Army leaders to encourage that approach.[1]

As with the rest of the force projection army, the CTCs saw some of their programs fall victim to budget decrements. Because of resource constraints at TRADOC headquarters, the CTC program suffered its first ever reductions in funding. In December 1993, the CTCs experienced an 11 percent funding cut. CTC funding for FY 1994 was $79.9 million, down from $90.2 million in FY 1993. The cuts would mean that initiatives planned for the future would be put on hold or cancelled and that enhancements to current training could not be funded. Manning levels at the CTC operations groups were also reduced. The National Training Center and BCTP saw their officer support reduced to 90 percent of authorizations. The Joint Readiness Training Center's officer support was reduced to 93 percent of authorizations. At the end of the year, a study group in CAC-T (Combined Arms Command - Training) was looking at ways to restructure the operations groups so that they could continue to execute their missions.[2]

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1. (1) Msg, Office of Military Cooperation, Egypt, to distr, 301424Z Nov 93, subj: Egyptian National Training Center (ENTC) - Progress and Pitfalls, Doc VI/1. (2) TRADOC ACH, CY 93, p. 119.

2. (1) SSHR, ODCST, CY 93/II, pp. 40, 139. (2) E-Mail message, CACT, CTC Directorate to distr, 16 Dec 93, subj: TRADOC DCST, CTC Program Decrement.

The National Training Center

The first of the Army's combat training centers, the National Training Center (NTC) at Fort Irwin, Calif., had opened in 1982. At the jointly developed TRADOC-FORSCOM facility, soldiers were trained for warfighting in a setting as close as possible to the reality of combat. The original NTC concept had called for training battalion level armor and mechanized infantry units in highly realistic live-fire exercises and force-on-force maneuver engagements against an opposing force (OPFOR) schooled in Warsaw Pact tactics and doctrine. Over time, exercises featuring heavy/light and special operations forces and contingency operations were added. Full combined arms operations were supported by U.S. Air Force close air support, laser-based tactical engagement simulation, and a sophisticated instrumentation system that both monitored and controlled the exercises. All those elements combined provided a degree of realism in casualty assessment, second only to actual combat. The operation and maintenance of the training and evaluation system and the instrumentation system was a TRADOC responsibility. A TRADOC Operations Group provided observer-controllers for the training exercises and the after action reviews (AAR) that provided rotating units an assessment of their strengths and weaknesses in carrying out a variety of combined arms missions. The Center for Army Lessons Learned (CALL), in conjunction with the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), was charged with the analysis of the data collected during each battle and the dissemination of "lessons learned" throughout the Army. Scheduling of unit rotations and base operations and command at Fort Irwin was a FORSCOM responsibility.

The aforementioned CTC Master Plan included, among other things, guidelines for the development of the NTC over the next ten years. A key point was the retention of the training focus on the maneuver battalion task force, but with a commitment to move toward training three-battalion brigades. In 1993, units still rotated to the NTC two at a time, primarily because there had been no decision on the Army's request for approximately 266,000 more acres of land adjacent to Fort Irwin. Military use of public land had become a part of a larger issue of protection of the California desert and the creation of more national parks. Also during the year, NTC officials made plans to upgrade Daggett-Barstow airfield for NTC use. Currently, all troops scheduled for training at the NTC were flown into McCarron Airport in Las Vegas and usually bussed to Fort Irwin, a 150-mile trip. Daggett air field was only about forty miles from Fort Irwin. The runways, however, were too short for the landing of a C-130 cargo plane, and would have to be lengthened. There were also too few hangers to meet Fort Irwin's needs.[3]

The fleet of OPFOR surrogate vehicles at the NTC, many of which had been in use since 1982, was rapidly wearing out. Since 1989, the Army Materiel Command had worked with the Army Training Support Center, the Combined Arms Command - Training, the U.S. Army Tank-Automotive Command, and several other agencies to determine the alternatives for replacing the aging fleet with a newer fleet, less expensive to operate and maintain than the visually modified M551 Sheridan. Another requirement was that any new vehicle be able to

3. Mr. Warren Spradling, Briefing to Combat Training Centers Quarterly Review, 26-28 Oct 93, subj: NTC Aviation Facility.

carry dismounted infantry, which the M551 could not do. At the early stages of the project, virtually the entire Army leadership agreed that a wheeled vehicle should be the solution. However, as late as April 1990, the project remained unfunded.[4]

Then, on 12 April 1990, as a result of the Conventional Forces in Europe Treaty negotiations, the Army announced it would bring home more than 1,200 M113A3 armored personnel carriers from Europe. The Army designated 207 of them as OPFOR surrogate vehicles (OSV) and shipped them to Red River Army Depot, Texas, to be modified. However, the project was again killed for lack of funding. Finally, CAC agreed to fund the prototypes. The first new OSV rolled off the production line in July 1991. In 1993, the prototype vehicle was still being tested at the NTC. But as the year ended, no funds were available to continue the program.[5]

Other technological advances at the NTC held potential for improved training. The Multiple Integrated Laser Engagement System (MILES) II-Simulated Area Weapons Effects, Radio Frequency-Global Positioning System (MILES II/SAWE-RF/GPS) and the Aircraft Survivability Equipment Trainer IV (ASET IV), both still under development, offered both the Blue Forces and the OPFOR new opportunities on the battlefield. The SAWE-RF would replace the Combined Arms Team Integrated Evaluation System for the simulation of indirect fire, mine obstacles, and chemical agents. The ASET IV would enable the OPFOR to fight the Blue Force air threat. In 1993, the Air Force finally fielded an Air Combat Maneuvering Instrumentation system. The new system would support air-to-ground and ground-to-air tactical engagement simulation between high performance aircraft and Army ground forces. Also during the year, the Pointer unmanned aerial vehicles (UAV) were employed during three rotations. Also fielded in 1993 was an Intervehicular Information System (IVIS) for the Abrams tank and the Bradley Fighting Vehicles. The IVIS digitized the task force command network, thereby giving the unit a "situational awareness" capability it had not had before.[6]

Another weapons system fielded at the National Training Center during the year was the new M109A6 155-mm. self-propelled howitzer nicknamed "Paladin." The Army's newest heavy artillery piece made its debut at the NTC during a live-fire exercise conducted in the March of 1993. Crew members of C Battery, 2d Battalion, 17th Field Artillery, manning the only four production models in use by a unit, supplemented three firing batteries of the 1st Battalion, 82d Field Artillery. Soldiers tested the Paladin's capabilities, helped define doctrine for the system, and gave NTC personnel and rotating units an early glimpse of the latest product of the Howitzer Improvement Program.[7]

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4. TRADOC ACH, CY 92, pp. 120-21.

5. (1) Briefing, NTC, Fort Irwin, Calif., 1 Nov 93. (2) TRADOC ACH, CY 92, pp. 120-21.

6. (1) TRADOC ACH, CY 92, p. 121. (2) Msg, Cdr NTC to distr, 031300Z Aug 91, subj: National Training Center Commander's Sitrep 93-10, Doc VI/2.

7. SFC Marsha R. B. Eddy, "Paladin Excels in Desert," Army Trainer, Winter 1993, p. 19.

In 1993, the NTC completed twelve rotations as planned. Five of the rotations were "heavy/light," so called because heavy forces were augmented by light units. One rotation was a division cavalry rotation.[8]

The Joint Readiness Training Center

The Army's second Combat Training Center, termed the Joint Readiness Training Center (JRTC), opened at Fort Chaffee, Ark. in October 1987. The success of the NTC in training heavy forces had led the Army to consider a similar facility for training of the Army's airborne, air assault, Ranger, Special Operations, and light infantry battalions under conditions of low-and mid-intensity combat. Like the NTC, the JRTC featured an operations group and an opposing force. Unlike the NTC, the JRTC--while it remained at Fort Chaffee--was completely a TRADOC project. Also unlike the NTC, instrumentation at the JRTC was a "poor man's" instrumentation system consisting primarily of the MILES and observer/controllers. From the beginning, the JRTC's home at Fort Chaffee had been considered temporary. Between June and September 1993, the light forces training center moved to a permanent home at Fort Polk, La. With the move, the JRTC's organization mirrored that of the NTC as a joint TRADOC and FORSCOM endeavor.

Because of the relocation to Fort Polk, the JRTC conducted only eight rotations in 1993, instead of the usual ten. The first rotation held at Fort Polk was in September 1993 and was the second contingency operation (CONOPS) for the JRTC, the first having been held in 1992. The light forces training center commander, Brig. Gen. George A. Fisher, Jr., and his staff were pleased that the training areas, the facilities, and the live fire lanes all proved satisfactory. The rotating units included an Atlantic Command (LANTCOM) crisis action team, the XVIII Airborne Corps headquarters, the 82d Airborne Division assault command post, the 3d Brigade, 82nd Airborne Division, the 3d Special Forces Group, a Navy Special Warfare Group, and four U.S. Air Force fighter squadrons and an Air Force special warfare squadron. The following rotation in October 1993 featured the 2d Brigade, 6th Infantry Division with a heavy team from the 4th Infantry Division and the 1st Special Operations Group. That was the first rotation to employ England Air Park as an intermediate staging base.[9]

Before the move from Fort Chaffee to Fort Polk, a training exercise at the JRTC allowed soldiers from Venezuela, Ecuador, and Puerto Rico to operate as a multinational coalition task force. The 7th Special Forces Group commander and his staff members role-played "Cortinian" military personnel and acted as the controlling headquarters for the task force. A program of instruction for the visiting Latin American soldiers included medical and communications procedures, map reading, patrolling, ambush techniques, fire and maneuver, battle drills, and base security. The multinational task force also received instruction in the use of the U.S. Army's Multiple Integrated Laser Engagement System (MILES). The scenario portrayed enemy activities in the Fort Smith, Ark., area that escalated to a level where the "Cortinian" government felt compelled to request military assistance from the United States.

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8. SSHRs, ODCST, CY 93/I, p. 73; CY 93/II, p. 139.

9. Msg, Cdr JRTC to distr, 221500Z Sep 93, subj: JRTC Rotation 93-8 Highlights, Doc VI/3. Another special rotation followed in November when elements of the 82nd Airborne Division and the 24th Infantry Division conducted an exercise featuring a Peace Enforcement Scenario.

On receiving the request, the National Command Authority approved the deployment of a joint task force to conduct operations in Cortinia. The Ecuadorian, Venezuelan, and Puerto Rican governments agreed to the formation of a combined task force commanded by a Cortinian brigadier general to aid in the allied effort.[10]

The combined task force continued to act out the scenario. Twenty-four hours before the operations plan called for them to conduct search and attack operations, the 75th Ranger Regiment, 2d Battalion, executed a forced entry in the northern area of operations. They cleared and secured Carnis Village which was assigned to the Ecuadorian troops, after which the Ecuadorians relieved the Rangers of providing village security. The Puerto Rican troops provided security for a critical bridge on the main supply route. The Venezuelan forces provided security at the landing zone to protect the Rangers. Meanwhile, the Ecuadorians found that the OPFOR had conducted a very effective propaganda campaign, making it hard for them to gain the confidence of the villagers. To assist the Ecuadorians, civil affairs and psychological operations teams were sent to the village. The confidence of the villagers was regained as they were assured of lasting support. At the end of the five-day operation, the friendly forces prevailed after capturing a number of enemy caches, annotated maps, and supplies.[11]

Of special concern during the year was the "upgrade" of the instrumentation system designed to provide a system similar to the one at the NTC. In 1992, the contract for the objective system had been awarded to Cubic Defense Systems. Installation of a full-scale instrumentation system was originally planned for FY 1994, but that date had been moved forward to FY 1997. Meanwhile, problems arose in the fielding of MILES II/SAWE-RF player detection devices (PDD). JRTC officials expressed concern to the Simulation, Training, and Instrumentation Command, the office of the Combined Arms Command-Training (CAC-T), FORSCOM, and representatives from the Department of the Army Office of the Deputy Chief of Staff for Operations and Plans, about the size and weight of the devices, the placement of the data communications interface, the cost of batteries, and PDD distribution. The Combat Training Center Directorate at CAC-T was concerned that a decision to change the PDD design would have a negative impact and put at risk FY 1994 and FY 1995 procurement funds. As the year ended, representatives of the Army agencies concerned were looking at alternatives to present to the CTC General Officer Steering Committee in March 1994.[12]

The Combat Maneuver Training Center

In addition to the continuing improvements at the NTC and the relocation of the JRTC at Fort Polk, the Army continued the development of the Combat Maneuver Training Center (CMTC) at Hohenfels, Germany. Like the NTC, the CMTC featured an opposing force, an Operations Group, observer/controllers, force-on-force maneuvers, an instrumentation system, after action reviews, and take home packages. The CMTC had one thing the NTC did not have. That was a site for training military operations on urban terrain (MOUT). In

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10. Clifford R. Sherer, "JRTC and Coalition Training," Army Trainer, Fall 1993, pp. 8-9.

11. Ibid.

12. (1) TRADOC ACH, CY 92, p. 123. (2) CTC Directorate Significant Activities, 16 Dec 93, Doc VI/4.

1993, the CMTC conducted twelve rotations. Requests for participation from allied armies continued to increase. In May 1993, the CMTC conducted a peacekeeping rotation for the Royal Dutch Marines in preparation for their United Nations peacekeeping role in Cambodia.[13]

Acceptance testing of the CMTC instrumentation system designed and produced by Cubic Defense Systems, was conducted beginning in August 1993. Like its counterpart system at the NTC, the system would be used to collect and display data from force-on-force exercises, during after action reviews. The system capitalized on the capabilities of the Simulated Area Weapons Effects (SAWE) and MILES systems to replicate indirect and direct fire, respectively. While the new instrumentation generally worked well, there were a number of system failures that had to be corrected before the U.S. Army Europe commander would accept the system. Of 119 after action reviews attempted during the test period, 31 were failures and 12 had minor problems. The fire support work station hardware tended to "lock up," and the FASCAM (Family of Scatterable Mines) mines proved to have deficiencies. Key to the generation of after action reviews was the movement of data from the field to the Core Instrumentation System (CIS) via the Range Data Measurement Subsystem (RDMS). The requirement was for 95 percent connectivity, 95 percent of the time. The RDMS only met 91 percent connectivity, 80 percent of the time. Likewise, the Range Monitoring and Control System (RMCS) had minor difficulty in recording audio and video transmissions from the field to the CIS. The CMTC began retesting the instrumentation system in October 1993. Verification testing was set for the spring of 1994.[14]

The Battle Command Training Program

The Battle Command Training Program (BCTP) was the Army's newest combat training center. Formed in 1987, the BCTP trained active and reserve corps and division commanders and their battle staffs in the combined arms, joint operations, logistics, and command and control skills necessary to win on the battlefield. The program consisted of a five-day seminar conducted at Fort Leavenworth followed by a five-to-seven day computer driven command post exercise, usually at home station. The BCTP experience included an OPFOR made up of a balanced combination of military personnel and civilian contractors. The OPFOR's mission was to doctrinally replicate the operations, tactics, and troop control process of the threat force fighting against Blue Force divisions and corps. The BCTP featured no actual troops, but rather simulation. In 1993, the Battle Command Training Program conducted thirteen warfighter exercises and thirteen seminars. Perhaps most notable was the classified Southwest Asia scenario used by III Corps in December 1993.[15]

During 1993, the BCTP branched out in several new directions. A third BCTP team, for training reserve brigades, was added to the existing teams. Elements of the BCTP and the National Simulation Center at Fort Leavenworth helped link simulations from other services

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13. (1) TRADOC ACH, CY 92, p. 124. (2) SSHR, ODCST, CY 93/I, p. 74; CY 93/II, p. 140.

14. (1) SSHR, ODCST, CY 93/I, p. 74; CY 93/II, p. 140. (2) Msgs, CINCUSAREUR to distr, 131015Z Oct 93, subj: Combat Maneuver Training Center-Instrumentation System Acceptance Test; 292031Z Nov 93, subj: Combat Maneuver Training Center - Instrumentation System (CMTC-IS) Acceptance Test II, Docs VI/5 and VI/6.

15. (1) TRADOC ACH, CY 92, p. 125. (2) SSHR, ODCST, CY 93/I, p. 74; CY 93/II, p. 140.

for a confederation of simulations suitable for joint exercises in Europe and Korea. The BCTP was used by the Louisiana Maneuvers program to investigate the issues of the 21st century force projection army. The BCTP was also staffed to support the aforementioned contingency force rotation, 93-08, at the JRTC, 22 August to 6 September 1993. The BCTP provided an observer/controller team to conduct both formal and informal AARs.[16]

Training Management and Development

As available funding for training was increasingly reduced, training developers and managers had to find innovative solutions to training needs. Despite severely constrained resources, if TRADOC was to fulfill the command's total mission, it was essential that training and leader development strategies and programs be conceived, developed, and executed to support doctrine, force design, and materiel development, acquisition, and fielding. More and more the training planners at TRADOC relied on sophisticated computer programs and automated techniques in scheduling and executing training programs. Rapid advances in the development of training aids, devices, simulations, and simulators meant rapid changes in the way training was conducted. Perhaps the most important concern for TRADOC's trainers was that, despite ever lower defense budgets, training standards be maintained.

The Combined Arms Training Strategy

The Army's plan for sustaining the training readiness of units was the Combined Arms Training Strategy, or CATS. The CATS provided the conceptual framework for integrating Army training programs and resources in units, in Army schools, and for individual self-development. The strategy was based on both home station training and on deployment for training. Home station training took place at Army installations, reserve centers, and armories to provide the foundation for soldiers and lower echelon units to build and sustain proficiency on mission essential tasks. Deployments to Combat Training Centers and exercises worldwide were designed to insure efficient integration of all aspects of combat and support assets at higher echelons. The CATS also addressed training support. The Army sought to provide a mixture of training support resources that would enable units to sustain readiness standards most efficiently. Examples of the type of training support the CATS program included were operating funds, training ammunition, range facilities, training aids, training devices, simulators, and simulations. Finally, the CATS addressed leader development through the aforementioned progressive and sequential school training programs, unit assignments, and self-development.[17]

To determine the best mixture of training priorities and resources, the Army identified the tasks in each mission area that each soldier had to master and determined what training resources were available to train those tasks. Next, the best training system or mixture of systems was determined for each task. Last, it had to be determined whether the Army could afford what was deemed to be the best solution. All resources requirements--petroleum products, spare parts, ammunition, ranges, training land, military construction, training

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16. (1) CAC and Fort Leavenworth Bulletin Board, 27 Aug 93, subj: Significant Activities Update. The BCTP-LAM linkage and the Brigade Command and Battle Staff program for the RC are discussed in Chapter IV.

17. Posture Statement, 1993-94, pp. 33-34.

aids, devices, simulators, simulation, and people were added into the equation. The objective was to identify the best combination of those resources, given the funding available, would allow the soldier to master the necessary tasks. Each TRADOC center and school developed its own part of the overall strategy and identified the resources to support it. In 1990, the TRADOC Deputy Chief of Staff for Training assigned the Combined Arms Training Activity (redesignated the Combined Arms Command-Training during 1990) as executive agent for the CATS and thus for implementation of the training strategy.[18]

TRADOC training developers believed the Combined Arms Training Strategy was the future of Army Training management. During 1993, training strategies continued to be reviewed, revised, and data bases collected. Efforts to automate the CATS--so that information could be sent to units electronically--continued. On 14 May, TRADOC published and began to distribute TRADOC Regulation 350-35, The Combined Arms Training Strategy. The new regulation, long in preparation, outlined CATS continuous development, established responsibilities for strategy development, and described the program's interaction with the training development process. Specifically, it explained the CATS interface with the combat developments process, the budget process, the training aids, devices, simulator and simulation development process and the Systems Approach to Training, described below.[19]

TRADOC also published--on 23 August 1993--Pamphlet 350-10, Combined Arms Strategy Development. The pamphlet set out specifics on how to develop the CATS. FORSCOM reprinted the new pamphlet and issued it to battalion trainers as a training management document in support of FM 25-100, Training the Force, and FM 25-101, Battle Focused Training. Efforts also continued to put in place better CATS policy and development for the reserve components.[20]

Training Doctrine, Publications, and Studies

Several TRADOC and Department of the Army regulations and circulars dealing with TRADOC's training functions were in various stages of development or revision in 1993. In 1991, TRADOC had published Training Circulars (TC) 25-1, Training Land, and 25-8, Training Ranges. TC 25-1 provided a method for calculating training land requirements by using a validated set of criteria. TC 25-8 provided guidance for developing and operating Army and Marine Corps ranges. In 1992, the Department of the Army followed suit with the development of AR 210-21, Army Training Ranges and Land. The regulation was designed to assign responsibilities and procedures for the Army range and training land acquisition program. After comments from the field and a number of revisions, at the end of 1993 Headquarters Department of the Army was preparing to publish a final version of the regulation.[21]

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18. TRADOC ACH, CY 92, pp. 126-28.

19. TRADOC Regulation 350-35, Combined Arms Training Strategy, 14 May 93, p. 1, Doc VI/7.

20. (1) SSHR, ODCST, CY 93/II, p. 18. (2) TRADOC Pam 350-10, Combined Arms Training Strategy Development, 23 Aug 93, Doc VI/8. For a detailed account of the development of CATS, see TRADOC ACH, CY 90, pp. 166-69 (FOR OFFICIAL USE ONLY -- Info used is not protected); CY 91, pp. 168-72; CY 92, pp. 126.

21. (1) TRADOC ACH, CY 92, pp. 128-29. (2) SSHR, ODCST, CY 93, p. 91.

As a result of rapidly changing missions and strategies and of increasing emphasis on leader development, a number of Department of the Army pamphlets (DA Pam) that addressed training issues were under revision or development in 1993. DA Pam 350-38, Standards in Weapons Training, provided guidance in developing and forecasting FY 1994 training requirements. The updated pamphlet was published in February 1993, with an effective date of 1 October 1993. As a result of significant changes in the Army and the world at large, Headquarters Department of the Army directed TRADOC to perform an accelerated evaluation of the new strategies contained in the pamphlet. A companion document, DA Pam 350-39, Standards in Weapons Training (Special Operations Forces), was also being updated as directed by the Army Chief of Staff. The updated pamphlet, which was closely coordinated with the U.S. Army Special Operations Command, was published on 30 September 1993, with an effective date of 1 October 1993. As with DA Pam 350-38, DA Pam 350-39 was under rigid evaluation.[22]

Three other DA Pamphlets were under revision in 1993. Those were DA Pam 600-3, Commissioned Officer Development and Career Management; DA Pam 600-11, Warrant Officer Professional Development; and DA Pam 600-25, U.S. Army Noncommissioned Officer Professional Development Guide. The status of the revision of those three important pamphlets is discussed in Chapter IV, in the section on leader development.

Beginning in March 1992, the two capstone manuals for training, FM 25-100, Training the Force, and FM 25-101, Battle Focused Training, were reviewed to determine whether revisions were needed in light of some senior leaders' concerns that the doctrine contained therein was not understood. The review panel judged the doctrine to be sound, requiring only minor changes. Revisions being made in 1993 included the addition of a new preface addressing the new National Security and Military Strategies and discussions and sections for force projection, operations other than war, sustainment training for pre-deployment, predeployment validation criteria, the Combined Arms Training Strategy, and training management references. The basic planning, execution, and evaluation procedures for training would not change. Publication and distribution of the revised manuals was scheduled for June through September 1994.[23]

In 1993, TRADOC sponsored a number of studies which were being conducted by the federally-funded RAND Arroyo Center at Santa Monica, Calif. Some of the studies were part of a project called Future Individual Training Strategy which involved the investigation of unit training resource mixtures that would emphasize the tradeoffs between training devices and field training. Two of the studies staffed in final draft form during the year were "Distributed Training of Armor Officers" and "Device based Training of Armor Crewmen." The Deputy Chief of Staff for Training also agreed to sponsor a RAND project entitled "Restructuring the Total Army School System." The project would estimate the future demand for active and reserve component training and evaluate the cost and the ability of alternative systems to meet the demand.[24]

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22. (1) TRADOC ACH, CY 92, P. 129. (1) SSHR, ODCST, CY 93/II, P. 156.

23. Electronic Mail Msg, Fort Leavenworth, CAC-T Bulletin Board, 24 Sep 93, subj: Revision of FM 25-100/101.

24. (1) TRADOC ACH, CY 92, pp. 129-30. (2) SSHR, ODCST, CY 93/I, p. 10.

The Army Institute for Professional Development (AIPD) of the U.S. Army Training Support Center managed the consolidated Army Correspondence Course Program (ACCP) for twenty-three TRADOC and six Department of the Army schools. The schools themselves designed the curricula, determined the eligibility criteria, and developed the course materials. During 1993, the average enrollment was approximately 215,000. Of the total enrollment, as of 31 December 1993, 67 percent were Active Army, 12 percent were Army National Guard, 13.9 percent were U.S. Army Reserve, and the remainder represented the civilian sector and other services. AIPD continued to work closely with the National Home Study Council, other branches of the Armed Forces, and the American Council on Education in an effort to promote quality nonresidential educational opportunities. Also during the year, the TRADOC Chief of Staff approved a Deputy Chief of Staff for Resource Management recommendation to consolidate the Army Logistics Management College and Command and General Staff College correspondence courses with AIPD. The two agencies had heretofore managed their own programs. The transition would be phased in over FY 1994 and FY 1995.[25]

During FY 1993, the Armywide Doctrinal and Training Literature Program (ADTLP) had an initial budget of $3 million. Contributions by other agencies such as the Army Training Support Center and the ROTC Cadet Command brought the funding level to $4.91 million. The ADTLP continued to print field manuals, training circulars, soldier training publications, and publications for the Army Training and Evaluation Program (ARTEP) and Military Qualification Standards, for initial distribution and stock. However, beginning in February 1993, no publications were reprinted except soldier training publications, including those supporting the new Self-Development Test for noncommissioned officers. A total of 174 publications remained on hold for reprinting at the end of the year. In October 1993, a work group met at TRADOC to assign all printing projects projected for FY 1994 into one of nine priority categories.[26]

Training Management Systems

The computer-based Automated Instructional Management System (AIMS) was designed to assist trainers at the schools and Army training centers in the management and scheduling of training. By 1992, the twenty-three AIMS sites had been connected to the TRADOC

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25. SSHR, ODCST, CY 93/I, pp. 95-97; CY 93/II, pp. 161, 163, 167.

26. SSHR, ODCST, CY 93/I, pp. 80-81; CY 93/II, pp. 138, 145, 147. The nine priority categories were:

(1) Self-Development Test related publications (initial prints only), Soldier Training Publications (initial and reprints) and FY 1993 carryovers.
(2) CG directed/CG interest publications.
(3) Publications that affect operations other than war.
(4) Joint publications.
(5) Force projection Army-related publications
(6) Other products not related to another category.
(7) Military Qualification Standards publications.
(8) Self-Development Test reprints.
(9) All other reprints.

Decision Support System and the Army Training Requirements and Resource System (ATRRS), thereby making it possible to schedule an entire year of training with regard to numbers and starting dates for classes. Since that time a "functional description" of AIMS capability had allowed data collected on resident students to be linked to other automated systems in usable format. In 1991 AIMS was established as a Department of the Army instructional management system, although TRADOC remained the functional proponent. By October 1992, five new "data fields" had been added to the AIMS-ATRRS system (rank, branch, functional area, MOS, and security clearance). Meanwhile, systems managers turned their focus to the redesign of AIMS, and the system became known as AIMS-R.[27]

In 1993, the AIMS-R redesign effort continued. It was being developed and implemented as a "proof-of-concept" system for Sustaining Base Information Services (SBIS), a Department of the Army initiative to acquire and implement a government owned and operated "open system environment." Plans were that by the year 2000, all Active Army Sustaining Base Information Systems would become a part of the Department of the Army system. TRADOC would serve as the executive agent. In June 1993, the Army awarded a $474 million contract for development of the SBIS to a team led by IBM Federal Systems Co. and American Telehone and Telegraph (AT&T). When completed, the system would run on the AT&T portion of the FTS 2000 network. Fielding of the redesigned system to test bed sites at Forts Monroe-Eustis, Gordon, Sill, Lee, Bragg, and at Redstone Arsenal was scheduled for early in 1994. The AIMS-R was designed to become the Army's standard system for individual training development, administration, student records management, and training management for resident, nonresident, and self-development testing.[28]

TRADOC developed training programs following a systematic process called the Systems Approach to Training (SAT) as set forth in TRADOC Regulation 350-7. The SAT was the application of the processes of evaluation, analysis, design, development, and implementation, in that order, to determine the who, what, where, when, why, and how of training. The systems approach applied to all training programs, materials, and products for which TRADOC had responsibility. Because the SAT was a time-consuming manual process, efforts had been underway for some time to automate the system. When the Automated Systems Approach to Training (ASAT) project was completed, it would be possible to automate training development products for both individual and collective training. As a submodule to the TRADOC Decision Support System (TDSS) training module (TRAMOD), the ASAT would link some twenty-six existing and planned automated training information systems or applications, including the Combined Arms Training Strategy, the Automated Instructional Management System, and the resident training scheduling program. The ASAT would automate four major functional areas: the determination of training development requirements; the management of training development; the production of collective training products; and the production of individual training products. By the end of 1993, the network installation at the Infantry School was completed; the project for the Sergeants Major Academy was underway; and ASAT network designs were in progress for the Aviation Logistics and Aviation Schools.[29]

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27. TRADOC ACH, CY 92, p. 131.

28. SSHR, ODCST, CY 93/II, pp. 27-28, 30, 163.

29. (1) TRADOC ACH, CY 93, p. 131-32. (2) Fact Sheet ATTG-CD, 15 Jul 92, subj: Automated Systems Approach to Training (ASAT). (3) SSHR, ODCST, CY 93/II, p. 185.

During 1993, the commander of the Army Training Support Center directed that 100 selected Army Training Evaluation Program, Standard Training Plan, and Military Qualification Standards manuals be put in electronic form, or digitized, for use by proponent schools to speed future manual development or revision. The manuals, in digitized form, would be loaded into the ASAT to facilitate manual development and into the Standard Army Training System (discussed below) to support unit training. Some manuals were already in electronic form, but most had to be keyed in by computer or scanned. It was expected that the pilot project would be extended to encompass all manuals of the types noted.[30]

The Training Development Workload Planner (TDWP) was one of three databases in the TRADOC Decision Support System training module. In 1991, the TDWP was incorporated into the ASAT as the planning module, to provide Headquarters TRADOC, the Army Training Support Center, the major subordinate commands, and the service schools with an improved training development management tool. In July 1993, the final version of the system, version 4.0, was fielded. It was anticipated that the system would be coded within the ASAT within the next year. The TDWP-ASAT provided, among other things, management of the Army Doctrinal and Training Literature Program. With the fielding of the new version of the system, the old Army Extension Training Information System ceased to be used.[31]

To automate the Combined Arms Training Strategy (CATS), training development and management functions contained in FM 25-100, Training the Force, and FM 25-101, Battle Focused Training, TRADOC continued developing software programs to assist commanders and their staffs in using the new training field manuals. The program was called the Standard Army Training System, or SATS. The new automated system replaced manual procedures and the Training Management Control System. By 1993, the SATS had been designated the Army's primary automation support for training management, and its use had been mandated in Active Army units from division through company. From 1991 through 1993, SATS was fielded to approximately 95 percent of Army divisions, and mobile training teams trained more than 250 battalions. Version 3.1 of SATS was fielded beginning in September 1993. The next version, 3.2, was scheduled for release in June 1994. In the development program, emphasis was being put on digitizing mission training plans and the integration of SATS instruction into the POIs of proponent schools.[32]

The Joint Computer Based Instructional System (JCBIS) was a government owned and operated system of computer equipment and software which delivered training for the Army, Navy, and the Federal Aviation Agency. A committee composed of representatives of all those activities managed and administered the program. The JCBIS featured four mainframe computers and approximately 900 terminals. In 1993, as a result of the loss of JCBIS funds, an emergency meeting was called at Fort Monroe, Va., to discuss the future of the system. Funding was obtained from other JCBIS sources and the Office of the TRADOC

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30. SSHR, ODCST, CY 93/II, p. 187.

31. (1) TRADOC ACH, CY 92, p. 132. (2) SSHR, ODCST, CY 93/I, p. 117; CY 93/II, p. 186.

32. (1) TRADOC ACH, CY 91, p. 173. (2) E-Mail Msg, CAC Bulletin Board, 24 Sep 93, subj: Standard Army Training System.

Deputy Chief of Staff for Information Management to make a communications conversion from the contractor to FTS 2000, (a government system) as mandated by the Department of the Army. The new hookup had only three mainframe computers.[33]

In 1988, the Army Reserve reception stations began receiving the Reception Battalion Automated Support System (RECBASS) to support mobilization exercises. During Exercise CALL FORWARD 93, the RECBASS was tested to verify capability to support processing of the Individual Ready Reserve (IRR) and retired soldiers into active duty. The mobilization exercise, which was conducted at Fort Leonard Wood, was considered very successful. As a result, lessons learned would be used by the USAR reception battalion units and TRADOC initial entry training installations to update their partial mobilization training plans. Also in 1993, RECBASS equipment was transferred from three inactivating USAR reception battalions to three augmentation battalions. The additional equipment provided the gaining units the capability to assume the IRR mobilization mission at their respective mobilization sites. Early in 1993, plans were to incorporate the RECBASS into the Sustaining Base Information System in FY 1994. Later in the year, a decision was made to withdraw it as a candidate for SBIS because of costs and the general consensus among the automatic data processing community that the RECBASS could be phased out and replaced by the SIDPERS 3 (Standard Installation/Division Personnel System) over the next three to five years.[34]

Training Aids, Devices, Simulators, and Simulations

Training aids, devices, simulators and simulations (TADSS) had long been a part of the Army's training methodology. From the broomsticks that replicated guns in the Louisiana Maneuvers of 1941 to the sophisticated satellite-based systems of 1993, there had always been a need to "pretend" when considerations of cost, safety, logistics, and environmental concerns made training with real weapons or ammunition untenable. As training developers looked to a future of severely rationed resources, weapons with increasing range and lethality, and increasing environmental concerns over the military use of public lands, it became clear that Army training would depend more than ever before on TADSS and that training would become more device-based as opposed to device-supported. TRADOC's training developers had precise definitions for the terms that made up the acronym "TADSS." Training aids were defined as items that assisted in conducting training and aided in the learning process, such as visual modifications, slides, graphics, and teletraining networks. Training devices were three dimensional objects that improved training by giving the soldier something that substituted for actual equipment, such as practice mines and training ammunition. Training simulators were defined as a special category of training devices that replicated all or most of a system's functions, such as the various conduct-of-fire trainers and flight simulators.

Development in the last of the categories, simulations, received much attention in 1993. The Department of Defense grouped simulation technologies into three classes, as follows. Virtual simulations networked simulators to support team and unit collective training on a simulated battlefield. Examples included the Simulation Network (SIMNET) and the Close Combat Tactical Trainer (CCTT). Constructive simulation included networked computer models to conduct war games that allowed "man-in-the-loop" input to support command and

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33. (1) TRADOC ACH, CY 90, p. 188. (2) SSHR, ODCST, CY 93/I, p. 15.

34. SSHR, ODCST, CY 93/I, pp. 35-36; CY 93/II, p. 31.

control training and to integrate combat arms, combat support, and combat service support functions from platoon to echelons above corps. Examples included the JANUS battle synchronization trainer for platoon and company level officers, the Brigade-Battalion Battle Simulation (BBS), and the Corps Battle Simulation (CBS). The third category was actual, or live, simulations. Such simulations featured combined arms and services field training exercises conducted by actual combatants using real or surrogate systems operating under the most realistic combat conditions attainable. Those exercises simulated the casualty-producing effects of modern weaponry in a safe, objective, and efficient manner. Examples included force-on-force exercises at home stations and at the maneuver combat training centers using tactical engagement simulations such as the Multiple Integrated Laser Engagement System (MILES) and the Tank Weapons Gunnery Simulation System-Precision Gunnery System (TWGSS-PGS). Those training simulations gave leaders effective alternatives when maneuver and gunnery training opportunities were limited.[35]

Commanders also benefited from "distributed training" which depended heavily on TADSS and "embedded training" which allowed training devices to be built into weapons systems in the developmental stages. Those training aids, devices, simulators, and simulations are discussed in greater detail below. The Combined Arms Training Strategy, discussed earlier, provided the architecture to bring all the TADSS, the Combat Training Centers, operating tempo (OPTEMPO), ammunition, and other resources under a central decision-making system. The Army's proponent for training simulations was its new National Simulation Center (NSC) at Fort Leavenworth, Kansas. The NSC provided centralized management of Army training simulation for TRADOC and simulation support for the entire Army.[36]

A major event in the training support realm was the publication of the Tactical Engagement Simulation Master Plan (TES-MP) in May 1993. The TES-MP dealt with "free-play" live force-on-force field training exercises and was designed to guide and manage the development, acquisition, and employment of tactical engagement simulation (TES) systems. It was also designed to promulgate the TES training philosophy and to institutionalize the TES training system throughout the Army. The TES-MP documented what had been an evolutionary process of meeting training needs. Its goals were to promote management of the TES training system, forecast TES resources, and provide a vision of the future for the TES training system in harmony with the Concept Based Requirements System and the CATS.[37]

Training Simulators and Simulations

As the size of the armed forces shrank, it was more than ever evident to trainers that readiness for battle and for operations other than war had to be a top priority. As Army trainers looked into the next century, they did so with a dramatically changed training philosophy. Traditionally, Army training had been based heavily upon the execution of field training exercises. By the 1990s, severe decreases in the defense budget made live training less affordable. Beginning in 1992, a new device-based strategy was being instituted that affected all levels and types of training programs and organizations. Those changes would

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35. Preface, Tactical Engagement Simulation Master Plan (TES-MP), May 1993, p. viii, Doc VI/9.

36. TRADOC ACH, CY 92, pp. 133-34.

37. Executive Summary, TES-MP, May 1993, p. ES-1.

be reflected in new or upgraded programs such as the Combined Arms Tactical Trainer (CATT) programs and the family of simulations (FAMSIM) program. Although the initial expense of training aids, devices, simulators, and simulations was large, it was not as large as the investment involved with research, development, and acquisition of weapons systems. In addition, training devices did not wear out as rapidly, required less maintenance, and were easier to upgrade or replace. With the arrival of new technologies such as distributed interactive simulation (DIS) and virtual reality, device-based training was nearing a level of realism that qualified it as an acceptable and affordable method of training. However, despite constrained resources and rapidly advancing simulation technology, trainers were quick to point out that the widespread use of TADSS would not eliminate the need for field training. The Combat Training Centers remained the capstone events of Army training.

Distributed Interactive Simulation. The Distributed Interactive Simulation (DIS) Technology Program was an Army-wide initiative begun early in 1992. Distributed interactive simulation involved the on-line networking of large numbers of participants operating through simulators, actual equipment, and computer models of friendly and opposing forces in free play exercises on a simulated battlefield. The term "distributed" referred to the fact that the simulated programs could be geographically separated, each employed, or "hosted," on a computer, and connected via communications networks to create a shared synthetic environment. DIS did not feature a central computer into which all the others were connected. DIS was interactive in that one participant's behavior could immediately affect other participants' actions. The process had the potential of revolutionizing collective training, system test and evaluation, the development of tactical doctrine, and weapons systems concept analysis.[38]

According to Army Regulation 5-11, Army Model and Simulation Program, which governed the DIS program, TRADOC was the functional manager, and the Army Materiel Command--through the Simulation, Training, and Instrumentation Command (STRICOM)--was the technical manager. Within TRADOC, the Office of the Deputy Chief of Staff for Analysis functioned as the policy-level office at the headquarters, while line execution was the responsibility of the National Simulation Center at CAC. A general officer steering committee provided guidance to the Deputy Chief of Staff for Operations and Plans in Headquarters Department of the Army, who handled requirements. The steering committee also advised the Assistant Secretary of the Army (Research, Development, and Acquisition) who implemented DIS programs. When issues related to functional applications were to be discussed, the Louisiana Maneuvers Task Force was represented.[39]

In March 1993, the Army Chief of Staff, General Sullivan, in a message to the concerned parties, set down guidelines for the "verification and validation" responsibilities of the agencies responsible for the DIS program. In his words,

> . . . the distributed, interactive nature of DIS, the complex interactions of DIS models, simulations, simulators, databases, algorithms, and the associated system software/hardware interoperability challenges make it imperative that one organiza-

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38. Norman E. Land and Earl A. Alluisi, "Fidelity and Validity in Distributed Interactive Simulatiion: Questions and Answers," Institute for Defense Analysis, November 1992.

39. TRADOC ACH, CY 92, p. 135.

tion be charged with the responsibility for V&V [verification and validation] for the network across the spectrum of applications.

Accordingly, TRADOC was designated the verification and validation proponent for the overall program, responsibility which was further delegated to the TRADOC Analysis Command. The developers of each component system would remain responsible for their own systems. The Army Materiel Command's Simulation, Training and Instrumentation Command, as the principal developer of core components for DIS, would prepare the V&V plans and program funds for their execution. Further, a DIS Master Plan, then in preparation, would spell out those responsibilities.[40]

During 1993, the TRADOC Office of the Deputy Chief of Staff for Training began work on the training issues associated with a new project known as the Synthetic Theater of War-Europe, or STOW-E. The project was an Advanced Research Projects Agency (ARPA) initiative, with support from the Commander-in-Chief, USAREUR, designed to demonstrate the ability to link together via DIS the three kinds of simulation--live, virtual, and constructive--to facilitate brigade level collective training. The demonstration of the STOW-E technology would take place in conjunction with return of forces to Germany (REFORGER) exercises in 1994. The STOW-E "battlefield" would consist of one battalion on the ground at Hohenfels, Germany; one battalion in SIMNET; and one battalion in the Brigade-Battalion Battle Simulation (BBS), with the brigade commander also in BBS. The vehicle for tying the three simulations together would be the Advanced Interface Unit developed by Naval Research and Development under contract to ARPA. At the end of 1993, the BBS-SIMNET link had already been demonstrated.[41]

Combined Arms Tactical Trainers. A project begun in 1991, and which would stretch at least ten years into the future, sought to apply the technology developed by the U.S. Army and the Advanced Research Projects Agency for Simulation Networking (SIMNET) trainers, to a family of Combined Arms Tactical Trainers, or CATT. The CATT family of trainers would allow commanders to conduct training in a virtual combat environment, from team-squad to company level. The CATT initiative included plans for a Close Combat Tactical Trainer (CCTT) for infantry training, an Aviation Combined Arms Tactical Trainer (AVCATT), an Air Defense Combined Arms Tactical Trainer (ADCATT), an Engineer Combined Arms Tactical Trainer (ENCATT), and a Fire Support Combined Arms Tactical Trainer (FSCATT). The FSCATT operational requirements document was approved in FY 1993.[42]

The first project in the series, the development of the CCTT, began in 1991. The CCTT would be a series of M1 Abrams tank, M2/3 Bradley Fighting Vehicle, High-Mobility Multipurpose Wheeled Vehicle (HMMWV) simulators networked with combat support emulators, weapons systems, and command and control elements. The "fight" would be against semi-automated forces on a comput-

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40. Msg, HQDA to distr, 051500Z Mar 93, subj: Verification and Validation for Distributed Interactive Simulation.

41. SSHR, ODCST, CY 93/II, p. 172. Other TRADOC agencies involved in STOW-E were the Collective Training Instrumentation and Engagement Systems Directorate and CTC Directorate of CAC-T, the Engagement Systems Directorate of the National Simulation Center, and the TRADOC systems manager for the Combined Arms Tactical Trainer.

42. (1) TRADOC ACH, CY 92, p. 136. (1) SSHR, ODCST, CY 93/II, p. 173. FSCATT had been formerly known as the Closed Loop Artillery Simulation System (CLASS) Trainer.

er-generated battlefield. The CCTT program was projected to cost almost $1 billion. As with many such ambitious and costly projects, the CCTT program ran into immediate difficulties. The Project Manager for Training Devices had expected to issue a request for proposal to the training developments industry in late August 1991. However, in July of that year, senior Army officials advised against issuing an industry-wide solicitation for the new training program until it was clear where funds would come from. Despite the visibility of the CCTT program, in the 1992 defense budget the program did not receive funding as a separate line item, but rather it was included in the general $104.9 million training systems account. Finally, the Army requested that $51 million be set aside for the CCTT. To that amount the Senate Armed Services Committee added $10 million. The other Combined Arms Tactical Trainers would be funded separately. Original plans had been to field an objective system by 1999-2000. However, during the staffing of the training device requirement, USAREUR requested a "Quickstart" plan to field CCTT prototypes early at existing SIMNET sites to meet immediate training needs. That plan, which would move fielding of the first CCTT up to 1995, was approved. Sixty-eight modules would be fielded to USAREUR and FORSCOM early to serve in operational tests before large scale production began. Delays in the award of a contract, pushed fielding back to May 1996.[43]

The CCTT equivalent of Combined arms Tactical Trainers for aircraft was known as AVCATT and was still in the developmental stages in 1993. The AVCATT would simulate tactical aviation force-on-force combat. It would also interact with the armor and infantry trainer, CCTT, to provide the aviation link of the CATT. Despite high development costs, in the long run the AVCATT was expected to be cost effective while compensating for fewer flying hours, reduced frequency of field training, and restrictions on the use of maneuver areas and air space. For reasons of reductions in the defense budget, the AVCATT was not expected to be available before FY 2003.[44]

The air defense artillery component of the CATT family of simulators, the ADCATT, would include Forward Area Air Defense (FAADS), Patriot, Hawk, and C^3I simulators for combined arms training with the other CATT components. Development was also in the early stages for the engineer (ENCATT) and fire support components. In the case of the fire support simulator, the howitzer crew trainer solution was changed to a transportable version to reduce construction and operating tempo requirements.[45]

Family of Simulations. Costs, limited training areas, environmental considerations, and rapidly developing technology all came together to cause the Army to develop a "Family of Simulations (FAMSIM)." Each member of the family was designed to meet a specific need for command and control training at a specific echelon, platoon/company to echelons above corps. The FAMSIM allowed full-scale command and staff training exercises to be conducted without the deployment of personnel, vehicles, planes, or ships. The Family of Simulations program used computer-based wargames to assist with the evaluation of internal staff training and standard operating procedures, prepared staffs for field training exercises, and developed command, control, communications, and intelligence procedures. The electronic capability to link separately based units into a training exercise enabled both active and reserve unit headquarters to exercise together without leaving their respective home stations. The FAMSIM was also capable of supporting theater level exercises and

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43. (1) TRADOC ACH, CY 92, p. 136. (2) SSHR, ODCST, CY 93/I, p. 106.

44. TRADOC ACH, CY 92, p. 137.

45. (1) TRADOC ACH, CY 92, p. 137. (2) SSHR, ODCST, CY 93/II, p. 173. C^3I: Command, Control, Communictions, Intelligence.

could be linked to Air Force and Navy simulation systems. Major FAMSIM programs included Janus, Brigade-Battalion Battle Simulation (BBS), Corps Battle Simulation (CBS), and the Combat Service Support Training Simulation System (CSSTSS).[46]

Janus, named for the mythical Greek figure who could see in front and behind himself at the same time, was a leader development trainer for crew/squad through battalion levels. The Janus had originally been developed as an analysis tool, but it proved also to have a number of training applications. Training developers saw Janus as the official FAMSIM model to be used at the platoon and company levels and to train battalion and brigade commanders in the synchronization of the battlefield as called for by the seven Battlefield Operating Systems. Battalion commanders used it to teach company commanders how to position, use, and maneuver their fire systems, before they maneuvered actual weapons systems. Company leaders entered their battle plans into a computer, then watched on a television screen as the software replicated vehicles on the screen as the battle unfolded. In USAREUR, troops used an upgraded version of JANUS, the Urban Combined Arms Tactical Trainer (UCATT), that focused on combat in heavily populated areas. Training developers stressed, however, that simulations could lay a strong foundation for actual force-on-force maneuvers, but they could not substitute for them.[47]

As noted above, another of the training programs that made up the FAMSIM network was the Brigade-Battalion Battle Simulation, or BBS. Like JANUS, that system trained maneuver brigade and battalion commanders and their staffs in command and control skills under computer-driven simulated battle conditions. While designed for combat units, the BBS could also serve as a staff trainer for combat support and combat service support units. The BBS was capable of modeling from individual soldier through brigade-sized units with all accompanying major maneuver systems, as well as close air support, Army aviation, field artillery, and air defense. In USAREUR, the BBS was used to bring the training exercises at the CMTC from battalion to brigade level. Battalion commanders used the BBS to exercise the planning and preparation for tactical exercises before actually confronting the OPFOR. Company and battery commanders gave orders to units that existed only in computers. The computers generated battle information which was passed along to the battalion commander and his staff. The battalion staff was physically located in a tactical operations center in the maneuver area. As far as the battalion staff was concerned, the television battle was really going on as they encountered the same problems and made the same decisions they would have to make in a real battle.[48]

Another of the family of simulations was a model called Corps Battle Simulation (CBS), to be employed at division and corps levels. The CBS trained corps and division commanders and their battle staffs in the command and control skills necessary to the conduct of operations, with the use of simulated battle conditions. An interim CBS system was fielded in 1991. CBS development would be channeled into the design of the objective system which would be called Warfighting Simulation 2000 (WARSIM 2000), which was scheduled for fielding beginning in FY 1997. On 21 October 1993, the WARSIM mission needs statement was approved. On 9 November 1993, the operational requirements document was approved. The WARSIM 2000 would update the functionality, fidelity, and technology of current FAMSIM constructive models. The new system was expect-

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46. (1) Posture Statement, 1993-94, p. 39. (2) TRADOC ACH, CY 92, p. 138.

47. (1) TRADOC ACH, CY 92, p. 138. (2) Debra Fowler, "U.S. Army Europe Develops Training Strategy for Changing Times," Army Trainer, Fall 1993, pp. 42-46.

48. (1) TRADOC ACH, CY 92, p.138. (2) Fowler, "U.S. Army Europe," p. 45-46.

ed to be able to train skills required to synchronize the capabilities of heavy, light, aviation, and special operations forces in joint and combined scenarios. WARSIM 2000 would meet distributed interaction simulation (DIS) standards and was expected to link with virtual simulation such as the aforementioned Close Combat Tactical Trainer, force-on-force instrumented live simulations, and simulations developed by other services and allies. The systems would also have an embedded after action review capability.

Meanwhile, the Commander-in-Chief, USAREUR requested that the Combined Arms Command incorporate some improvements, as upgraded versions of the CBS were produced. First, the command believed the system should be capable of preventing units from firing unless they were fired upon. At that time, when units within the model came into adjacent "hexes," the computer automatically placed the units into conflict. That situation meant that the commander was not always able to make a conscious decision on when and where to engage the enemy. Second, the CBS needed additional icon colors to allow for representation of different factions in a multi-sided conflict, to include civilian personnel. New missions such as peacekeeping required the ability to represent more than two forces.[49]

During 1993, the Republic of Korea Army (ROKA) received its own Corps Battle Simulation system. It was hoped the investment would be a leap forward in creating a "seamless" defense partnership between Korean and American coalition forces. The Korean military services would use the CBS to create their own Battle Command Training Program (BCTP). They also established a Battle Simulation Center, modeled after the National Simulation Center at CAC, at their TRADOC headquarters at Taejon. The genesis of the Korean simulation program was a long-term effort by the ROKA and Eighth U.S. Army (EUSA) to create a coalition training program that would insure that both national forces could fight and operate together on the battlefield. In the past, the coalition had relied largely on field training exercises for joint and combined training. But terrain restrictions and the evolution of simulations argued for a shift in training strategies. By the end of the 1990s, ROKA and EUSA would have common simulation software and be able to engage in interactive exercises.[50]

At theater level, another member of FAMSIM was the Combat Service Support Training Simulation System (CSSTSS), which was located at Headquarters, Combined Arms Support Command and Fort Lee, Va. It, too, was a computer-driven simulation that would be linked to the CBS to support Louisiana Maneuvers exercises in FY 1994. The CSSTSS was designed to train command and control tasks for commanders and their staffs at the corps support command, theater army area command, and theater army command service support command levels. Simply put, the CSSTSS CBS linkage would make it possible to exercise logistics with maneuvers.[51]

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49. (1) TRADOC ACH, CY 92, p. 139. (2) Msg, CINCUSAREUR to distr, 261227Z Apr 93, subj: Corps Battle Simulation (CBS) Enhancements, Doc VI/10. (3) SSHR, ODCST, CY 93/II, p. 174. "Hexes" is short for hexagonal figures, a basic component in SIMNET technology.

50. MAJ Intae Kim, "ROK Army and Corps Battle Simulation (CBS)," Army Trainer, Spring 1993, pp. 16-17.

51. TRADOC ACH, CY 92, p. 140.

Tactical Engagement Simulation

Shrinking defense budgets, environmental concerns, the increasing range of modern weapons and thus the need for increasingly larger training areas, and the continued need for realistic training in peacetime, were also the factors that led the Army to continue the development of devices to simulate tactical engagements and weapons effects. Tactical engagement simulation (TES) training used simulation techniques and devices as aids in teaching operations doctrine, tactics, and fire and maneuver. Combined arms and services force-on-force exercises, such as those conducted at the Combat Training Centers and at homestation, were conducted by actual combatants using real systems operating under the most realistic conditions attainable, and in which the casualty-producing effects of modern weapons were simulated in a safe and objective manner. In May 1993, TRADOC published the Tactical Engagement Simulation Training System Master Plan designed to guide and manage the development, acquisition, and employment of TES training system resources in support of the Army's Combined Arms Training Strategy (CATS), discussed above. Among other things, the master plan provided an inventory of the TES training system devices in use at the end of FY 1992. Examples of TES used in live simulations were the Multiple Integrated Laser Engagement System (MILES) and the Tank Weapons Gunnery Simulation System/Precision Gunnery System (TWGSS/PGS).[52]

The MILES was an integrated family of laser-based transceivers designed to simulate, in real time, tactical engagements of direct fire weapons such as small arms, tank main guns, and guided missiles. The devices were eye-safe, portable, and virtually tamper-proof. MILES detector harnesses were attached on personnel and equipment. MILES transmitters, designed to emulate particular weapons' casualty producing effects, were attached to the weapons prior to an exercise. The MILES detector system recognized laser signals received as specific weapons types and internally calculated the kill probability of an engagement with that weapon. For example, small arms did not transmit armor-kill signals, because an M16 could not kill a tank. Engagement results were registered as "near miss, hit, or kill." Yellow strobe lights and screeching noises indicated his status to a player. Hits and kills resulted in the deactivation of the target's weapon according to a predetermined matrix of results. The results of MILES-supported tactical engagements were automatically scored. The MILES also provided data for the development of after action reports.[53]

As of the end of 1993, there were three types of MILES in use. The different versions were categorized according to the amount of information, or "words," that the unit's laser pulse delivered to the receivers. Basic MILES could transmit only 37 unique code words to identify different types of weapons and determine near-miss, hit, or kill information. "Instrumented MILES," or I-MILES upgraded the basic system by providing 330 player identification codes. The I-MILES was produced in limited numbers to support combat vehicle testing, and was used only at the Joint Readiness Training Center (JRTC). The most sophisticated version of MILES was known as MILES II. The MILES II could transmit 5,280 words to identify attacking players, ammunition, and weapon types. The latest system offered an expansion capability to integrate the Global Positioning System (GPS) and simulated area weapons effects-radio frequency (SAWE-RF) into a single integrated system known as MILES II/GPS/SAWE-RF. The SAWE-RF included a feature that allowed the system to interface with the instrumentation systems at the CTCs. The SAWE-RF signals combined with GPS position location data was expected to accurately simulate the effects of indirect fire, and to replace

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52. Tactical Engagement Simulation Master Plan, May 1993, pp. ES-1, viii.

53. TES Master Plan, p. 5-2.

the interim indirect fire simulation system known as the Combined Arms Training Integration Evaluation System (CATIES). The SAWE-RF was expected to undergo initial operational test and evaluation at Fort Hunter Liggett, Calif, beginning in the summer of 1994.[54]

The satellite-based Global Positioning System made it possible for the Department of Defense and commanders to know exactly where land forces, aircraft, and watercraft were at all times. The new GPS had evolved from an older satellite system that utilized only one satellite at a time. While the older system was very accurate, it often took up to an hour to get a good satellite transmission. The newer system featured four satellites and allowed an accurate fix in minutes anywhere on earth, regardless of terrain or weather conditions. Each satellite sent out a signal with an encoded time. The GPS receiver registered the time it received the signals. Since time and speed equals distance, it could be determined how far away the receiver was from each satellite. The soldier or vehicle would be positioned where the four distance circles crossed. When the GPS system was completed, twenty-one satellites would form the GPS constellation.[55]

For training in tank gunnery, the Army Training Support Center continued development of the Tank Weapons Gunnery Simulation System-Precision Gunnery Training System (TWGSS/PGTS). The TWGSS/PGTS was a joint U.S. Army and U.S. Marine Corps program that encompassed both indoor and outdoor gunnery devices for training on the Dragon and TOW weapons systems. The devices were designed for both individual and crew proficiency sustainment and weapons qualification. In 1991, the Army had rejected the first test items because they did not conform to contract specifications. In the fall of 1992, a second contract was issued, this time to Saab Training Systems of Huskvarn, Sweden. The contract called for the initial production and delivery of sixty-three devices.[56]

Distributed Training Program

The distributed training program (DTP), which had begun development in 1988, remained a top priority for the Training and Doctrine Command in 1993. The program had been mandated by the Army Long Range Training Program. Distributed training entailed the delivery of training information through a combination of media ranging from paper to sophisticated computer-driven lessons and video teletraining. Initial program guidance had focused heavily on cost savings, an approach that was widely perceived negatively as simply training reduction. To counter that perception, the TRADOC commander directed the program goals be refocused. The new focus included bringing students to a common level of knowledge prior to resident training, filling the gap between resident training periods, addressing individual training requirements for units in the field, and finding more efficient ways to train.[57]

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54. (1) Ibid., pp. 5-1 through 5-4. (2) SSHR, ODCST, CY 93/II, p. 173.

55. Jerry Rogers, ed. "Army Watercraft Receive 'Space-based' Tracking System," The Wheel, Fort Eustis, Va., 11 Feb 93, p. 5.

56. (1) TRADOC ACH, CY 92, p. 141. (2) Fowler, "U.S. Army Europe," pp. 43-45. For a discussion of the UCOFT see TRADOC AHR, FY 83, pp. 153-55. (SECRET--Info used is UNCLASSIFIED) TOW: Tube-Launched, Optically Tracked, Wire-guided System.

57. TRADOC ACH, CY 92, p. 142.

The DTP took portions of resident training, reconfigured the tasks involved to appropriate media, and distributed instruction to soldiers where and when needed. Phase I of the program during FY 1988-1991 demonstrated that training by computer-based instruction, video teletraining, and asynchronous computer conferencing could be at least as effective as classroom instruction with regard to learning and retention. In Phase II of the program, three pilot tests were conducted in FY 1993, one each in the Officer Advanced Course and the Basic and Advanced Noncommissioned Officer Courses. Based on the commanding general's guidance, the DTP in FY 1994 would focus primarily on the reserve components. At the end of 1993, a pilot test for the reserve component was being conducted for the Field Artillery Officer Advanced Course. Training developers made clear that distributed training was not intended to replace the Noncommissioned Officer Education System or the Officer Education System.[58]

One means of distributing training was through TRADOC's Teletraining Network (TNET). Created in 1982 as "School of the Air," the TNET delivered training via satellite twenty-four hours a day. In 1990, the system converted to state-of-the-art equipment that allowed the broadcast of fully interactive two-way video and audio over satellite links using a compressed digital signal. Eight different classes could be conducted simultaneously. Since 1990, the network had grown from 17 sites, in the pilot program phase, to more than 60 sites that delivered approximately 1,200 hours of training a month. Teletraining eliminated the need for television studios and production personnel because instructors controlled the broadcast. The TNET was especially convenient in training the reserve components, because soldiers could stay in their units. The system also saved travel and per diem costs. In 1993, the TNET system was successfully integrated with the U.S. Navy's teletraining system, the Naval Education and Training Electronic Schoolhouse Network or CESN. In a test of the combined systems, March 22-24, the TNET signal went from the TNET site in Monterey, Calif. to CESN at Dam Neck, Va. and then to the aircraft carrier USS Theodore Roosevelt (CVN-71) in the Mediterranean Sea. Future plans included establishing interoperability with the Satellite Education Network and the U.S. Air Force Institute of Technology.[59]

During Operations Desert Shield and Desert Storm, the Teletraining Network proved to be especially valuable for linguist training. The upgraded system was first put into operation for language training during the Gulf War to train deploying soldiers at Forts Riley and Hood, in the basic skills of the Iraqi dialect. Within twenty days of the call for assistance, TNET had installed two teletraining links with the Defense Language Institute (DLI) at Monterey, Calif. DLI provided more than 12,000 student hours of training. On 3 December 1992, the relief effort in Somalia generated a new requirement for DLI: training in the Somalian language for deploying U.S. forces. DLI had no instructors in the Somalian language, but by 8 December, four had been located in the Washington, D.C. area. Instruction was to go to soldiers at Forts Ord, Bragg, and Campbell. Course planning and rehearsal, as well as the training itself, took place via satellite. By 12 December, coast-to-coast training was taking place. During 1993, the distributed training program as a whole was severely curtailed because of reductions in the defense budget. However, Congress appropriated funds for the operation and expansion of TRADOC's Training Network video teletraining system.[60]

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58. SSHR, ODCST, CY 93/I, pp. 12-13.

59. (1) SSHR, ODCST, CY 93/I, p. 86. (2) Keith Schall, "Teletraining Network" Army Trainer, Spring 1993, pp. 22-25. The "C" in the Navy acronym stood for "Chief."

60. (1) Schall, "Teletraining Network," pp. 23, 25. (2) SGT Steven J. Milatz, "Linguist Training," Army Trainer, Summer 1993, pp. 42-43. (3) SSHR, ODCST, CY 93/II, p. 6.

Chapter VII

MISSION SUPPORT

The post-Cold War world brought a substantially new set of challenges to TRADOC during 1993. As had been the case during the previous several years, at least since 1987, resources continued to decrease at a faster rate than mission support requirements, widening the gap between what was expected of the command and what it could accomplish. The command sought to address both of these issues through substantial restructuring, both within the headquarters and in the field, particularly in the two major subordinate commands, the Combined Arms Command at Fort Leavenworth, Kansas, and the Combined Arms Support Command at Fort Lee, Virginia. The Army's evolution from force-in-being to force projection brought about changes in mobilization and exercise scenarios as well.

Mobilization Planning and Exercises

Army Mobilization and Operations Planning and Execution System and the TRADOC Mobilization and Operations Planning and Execution System

Experience during Desert Shield and Desert Storm demonstrated the need for new guidance for mobilization actions, particularly for contingencies short of full-scale war but requiring mobilization of a substantial number of personnel. The resulting publication of the Army Mobilization and Operations Planning and Execution Systen (AMOPES) in 1992 predicated a major revision in TRADOC's guidance, newly designated the TRADOC Mobilization and Operations Planning and Execution System (TMOPES.)[1] Issuance of the AMOPES, together with the completion and publication in October 1992 of FM 100-17, Mobilization, Deployment, Redeployment, Demobilization, made it possible to complete revision of the TRADOC plan in the first months of 1993, incorporating lessons from Gulf War mobilization and doctrine from the field manual.[2] The TMOPES showed change from previous mobilization planning documents in form as well as substance. Both the basic document and its 25 annexes were published in standard five paragraph field order format and, with the exception of three classified annexes (Operations Teams, Crisis Action Procedures, and TRADOC Survival, Recovery, and Reconstitution), all appeared in a single volume. The headquarters completed printing and distribution of the initial volume in June. Not surprisingly, given the rate of organizational reorientation and mission redefinition, several changes had been identi-

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1. (1) TRADOC ACH, CY 91, HQ TRADOC, June 1992, p. 35. (2) TRADOC ACH, CY 92, HQ TRADOC, October 1993, p. 148.

2.(1) TRADOC ACH, CY 92, HQ TRADOC, October 1992, pp. 146-148. (2) TRADOC Mobilization and Operations Planning and Execution System (TMOPES), 26 May 1993, Doc VII/1.

fied by the end of the year, stemming from revisions to AMOPES and decisions on restructuring and reduction of U.S. Army Reserve Training Divisions and U.S. Army Reserve Forces Schools pending at FORSCOM.[3]

CALL FORWARD

Department of the Army planned and conducted a series of mobilization training field training exercises given the designation CALL FORWARD (CF). TRADOC's role in the exercises centered on rapid training or refresher training for members of the Individual Ready Reserve (IRR) and operational testing of continental United States (CONUS) replacement centers (CRC). CF 93 took place from 27 May to 1 July 1993 at Fort Leonard Wood. Also during 1993, TRADOC took part in planning for CF 94, scheduled to be held at Fort Lewis, Washington, and CF 95, scheduled for Fort Bliss, Texas and other installations.[4]

CALL FORWARD 93 began on schedule with the arrival of advance personnel at Fort Leonard Wood on 27 May. TRADOC defined its interests in four "mission essential tasks"--first, providing base operations (BASOPS) expansion to support mobility, deployment, and CRC response to a Presidential Selected Reserve Call-up (PSRC); second, receiving and processing designated individual ready reservists (IRR) into active duty in support of partial mobilization requirements; third, testing military occupational specialty (MOS) skills, provide refresher training as needed, and validate reservists as being ready for active duty; and fourth, receiving and validating selected retired personnel for installation support and preparing those who volunteered for deployment. Actual reception of reservists and retirees began on 19 June; 49 retirees participated, along with 127 IRR. Expansion of BASOPS, testing, refresher training, and preparation for deployment all went smoothly, and after-action reviews characterized the exercise as a "major success" for the Army.[5]

Planning for exercises CALL FORWARD 94 and CALL FORWARD 95 continued through the year. No TRADOC missions were scheduled for exercise during CF 94 at Fort Lewis, Wash., a FORSCOM post, since AMOPES provided for expansion of TRADOC training operations to FORSCOM installations only in the event of full mobilization. CF 95 planning projected exercising training base expansion at TRADOC's Fort Bliss, Tex. Other installations involved in CF 95 included Aberdeen Proving Ground, Md., an Army Materiel Command (AMC) post, for First Army; Fort Stewart, Ga. (FORSCOM), for Second Army; and Fort Carson, Colo. (FORSCOM), for Sixth Army. TRADOC missions planned for the exercise included BASOPS support, a recall of 500 retirees, and rapid train-up for 300 IRR in air de fense and medical specialties. Funding for the exercise and participation of IRR remained under discussion as the year closed.[6]

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3. SSHRs, Operations Directorate, CY 93/I, p. 9; CY 93/II, p. 8.

4. SSHRs, Operations Directorate, CY 93/1, p. 10; CY 93/II, p. 9.

5. (1) SSHRs, Operations Directorate, CY 93/I, p. 10; CY 93/II, p. 9. (2) Memo, Ops Dir (John Henderson) to distribution, 14 May 93, subj: Call Forward 93 (CF 93) Final In Process Review (IPR). Doc VII/2.

6. (1) SSHRs, Operations Directorate, CY 93/I, p. 10; CY 93/II, pp. 9-10.

General Headquarters Exercises

Headquarters TRADOC participated in General Headquarters Exercises (GHQx) 93, and in the initial phases of GHQx 94. General Headquarters exercises derived in name from large-scale maneuvers conducted by the Army in 1941, designed to test the Army's operational capabilities and refine doctrine.[7] Although the overall objectives remained the same for the 1990s versions, the new GHQ exercises were not intended to field nearly half a million troops in the Louisiana and Carolina countryside, as had the exercises held half a century earlier. GHQ Exercise 93, run from 17 to 31 August 1993, served as a test of command and control issues relating to mobilization, deployment, and crisis response in preparation for the larger GHQx 94, scheduled in four phases from November 1993 through July 1994. Headquarters TRADOC monitored the progress of GHQx 93 and the first phase of GHQx 94 through a crisis response cell. Planning for successive phases involving TRADOC included exercising start-up of CONUS replacement centers at Forts Benning, Knox, and Leonard Wood and expansion of the training base, focusing on refresher training for the Individual Ready Reserve and the Rapid Train Up program.[8] GHQ exercises were conducted under the aegis of the the Chief of Staff of the Army's Louisiana Maneuvers Task Force, and incorporated senior leader seminars and large-scale simulation besides the command post and field training elements.

CONUS Replacement Center Exercise 8

TRADOC personnel conducted CONUS Replacement Center Exercise 8 (CRCx 8) at Fort Knox, Ky., from 28 July to 3 September 1993 in connection with Joint Chiefs of Staff Exercise Ulchi Focus Lens in Korea. In addition to exercising replacement center processing of individual fillers, CRCx 8 processed Department of the Army civilians for the first time. The exercise provided opportunity to produce a CRC training film, which was in editing as the year closed.[9]

Contingencies and Other Operations

Continue Hope (Somalia)

United Nations Operation Continue Hope, follow-on to Operation Restore Hope, focused efforts to provide humanitarian aid and peacekeeping for Somalia. Through 1993, FORSCOM units deployed from six TRADOC installations -- Forts Benning, Eustis, Gordon, Huachuca, Lee, and Rucker, necessitating TRADOC support. The command also supplied, on average, over one hundred augmentees to U.N. forces during the year. TRADOC personnel offered logistics and intelligence expertise, and the Center for Army Lessons Learned

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7. See Chapter V, "Modern Louisiana Maneuvers," pp. 129-49.

8. SSHR, Operations Directorate, CY 93/II, pp. 8-9.

9. SSHR, ODCSBOS, CY 93/II, p. 1.

deployed an officer to collect pertinent information. At the end of the year, 77 personnel were deployed to Somalia from around TRADOC, reflecting President Clinton's decision to reduce U.S. forces in the country, with total disengagement by the end of March 1994.[10]

Weapons Reduction

Provisions of treaties and agreements regarding weapons reduction required TRADOC action during the year. Display items and weapons for which TRADOC organizations were accountable required reports and compliance certification relating to the Intermediate-range Nuclear Forces (INF) Treaty.[11] TRADOC received $50,000 during the year from the U.S. Army Missile Command, the first installment of funds earmarked for planning for visits from INF inspectors from the Confederation of Independent States.[12] The command anticipated similar roles in implementation of the Strategic Arms Reduction Treaty (START) and the Chemical Weapons Reduction Treaty, e.g., inspections, compliance with materiel requirements, and certification that research, development, test, and production activities were being carried on within the provisions of the treaties. TRADOC reviewed draft Army implementation plans for START compliance, and Operations Directorate personnel attended the Chemical Weapons Treaty Conference in April.[13]

Management and Planning

TRADOC Plan, FY 1994-2022

After several months of work, the command published the TRADOC Plan in April. Resource managers intended the plan to link long-range planning with several other processes, including midterm planning through the Program Objective Memorandum (POM) and to guide near-term execution. The TRADOC Mission Essential Task List (METL), which spelled out those actions and requirements for the command to perform its wartime mission successfully, served as the foundation for the plan. Planners based the document on five assumptions -- first, that the Army would continue to reduce in size; second, that the Army would become increasingly CONUS-based, with some forward presence; third, that the Army would still be required to conduct operations "in all environments"; fourth, that the Army would be increasingly involved in noncombat missions; and fifth, that resources would continue to decline. Section I of the plan then spelled out the framework for dealing with those

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10. (1) PROFS note, TRADOC EOC to Assistants, 13 Oct 93, subj: Restore Hope SITREP as of 131530R Oct 93, Doc VII/3. (2) PROFS note, TRADOC EOC to Assistants, 30 Dec 93, subj: Restore Hope SITREP as of 301100R Dec 93, Doc VII/4. (3) SSHR, Operations Directorate, CY 93/II, p. 5.

11. (1) Memo, COFS TRADOC to Assistant Secretary of the Army for RD&A, 17 Apr 93, subj: Research and Development/Production Compliance Certification, Doc VII/5. (2) Msg, Cdr TRADOC to HQDA, 251409Z May 93, subj: INF Treaty Six-Month Update, Doc VII/6.

12. SSHR, Operations Directorate, CY 93/I, p. 6.

13. SSHRs, Operations Directorate, CY 93/I, pp. 6-7; CY 93/II, p. 5.

assumptions. Phase II focused on the "battle tasks" derived from the METL and the analytical processes. Phase III, published separately, provided the narrative detail explaining the battle tasks, and was intended to be used as a working paper for the headquarters staff.[14]

Program Objective Memorandum

TRADOC submitted its Program Objective Memorandum (POM) for FY 1996-2001 on 15 December 1993. As with submissions for the previous several years, the 1993 edition chronicled the disparity between requirements and resources. In his Commander's Narrative Assessment, General Franks noted the rapidity of change and the contrast provided by projections for the world of 2001 and at the founding of TRADOC in 1973, and provided the general outline within which the command would attempt to meet the challenges of change. The POM specified resource shortfalls by program element, and noted the "nonnegotiables" which would continue to drive command priorities-- "strategic force trained and ready, IET [initial entry training] and leader development, small group instruction, combat arms OSUT [one-station unit training], FTXs [field training exercises], and CTCs [Combat Training Centers]." The total shortfall between what TRADOC needed to operate, General Franks' assessment reported, amounted to $600 million, the difference between $3.2 billion per year and $2.6 billion projected; the remainder of the POM provided the detailed analysis of TRADOC requirements.[15]

Funding for FY 1993 and Budget Guidance for FY 1994

TRADOC's Operations and Maintenance, Army (OMA) funding for FY 1993 was $2.2472 billion, or about 2.5 percent less than for FY 1992. The command received $34.8 million in year-end closeout funds from Department of the Army redistribution and program slippage, which was used for voluntary separation incentive pay, barracks improvement, safety enhancement, and critical Environmental Compliance Achievement Program (ECAP) projects, aiming toward positioning the command better for the new fiscal year. Initial FY 1994 OMA figures, about $2.1billion, put TRADOC funding at about $90 million less than FY 1993 based on President Clinton's budget submission to Congress. Headquarters TRADOC warned subordinate commanders to expect further turbulence resulting from Congressional review of the budget submission, the Department of Defense "bottom up" review, and the Base Realignment and Closure (BRAC) process. In short, "TBG [TRADOC Budget Guidance] will not get better; further reductions likely."[16] Chart I depicts TRADOC resource trends, both funding and manpower, beginning in FY 1987 and projected through

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14. (1) TRADOC Plan, FY 1994-2022, Apr 93, Doc VII/7. (2) SSHR, ODCSRM, CY 93/I, p. 8.

15. TRADOC POM, FY 96-01, 17 Dec 93, Doc VII/8.

16. (1) Briefing Charts, ODCSRM Budget Directorate, HQ TRADOC Review and Analysis, 9 Mar 93, subj: TRADOC Budget Execution (data as of 31 Dec 92); ODCSRM Budget Directorate, HQ TRADOC Review and Analysis, 28 Sep 93, subj: TRADOC Budget Execution (data as of 30 Jun 93). (2) SSHRs, ODCSRM, CY 93/I, p.16; CY 93/II, p. 11. (3) Memo, ODCSRM (Maj Gen Hagwood) to TRADOC Commanders/Commandants, 18 May 93, subj: FY 94 TRADOC Budget Guidance, Doc VII/9.

FY 1996. Chart II portrays OMA compared to training loads, and Chart III, OMA to combat development expenditures. Chart IV compares base operations (BASOPS) funding against the number of TRADOC installations for the same ten-year period.

Personnel and Manpower

Command Strength

Command strength figures for FY 1993 are depicted in Table I. Manpower requirements and allocations for primary TRADOC missions as of the end of the second quarter of FY 1993 are shown by Table II. Chart V through Chart VIII portray TRADOC's declining overall, military, and civilian manpower trends from FY 1987 projected through FY 1997 based on Department of the Army Program Budget Guidance as of 11 November 1993. Chart VIII compares TRADOC's training load to manpower for the decade from 1987 through 1996. All of the charts and tables tell the same story, that is, general decline in manpower at a faster rate than the decline in missions. In addition to total numbers of officers assigned, chronic problems continued to exist in officer distribution; see Table III.

Personnel Management

The accelerated pace of budget reductions impacted heavily on the command's ability to manage the size of its work force in an effective manner. Commands across TRADOC had already instituted programs to bring the total number of TRADOC civilians below 25,000 by the beginning of FY 1995. Lack of civilian payroll dollars, however, meant that the command needed to absorb those reductions by the end of FY 1993. TRADOC ended the fiscal year with 24,702 civilian employees, a reduction of almost 4,000 from the end of September 1992.[17] Among military personnel, only the number of warrant officers assigned to the command grew, by about 4 percent (1,131 to 1,166). The number of officers assigned declined by about 15 percent (7,213 to 6,107) , and the number of enlisted by about 6 percent (36,733 to 34, 593). This put overall TRADOC staffing, civilian and military, at 66,568, about 10 percent less than FY 1992 (see Table I).[18] Cuts also occurred in the command's Individual Mobilization Augmentee (IMA, reservists assigned to specific jobs rather than units) levels as Department of the Army scaled back the program. Reductions took the number of IMA assigned in TRADOC from over 2,000 in 1992 to 660 by the end of 1993. Likewise, the number of reservists and National Guard personnel assigned to extended tours of active duty in TRADOC was reduced by 42 authorizations.[19]

A September 1993 snapshot of TRADOC's position resulted in the following appraisal of the position of the command's manpower and personnel status. First, military personnel constituted 60 percent of TRADOC's work force, concentrated in mission areas. The command was reduced by more than 9,000 military and more than 6,000 civilian spaces between FY 1991 and 1994. Approximately 11 percent of civilian authorizations remained

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17. (1) Briefing Chart, ODCSBOS, TRADOC Review and Analysis, 28 Sep 93, subj: Civilian Work Force Planning, Doc VII/10. (2) SSHR, ODCSBOS, CY 93/II, p. 2. (3) TRADOC ACH, CY 92, p. 185.

18. TRADOC ACH, FY 92, p. 185.

19. (1) SSHR, ODCSBOS, CY 93/I, p. 12. (2) SSHR, ODCSRM, CY 93/I, p. 4.

unfilled, primarily because of a shortage in civilian payroll. And within both the civilian and military work force, funds and manpower were being reduced at a faster pace than workload.[20]

Quality of Life

"Hawkeye" Initiatives

General Franks' emphasis on the well-being of soldiers led in 1992 to the identification of issues of most concern for maintaining quality of life. In 1993, the four most critical of these initiatives were the quality of barracks and services; continuing degradation of buildings and grounds on Army posts; decrements to health services budgets, impacting care and availability; and the quality of leadership. "Hawkeye" oversight was also extended to the civilian work force as concerns arose over increased workload and resulting stress. As in every other aspect of TRADOC activity, budget cuts both exacerbated these issues and threatened the command's ability to respond to them adequately. As noted below, TRADOC laid substantive groundwork for maintaining and upgrading facilities as resources permitted, and for planning Army communities to meet both real property and human concerns. TRADOC's Deputy Chief of Staff for Base Operations Support (DCSBOS), as proponent for the initiatives, worried that as quality of life eroded with diminishing resources and as career opportunities were seen to vanish with the shrinking force, the Army would be perceived as having broken trust with soldiers and civilians alike.[21]

Equal Opportunity and Human Relations

Overall cuts in TRADOC's work force led to a slight decline in minority representation. Formal reduction-in-force (RIF) procedures targeted lower grades with the least time in grade, often minorities. Nevertheless, the percentage of minorities stayed about the same, declining from 25.9 percent to 25.5 percent as of 31 December 1993. This compared to an overall Department of the Army rate of 25.3 percent, and 22.1 percent in the civilian work force. The percentage of white women in the work force declined about one percent in Fiscal Year 1993 and into Fiscal Year 1994, ending up the year at 30.3 percent of the work force as compared to 28.3 percent Army-wide and 35.3 percent in the civilian work force. Although the numbers of white men dropped significantly, nearly 2,000 through Fiscal Year

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20. Fact Sheet, ODCSRM (ATRM-F), 10 Sep 93, subj: TRADOC Manpower Trends FY 87-97, Doc VII/11.

21. (1) TRADOC ACH, CY 92, p. 158. (2) Briefing Chart, ODCSBOS, TRADOC Review and Analysis, 28 Sep 93, subj: Hawkeye, Doc VII/12.

1993 and into 1994, the percentage of white men in the TRADOC work force increased one percent to 44.2 percent by 31 December. This compared with 46.3 percent in the Department of the Army and 42.6 percent among civilian workers.[22]

Command monitors expressed more concern over the continuing under-representation of white women and minorities in high grade positions. As of 31 December, 11.9 percent of high grade (GS-13 to GS-15) positions were occupied by minorities, compared to 11.2 percent in the Army as a whole, and 17.5 percent in equivalent civilian work force positions. White women occupied 12.5 percent of such positions in TRADOC, compared to 13.3 percent Armywide and 40.4 percent among civilians. Over three-quarters of high grade positions were occupied by white males in TRADOC (75.6 percent), as compared to 75.5 percent in the Army and 42.1 percent in the civilian work force. The DCS for Base Operations Support, responsible for the Equal Employment Opportunity Program, attributed the current lack of progress to shrinking opportunities for advancement along with the size of the work force, the Department of the Army-imposed freeze on hiring against high grade vacancies, and the paucity of civilian personnel funds. He urged stronger implementation of affirmative action programs where hiring actions were possible.[23]

Health and Safety

TRADOC provided a healthy and safe place to live and work during 1993. The Command Surgeon expressed concern only over a slight rise in the acute respiratory disease rate, and over budgetary restrictions impacting aeromedical evacuation and health promotion. The military injury rate, which averaged below 0.1 per 200,000 man-hours, continued well below the Department of the Army goal of 1.65 per 200,000. No TRADOC installation exceeded the goal, and no trends were recognizable among the injuries that did occur, either on or off duty. Army motor vehicle accidents averaged less than 0.5 per 100,000 miles driven, again well below the Army goal of 1.68 per 100,000 miles. Two installations, Fort Benjamin Harrison and Fort McClellan, exceeded the goal during the first quarter of Fiscal Year 1994, ending 31 December 1993, but the only discernible trend was driver error. Aviation safety continued to be a success story, with an accident rate of less than half that of the Army as a whole even though the command flew nearly a quarter of the Army flying hour program, using eight percent of the Army's aircraft. TRADOC suffered 35 fatalities in Fiscal Year 1993, and 11 in the first quarter of Fiscal Year 1994. In each year, privately owned vehicle accidents accounted for all but a handful of deaths-- 21 of 35 and 9 of 11, respectively. As with all accidents, human carelessness and error proved to be the common element among

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22. Briefing Slide, ODCSBOS, HQ TRADOC Review and Analysis, 9 Mar 94, subj: EEO Profile Commandwide, (data as of 31 Dec 93), Doc VII/13. Application of 1990 census data to civilian work force figures for the first time in the first quarter of FY 94 (31 Dec 93), as compared to 1980 figures, had a remarkable effect on comparisons. The total percentage of minorities in the civilian work force rose from 13 percent to 22.2 percent; that of women from 26.6 percent to 35.3 percent. The percentage of white men dropped precipitously from 60.4 percent to 42.6 percent.

23. Briefing Slide, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: EEO-Commandwide (MG/GS 13-15) (data as of 31 Dec 93), Doc VII/14.

fatalities. TRADOC Safety officials expressed concern at the increase in fatalities over first quarter statistics in the previous four years, and reemphasized the need for aggressive, command-driven preventative programs.[24]

Physical Security and Law Enforcement

Crime rates on TRADOC installations and among command personnel continued at or below Armywide rates through Fiscal Year 1993 and into the first quarter of Fiscal Year 1994. Property crimes had shown a decrease through the final two quarters of Fiscal Year 1993, but rose 13 percent in the final three months of the calendar year, primarily due to incidents at two installations. Drug crimes fell 28 percent between October and December 1993 to a rate of fewer than one positive test per thousand, the lowest since the fourth quarter of Fiscal Year 1991 and consistent with first quarter performance in previous Fiscal Years. The TRADOC Provost Marshal anticipated an increase through the remainder of the Fiscal Year, though nothing approaching the third quarter of Fiscal Year 1993 (two per thousand) shortly after revision of the urinalysis test. Enrollments in drug rehabilitation programs were also at their lowest point at the end of December. Crimes of violence continued to center on aggravated assault (71 percent) and rape (23 percent), and rose slightly through Fiscal Year 1993. The command countered with a new task force to address violence in the work force and increased emphasis on sexual misconduct awareness training.[25]

Community and Family Activities

Nonappropriated fund (NAF, or single fund) management of cash continued to improve through 1993. Conservative fund management led to large fund surpluses, peaking at $69 million in TRADOC alone during Fiscal Year 1991. NAF managers were hard-pressed to explain the disparity of large cash balances against increasing threats to eliminate for non-profitable NAF activities such as crafts, music and theater, and equipment checkout. An aggressive program of building and upgrading facilities and the transfer of two installations away from TRADOC, coupled with decreasing appropriated fund availability, brought cash balances down rapidly. Cash at the end of Fiscal Year 1993 was approximately $19 million. NAF managers expected the balance to decline further in Fiscal Year 1994 as appropriated fund support declined even more. Some NAF activities generated revenue in excess of their costs, such as transient housing, contracts for fast-food restaurants and pay telephones, and some clubs. Loss of appropriated fund support, primarily in the area of salaries for staffs, hit hardest for activities such as arts and crafts, auto hobby centers, swimming pools, equipment checkout, and information and ticketing services, which could generate some revenue but scarcely sustain themselves. In 1993, such support declined to 37 percent from a high

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24. (1) Briefing Slide, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Health of the Command (data as of 31 Dec 93), Doc VII/15. (2) Briefing Slides, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subjs: TRADOC Military Injury Rate; Installation Military Injury Rate; Military Injuries On Duty; Military Injuries Off Duty; TRADOC Army Motor Vehicle Accident Rate; Installation Army Motor Vehicle Accident Rate; Aviation Accident Comparison, Class A - C; Fatal Accident Comparison, FY 92, 93, 94 - By Type, Docs VII/16 through VII/23.

25. (1) Briefing Charts, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subjs: Soldier Property Crime Rates; Crime Trends: Drug Crimes; Crime Trends: Crimes of Violence, Docs VII/24 through VII/26. (2) SSHR, ODCSBOS, CY 93/II, p. 4.

of 51 percent in 1991, stimulating serious debate about closing unprofitable activities with limited clientele. In category A, NAF provided $3 million in subsides in Fiscal Year 1993, as compared to $2.4 million two years earlier. Seven NAF major construction projects were completed during the year, worth approximately $18 million. Projects included golf course improvements at Forts Jackson and Rucker, along with a sports field complex at Fort Jackson; youth centers at Forts Lee and Bliss; an auto crafts center at Fort Sill; and marina expansion at Fort Monroe.[26]

TRADOC also continued vigorous efforts to achieve accreditation of the command's 32 child development centers operating on its 16 installations. Eighteen were accredited by the end of Fiscal Year 1993, an increase of five. As with accreditation for child care centers, TRADOC sought certification of Child Development Services programs. The number certified stood at 16 by the end of Fiscal Year 1993, an increase of 5. The command received a total of $1.5 million in subsidies for child development services from Armywide nonappropriated funds.[27]

Physical Environment

Management

TRADOC worked with several initiatives during 1993 to improve management of the command's living and working environment. As the year progressed, all TRADOC installations came into compliance with Defense Management Review Decision (DMRD) 967 (1991), which required conversion of directorates of engineering and housing or directorates of installation support into directorates of public works, encompassing installation engineering, housing, and logistics support. Fort Gordon became the test site for a new Urban Design and Planning program, aimed toward cooperation among military installations, local governments, and interest groups such as area military retirees to plan for total community development rather than actions taken in isolation. Success of the cooperative efforts at the Georgia post led to plans to extend the program throughout TRADOC. All such community visioning was to be guided by the TRADOC Community Design Code, a "comprehensive approach to evaluation, planning, and implementation for facility and service standards," developed during 1993. The code grew from the existing TRADOC System of Standards, which set parameters for facilities on TRADOC installations, filtered through the "Targets of Excellence" automated management system. "Targets of Excellence" originated in NAF management, and grew from several principles associated with Total Quality Management, such as customer orientation, local or lower echelon control, and setting benchmarks for constant evaluation of performance. Lastly, the Office of the TRADOC Engineer was reorganized to provide installations with single points of contact rather than combing through multiply layered, functionally-oriented divisions.[28]

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26. (1) TRADOC ACH, CY 92, p. 160. (2) Fact Sheet, ODCSBOS, n.d. [Sep 93], subj: NAF Cash, Doc VII/27.

27. Fact Sheet, ODCSBOS, n.d. [Sep 93], subj: Child Development Services (CDS), Doc VII/28.

28. (1) SSHRs, ODCSBOS, CY 93/I, pp. 2, 3; CY 93/II, pp. 6,7. (2) Fact Sheet, ODCSBOS, n.d. [Sep 93], subj: Targets of Excellence (TOE), Doc VII/29.

Housing and Facilities

Barracks enhancement continued to receive the highest visibility and the most investment among all facilities-related issues. Permanent party barracks renewal received about half of the more than $50 million in Military Construction, Army (MCA) funds expended in Fiscal Year 1993. Despite a projected slippage in projected MCA expenditures in Fiscal Year 1995, dropping totals from $144 million to $17 million, planners anticipated spending nearly $200 million in Fiscal Year 1997, three-fourths of which would be for barracks renewal. To ensure that barracks renewal was designed to meet soldiers' needs, TRADOC initiated the Single Soldier Living Community program with videoteleconferences in January 1993. A Commanders Advisory Board and local Soldier Living Area Boards developed to allow soldiers a voice in the planning process. Full implementation of the program was scheduled for the beginning of 1994.[29]

Reduction in the size of the force carried with it a concomitant reduction in the amount of work space required. TRADOC installations already carried excess space, primarily in the form of World War II-era wooden buildings which were inefficient and constantly in need of repair. Through Fiscal Year 1993, the command budgeted nearly $8 million for demolition, which resulted in a reduction of 3 million square feet of space, which exceeded the goal set by the Department of the Army and represented about a third of the overall reduction goal by the end of Fiscal Year 1996. TRADOC also undertook to reduce leased facilities during the year, an initiative which saved the command almost $700,000. These reductions left the command with close to 160 million square feet of space, about one-fourth of which was excess.[30]

Concern also grew during the year regarding the condition of utilities on TRADOC installations, and options open to the command given their deteriorating condition. At the end of the year, TRADOC engineers rated nearly 30 percent of utilities as being in immediate need of repair or replacement, with another 48 percent in marginal condition. Although the command spent over $15 million in Fiscal Year 1993 and planned to spend nearly $22 million in 1994, the amounts did not match the "rapidly accelerating" need. All installations completed at least an initial review of possible sale or other divestiture of utilities to local utility companies. The only transfer that actually occurred was of gas distribution at Fort Benjamin Harrison, part of the Base Realignment and Closure process.[31]

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29. (1) SSHRs, ODCSBOS, CY 93/I, p. 2; CY 93/II, pp. 6-7. (2) Briefing Charts, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subjs: Permanent Party Barracks Renewal; Barracks Investment, Docs VII/30 and VII/31.

30. (1) SSHR, ODCSBOS, CY 93/II, p. 6. (2) Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Excess Facilities. (3) TRADOC ACH, CY 92, p. 162.

31. (1) SSHR, ODCSBOS, CY 93/I, p. 3. (2) Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Utility Condition, Doc VII/32.

Environmental Preservation

In a speech to the Army Senior Environmental Leadership Conference, sponsored by TRADOC Headquarters and held in Williamsburg, Virginia, in November 1993, Chief of Staff of the Army General Gordon R. Sullivan "stressed the need for a genuine environmental ethic and the need to foster it in each new wave of soldiers."[32] TRADOC leaders found this charge to be meaningful for at least two major reasons. First, the command had responsibility for acreage which, if it were contiguous, would equal the size of Puerto Rico. Second, the number of environmental regulators at every level of government had increased dramatically, along with their degree of latitude to determine and fine violators, including the federal government. Consequently, civic pride combined with a commitment to a clean environment and economic interests to underline the importance of General Sullivan's words.[33]

TRADOC received $30.6 million in Defense Environmental Restoration Account (DERA) funds for Fiscal Year 1993, and double that amount ($61.4 million) for Fiscal Year 1994. While DERA funds by no means covered expenses for all outstanding environmental problems, expenses were covered for all of the most important (or "must-fund") issues for the fiscal year. In addition, as noted above, TRADOC used year-end money to fund some critical projects slated for Fiscal Year 1994, thus enhancing prospects for completing all of the new year's cleanups on or ahead of schedule. At the end of calendar year 1993, 75 unresolved notices of violation were on file against TRADOC installations under the provisions of the Federal Facilities Compliance Act. Of that number, many required ling-term clean up actions; in excess of 60 percent had been on file for more than 6 months. Headquarters monitors urged more emphasis on prevention education and negotiation of compliance agreements to avoid fines. Most problems were as the result of leaking underground storage tanks, Clean Water Act violations, and hazardous waste disposal.[34]

Information Management

Organization and Funding

After several years of organizational turmoil, the information mission area began to stabilize somewhat in 1993. Operational control of information management had transferred to TRADOC from the U.S. Army Information Systems Command (USAISC) on 1 October 1992, a reorganization which clarified command lines considerably. Diminution of resources continued to plague planning efforts and create turbulence, however. Funding of Other Procurement, Army projects was cut by 60 percent for Fiscal Year 1994, from $5.4 million to $2.2 million. Plans for enhancement of distributed training automation were curtailed, and the cutback forced cancellation of other automation initiatives for the Reserve Officer Train-

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32. SSHR, ODCSBOS, CY 93/II, pp. 14-15.

33.. Fact Sheet, ODCSBOS, 21 Sep 93, subj: Notice of Violation (NOV) Status, Doc VII/33.

34. (1) Fact Sheet, ODCSBOS, 21 Sep 93, subj: Defense Environmental Restoration Fund Account (DERA) Funding Status, Doc VII/34. (2) Fact Sheet, ODCSBOS, 21 Sep 93, subj: Notice of Violation (NOV) Status, Doc VII/33. (3) Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Notices of Violation (NOVs), Doc VII/35.

ing Corps (ROTC), training development, TRADOC reorganization, and modernization of existing automation. Cuts in overall funding for base operations (BASOPS) automation were less, but nonetheless real, from $29.4 in Fiscal Year 1993 to 26.5 million for Fiscal Year 1994.[35]

Defense management review decisions (DMRD) continued to command TRADOC's attention in 1993. DMRD 918, which proposed consolidation of all defense automation systems, provoked studies at all TRADOC installations, which were terminated by the Department of the Army in May 1993. The fate of the decision and its impact on TRADOC were still unclear as the year ended. DMRD 998 consolidated all Department of Defense printing under the auspices of the Department of the Navy. During discussions before implementation, Defense Department proponents of consolidation had projected a 10 to 15 percent decrease in cost per thousand print units. In practice after implementation, TRADOC found its costs rising from $16.77 per thousand in Fiscal Year 1991 to $19.71 per thousand in Fiscal Year 1993, in addition to delays caused by closure of local printing facilities and the budgetary snarl resulting from delays up to three months in billing from the Defense Printing Service . As a result, TRADOC initiated a thorough study of DPS and alternatives, including requests to recover at least part of the BASOPS dollars spent in excess of what would have been required without the consolidation. The Office of the Deputy Chief of Staff for Resource Management developed a cost analysis model to track expenditures relative to estimates of requirements without consolidation.[36]

Architecture and Support

The Deputy Chief of Staff for Information Management (DCSIM) had no less a task in 1993 than to "establish TRADOC as a world-class leader in the use of technology to improve business processes." This "Enterprise" concept focused on integration of processes (or missions) of TRADOC, e.g., training, combat developments, leader development, and doctrine; of existing and developing information systems, e.g., Battle Labs, Louisiana Maneuvers, the Systems Approach to Training, and military occupational specialties (MOS); and existing and projected networks, such as the TRADOC Simulation Internet (TSI), the contract for which was awarded in September for fielding at Forts Bliss and Gordon, and in the TRADOC Analysis Center at Fort Leavenworth, the Teletraining Network, the Satellite Education Network, and local area networks. To achieve this goal required changes in both the equipment and the architecture of the command's information management environment,

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35. (1) SSHR, ODCSIM, CY 93/II, p. 11. (2) Telcon, OCH with Resource Management Division ODCSRM, 17 May 94, subj: FY 94 AFP for BASOPS Automation.

36. (1) Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Print Savings under DMRD 998, Doc VII/36. (2) SSHR, ODCSRM, CY 93/II, p. 9.

including planning for installation of fiber-optic cabling and establishing seamless links with ethernet and token rings, and transition from existing IBM mainframe technology to personal computers (PC) and minicomputers that complied with Open Systems standards.[37]

Efforts to improve interoperability and business processes were, in fact, cross-functional, and not just limited to DCSIM initiatives. A key to expanding access to information was exploitation of Internet, the international network of loosely affiliated host computers and computer networks which had agreed to adhere to the same communication protocols, in effect the trail upon which the information superhighway li.e., the National Information Infrastructure) could be built. During 1993, the Battle Lab Integration and Technology Directorate of the Office of the Deputy Chief of Staff for Combat Developments issued Internet access software to Battle Labs around the command, identified its continuing Internet requirements, and submitted a request for $268,000 to the Department of the Army (Director of Information Systems for Command, Control, Communications, and Computers, DISC4). The TRADOC Library Network (TRALINET) issued a users' manual for the Internet aimed at TRADOC libraries but useful to others as well.[38] The DCSIM, together with the Fort Monroe Director of Information Management (DOIM) and the TRADOC Functional Center of Excellence (FCOE), coordinated Internet access efforts throughout the year.[39]

The DCSIM anticipated that transition to an open systems environment would have sub stantial impact on a wide variety of existing and developing TRADOC systems, particularly initiatives within the Sustaining Base Information Services (SBIS) umbrella. The SBIS aimed at establishing open systems environment standard administrative application systems through 70 installation support modules (ISM). TRADOC let the SBIS contract to the IBM Corporation on 24 June 1993.

Fielding of eight installation support modules continued under the aegis of the Assistant Chief of Staff (of the Army) for Installation Support. Fielding of the Enhanced Inprocessing System (EIP) for one-step in- and out-processing, which had been field tested at Fort Benning in 1992, was completed at Forts Jackson, Leavenworth, and Eustis. The command also began a field test of the Adjutant General Management Support System, again at Fort Benning, aimed toward fielding planned for 1995. Other automation initiatives demanding attention during the year included identification and development of a Model Office Automation for TRADOC (appropriately, MOAT), a feasible system template which would increase productivity and connectivity without imposing a standard.

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37. (1) Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Enterprise Integration, TRADOC, Doc VII/37. (2) Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: SIMNET Support - TRADOC Simulation Internet (TSI), Doc VII/38. (3) Fact Sheet, ODCSIM, 28 Sep 93, subj: Transition to Open Systems Environment (OSE), Doc VII/39.

38. (1) Fact Sheet, ODCSIM, 27 Sep 93, subj: Internet - Exploiting its Capabilities, Doc VII/40. (2) SSHR, ODCSBOS, CY 93/II, p. 5.

39. FCOE began the year as part of the Office of the Chief of Staff; it was transferred to the ODCSIM effective 1 Nov 93. SSHR, ODCSIM, CY 93/II, p. 12.

The DCSIM continued modernization of telephone and telecommunications systems around the command, including planning for upgrade of switches at Forts Huachuca and Story and cable replacement at Forts Sill, Benning, and Bliss in Fiscal Year 1994. FTS 2000, the WATS-like commercial long-distance calling service alternative to AUTOVON, was available to all TRADOC installations as 1993 closed. The Defense Information Systems Agency completed studies in November aimed toward initiation of a Defense Regional Telecommunications System (DRTS) in the Tidewater Area, to include 22 installations from the Oceana Naval Air Station in Virginia Beach to the Yorktown Naval Weapons Station. TRADOC also began studies, with Fort Story as the prototype, to evaluate divestiture of telephone systems.[40]

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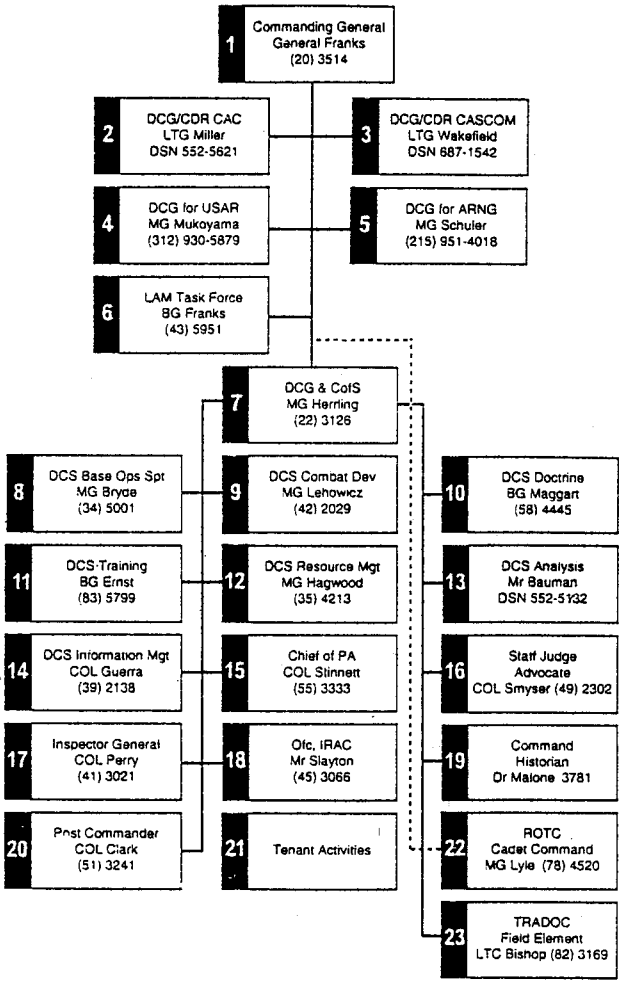
40. (1) TRADOC ACH, CY 92, p. 165. (2) Fact Sheet, ODCSIM, 28 Sep 93, subj: DA Installation Support Modules/Sustaining Base Information Services (ISM/SBIS), Doc VII/41. (3) Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Enhanced Inprocessing and AG Management Support System, Doc VII/42. (4) Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Telephone Systems Modernization, Doc VII/43. (5) Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94 (data as of 31 Dec 93), subj: Defense Regional Telecomm System (DRTS), Doc VII/44. (6) Fact Sheet, ODCSIM, 28 Sep 93, subj: Telephone Divestiture in TRADOC, Doc VII/45.

APPENDIX A

HEADQUARTERS TRADOC STAFF DIRECTORY
September 1993

Table of Contents



This is not an official organization chart.

Legend:
( ) = Hotline ** = STU III

1 COMMANDING GENERAL

ATCG, Bldg 37

GEN F Franks, Jr	CG	FRANKS ..... (20) 3514

PERSONAL STAFF, ATCG, BLDG 37, FAX 2978

COL J Eszes	XO	ESZESJ ..... (24) 2922
Vacant	ADC	 3180
LTC K Boll	Asst XO (Admin)	BOLLK 2300
Mrs P Schlim	Asst XO (Cal)	SCHLIMP ..... (66) 2816
Mrs N Diggs	Secy to CG	DIGGSN 2713
SSG V Emmitt	Admin NCO/Recpt	EMMITTV ..... (37) 2713
SSG G Ochs	Admin NCO	OCHSG 2599
SSG S Wortherly	Admin NCO	WORTHERS 2984

CDR'S PLANNING GROUP, ATCG-P
Chamberlin Hotel, Suites 209-219, FAX 2794

COL G Fontenot	Ch	FONTENOG ..... (68) 2882
LTC A Thrasher	Dep Ch	THRASHEA 2813
LTC M Kobbe	Sp Asst to CG	KOBBEM 4478
MAJ J Bozeman	Sp Asst to CG	BOZEMANJ 2326
MAJ J Barto	Sp Asst to CG	BARTOJ 3071
MAJ A Bray	Sp Asst to CG	BRAYA 2507
LTC D Mock	Sphwrtr	MOCKD ..... (92) 2452
MAJ K Bergner	Sphwrtr	BERGNERK 2303
MAJ M Matthews	Sphwrtr	MATTHEWM 2654
Mrs G Rezentes	Secy	REZENTEG 3777
Mrs M Bernick	CPG Asst	BERNICKM 2092

COMMAND SERGEANT MAJOR, ATCM, Bldg 37

CSM WE Woodall		WOODALLW 4133
SFC C Botts	Staff Coord	ATCM 4133
Vacant	Admin NCO	 2723

SCIENTIFIC ADVISOR, ATCG-S, Chamberlin Hotel, Suites 214-215

Dr P Berenson		BERENSON ..... (54) 2361
Mrs B Zattiero	Secy	ZATTIERB 2361/3869

2 DCG/COMMANDER COMBINED ARMS COMMAND

ATDC-C, Fort Leavenworth, KS, Bldg 119

LTG J Miller		MILLER ..... DSN 552-5621

PERSONAL STAFF, ATDC-C

COL J Inge	CofS	INGEJ ..... DSN 552-5621
LTC J DeBroux	XO	DEBROUXJ 5621
MAJ R Blum	ADC	BLUMR 5621
SGT S Kissinger	Admin NCO	KISSINGS 5621
Ms R Simanowitz	Secy	SIMANOWR 5621

3 DCG/COMMANDER COMBINED ARMS SUPPORT COMMAND

ATDC-L, Fort Lee, VA, Bldg 10500

LTG S Wakefield		WAKEFIEL ..... DSN 687-1542

PERSONAL STAFF, ATDC-L

COL L Fulbright	CofS	FULBRIGL ..... DSN 687-1683
MAJ R Hough	SGS	HOUGHR 1542
MAJ J Brown	ADC	BROWNJ1 1542
Mrs D Tilmon	Secy	TILMOND 1542

4 DEPUTY COMMANDING GENERAL FOR USAR

ATDC-M, 4009 Tracey Court, Glenview, IL 60025

MG J Mukoyama		MUKOYAMA ..... AC (312) 930-5879

5 DEPUTY COMMANDING GENERAL FOR ARMY NATIONAL GUARD

ATDC-G, 619 Roseland Avenue, Philadelphia, PA 19111

MG G Schuler		SCHULER ..... AC (215) 951-4018

6 LOUISIANA MANEUVERS TASK FORCE

DACS-LM, Bldg 11, FAX 5826

BG T Franks	Dir	FRANKST ..... (43) 728-5951
Ms E Van Dervort	Secy	VANDERVE 5314
Mr C Valliant	Dep Dir	VALLIANC 5310
LTC C Venable	XO	VENABLEC ..... (43) 5844
Ms P Hardesty	Secy	HARDESTP 5334
SGT A Bull		 5313

MANAGEMENT DIR, DACS-LMS

Mr J Rogers	Dir	ROGERSJ	5312
Ms M Gilbertson	Prog Anal/Bdgt	GILBERTM	5835
Ms A Mason	Bud Asst	MASONA	5823
Ms D Ellis	Admin	ELLISD	5324
Ms D Andaverde	Mail & Distro	ANDAVERD	5811
Ms T Wilcox	Comp Spec	WILCOXT	5319
Ms D Jones	Sim Ctr Opr	JONESD2	5316
MAJ A Bell	Pers Off	BELLA	5339
SFC L Carter	NCOIC	CARTERL	5322

ISSUES DIR, DACS-LMI

COL R Rodgers	Dir	RODGERSR	5839
Mr H Dempsey	Tech Dir	DEMPSEYH	5822
Ms A Sanzo	Secy	SANZOA	5333
LTC C Abad	CSS Off	ABADC	5336
LTC J Westbrooke	TFI Off	WESTBROJ	5329
LTC J Klevecz	Tng Reqts	KLEVECZJ	5325
LTC R Fairchild	RC LNO	FAIRCHIP	5841
MAJ K Brown	CSS Off	BROWNK	5843

OPERATIONS DIR, DACS-LMO

COL J Coats	Dir	COATSJ	5342
Mr R Maruyama	Tech Dir	MARUYAMR	5338
Ms D Conley	Secy	CONLEYD	5848
LTC M Emzen	Sr Ops Anal	ERNZENM	5332
LTC J Geddes	Ops Anal	GEDDESJ	5824

INITIATIVES GROUP, DACS-LM

COL J Brooks	Ch	BROOKSJ	5956
LTC M Thomson	Sr Ops Anal	THOMSONM	5327
Mr T Adams	Vis Info Spec	ADAMST	5341

EXERCISE COORD DIR-LVNWTH, DACS-LME

COL Smith	Dir	(LEA1) (SMITHG2)	DSN 552-4042

LAMFT LIAISON OFF, DAMO-LAM LNO PENTAGON

Room 1E543, Wash. DC

LTC Foit	LNO	(FOR3083) (FOJT)	DSN 227-4275

7 DEPUTY COMMANDING GENERAL & CHIEF OF STAFF

ATCS, Bldg 37

MG J Herring		HERRLING	(22) 3126/2801
Mrs W Kissinger	Exec Asst	KISSINGW	3126/2801

ASSISTANT CHIEF OF STAFF

COL C Beckwith		BECKWITH	(69) 2801/3112
Mrs K Green	Secy	GREENK	3112/2801
SGT C Gloden	Ex Admin Asst		3178
Mr A Garner	ISO	GARNERA	2971

SECRETARY OF THE GENERAL STAFF, FAX 2624

LTC J Goodman		GOODMANJ	(23) 4120
Mrs D Jones	ASGS	JONESD	2684
CPT J Mercer	ASGS	MERCERJ	4176
CPT T Arial	ASGS	ARIAILT	4116
SSG J Reinemann	NCOIC	REINEMAJ	2682
SGT R Schultz	Asst NCOIC	SCHULTZR	3064
Mrs K Kinnison	Budget	KINNISOK	4404
Mr R Barkers	CG Admin Ctr	BARKERSR	2933/2462/2964
Cmd Conf Room Sched			2974

PROTOCOL

Ms L Jacobs	Ch, Protocol	JACOBSL	3847
CPT W Lewis	Protocol Off	LEWISW	4401
Ms S Wilson	Protocol Coord	WILSONS1	3108
SFC M Sharpe	Protocol NCOIC	SHARPEM	2679
Ms N Fowler	Mil Flight Sect	MILFLT	3187/2517
DVQ Sched			4403
AUD Sched			3383

OPERATIONS DIR, ATCS-O, Bldg T-258, FAX 4267

COL J Roszkowski	Dir	ROSZKOWJ	4253/4252
Ms E Lee	Secy	LEEE	3681
Ms C Irwin	Graphics		4381

BASE REALIGNMENT & CLOSURE OFF, ATCS-OR, FAX 4374

Mr B Taylor	Ch	ATCSR	4350
Ms T Swofford	Secy		2729
LTC W Jones	Prgm Mgr	JONESW1	4163
MAJ R Hansen	Engr Off	HANSENR	3849
MAJ P Kagler	Engr Off	KAGLERP	4370
CPT W Burns	Prgm Mgr	BURNSW	4358
Mr R Walkup	Prgm Mgr	WALKUPR	3846
Mr T Lederle	Prgm Mgr/Bud	LEDERLET	3907
Ms J Johnston	Prgm Mgr	JOHNSTOJ	3845

PLANS DIV, ATCS-OS

Mr T Yamasaki	Ch	YAMASAKT	4251
Mr B Burckard	Mgt Anal	BURCKARB	4273
Mr J Hedenstrom	Congress LO	HEDENSTJ	3684
Ms G Huggett	Congress LO	HUGGETTG	3684
Mr R Stuebbe	Mgt Anal	ATCSS	4272
Ms C Carpenter	Mgt Asst	CARPENTC	4268
Ms L Beresford	Mgt Asst	BERESFOL	4268

OPERATIONS CENTER DIV, ATCS-EOC, Bldg 133, Room 215, FAX 2997

LTC J Lewis	Ch	LEWISJ1	2256
Ms P Dragon	Ops Tech	DRAGONP	2256
Mr A Harmantas	C, Cur Ops Br	(HARMANTA) (EOCWATCH)	2256
MAJ J Cook	Ops Off	COOKJ	2256
Mr R Davis	Ops Off	DAVISR	2256
SFC J Trimble	Ops NCO	TRIMBLEJ	2256
LTC J Ridings	C, Pln/Ex Br	RIDINGSJ	4319/2559
Mr J Henderson	Pln/Ex Off	HENDERSJ	4319/2559
Mr J North	Pln/Ex Spc	NORTHJ	4319/2559
HQ TRADOC Staff Duty Off			2256
Watch NCO EOC			2256
STU III			727-2256/2997
TRADOC Crisis Action Team			2256

ASST CHIEF OF STAFF ARNG/USAR

ASST CHIEF OF STAFF (ARNG), ATCS-G, Bldg P116, 2nd floor

MG George Schuler	DCG (ARNG)	SCHULER	(93) 3427
COL Ronald Krisak	ACS (ARNG)	KRISAKR	(93) 2222
CPT Larry Seman	Staff Off	SEMANL	3420
CW4 Darryl Vandermolen	Admin Off	VANDERMD	3559
Vacant	Staff Off		3409
SGM Donald Ingram	Sr Enl NCO	INGRAMD	2022
Vacant	Admin NCO		3428
Ms Pat Isbell	Secy	ISBELLP	222

ASST CHIEF OF STAFF (USAR), ATCS-F, Bldg P116, 1st floor

MG James Mukoyama	DCG (USAR)	MUKOYAMA	(93) 3408
COL John Melia	ACS (USAR)		(93) 2223
LTC Earl Massey, Jr	TFI-OPS	MASSEYE	2224
LTC Robert Price	TFI-TNG	PRICER	2864
MAJ David Scales	TFI-RM	SCALESD	3407
SGM Paul Mattox	Sr Stf NCO	MATTOXP	3408
Ms Pat Isbell	Secy	ISBELLP	2221

TRADOC FUNCTIONAL CTR OF EXPERTISE, ATCS-D, Bldg 5G

COL M Cox	Dir	COXM	3851
LTC G Barton	Dec Sot Sys	BARTONG	3945
LTC F Labrecque	Dec Sot Sys	LABRECOF	3948
MAJ D Alston	Dec Sot Sys	ALSTOND	3851
MAJ T Caddell	Knowledge Engr	CADDELLT	2443
CPT R Fancher	Proj Off	FANCHERR	3851
CPT J Markley	Proj Off	MARKLEYJ	3541
MAJ T Mussio	Proj Off	MUSSIOT	3851
Ms A Ford	Proj Anal	FORDA	3945
Ms E Dempsey	Comp Asst	DEMPSEYE	3948
Ms S Reed	Admin Asst	REEDS	3839

COMMAND SAFETY OFFICE, ATOS, Bldg 10, FAX 2145

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Mr J Pessagno	Surv Engr	PESSAGNJ	2118
Dr C Van Aalten	Tng	VANAALTC	2146
Mr J Kornfeld	Range	KORNFEL1	2193
Mr A Janczewski	Engr	JANCZEWA	2845
LTC M Bohannon	Avn	BOHANNOM	3217
Mrs J Kosch	Spec Projects	KOSCHJ	5904
Mr H Lindsay	Instr/Mgr	LINDSAYH	5901
Mr E Duke	Safety Spec	DUKEE	3930
Mrs H Waller	Data	WALLERH	2119
Ms M Brumback	Mgt Asst	(ATOSTCC) (BRUMBACM)	2117

SMALL & DISADV BUS UTIL OFC

ATCS-B, Bldg 10, Room 109, FAX 2496

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Mr W Bryant	Proc Anal	BRYANTW1	3291
Mr W Burke	Secy		3291

EEO DIRECTOR, ATBO-E, Bldg 10

Mr Oben Johnson	Dir	JOHNSONO	5253
Ms Rosetta Green	Dpty/AEP/BEPM	GREENR	5254
Ms Jeanette Orr	HEPM/AI/AA/PI	ORRJ	5257
Ms Jeraline Shields	FWPM	SHIELDSJ	5256
Vacant	EEO Spec		5258
Ms Gwen Frost	EOA	FROSTG	5255

LIAISON OFFICERS TO TRADOC, Chamberlin Hotel

AMEDD, ATFE-ME			
Vacant	Room 224		2542
AUSTRALIA ATFE-AS			
LTC G Pike	Room 229	ATFEAS	2906
BRAZIL ATFE-BR			
COL V Ferreira	Rm 244	ATFEBR	2429
CANADA ATFE-CA			
LTC Sweetnam	Rm 228		2804
FRANCE ATFE-FR			
COL G Huchet de Quenetain	Rm 246	ATFEFR	2536
GERMANY ATFE-GE, FAX 2508			
COL L Juncker	Rm 237	ATFEGE	3156/2703
MAJ Ketterle			3156/2703
ISRAEL ATFE-IS			
COL A Weisman	Rm 226	ATFEIS	2428
ITALY ATFE-IT			
MAJ(P) G Blandina	Rm 248		3118
JAPAN ATFE-JA			
COL Y Ikuyama	Rm 239	ATFEJA	2724
KOREA ATFE-KO			
COL Y Jun	Rm 241	ATFEKO	2802

NETHERLANDS ATFE-NL		
COL J Boddeke	Rm 227	ATFENE 3116
SPAIN ATFE-SP		
COL J Arregui	Rm 245	ATFESP 2776
TURKEY ATFE-TU		
MAJ D Altas	Rm 240	ATFETU 2553
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COL C Rogers	Rm 230	ATFEUK 2923
US MARINE CORPS ATFE-MC		
COL J Rosewame	Rm 224	ATFEMC 2542
US ARMY RESEARCH INST BLDG 161, Rm 202 PERI-ZM		
Mr J Hayes		HAYESJ2 5623
Ms S Pabalate		PABALATS 5623

USACIDC TRADOC LNO

CW3 Ferrell	Ft Meade, Md	..... DSN 923-6872

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LTC Bailey		 764-5947

TRADOC LIAISON OFF - DA, Rm 2B 725, PENTAGON

LTC Roberts		..... DSN 227-2588
Ms De Sert	Secy	..... DSN 227-2588
Ms Jonnson	Secy	..... DSN 227-2588
FAX (Clas)		..... DSN 224-1428
FAX (Uncias)		..... DSN 227-5725

8 DCS BASE OPERATIONS SUPPORT

ATBO, Bldg 5

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COL John Corbett	ADCSBOS, Ops	CORBETTJ ..... (26) 5003

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Mrs Sarah Strieter	Secy	STRIETES 5001
Ms Sue Moore	Secy	MOORES 5002

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Mrs Barbara Good	Spt Svcs Sp	GOOD8 5009
Ms Carolyn Ashley	Ofc Svcs Asst	ASHLEYC 5008
Ms Pamela Bowser	Mail & Dist	BOWERP1 5014
Mr Clyde Jonnson	Mail & Dist	JOHNSON4 5014
SGT Anne Trujillo	Admin Asst	TRUJILLA 5010

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Contract Division

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Ms Margaret Yun	Secy	YUNM 3624

Policy & Compliance Br

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Ms Ellen Chambers	Proc Anal	CHAMBEE 3625
Mr Donald Fitzgerald	Proc Anal	FITZGERD 4180
Mr James McDonald	Proc Anal	MCDONAL2 3460
Ms Margaret Mitchell	Proc Anal	MITCHELM 2894
Ms Elaine Pearson	Proc Anal	PEARSONA 2989
Ms Mary Paige	Policy	PAIGEM 3508
Ms Deora Emerson	Policy	EMERSOND 2621

Requirements/Acquisition Br

MAJ Peter Tuttle	Ch	TUTTLEP 3799
Ms Marsha Brackett	Rqr/Acq Mgmt	BRACKETM 3914
Mr Thomas Whisnant	Rqr/Acq Mgmt	WHISNANT 2584
Ms Beverly Grimm	CICA	GRIMM8 3485
Mr Richard Dixon	Prog Anal	DIXONR3 3530
Mr Earl Cook	Supv C/P Anal	COOKE 2305
Mr Howard Kidd	C/P Anal	KIDDH1 3115
Mr John Garrett	C/P Anal	EUS1(GARRETT) .. AV 927-3055

TRADOC Contracting Activity

Bldg 2798, ATCA, Fort Eustis, VA, FAX AV 927-4284

Mr Grant Wright	Dir	EUS1(WRIGHTW) AV 927-3166

ADJUTANT GENERAL, ATBO-B, Bldg 5C

COL George Sumrall	Dir	SUMRALLG 5048
Mrs Regina Randow-Perez	Secy	RANDOWPR 5048
SGT Paula Rhea	Admin NCO	RHEAP 5049
SGM David Bessey	AG SGM	BESSEYD 5050

Military Personnel Div, ATBO-BO, Bldg 5B

Ms Judy Hargrove	Ch	HARGROVJ 5052

Officer Br

MAJ Charmaine Hays	Ch	HAYSC 5055
MAJ James Holbert	Off Distro/Str Mgt	HOLBERTJ 5057
CPT(P) Christine Malkemes	HQ Mgt	MALKEMEC 5056
CPT Jerald McGill	Spec Acct	MCGILLJ 5058
Mr Stephen Worth	Prog Mgt	WORTHS 5059

Enlisted Br, ATBO-BE

MAJ Jeffery Ward	Ch	WARDJ1 5065
Mrs Elsie Jeter	Secy	JETERE 5070
Mr James Hannah	ADS Coord	HANNAHJ 5067
Vacant	Inst Coord	 5071
SFC Elaine Krzanwoski	Instl Mgr	KRZANOWE 5073
SSG Sherry Bowen	Mgt Supr	BOWENS 5072
SFC Polatheo Karnjanaprakorn	Instl Mgr	KARNJANP 5069

Mil Pers Tasking Br, ATBO-BOT

CW3 Janet Oetker	Ch	OETKERJ 5061
Mr Benjamin Barto	Action Officer	BARTOB 5062
SFC Gregory Powers	Action Officer	POWERSG 5064
Ms Michiell Anderson	Action Officer	ANDERSOV 5063

Retention Management Div, FAX AV 680-5293

SGM Charles Shortsleeve	Cmd Retention	SHORTSLC 5111
MSG(P) Orlando Jones	Retn Opns	JONESO 5115
MSG Robert Hart	Retn Opns	HARTR 5114
SGM Ronald White	RC Prog Mgr	WHITER 5112
MSG Lucian McLemore	RC Opns NCO	MCLEMORL 5116
SFC Donald Franklin	RC Opns NCO	FRANKLID 5113

Personnel Support Div, ATBO-BP

LTC Robert Malkemes	Ch	MALKEMER 5078
Ms Jean Gregory	Secy	GREGORY1 5079
Mr James Collins	SIDPERS	COLLINSJ 5082

Equal Opportunity Br, ATBO-BPE

MAJ Paul Rosensteel	Ch	ROSENSTP 5075
SGM Ronald Renng	TRADOC EO SGM	REHRIGR 5077
SFC Andrea Coy	EO Advisor	COYA 5076

Personnel Services Br, ATBO-BPS

Ms Angeleen Saucier	Ch	SAUCIERA 5087
Mrs Marilyn Hedges	TRADOC Awards	HEDGESM 5090
Mrs Mary Kirts	OCONUS TDY	KIRTSM 5089
Ms Dicksie Brashears	Orders	BRASHEAD 5092

Policy & Programs Br, ATBO-BPP

Mr Columbus Mize	Ch	MIZEC 5080
Ms Darlene Melle	Ret Svs/TP/ACAP	MELLED 5085
Ms Linda Hardin	Casualty Pers Aff	HARDINL 5084
SFC Alberto Bernacia	PSC/SIDPERS	BERNAOLA 5083
MAJ Ruth Ables	Soldier Spt	ABLESR 5093
MSG Nathan House	PSC/IET	HOUSEN 5096
SSG Lynette Harris	TRADOC Postal/IET	HARRISL 5094

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Ms Cheryl Barnes	Secy	BARNESC 5103
MAJ Stephanie Jeffords	Mil Mob Plan	JEFFORDS 5107
MAJ Danny Henson	Pers St Off	HENSOND 5104
SGM Paul Mattox	SR USAR Staff	MATTOXP 5105
Mrs Aileen Bennett	DIMA/ADSW Cord	BENNETTA 5106

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Prog Plan & Eval, ATBO-CP

Mrs Mary Lamkin	Actg Ch	LAMKINM 5224
Mrs Mary Hannagan	Regionalization	HANNAGAM 5228
Mrs Mary Marcum	Auto/ACPERSA	MARCUMM 5231
Mr Charles Davis	Satellite	DAVISC 5235
Ms Patricia Bowser	ACTEDS Trng/Intrn	BOWSERD 5234

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Mr Richard Dixon	Ch	DIXONR2 5248
Mr Charles French	Staffing	FRENCHC 5246
Mrs Alice Ward	Class/RIF/VERA/FRZS	WARDA3 5247
Ms Merrel Bennett	MOB/FECA	BENNETTF 5250
Mrs Diana Skelton	TSO	SKELTOND 5244
Mrs Linda Williams	NAF	WILLIAML 5241
Mrs Joyce Collyar	NAF	COLLYARJ 5242

Labor Mgmt Empl Rel, ATBO-CL

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Mrs Collena Rodriquez	Incentive Awards	RODRIQUC 5242

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CH (LTC) Malcom Roberts	Ch Ops & Spt	ROBERTS2 4487
CH (MAJ) Douglas Carver	Force Struc	CARVERD 3463
CH (MAJ) Lloyd Brown	Bud/Log	BROWNL4 4488
CH (MAJ) Richard Rogers	Prof Dev	ROGERSR 3461
SGM T Ellis Hatcher	Ch UMT NCO	HATCHERT 4486
Mrs Ann Hunt	Secy	HUNTA 4485

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Ms Rosetta Green	Dptw/AEP/BEPM	GREENR 5254
Ms Jeanette Orr	HEPM/AI/AA/PI	ORRJ 5257
Ms Jeraline Shields	FWPM	SHIELDSJ 5256
Vacant	EEO Spec	 5258
Ms Gwen Frost	EOA	FROSTG 5255

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Mrs Betty Gratto	Secy	GRATTOB 5261
Ms Barbara Lilley	Secy	LILLEYB 5263

Plans Anal & Eval Div, ATBO-FP

Mr Lawrence Pederson	Ch	PEDERSOL	5281
Mr William Sport	Mgmt Anal	SPORTW	5282
Mr Larry Tippens	Mgmt Anal	TIPPENSL	5276
Mr Georga Gratto	Mktg Soc	GRATTOG	5298
Ms Janet Hunter	Mktg Anal	HUNTERJ	5283

Comm Op & Recr Div, ATBO-FC

Mr Lee Dexter	Ch	DEXTERL	5275
Ms Dora Daughtry	Bus Mgr	DAUGHTRD	5299
Ms Bonnie Handzlik	Rec Mgr	HANDZLIB	5277
Mr Raoul LeBlanc	Bus Mgr	LEBLANCR	5290
Mr Maynard Hines	Bus Mgr	HINESM	5279
Ms Woodrena Curtis	Mgmt Anal	CURTISW	5274

Comm Actv Div, ATBO-FA

Mr John Siemann	ADAPCP	SIEMANNJ	5259
Mr Donald Conway	ADAPCP	CONWAYD	5278
Ms Gwendolyn Smith	CDS	SMITHG3	5269
Ms Shirley Young	AMCCET	YOUNGS	5271
Dr Lois Fears	CDS	FEARSL	5272
Ms Catherine Meadows	CDS	MEADOWSC	5270
Mr Russell Morrison	Youth Svc	MORRISOR	5266
Mr John McCausland	ACS	MCCAUSLJ	5267
Ms Olivia O'Neal	ACS/FAP	ONEALO	5268
Ms Debbie Buchanan	ACS	BUCHANAD	5302

TRALINET CTR, ATBO-N, Bldg 117

Ms Janet Scheitle	Acting Ch	SCHEITLEJ	4491
Mrs Judith Mckimmey	Secy	MCKIMMEJ	4491

Network Off, ATBO-N

Mr Edwin Burgess	Systems	BURGESSE	4491
Ms Alexandra Campbell	Shared Cat/Libr	CAMPBELA	4291
Ms Janet Scheitle	Plns/Eval, Mob	SCHEITLJ	4291
Ms Bonita Epps	Budget	EPPSB	4291
Ms Betty Lou Rosen	Sr Cataloger	ROSENB	4291

HQ TRADOC Library, ATBO-NT

Ms Frances Doyle	Ch	DOYLEF	2956
Tech Library	Bldg 133		2821
Ms Leslie Williams	Ref Libr	WILLIAMS8	2821
Gen Lib & Intern Trng Ctr, Bldg 7			2909
Mrs Shirley Lindsay	Libr Tech	LINDSAYS	2909
Mr Ray Abell	Intern Trng Supv	ABELLR	2909

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Mrs Leona Perry	Mgmt Asst	PERRYLL	2244
Ms Betty Burleson	Career Prog Asst	BURLESOB	2098

Installation Support Div, ATBO-GI

Mr Stephen Mason	Br Ch	MASONS2	3696
Ms Brenda Smith	Secy	SMITHB3	3696
Mr Alan Rogers	Civ Engr	ROGERSA3	3840
Mr Markham Terry	Instl Advocate	TERRYM	3123
Mr Kenneth Sisitka, PE	Instl Advocate	SISITKAK	2498
Mr Richard Baker	Instl Advocate	BAKERR	2499
Mr Joe Fuller	Instl Advocate	FULLERJ	4405
Mr Douglas David	Instl Advocate	DAVIDD	3130
Mr Don Litewski	NAF Prog	LITEWSKD	2513

Plans Div, ATBO-GP

Mr Dave Lyon	Div Ch	LYOND	3424
Vacant	Secy		3424
Mr Lennie Blanchard	Realty Spec	BLANCHAL	2569
Mrs Irma Davis	Realty Spec	DAVISI	2576
Vacant	Space Mgr		3424
Vacant	Master Planner		3424
Vacant	Ch, Architect		2555
Ms Jean Hecimovich, AIA	Architect	HECIMOVJ	3791
Mr Jim Shamblen	MOB PLan	SHAMBLEJ	2554
MAJ Earnest Marshall	Engr Staff Off	MARSHALE	3280
SGM Jim Leveille	Senior Staff NCO	LEVEILLJ	2854
Mr Craig Marlow, ASID	Interior Design	MARLOWC	2936

Management Div, ATBO-GM

Mr Oakley Drumheller	Div Ch	DRUMHELO	3727
Mrs Betty Saunders	Secy	SAUNDERB	3727
Mr Dennis Weber	Gen Engr	WEBERD	2329
Mr Phillip Columbus	Civ Engr	COLUMBUP	2371
Mr Eugene Wilson	Gen Engr	WILSONE	2503
Mr Cecil Goodwin	Gen Engr	GOODWINC	2114
Ms Carolyn Lusby	AFH	LUSBYC	2087
Mr Cary Williams	Gen Engr	WILLIAMC	2087
Mr Charles Waggoner	Gen Engr	WAGGONEC	3727
Mr Jack Chaffee, PE	Gen Engr	CHAFFEEJ	3987
Mrs Jean Melson	Proj Ctrl Clk	MELSONJ	2065

Tech Support Div, ATBO-GT

Mr Williams, PE	Div Ch		3354
Ms Jackie Johnson	Secy		3354
Mr Billy Dancy, PE	Gen Engr	DANCYB	2374
Mr Malcolm Martin, PE	Gen Engr	MARTINM	2336
Mr Warren Richardson	Gen Engr		3678
Mr Allan Bettcher, PE	Gen Engr	BETTCHEA	2453
Mr Blaney Hill	Energy Tech	HILLB	2473
Vacant	Fire Protection		2026

Housing Div, ATBO-GH

Mrs Jeannette Carey	Div Ch	HINESJ	3287
Ms Carol Lee	Secy		3287
Ms Phyllis Hipps	Hsg Mgt Spec	HIPPSM	3288
Mr Steven Arbogast	Hsg Mgt Spec	ARBOGASS	2021
Mr Harold Pfeiffer	Hsg Mgt Spec	PFEIFFEH	3084
Ms Inga Pickett	NAF Billeting	PICKETT	2027
Vacant	Hsg Mgt Spec		2031

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Mrs Carol Woolever	Secy	WOOLEVEC	5125
Mrs Diann Hershey	Log Studies	HERSHEYK	5122
Mr John Blake	MOB/Log Studies	BLAKEJ	5123
Ms Ruth Miller	Mgt	MILLERR3	5124
Mr Robert Leavell	Sup Mgt, Army	LEAVELLR	5176
Mrs Louise Sangervasio	Sup Mgt, Army	SANGERVL	5172
Mr James Bennett	Intern	BENNETTJ	5175

Sup & Svc Div, ATBO-HS

Vacant	Ch		5140
Mrs Cassie Mason-Gibbs	Secy	MGIBBSC	5140

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Ms Katherine Tully	Ch	TULLYK	5183
Mr James Risner	Ammo	RISNERJ	5162
Mr Paul Leykamm	Ammo	LEYKAMMP	5152
Mr Charles Bellinger	Plcy	BELLINGC	5188
Mrs Joann Prentice	MOB/HAZMAT	PRENTICJ	5164
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MAJ Rita Alsoach	Svcs/TISA	ALSPACHR	5170
SGM Sterling Shelton	Din Fac	SHELTONS	5171

Mat Mgt, ATBO-HSM

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Ms Cordelia Lattimore	Clothing	LATTIMOC	5145
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Mr David Boswell	CECOM	BOSWELLD	5143
Mr Albert Martin	DLA/AVSCOM/TACOM	MARTINA2	5148
Mr Joseon Brown	FIO	BROWNJ	5141

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Mr Ronald Melton	Ch	MELTONR	5127
Mrs Lysa Oswalt	Secy	OSWALTL	5127
Vacant	SOF/ASAM		5130
MAJ Daniel Wilson	MICOM/TAMMS/MEL	WILSOND1	5135
MSG Terry Crouch	ATC Maint/AIMI	CROUCHT	5128
Mr John Randow-Perez	CMM MAT Readiness	RANDOWPJ	5132
Mr Altus Stevens	TMDE/MWO/MCA	STEVENSA	5129
Mr Richard Taylor	DLR/MIMS	TAYLORR	5137
CPT Vonnie Wright	AMCCOM/CECOM/ULLS	WRIGHTV	5133
MSG Anthony Machado	Acft Maint/AIMI	MACHADOA	5131
Mrs Gilda Moskowicz	AOAP/AAME/SRA/TWVRP	MOSKOWIG	5128

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Mr Robert Johnson	Secy	JOHNSONR	5161
Ms Gertrude Dillard	Trans Spc	DILLARDG	5157
Ms Marie Murphy	Trans Spc	MURPHYM	5158
Mr Charles Gillespie	Trans Spc	GILLESPC	5155
Mr Gerard Winkler	Trans Spc	WINKLERG	5154

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Ms Penny Walker	Secy		5018

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Mr Joseph Brylewski	Prop Book Sys	BRYLEWSJ	5030
Ms Lynda Cascioli	Sup Sys Anal	CASCIOLL	5020
Mrs Martha Girardin	ACIFS/AFMIS	GIRARDIM	5029
Mr Jeffery Goyne	MWR Systems	GOYNEJ	5022
Mrs Gloria Hauer	Civ Pers/ISM	HAUERG	5023
Mr Gordon Heathcock	Maint Systems	HEATHCOG	5026
Mr Dennis Twyman	SAILS/SCSRS	TWYMAND	5025
Mrs Dawn Hustus	LOGMARS/MITLA	HUSTUSD	5026
Mr Anthony Panunto	ISM (Mil Pers)	PANUNTOA	5021
Mr Donald Thomas	EIP	THOMASD	5027
Mr Donald Zupka	Environ Sys	ZUPKAD	5031

HQ Base Ops Analysis Div, ATBO-I

Mrs Betty Madison	Ch	MADISONB	5032
Ms Christine Keesee	Help Desk	KEESEEC	5037
Mrs Carole Surles	ISO	SURLESC	5042
Mrs Pelista Cross	AG/LES/LOG/RMO	CROSSP	5044
Mrs Gloria Brooks	CFAD/CPD/ENG/ENV	BROOKSG	5045
Mr Anthony Cicero	ACQ/CPD/SSTF	CICEROA	5039
Mrs Ida Parker	ACQ/CFAD/LES/RMO	PARKERI	5041
Mr Jerry Stedman	AG/LOG	STEDMANJ	5038
Mrs Dorothea Aull	ENG/ENV/SSTF	AULLD	5040
SSG John Willis	Know Engr	WILLISJ	5024

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Mrs Joan Schuhle	Secy	SCHUHLEJ	3262
	Law Enforcement, ATBO-JL		
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MAJ Don Carter	Bud Off	CARTERD	2758
Vacant			3994
MAJ James Reed	ACP	REEDJ	3567
SFC Robert Wilson	MWD	WILSONR	3710
Mr Floyd Reneau	Phys Security	RENEAUF	4193
CPT Stanphill	Staff Off		3710
	Security, ATBO-JC		
Mr Alfred Scott	Disclo	SCOTTA	3009
Mrs Anita Vassar	Disclo	VASSARA	3008
Mr Joseph Crawford	Info Security	CRAWFORJ	3649
Ms Arneda Powell	ADP Sec	POWELL	3648
Mrs Carol Derby	Pers Sec	DERBYC	3960

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	Management & Plans Div, ATBO-KM		
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Mrs Cheryl Parker	Secy	PARKERC	5196
Mr James Freeman	DRIS/BRAC	FREEMANJ	5187
Mr Phillip Saville	ORSA	SAVILLED	5193
Mr James Kililea	TCOE/MCA	KILULEJ	5194
MAJ Samuel Endicott	MCA/ORSA	ENDICOTS	5199
Mr Howard McDonald	Audits/Inter Ctrls	MCDONALH	5188
Mrs Gerri Rumbough	CA/DRIS	RUMBOUGG	5189
Mrs Martha Brewer	Studies	BREWERM	5191
Mrs Patricia Shrader	TDA/Cont/Cr Mgt	SHRADERP	5190
Mrs Rhonda Denardo	ORSA/BASE tempo	DENARDOR	5193
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Ms Nancy Grimaldi	Bud Anal	GRIMALDN	5206
Mrs Isabella Clapp	Eng/Log Tm Ldr	CLAPPI	5213
CPT Deborah Cranford	Pers Tm Ldr	CRANFORD	5205
Mr Mitch Williams	G/S/4	WILLIA16	5208
Ms Marie Firman	Envir/A/H	FIRMANM	5215
Mrs Terry Cole	P87/OSD/ROTC	COLET	5209
Ms Vernell Wynder	P7/D/F/CA	WYNDERV	5203
Mr Joe Fuller	P2/C/DLR	FULLERJ	5212
Mrs Sandra Branner	B/E		5214
Mrs Peggy Major	AMHA/Tng/Tvl	MAJORP	5210
Mrs Linda Roberts	MCB/Supl/Svcs	ROBERTSL	5211
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Ms Patricia Corbin	Ch	CORBINP	5222
Mrs Jeannette Perras		PERRASJ	5220
Mr David Williams		WILLIAM1	5216
Ms Shannon Boocks		BOOCKSS	5217
Mrs Lora Ham		HAML	5221

DIRECTORATE OF ENVIRONMENT

ATBO-L, Bldg 10, 3d floor, FAX 2362

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Ms Robin Kemp	Secy	KEMPR	3300
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SPC Dorthea Allen	Off Auto Clk	ALLEND	2321
MAJ Roland Baltimore	Engr Stf Ofc	BALTIMOR	2265
Mr James Day	IPA-Envr Eng	DAYJ	2299
Ms Michele Cleland	Envr & Nat Res	CLELANDM	3969
Mr Dwight Hunt	Envr Consultant	HUNTB	2280
Mr Peter Kushnir	ENvr & Nat Res	KUSHNIRP	3300
Ms Mary Olivier	Envr & Nat Res	OLIVIERM	3335
Ms Susan Stotts	Envr & Nat Res	STOTTSS	2279
	Prevention & Conservation, ATBO-L, Bldg 10		
MAJ David Jones	Actg Ch	JONESD4	3054
Vacant	Off Auto Clk		2270
Mr Robert Anderson	Envr & Nat Res	ANDERSO7	2077
Mr Richard Blume-Weaver	Envr & Nat Res	BLUMEWER	3054
Mr John Esson	IPA-Envr Engr	ESSONJ	343
Ms Carolyn Reynolds	Envr Protc Asst	REYNOLDC	2597
Mr Donald Teig	Entomol	TEIG	2366
Ms Yolanda Diggs	Envr Prog Anal	DIGGSY	2290
Mr Shawn Holsinger	Envr & Nat Res	HOLSINGN	2289

SURGEON, ATBO-M, Bldg 84, Rm 213

COL James Bales	Cmd Surg	BALESJ	(61) 2226
Ms Cleo Harju	Secy	HARJU	2226
LTC Roscoe McCormick	XO/OPS	MCCORMIR	2228
LTC Marian McNeil	Nurse	MCNEILM	2226
Vacant	Med NCO		2226

9 DCS COMBAT DEVELOPMENTS

ATCD-ZA, Bldg 134, FAX 3094, SECURE FAX 3307

MG Larry Lehowicz	DCSCD	LEHOWICZ	(42) 2029
Ms Peggy Scott	Secy	SCOTTP	2029
Ms Brenda Updike	Corr Admin	UPDIKEB	2529
	ATCD-ZAD		
COL Jerome Edwards	ADCSCD	EDWARDSJ	(44) 2529
Ms Cynthia Kenion	Secy	KENIONC	3138
	ATCD-ZX		
CPT Jackson Self	XO	SELFJ	(63) 2529

BATTLE LAB INTEGRATION &, TECHNOLOGY DIR

ATCD-B, BLDG 163, FAX 2947

COL William Hubbard	Dir	HUBBARDW	4284
Mrs Linda Rountree	Secy	ROUNTREL	5850
Dr Marvin Pastel	Tech Adv	PASTELM	2008
LTC Edwin Mazzanti	Ch Tech	MAZZANTE	2859
LTC Jim Greer	Ch, Ops	GREERJ	4472
MAJ Roderick Hallum	CD Staff Off	HALLUMR	2547
MAJ John Norwood	CD Coord	NORWOODJ	2868
MAJ Mel Baldwin	CD Coord	BALDWINM	2521
MAJ Reggie Snell	CD Coord	SNELLR	4481
MAJ Bill Ewing	CD Staff Off	EWINGJ	5895
Mr Jan Gray	Mil Anal	GRAYJ	3621
Mr Robert Miner	Mil Anal	MINERR	2664
CPT Ben Blas	CD Staff Off	BLASB	4286
CPT Scott Clark	CD Coord	CLARKS1	4286
Ms Sandi Smith	Secy	SMITHS1	4283

SYS PRI AND INTEG DIR

ATCD-E, Bldg 134, Room 201, FAX 3433

COL Rick Sills	Dir	SILLSR	(91) 2446
Mrs Brenda Napp	Secy	NAPPB	3884
	Assessment Div, ATCD-E, Room 201		
LTC Mike Gorecki	Chief	GORECKIM	3883
	Modernization Div, ATCD-EP, Room 202-205		
LTC Bruce Masters	Chief	MASTERSB	3434
Mrs Pat Cross	Secy	CROSSP2	3950
MAJ Mike Grandy	C, Ops, Plans & Pol	GRANDYM	3962
MAJ Karl Vonbokem	ECBRS/LRRDAP Stf Off	VONBOKEK	3097
Mr Bill Guillaume	ECBRS/LRRDAP Stf Off	GUILLAUW	3096
Mr HL Shankles	PPBES/CINC Sot	SHANKLEH	3972
Mr Walt Banks	Analysis	BANKSW	3181
Mr Vic Powers	Auto/Analysis	POWERSV	2449
Mrs Amye Stephenson	Admin Asst	STEPHENA	3583
MAJ Sam Ray	C, Integr Br	RAYS1	3184
Ms Joann Sandford	Secy	SANDFORH	3677
MAJ Don Buley	Mod Mgr (N8C/Med)	BULEYC	3953
CPT Debbie Frear	Mod Mgr (ADA/FA)	FREARD	3676
Mr Bob Saunders	Mod Mgr (CCH/CCL)	SAUNDERR	2571
Dr Jean Rose	Mod Mgr (LOG/TWV)	ROSEJ	3882
Mr Frank Mika	Mod Mgr (EN/MW/AV)	MIKAF	3693
Mr Lee Lewis	Mod Mgr (C3/IEW)	LEWISL	2347
	Adv Sys Dev Div, ATCD-EA, Bldg 139, Room 309		
LTC Jerry Brodowski	Chief	BRODOWSJ	3047
Mr John Young	Spec Proj Off	YOUNGJ	2032
Ms Carolyn Norris	Billet Manager	NORRISC	3740
Mrs Angeline Campbell	SAP Asst	CAMPBEL2	3046

CBT SPT REQ DIR, ATCD-G, Bldg 163

COL Delos Anderson	Dir		3275
Mrs Sheri Hines	Secy	HINESS	3275
	Inter, Integ and Space Div, ATCD-GR		
Mr Paul O'Keefe	Sr Req Anal	OKEEFEP	3275
LTC Bill Hamaker	CD Staff Off	HAMAKERB	3342
Mrs Peggy Heathman	Secy	HEATHMAP	4411
Mr Bill Cunningham	Engineer	CUNNINGB	3472
Mr Rick Hill	CD Staff Off	HILLG	3078
CPT Ben Koehler	CD Staff Off	KOEHLERB	2206
	Intel & EW Div, ATCD-GI, SECURE FAX 3694		
LTC M Thornburg	Chief	THORNBUM	3441
MAJ James Matthewson	CD Staff Off	MATTHEWJ	3441
CPT Mark Russo	CD Staff Off		3441
CPT Pat Carley	CD Staff Off	CARLEYP	3275
Mr Bill Floyd	CD Staff Off	FLOYDW	3273
Mrs Judy Hanks	CD Staff Off	HANKSJ	3273
Mr Mike Helderman	CD Staff Off	HELDERMC	3441
Mr Jerry Hurst	CD Staff Off	HURSTJ1	3273
Mr Tom Undercoffer	CD Staff Off	UNDERCOJ	3441
Mrs Denita Caffery	Secy	CAFFERYE	3441
	Cmd, Cntrl, Comm & Cmptrs Div, ATCD-GC, FAX 2562		
Mr EB Vickery	Chief	VICKERYE	5867
MAJ Scott Girdwood	CD Staff Off	GIRDWOOS	3271
MAJ John Wallen	CD Staff Off	WALLENJ	3466
CPT John Martin	CD Staff Off	MARTINJ	3875
Mr Hal Carter	CD Staff Off	CARTERH	4471
Mr Phil Casey	CD Staff Off	CASEYP	3876

Mr Wayne Gassaway	CD Staff Off	GASSAWAW	5858
Mr Douglas Poynter	CD Staff Off	POYNTERD	3874
Mrs Angela White	Secy	WHITEA	5867

TPIO-Cbt ID, ATCD-GT

COL R Forrester	Actg Ch		3275
Mrs Nancy Boyd	Secy	BOYDN	3160

SPACE & ELECTRONIC COMBAT DIR

ATCD-H, BLDG 163

LTC(P) Michal Robinson	Dir	ROBINSOM	2614
Vacant	Secy		2478
Mr Lon Brown	CD Staff Off		2824
Mr Ed Byrns	CD Staff Off		2843
Mr Edward Kiker	CD Staff Off		2843

EARLY ENTRY LETHALITY & SURVIVABILITY (EELS) BATTLE LAB

ATCD-L, Bldg 134, FAX 728-5861

COL Ronald Stewart	Dir	STEWARTR	2620
Mrs Bonnie Davis	Secy	DAVISB	2887
LTC Gerald Connors	CD Staff Off	CONNORSG	5860
LTC Robert Rodgers	CD Staff Off	RODGERS1	5856
MAJ John Langhauser	CD Staff Off	LANGHAUJ	3581
MAJ Scott Callender	CD Staff Off		5855
MAJ Oscar Holland	CD Staff Off		5857
MAJ David Knichel	CD Staff Off		2817
MAJ Michael Weaver	CD Staff Off	WEAVERM	4203
CPT Robert Beidleman	CD Staff Off	BEIDLEMR	2150
CPT David Carter	CD Staff Off		5856
CPT Frank Cox	CD Staff Off	COXF	4202
CPT Dean Hommer	CD Staff Off		5860
Mr Kenneth Foley	Sr Req Anal	FOLEYK	5854

COMBAT REQUIREMENTS DIR, ATCD-M, BLDG 139, FAX 3162

LTC Horace Thrasher	Acting Dir	THRASHEH	3480
Mrs Victoria Stewart	Secy	STEWARTV	3480
Mr Ronnie Brackett	Sr Cbt Req	BRACKETR	2913
LTC Thomas Shanahan	CD Staff Off	SHANAHAT	3489

Maneuver Armor Div, ATCD-MA

MAJ Fernando Nunes	Acting Chief	NUNESF	3124
MAJ John Gillis	TRASSO	GILLISJ	4419
CPT Robert King	TRASSO	KINGR	4389
MSG Gary Galloway	TRASSO	GALLOWAG	4497
Mr William Jones	TRASSO	JONESW	2306
Mr Chris Pruitt	TRASSO	PRUITTC	3122

Maneuver Infantry Div, ATCD-MI

Mr Walter Strieter	TRASSO	STRIETEW	4280
Ms Linda Campbell	Secy	CAMPBELL	4414
MAJ Jay Batson	TRASSO	BATSONJ	4415
Mr Herman Schmidt	TRASSO	SCHMIDTH	2415

Engineer Div, ATCD-ME

LTC Greg Bean	Chief	BEANG	2286
Mr Alison Morison	TRASSO	MORISONA	2285

Air Defense Div, ATCD-MD

LTC Timothy Schmidt	Chief	SCHMIDTT	2172
Mrs Joyce Parnell	Secy	PARNELL2	2171
CPT Kevin Jennings	TRASSO	JENNINGK	2969
Mr James Ebner	TRASSO	EBNERJ	2948
Mr Donald Woolever	TRASSO	WOOLEVED	2932
Mr Joseph Distefano	TRASSO		2953

Aviation Div, ATCD-MV

LTC David Prewitt	Chief	PREWITTD	4245
Mr Robert Dodd	TRASSO	DODDR	2969
Mrs Caola Washington	Secy	WASHINGC	4243
MAJ Thomas Porter	TRASSO	PORTERT	2600
CPT James Lowery	TRASSO	LOWERYJ	4246
Mr Dale Jones	TRASSO	JONESD1	4244
Mr James Parker	TRASSO	PARKERJ	4246

Fire Support Div, ATCD-MS

MAJ Peter Welsch	Acting Chief	WELSCHP	3566
Ms Paula Vona	Secy	VONAP	2177
CPT David Smith	TRASSO	SMITHD	2179
MAJ Alphonso Mazyck	TRASSO	MAZYCKA	3352
Mr James Hurst	TRASSO	HURSTJ	2178

Org & Integ Div, ATCD-MO

LTC John Pienkowski	NG Adv	PIENKOWJ	4416
Mr Domenic Vittorini	TRASSO	VITTORID	3949

CONCEPTS & SCENARIOS DIR, ATCD-P, BLDG 133

LTC Stan Davis	Dir	DAVISS	2192
Ms Liz Chappell	Secy	CHAPPELE	2191

Concepts Div

CPT Jack Koster	Acting Chief	KOSTERJ	3988
Mr Carl Harris	Mil Anal	HARRISC	4184
Mr Steve Hogan	ORSA	HOGANS	2918

Scenarios Div

MAJ Mark Mingilton	Chief	MINGILTM	3995
Ms Barb Sherrell	ORSA	SHERRELB	2213

PROG MGT & SVCS DIR, ATCD-R, BLDG 133, FAX 4093

Mr Stan Gorski	Dir	GORSKIS	2762
Ms Linda Baggett	Secy	BAGGETTL	4076

Prog Mgt Div, ATCD-RP

Mr Norm Strock	Chief	STROCKN	2722
Ms Neva Byars	Prog Anal	BYARSG	2720
Mrs Sarah Christensen	Prog Anal	CHRISTES	4075
Mrs Patty Goode	Prog Anal	GOODEP	3369
Mrs Sue Kidd	Prog Anal	KIDDS	2424
Ms Chris Tavares	Prog Anal	TAVARESC	2806

Admin Spt Div, ATCD-RA, Bldg 134, FAX 2580

Mr Donald Pastella	Chief	PASTELLD	2719
Ms Nancy Henderson	Secy	HENDERSN	2591
Mrs Debbie Melvin	Admin Off	MELVIND	3423
SSG Clifton Gaines	NCOIC	GAINESC	3692
SGT Richard Baillie	Supply	BAILLIER	2594

Opns & Plans Div, ATCD-RO, Bldg 134

Mr Al Phillips	Chief	PHILLIPS	3316
CPT Theresa Beidleman	Ops/Plans Off	BEIDLEMT	3622
Mrs Kathy Erschen	Mgt Anal	ERSCHENK	3623

ADP Spt Div, ATCD-RD, Bldg 134

Mr Dick Bauman	Acting Chief	BAUMANR	2354
Ms Beverly Belch	Comp Asst	BELCHB	2954
SGT David Stougard	Sftwre Anal	STOUGARD	3421

Prog Pol Div, ATCD-RM, Bldg 133, FAX 4227

Mr John Waller	Acting Chief	WALLERJ	3479
Mrs Gladys Scriven	Secy	SCRIVENG	3470
Mr Mason McClanahan	T&E Staff Off	MCCLANAM	3270
Mr Sean O'Malley	TSM Staff Off	OMALLEYS	3478
Mr Steve Dwyer	MANPRINT Staff Off	DWYERS	3477
Mr Dale Abrahamson	T&E Staff Off	ABRAHAMD	4227

COMBAT SERVICE SUPPORT REQUIREMENTS DIR

Bldg 163, Rooms 101,102,103, FAX 2520

COL Wb Droke	Dir	DROKEW	2020
Ms Sherry Hurlburt	Secy	HURLBURS	2448

Logistics Systems Division, ATCD-SL

Mr Joseon Ranalli	Chief	RANALLIJ	3473
Mr Donald Bickhart	EOD/TMDE	BICKHARD	2295
Mr Jim Christensen	Trans	CHRISTEJ	3006
Mr James Sova	Trans	SOVAJ	3005
MAJ Linwood Jenkins	Trans	JENKINSL	4474
Mr Stephen Horn	Avn Log	HOLMS	3602
MAJ Timothy Souder	Avn Log	SOUDERT	4298
Mr Brian Ireland	Ord	IRELAND8	3004
MAJ Frank Sanders	Ord	SANDERSF	2917
LTC Toney Mooney	POL/Water	MOONEYT	2168
Mr Steven Travis	Log Auto	TRAVISS	2609
Ms Phyllis Wenger	Secy	WENGERP	3030

Soldier Support Division, ATCD-SE

LTC Margaret Bahnsen	Chief	BAHNSENM	3072
Mr Donald Roberts	CIE/OSHE	ROBERTSD	3512
Mr IE Stefanw	CIE	STEFANII	3117
Mr Johnny Pace	Organization	PACEJ	3102
CPT Alexander Hamilton	QM	HAMILTOA	3039
Ms Trudy Brinkley	Secy	BRINKLET	2795

Nuc, Bio, & Chem Div, ATCD-SB

LTC Gary Harvey	Chief	HARVEYG1	2808
CPT Stephen Welcer	CD Staff Off	WELCERS	4412
Mr Warren Dixon	Gen Engineer	DIXONW	4413
Mr Franklin Haskins	Phys Scientist	HASKINSF	4411

10 DCS DOCTRINE

ATDO-ZA, Bldg 133, FAX 2251

BG Lon Maggart	DCSDOC	MAGGART	(58) 4445
Mrs Janet Brown	Secy	BROWNJ2	4446

ADCSDOC - ATDO-ZAD

Mr Louis J Napoleon	ADCSDOC	NAPOLEOL	(30) 3397
Ms Carol Dery	Secy	DELYC	4447

XO, ATDO-ZX

MAJ Steve Price	XO	PRICES	(57) 2530

ARMY DOC DIR, ATDO-A, Bldg 133

COL Frederick Berry	Dir	BERRYF	3080
LTC John Clarke	IN	CLARKEJ	3657
LTC Charles Grimm	QM	GRIMMC	3947
LTC Jon Millner	EN	MILLNERJ	4143
LTC Carnck Troutman	MS	TROUTMAC	3439
MAJ Theodore Dyke	MI	DYKET	4255
MAJ Robert Garvin	CM	GARVINR	2314
LTC J Harrison	AR	HARRISOL	3438
MAJ J Martin	OD		4143
LTC G Osborne	AV		3089
CPT Dale McClangan	OD	MCCLARID	3444
CPT C Watkins-Williams	TC	WILLIA2	4149
Ms Ellen Dunn	Mgt Anal	DUNNE	3786

Mrs Jane Gregory	Doc Lit Anal	GREGORYJ	3701
Mrs Peggy Boone	Secy	BOONEP	3088

FUTURE BATTLE DIR, ATDO-F, Bldg 133

COL Gary Griffin	Dir	GRIFFING	4126
LTC Amelia Nutt	MI	NUTTA	2148
MAJ Keith Anders	AD	ANDERSK	2746
MAJ Barry Benham	AD	BENHAMB	2778
CPT Michael Woodgerd	AR	WOODGERM	2805
Mr Condon Kennedy	Mil Anal	KENNEDYC	3182
Mrs Phyllis Dudley	Secy	DUDLEYP	3922

POLICY, MGMT, INTEGRATION DIR, ATDO-D, Bldg 133

Mr Louis J Napoleon	Dir	NAPOLEOL	(30) 3397
Mr George Perry	ADP Sup	PERRYP	3536
Mr Michael Kasparack	Ops & Pln	KASPAREM	4316
Mr Stanley Erwin	Ops & Pln	ERWINS	4316
Mr Lawrence Yuditsky	Con, Doc Anal	YUDITSKL	3691
Mrs Rebecca Morrell	Writer/Ed	MORRELLB	3343
Mrs Margaret Nealon	Writer/Ed	NEALONM	3087
Ms Carol Dame	Admin Off	DAMEC	2209
Ms Carol Daly	Secy	DELYG	4447

INTEL DIR, ATDO-I, Bldg 133

COL Robert Reuss	Dir	REUSSR	(40) 3113**
MAJ George Hebert	Intel Off	HEBERTG	3903**
CPT Kevin Frear	Intel Off	FREARK	3903**
Mr Stephen Svetan	Rsch Spec	SVELANS	2505**
Mr David Shaughnessy	Rsch Spec	SHAUGHND	3903**
Mrs Carolyn Bunch	Secy	BUNCHC	2718**

SPECIAL SECURITY OFFICE

LTC James Lucas	SSO	LUCASJ	(59) 2315**
Vacant	Ops Off		2647**
CW2 Julia Reece	SSO	REECJ	2647**
SSG Brian Powers	SSO	POWERSB	2647**
SSG Reoekan Russell	SSO	RUSSELLR	2647**
Mr Daniel Gottschall	SSO	GOTTSCHD	2315**
Mrs Carol Rosendahl	Intel Asst	ROSENDAC	2315**

STAFF WEATHER OFF

Vacant	SWO		2319

NSA CSS REP

Mr Robert Brewer	Bldg 133	BREWERR	2332/2907

INTERNATIONAL ARMY PROG DIR

ATDO-Y, Chamberlin Hotel, FAX 3964

COL Stephen Whittenberg	Dir	WHITTENS	(06) 2741
Vacant	Secy		2741

North Atlantic Div, ATDO-YN

Mr Stephen Serafini	Dpty Dir/Ch	SERAFINIS	4400
Mrs Judith Watts	Secy	WATTSJ	4400
CPT John Pulliam	France	PULLIAMJ	2463
LTC John Coulter	Russia	COULTERJ	4409
MAJ Kleopinger	Spain	KLEPPINR	4400
MAJ Duncan Lang	Germany	LANGD	4409
Mrs Erika Mitchell	UK/CA	MITCHELE	2463

Multilateral Div/Lat Am/Pacific/Israel Div, ATDO-YL

Mr James Dooley	Ch/Dpty Dir	DOOLEYJ	2463
LTC Thomas Taylor		TAYLORT	3491
Ms Yvette Tucker	Secy	TUCKERY	3491
MAJ Gregory Jonnson	Brazil	JOHNSONG	3492
MAJ Kevin Logan	Korea	LOGANK	3494
MAJ Jonn Prusiecki	Israel	PRUSIECJ	3493
Mr Santiago Benites	Lat Am SMEE	BENITESS	3493
MAJ Keith Davis	NATO	DAVISK	4409
Mrs Barbara Conen	ABCA	COHENB	3452
Mr Richard Wilson	NATO	WILSONR2	3453

JOINT DOCTRINE DIR, ATDO-J, Bldg 133, FAX 5859

COL Ricky Rowlett	Dir	ROWLETTR	(88) 3153
Ms Peggy Finnell	Secy	FINNELLP	3951
LTC Stephen Roman	TC	ROMANS	3892
LTC Michael Stutt	MI	STUTTM	3167
LTC Heidur Livak			3951
MAJ Toney Asn	AD	ASHT	3451
MAJ Clarence Dameron	AD	DAMERONC	3893
MAJ Michael Jaska	SF	JASKAM	3894
MAJ Dale Alldredge	AV	ALLDREDD	3892
Mr Richard Rinaldo	Mil Anal	RINALDOR	2965

CINC Support Div

LTC Charles Lewis	EN	LEWISC	2814
MAJ Robert Mitchell	AR	MITCHEL2	2888
Ms Wilma Morris	Secy	MORRISW	3105

AIR LAND SEA APPL CENTER, ATDO-ALSA, Bldg 714, Langley AFB

COL David Rolston	Dir, USA	ROLSTOND	2589
LTCOL Jim Green	Dpty Dir, USAF		2589
Mrs Diane Haba	Secy		2589

AIRLIFT CONCEPTS & RQMTS AGCY, (ACRA)

HQ MAC/XP-ACRA, Bldg 1525, Scott AFB, IL 62225-5001

COL David Judge	Dir USA	JUDGED	AV 576-6621
COL Dennis Murphy	Dir USAF		AV 576-6621
Mrs Shirley Gill	Secy		AV 576-6621

ARMY-AIR FORCE CENTER FOR LOW INTENSITY CONFLICT

Langley AFB - CLIC, Bldg 339

COL Stephen Pullen	Cdr USA	PULLENS	764-5804
COL JD Johnston	Deo Cdr USAF	JOHNSTOD	764-5804
Ms Barbara Nichols	Secy		764-5804

11 DCS TRAINING

Bldg 161, ATTG-ZA

BG Carl Ernst	DCST	ERNST	(83) 5799/5800**
Mrs Susan Rexrode	Secy		5798

ADCST-O/ATTG-ZB

COL Thomas Green			(84) 5761/5761
Ms Sally Wright		WRIGHTS2	5702

ADCST-P/ATTG-ZC

Mr Robert Seger		SEGERR	(27) 5703/5762
Mrs Debbie Battle		BATTLED	5704

DEPUTY ADCST/ATTG-ZX

Mr Frank Polster		POLSTERF	(33) 5705/5768
COL J Baer		BAERJ	5701
Ms Josetta Bryant		BRYANTJ	5706

EXEC OFF/ATTG-ZXE

CPT Greg Hoch		HOCHG	(65) 5709
Vacant			5710

Administrative Office/ATTG-ZXA, FAX 5713

MAJ Ted Lee	Admin Off	LEET1	5711
SFC Anthony Stokely	NCOIC	STOKELYA	5712
SGT Cynthia Walker	Mail/Distro	WALKERC	5707
SGT Burton Foutz	Awards	FOUTZB	5714
SGT Harriet Singleton	Supply	SINGLETH	5708

TNG DEV & ANALYSIS DIR-ATTG-C, Bldg 161

COL Ross Nagy	Dir	NAGYR	(03) 5700
Mrs Joan Piercy	Secy	PIERCYJ	5552
Mr Richard Blanchard	XO	BLANCHAR	5550
Mrs Mary Blake	Admin/Budget	BLAKEM	5551
SFC James Trimble	Tng NCO	TRIMBLEJ	5553

Tng Career Prog Ofc, ATTG-ZC-TCP

Mrs Thelma Alexander	ACCES	ALEXANDT	5647
Mr Claud Rivers	ACTEDS	RIVERSC	5646

Tng Dev Mgt Div, ATTG-CD

LTC William Barko	Ch	BARKOW	5584
Mrs Coreitha Carty	Secy	CARTYC	5593
Ms Naomi Robinson		ROBINSON	5564
Dr Ronald Spangenberg	Ch Stf Tg Ctr	SPANGENR	5590
Mrs Mary Carberry	TQM	CARBERRM	5581
Ms Vallery Doe	Mid Mgr Crse	DOEV	5587
MAJ David Cartwright	Sr Tg Mgr Crse	CARTWRID	5588
Mr Don Weatherly	Ch Tg Dev Mgt	WEATHERD	5571
Mrs Ann Eagle	Secy	EAGLEA	5577
Mr William Cunningham	814772 ACT Mgr	CUNNINGW	5572
Mr Duane MacAllister	ASAT	MACALLID	5573
Mr Curtis Holmes	Env Tng	HOLMESC	5575
Mrs Pamela Calver	NSC	CALVERP	5574

Warfighting Cpts Div, ATTG-CC

LTC James Ritter	Ch	RITTERJ1	5594
Mrs Patricia Picarello	Secy	PICARELP	5567
CPT Richard Shipkowski	CATS	SKIPKOWR	5561
Mr Tony Tyson	BTL LABS/CBRS	TYSONT	5520
Mr Roland Thompson	LAM	THOMPSO2	5566
Mr Patrick Curran	CATS/STRAPS	CURRANP	5563

Anal, Studies & Rsch Div, ATTG-CR

Vacant	Ch		5514
Mr Robert Stevens	Act Ch	STEVENSR	5525
Mrs Sandra Mahanes	Secy	MAHANESS	5522
Mrs Mary Henry	Cost Anal	HENRYM2	5580
CPT Christopher Estey	ORSA	ESTEYC	5515
CPT Mark Smith	ORSA	SMITHM	5549
Dr Diana Tierney	Ch, Resc & Stud	TIERNEYD	5524
Ms Marta Bailey		BAILEYM	5523
MAJ Charles Stroup	AR 5-5 Stud	STROUPC	5517

Tng Info Mgt Div, ATTG-CI

Vacant	Ch		5501
Dr Frank Aversano	Act Ch/SO	AVERSANF	5600
Ms Julie Hartzheim	Secy	HARTZHEJ	5507
MAJ James Conyers	JCCBI	CONYERSJ	5505
Mr James Larsen	Technologies	LARSENJ	5506
Mr Joseph Veitz	Commo	VEITZJ	5555
MAJ Don Pryor	ATIMP	PRYORD	5503
Mr Thomas Moore	Sys Anal	MOORET	5599

Futures Tng Div, ATTG-CF

Vacant	Ch		5545
Mr John Klesch	Act Ch	KLESCHJ	5534
Mrs Susan Jordan	Secy	JORDANS	5537
LTC Jimmy Armstrong	USAR	ARMSTROJ	5526
MAJ Stan McKercher	ARNG	MCKERCHS	5539

Mr Richard Dyer	Cmbt Arms	DYERR	5540
Mr Frank Goodwin	Tng Sys	GOODWINF	5545
Dr Mildred Abell	Ch, Sp Projects	ABELLM	5530
Mr James Dees		DEESJ	5543
Mrs Mimi Stout		STOUTM	5531
Mr Douglas Wilson		WILSOND	5533
Mr Gary Wright		WRIGHTG	5532
Mr John Buckley	Ch Concepts	BUCKLEYJ	5535
Mr Paul McCarthy	Act Ch Strat	MCCARTHP	5536
MAJ Steve Rodis		RODISS	5529
CPT Andy Riley		RILEYA	5542
Mrs Margot Moore		MOOREM	5527

Systems Tng Intergration, ATTG-CS

Vacant	Ch		5926
Mr Chalbert Burchett	Act Ch	BURCHETC	5926
Mrs Antonia Clark	Secy	ATTGY	5928
Ms Lisa Caldwell	Tng Sys Mgt Asst	CALDWELL	5927
Mr Frank Lawrence		LAWRENCF	5929
Mr George Scherer		SCHERERG	5931
Mr Robert Chester	Cbt Spt	CHESTERR	5941
Mr Donald Evans		EVANSD	5938
Mr Charles Wilborne		WILBORNC	5939
Mr Raymond Bonilla		BONILLAR	5943
Mrs Michele Linn		LINNM	5937

INDIVIDUAL TRAINING DIR, ATTG-I, Bldg 161, Fax 5690

COL Ronald Thomas	Dir	THOMASR	5691
CPT Paul Condon	XO	CONDONP	5687
Mrs Kathryn Macneil	Secy	MACNEILK	5688
Mr Stanley Morrison	Opns Off	MORRISOS	5637
SSG Lonnie Hale	Opns NCO	HALEL	5686

Tng Div, ATTG-IT

Mr Winfred Beckwith	Supply/Off Sys Asst	BECKWITW	5617
MAJ Mike Kaufman		KAUFMANM	5609
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LTC David Gnerson		GRIERSOD	5654
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LTC Larry Headley	ARNG ADV	HEADLEYL	5483
CAPT Kevin Shusko	USMC LNO	SHUSKOK	5483

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Mr Donald Skinner	Mob Tng Anal	SKINNERD	2872
Mr Eddie Hackworth	Mob Tng Anal	HACKWORE	2852
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CPT Christian Kaelin	Op Tng Stf Off	KAELINC	2281

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Mr Albert Murray	Tng Sta Pln Anal	MURRAYA	4449
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Mrs Mary Ann Smith	Tng Sta Pln Anal	SMITHM2	2732
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Mr Dale Blessing	Mgt Anal	BLESSIND	2231
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Ms Melanie Hooper	Secy	HOOPERM	5847
SSG Cheryl Camm	Security	CAMMC	5828
SSG Scruggs	ISO	SCRUGGSC	5829

ANALYSIS DIR, ATAN-A

Mr Ronald Radda	Dir	RADDAR	5846

Analysis Div, ATAN-AA

Vacant	Ch		5854
Mr Robert Ford	ORA	FORDR1	5845
Mr Golden	ORA	GOLDENS	5825
CPT Robert Elkins	ORSA		5842
CPT Eric Larsen	ORSA		5806

Analysis Policy Div, ATAN-AP

Mr John Gargaro	Ch	GARGAROJ	5837
Mr Mark Murray	ORA	MURRAYM	5834
Ms Leslie Lampella	ORA	LAMPELLL	5813
Ms Lauren Winter	ORA	WINTERL	5953

STUDY PROGRAM DIR, ATAN-S

Mr Richard Ware	Dir	WARER	5847

TRADOC Study Program Mgt Div, ATAN-SM

Mr Freeland	Ch		5812
Mr Donald Riley	ORA	RILEYD	5819
Ms Gay Bartelt	ORA	BARTELTG	5821
CPT Bradie Burson	ORSA		5820

TRADOC Research Ofc, ATAN-SR

Mr William Hedgepeth	Ch	HEDGEPEW	5832
Ms Gwendolyn Jones	ORA	JONESG	5833

14 DCS INFORMATION MANAGEMENT

ATIM, Bldg 100, FAX 2666

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ADCSIM, ATIM-ZA

Mr Hugh V Markey	ADCSIM	MARKEYV	(39) 2138

XO, ATIM-ZX

MAJ James Deviese	XO	DEVIESEJ	4127

ADMIN & PERS DIV, ATIM-A

Mrs Joyce Winston	Ch	WINSTONJ	4201
SFC Jerome Harris	NCOIC	HARRISJ	2567
SPC Sergio Sosa	Mail & Distro	SOSAS	2555
Mrs Carolyn Carson	Admin/Pers	CARSONC	3861
Mrs Carlette Trent	Career/Trng Adm	TRENTC	3645

RESOURCE MGMT DIV, ATIM-R

Ms Wanda Lane	Ch	LANEW	2011
Mrs Carolyn Strawbridge	OPA Bud	STRAWBRC	2015
Mrs Carol Kelly	Bud Anal	KELLYC	4206
Mr Jeff Doughty	OPA	DOUGHTYJ	2641
Mrs Geraldine Dubberly	Bud Anal	DUBBERLG	2035

IMA SUPPORT MGT DIV, ATIM-S

Mr Robert Welker	Ch	WELKERR	3164
Mrs Bettie Gonser	Pubs Mgt	GONSERB	3127
Mrs Caroline Whiteed	Pubs Mgt	WHITEEDC	2237
Mr James Gerlack	Scty Mgr	GERLACKJ	4025
Ms Marilyn Myers	Official Mail Mgt	MYERSM	2109
Ms Belinda Saunders	Congr/Corresp	ATIMIPA	2100
Mr Warren Atkins	Recs Mgt	ATKINSW	2417
Mr Newton Carper	Printing Mgt	CARPERN	2912
Mrs Linda Christensen	VIS	CHRISTEL	4122

AUTO & TELECOMM DIR, ATIM-I

Mr Kent Graham	Dir	GRAHAMK	4233
Mrs Linda Brown	Secy	BROWNL2	3237

TELECOMM DIV, ATIM-IT

Mr Julian Atkinson	Ch	ATKINSNJ	4020
Mrs Gail Williams	Secy	WILLIAMS	2274

Services Br, ATIM-ITP

Mr Don Shaw	Ch	SHAWD	3722
MAJ Jeffery Anderson	Spec Proj/Stu III	ANDERSOJ	3496
Mr Lewis Wike	Record Comm	WIKEL	3864
Mr Glenn Howie	Networks/Mobiliz	HOWIEG	3497
Mr William Bracey	Tel Contracts	BRACEYW	2276

Program Mgmt Br, ATIM-ITC

Mr George Swartzbaugh	Ch	SWARTZGW	2277
MAJ Ronald Bush	CUITN/PPC4I	BUSHR	3348
Vacant	MTMP/TMMCT		4026
Mr Donald Williams	Rqmts/OSCAR	WILLIAM4	3729
Mrs Frances Holloway	Lease Comm	HOLLOWAF	3230
Mr Ellis Cullifer	MCA/BRAC	CULLIFEE	2072

AUTOMATION DIV, ATIM-IA

Mr Joseph Martone	Ch	MARTONEJ	3320
Ms Jean Grant	Secy	GRANTA	3651

Acquisition Mgmt Br, ATIM-IAA

Mr Robert Reynolds	Ch	REYNOLDR	3829
Mrs Janet Dugger	IMSC	DUGGERJ	3695
CPT Edward Kolifrath	TISI	KOLIFRAE	4301
CPT Gabriel Morgan	ASIMS	MORGANG2	2516

ADP Sys Mgmt Br, ATIM-IAS

Mr Deane Gunn	Ch	GUNND	3349
MAJ Pamela Lavender	ISM/ITD	LAVENDEP	3324
Vacant	VTC		2500
Mr Lawrence Denlinger	JCBIS	DENLINGL	4346
Mr George DeHaven	Data Comm	DEHAVENG	3239

Plans, Arch, & Stds Br, ATIM-IAP

Ms Dorothy Garner	Arch Mgr	GARNERD	4018
Mr James R Best	Comp Sp	BESTJ	2527
Mr Richard Onasch	Compt Sp	ONASCHR	4013
Mr Lateon Still	Compt Sp	STILLL	4015
Mr Joseph Richardson	Comot Sp	RICHARDJ	4017
Mr Donald Thompson	Staff Info Off	THOMPSO3	4047

TECH & ANALYSIS DIV, ATIM-T

LTC William Backlund	Ch	BACKLUNW	4098

Tech Mgt Br, ATIM-TT

Mr Gary Gillette	Tech Mgt	GILLETTG	3742
MAJ Robert Lynch	Tech Mgt	LYNCHR1	4049
Mr Larry McDaniels	ISO	MCDANIE2	4030
SGM Freddie McBride	Tech Mgt	MCBRIDEF	3680
SSG Richard Bolton	Tech Mgt	BOLTONR	3338

Analysis Mgt Br, ATIM-TA

Mr John Campbell	Anal Mgt	CAMPBELJ	3762
Mr Denver Farley	Anal Mgt	FARLEYD	3863
Ms Jeanne Herrmann	Anal Mgt	HERRMANJ	4021
Vacant	Anal Mgt		4251

15 CHIEF OF PUBLIC AFFAIRS

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MAJ Anthony Kowalczik	DCPA	KOWALCZA	3506
SGM Larry Whitley	SGM	WHITLEYL	3261
Mrs Mona White	Secy	WHITEM	3333

Policy, Plans & Mgt Br, ATPA-P

Mr Clinton Parks	Ch	PARKSC	3661
Ms Phyllis Wallace	Plns Off	WALLACEP	3662
Ms Sandra Shearer	Budget Off	SHEARERS	3664
SFC Ronnie Allen	Plans NCO	ALLENR1	3663
Mrs Rose Chaney	Secy	CHANEYR	3258

Community Relations Br, ATPA-CR

Ms Sandra Canepa	Ch	CANEPAS	3255

Public Information Br, ATPA-PI

Mr William Noxon	Ch	NOXONW	4465
MAJ Robert Cravens	PA Stf Off	CRAVENSR	4468
CPT Michael Whetston	PA Stf Off	WHETSTOM	3063
Mr Ray Harp	PA Spec	HARPR	3061
Mrs Susan Piedfort	PA Spec	PIEDFORS	4467

Command Information Br, ATPA-CI

MAJ Cindy Sito	Ch	SITOC	3463
Mrs Kay Couch-Lopez	PA Spec	COUCHLOK	4461
Mr Jim Caldwell	TNS Editor	CALDWELJ	4428
SFC Robert Crockett	Newspaper Mgr	CROCKETR	4462
Ms Margaret Peoples	VIS	PEOPLESM	4463
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16 STAFF JUDGE ADVOCATE

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Mrs Shirley R Harmor	Secy	HARMORS	2302

Admin Office

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LTC Craig L Reinold	Ch	REINOLDC	2060
MAJ Joseph Saye	Mil Law Off	SAYEJ	2358
Mr Anthony A Cochet	Atty-Advisor	COCHETA	2358

Civil Law Div

Mr John W Murphy	Ch	MURPHYJ1	2561
MAJ JJ Short	Civ Law Off	SHORTJ	2561
CPT Kevin P Fritz	Civ Law Off	FRITZK	2773
CPT Timothy S Howell	Civ Law Off	HOWELLT	2773

17 INSPECTOR GENERAL

ATIG, Bldg 82, FAX 4313

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SGM Terrance Peede		PEEDET	3042
Miss Betsy Rowe	Exec Asst	ROWEB	3021

Inspections Br, ATIG-I

LTC Anthony Cerri	Ch	CERRIA	3042
LTC Margaret Seitz		SEITZM	3042
MAJ Robert Hoehl		HOEHLR	3042
MAJ James O'Donnell		ODONNELJ	3042
MAJ M Christie		CHRISTIM	3042
MAJ Paul Avery		AVERYP	3042
MAJ Richard Robinson			3042

Asst & Inves Br, ATIG-A

LTC Patricia Stoneham	Ch	STONEHAP 4217
MAJ John Myers		MYERSJ 4217
MAJ Jay Burcham		BURCHAMJ 4217
LTC Dennis Ng		NGD 4217
MAJ Paul Merritt		 4217

18 OFC, INTERNAL REVIEW & AUDIT COMPLIANCE

ATIR, Bldg P-247, FAX 3065

Mr Frank Slayton	Ch	SLAYTONF ..... (45) 3066 **
Mr Randy Gentry	Standards	GENTRYW 3975

PENINSULA OFC, (FOA)

Mr William Brittingham	Dir	BRITTINB 3067
Mr Greg Procopi	Audit Mgr	PROCOPIG 3946
Mr Anthony Gordon	GAO/DODIG	GORDONA 2292
Ms Alice Grady	AAA	GRADYA 3060
Ms Eltonette Landy	Secy	LANDYE 2291

19 COMMAND HISTORIAN

ATMH, Casemate 21, FAX 2504

Dr Henry Malone	Ch Historian	MALONEH 3781

Historical Studies & Publ

Mr John Romjue	Ch	ROMJUEJ 3781
Dr Anne Chapman	Rsch Historian	CHAPMANA 3781

Historical Programs & Policy

Dr James Stensvaag	Ch	STENSVAJ 3781
Dr Susan Canedy	Archivist	CANEDYS 3781
Mr Joseph Mason	Archives Tech	(MASONJ) (ATMH) 3525

Museums & Historical Property

Dr Charles Cureton	Staff Curator	CURETONC 3525

20 POST COMMANDER

ATZG, Bldg 77, FAX 3521

COL William Clark	CDR	CLARKW ..... (51) 3241
Mrs Thelma Pankoke	CEA	PANKOKET 3241
CSM Charlie Chappell	CSM	CHAPPELC 2957
Ms Janice Kellihan	Admin Off	KELLIHAJ 2175
CPT Jose Perez	PJA	PEREZJ 3616
Ms Camille Meyers	PAO	MEYERSC 3205
Mr Sid Lassiter	ISO, Bldg 59	LASSITES 3660
Mr Thomas Ray	TAO, Bldg 96	RAYT 4231
SFC Klaus Schumann	PAC, Bldg 96	SCHUMANK 2442
LTC Lynn Westbrook	DIS, Bldg 28	WESTBROL 3807
Mr Robert Sahms	DIS-L, Bldg 28	SAHMSR 2101
MAJ James Leonard	DRM, Bldg 105	LEONARDJ 2006
Mr John Pabst	DOIM, Bldg 59	PABSTJ 4454
Mr David Messersmith	Ch, OPSD, Bldg 59	MESSERSD 4145
Mr Carmen D'Auria	Ch, ASD, Bldg 49	DAURIAC 4331
HELP DESK	Computer Assistance	INFODESK 3055
Mr John Rucker	Telephone Assistance	RUCKERJ 3507
Mr Homer Lewis	Ch, PSB, Bldg 59	LEWISH 2125
Mrs Betty Caldwell	Records Manager	CALDWELB 3144
Mrs Vivian Carpenter	Mgt Anal	CARPENTV 4004
Mrs Diane Johnson	Editorial	JOHNSON3 3203
Mrs Pat Brinkley	Printing, Bldg T-100	BRINKLEP 2940
Mr Gordon Notvedt	Mail & Dist, Bldg 183	NOTVEDTG 2756
Mr John Miller	Class Mail, Bldg 133	MILLERJ 2121
Ms Provokie Williams	Pubs Stkrm, Bldg T-101	ASKPUBS 2652
Video Teleconf Ctr	Bldg 161	VIDEOTEL 3744/3037/3755
TCC (OIC/Duty Off)	Bldg 133	HOPSONP 3705/3100
COL Franco Alvarez	Health Cl, Bldg 82	 2201
COL J Rajniak	Dental Cl, Bldg 82	 2835
CH(LTC) Joseph Miller	CH, CM 21	MILLERJ1 2811
Mr Paul Heilman	DCFA, Bldg T-183	HEILMANP 3737
Mr Roderick MacGillivray	Fin Mgt-DCFA, Bldg T-183	MACGILLR 4115
Mr Donald VanPatten	Comm Actv, Bldg T-183	VANPATTD 2715
LTC Stephen Midkiff	DPM, Bldg 87	MIDKIFFS 2220
Ms Brenda Gooch	EEOO, Bldg 173	GOOCHB 3500
Mr Delinor Vantree	DOS, Bldg 28	VANTREED 2069
Mr Dennis Mroczkowski	Musm Cur, CM 20	MROCZKOD 3973
Ms Laurie Angell	PBO, Bldg 168	ANGELLL 3330
Mr William Vernor	FMOC, Bldg 185	VERNONW 2406
Ms Maria Jackson	ITR, Bldg 185	JACKSONM 2685
Fire Department	**EMERGENCY**	..... **2287**
Family Housing	Bldg T-179	 2127
Housing Referral	Bldg T-179	 2129
Billeting	Bldg T-179	 2128
Office Machine Repair		 878-3846
Work Orders		 4228
Post Staff Duty Off	Bldg 87	 4290

HHC USATRADOC & FT MONROE

CPT Sherrilyn O'Neal	Cdr, Bldg T-196	ONEALS 4171

MP ACTIVITY

CPT La'Tonya McDougald	Cdr, Bldg 87	MCDOUGAL 2822

THE US CONTINENTAL ARMY BAND

CPT Thomas Rotondi	Cdr, Bldg 9	ROTONDIT 3888

FT MONROE COMP TEAM

CW4 Tom Jenkins	Ch, Bldg 96	JENKINSE 2538
SSG Jerry Martinez	Off Br	MARTINEJ 2511
SFC Will Newman	Enl Br	NEWMANW 2014
SGT Keisha Pitts	Passports/IDs	PITTSK 2960

FINANCE & ACCTG LIAISON OFFICE, Bldg 105

SFC Debra Rosen	Asst Fin Off	ROSEND 2731
Mil Pay		 4281
Travel		 2012
Civ Pay		 2711

21 TENANTS

US ARMY AUDIT AGENCY TRADOC FIELD OFFICE

SAAG-SER-TFO, Bldg 159

Mr Donald Ripp	Mng Auditor	GANLEYG 3611
Mr C Carstensen	Auditor Supv	GANLEYG 3611
Ms G Ganley	Auditor Supv	GANLEYG 3611

FT MONROE MI DET

Commander		 2030
Operations Ofc		 3826
Information		 3915

DEFENSE PRINTING SERVICE REPROGRAPHICS FACILITY

Bldg T-100		 3582

PENIN CIV PERS SPT ACTV (PCPSA)

ATPC-PCPSA

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Mr B Buchanan	Ch, PMSO-M	BUCHANAB 727-2915
Mr B Buchanan	Ch, NAF, Mon	BUCHANAB 727-2045
Ms Scales	Acting Ch, PMSO-E	EUS1 (SCALESY) 878-2801
Mr T Rogers	Ch, PMSO-L	LEE1 (ROGERST) 765-1651
Ms K Genung	Ch, MES	GENUNGK 873-3121
Ms V Kenion	Ch, Ext Rcrt	KENIONV 873-3160
Ms C Parsons	Ch, SSB	PARSONSC 873-3142
Ms K Kidd	Ch, CTC	KIDDK 873-3161
Mr R Cicero	Ch, NAF, Eus	EUS1 (CICEROE) 878-3708

22 ROTC CADET COMMAND

ATCC-ZA, Bldg 56

MG JM Lyle	Commanding General	LYLE ..... (78) 4520

Personal Staff, ATCC, Bldg 56, FAX 680-4161

Ms J Taylor	Secy	 4521
CPT B Crom	Aide	 4522
CSM A Eaton	CSM	EATONA 4526

Chief of Staff, ATCC-ZB, Bldg 56

COL A Jackson	CofS	JACKSONA 4525
CPT T Dalton	SGS	DALTONT 4523
Mrs C Coverdale	Secy	 4524

Reserve Forces Adviser, ATCC-ZR, Bldg 56

COL W Napper	USAR	NAPPERW 4575
COL H Bowe	ARNG	BOWEH 4576

Surgeon, ATCC-S, Bldg 56

COL J Schwab		SCHWABJ 4530

Chief Nurse, ATCC-N, Bldg 56

LTC H Scheele		SCHEELEH 2878

Inspector General, ATCC-IG, Bldg 56

LTC J Moore		MOOREJ 4528

Command Historian, ATCC-H, Bldg 56

Dr A Coumbe		COUMBEA 4608

Information Mgt Div, ATCC-IMD, Bldg T-184

MAJ H Pierce	Ch	PIERCEH 4639

Pers & Admin Dir, ATCC-P, Bldg 56

LTC(P) LE Keenan III	Dir	KEENANL 4532

Marketing, Ops, & Public Affairs Dir, ATCC-M, Bldg 56

LTC John B Gately	Dir	GATELYJ 4597

Training Dir, ATCC-T, Bldg 56

COL E Kelly	Dir	KELLYE 4580

Resource Mgt Dir, ATCC-R, Bldg 56

LTC R Massey	Dir	MASSEYR	4622

High School Dir, ATCC-HS, Bldg T-194

LTC G Hayes Jr	Dir	HAYESG	4039

School of Cadet Command, ATCC-SC, Bldg T-184

CPT(P) N Reinwald	Commandant		3802

23 TRADOC FIELD ELEMENT

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LTC W Bishop	CDR	(82)	3169
MAJ T Burns	XO		3169
SGT J Smith			3169
Mrs G Epling	Admin		3370
Ms C Limandri			3370

TRADOC Liaison Officers Command/Activity

UNC/CFC/USFK/EUSA, Seoul, KO	011-822-7913-3614
ROKA TRADOC, Taejon, KO	011-822-7913-8686
USAREUR & 7th Army, Heidelberg, GE	49-06221-57-6588
JGSDF Staff College, Tokyo, JA	011-813-3440-7881
USARJ/IX Corps, Camp Zama, JA	263-3283
GE Gen Army Ofc, Cologne, GE (SR LO)	049-221-9371 Ext 3494/3410
Gen Army Ofc, Cologne, GE (CASCOM LO)	049-221-9371 Ext 3494/3410
GE Gen Army Ofc, Cologne, GE (TNG/CD LO)	049-221-9371 Ext 3494/3410
GE Armor Sch, Munster, GE	049-5192-122909
GE Artillery Sch, IDAR Oberstein, GE	049-6781-402858
GE Aviation Sch, Bueckeburg, GE	049-5722-26278
GE Engineer Sch, Munich, GE	049-89-95714-206
GE Infantry Sch, Hammelburg, GE	049-9732-8111 Ext 206
GE NBC Sch, Sonthofen, GE	049-8321-9203
GE Ord/Maint Sch, Aachen, GE	049-241-561-2125
GE Signal Sch, Feldafing, GE	049-8157-8497
ATSC LO to 7ATC, Grafenwohr, GE	049-9641-83-7127
GE Long Range Recon Patrol Sch, Weingarten, GE	049-751-51817
UK MOD, UPAVON, EN	011-44-980-615060
BR Army Staff College, Camberley, EN	011-44-276-63344 Ext 2680
UK Doctrine & Training Cmd, Wilton, EN	011-44-722-433682
Soviet Stud Res Inst, Camberley, EN	011-44-276-41-2373
FR Army HQ & Fr War College, Paris, FR	0331-44-42-3597
FR Army Staff College, Pans, FR	0331-44-42-3597
FR Armor Sch, Saumur, FR	0331-41-507272
FR Artillery Sch, Draguignan, FR	0331-94-602207
FR Engineer Sch, Angers, FR	0331-41-875134
FR Infantry Sch, Montpellier, FR	0331-67-585421
FR Aviation Sch, Leluc, FR	0331-94-609567
FR Sig Sch, Montargis, FR	0331-38-852013
Canadian Nat Def HQ, Ottawa, CA	613-945-7201
Italian Army HQ, Rome, IT	011-396-4735-7355
MCCDC, Quantico, VA	278-2577
USARSO/USSOUTHCOM, Ft Clayton, Panama	011-507-87-6211
Israeli Defense Forces, Tel Aviv, Israel	011-972-9580059
Spanish Army HQ, Madrid, So	341-441-7500 Ext 248
Turkish Land Forces Tng Cmd, Ankara, TU	672-1110, Ext 4235
USARPAC/USPACOM, Ft Shafter, HI	9-1-808-438-7700
Brazilian Army HQ, Rio de Janiero, Brazil	011-5521-542-6997

(All telephone numbers are commercial)

Appendix B

KEY PERSONNEL
HEADQUARTERS TRADOC
1 January - 31 December 1993

Position	Name	Dates
COMMAND GROUP		
Commanding General	GEN FM Franks, Jr.	23 Aug 91 -
Scientific Advisor	Dr. PJ Berenson	10 Oct 89 -
Executive to the Commanding General	COL J Eszes	22 Feb 93 -
Chief, Commander's Planning Group	COL G Fontenot	15 Jul 92 -
DCG/CDR Combined Arms Command	LTG WA Shoffner LTG JE Miller	16 Aug 91 - 26 Jul 93 27 Jul 93 -
DCG/CDR Combined Arms Support Command	LTG SN Wakefield	9 Jan 92 -
DCG for U.S. Army Reserve	MG JH Mukoyama, Jr.	1 May 91 -
DCG for Army National Guard	MG GW Shuler	1 Sep 92 -
DCG/Chief of Staff	MG JP Herrling	8 Sep 92 -
Assistant CofS	COL CE Beckwith	26 Feb 92 -
Command Sergeant Major	CSM WE Woodall	1 May 91 -
GENERAL STAFF		
DCS for Base Operations Support	MG WJ Bryde, Jr.	7 Sep 92 -
Assistant DCS for Base Operations Support-HR	Mrs. TB Wainwright	5 Apr 93 -

Assistant DCS for Base Operations Support-Ops	COL J Corbett	4 Jan 93 -
DCS for Combat Developments	MG L Lehowicz	27 Jul 92 -
Assistant DCS for Combat Developments	COL D Ferezan	27 Jul 92 - 11 Jun 93
	COL J Edwards	12 Jun 93 -
DCS for Doctrine	BG LE Maggart	1 Jan 93 - 31 Oct 93
	BG M Boyd	1 Nov 93 -
Assistant DCS for Doctrine	Mr. L Napoleon	1 Jan 93 -
DCS for Resource Management	MG HM Hagwood, Jr.	11 Sep 89 -
Assistant DCS for Resource Management	Mr. MA Frantz, Jr.	1 Aug 89 -
DCS for Training	MG DP Malcor	14 Sep 91 - 2 Jul 93
	MG C Ernst	12 Jul 93 - 14 Oct 93
Acting	BG JN Frazar III	25 Oct 93 - 31 Dec 93
Assistant DCS for Training-Operations	COL J Eszes	2 Nov 92 - 22 Feb 93
	COL T Green	12 Jul 93 -
Assistant DCS for Training-Programs	Mr. TJ Edwards	1 Jan 89 - 16 May 93
	Mr. R Seger	17 May 93 -
DCS for Information Management	COL D Fitz-Enz	15 Feb 90 - 30 Jun 93
	COL W Guerra	26 Jul 93 -
DCS for Analysis	BG MA Canavan*	4 Oct 92 - 17 Jun 93
	Mr. M Bauman	18 Jun 93 -
Assistant DCS for Analysis	COL WJ MacPherson	15 Jul 92 -

*Also Commander, TRADOC Analysis Command, headquartered at Fort Leavenworth, Kan.

SPECIAL STAFF

Ch, Public Affairs	COL GH Stinnett	6 Aug 91 -
Ch, Internal Review and Audit Compliance Acting	Mr. FW Slayton	2 Jan 92 -
Chief Historian	Dr. HO Malone, Jr.	7 Jun 81 -

Command Safety Officer	Mr. GW Morgan	1 Oct 86 -
Inspector General	Col FL Perry	27 Sep 91 -
Staff Judge Advocate	COL JO Smyser	9 Jul 90 -

APPENDIX C

PRINCIPAL SUBORDINATE COMMANDERS AND COMMANDANTS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND As of 31 December 1993

Major Subordinate Commands and Installations

FT Leavenworth/Combined Arms Command	LTG J. E. Miller
FT Lee/Combined Arms Support Command	LTG S. N. Wakefield
HQ ROTC Cadet Command	MG J. M. Lyle
TRAC, FT Leavenworth, KS	Mr. M. Bauman
FT Ben Harrison/Soldier Support Center	MG R. E. Brooks
FT Benning/Infantry Center	MG J. A. White
FT Bliss/Air Defense Artillery Center	MG J. J. Cravens
Carlisle Barracks	MG W. A. Stofft
FT Eustis/Transportation Center	MG D. A. Whaley
FT Gordon/Signal Center	MG R. E. Gray
FT Huachuca/Intelligence Center	MG J. F. Stewart, Jr.
FT Jackson/Training Center	MG R. S. Siegfried
FT Knox/Armor Center	MG L. R. Jordan
FT Leonard Wood/Engineer Center	MG J. N. Ballard
FT McClellan/Chemical-Mil Police Center	MG R. D. Orton
FT Monroe	COL W. Clark
FT Rucker/Aviation Center	MG J.D. Robinson
FT Sill/Field Artillery Center	MG J. A. Dubia

TRADOC Military Schools and Colleges

ALMC, FT Lee, VA	COL R. E. Cadorette
AMSC, FT Belvoir, VA	COL A. F. Bondshu
CGSC, FT Leavenworth, KS	LTG J. E. Miller
DLIFLC, Presidio of Monterey, CA	COL V. H. Sobichevsky
SMA, Ft Bliss, TX	COL F. E. Van Horn

TRADOC Branch Schools

Adjutant General, FT Ben Harrison, IN	COL S. B. Strippoli
Air Defense Artillery, Fort Bliss, TX	MG J. J. Cravens
Armor, Fort Knox, KY	MG L. R. Jordan
Aviation, FT Rucker, AL	MG J. D. Robinson
Aviation Logistics, FT Eustis, VA	MG J. D. Robinson
Chaplain, FT Monmouth, NJ	CH(COL)B. H. Lieving
Chemical, FT McClellan, AL	BG R. D. Orton
Engineer, FT Leonard Wood, MO	MG J. N. Ballard
Field Artillery, FT Sill, OK	MG J. A. Dubia
Finance, FT Ben Harrison	COL R. H. Dowden, Jr.
Infantry, FT Benning, GA	MG J. A. White
Intel Center and School, FT Huachuca, AZ	MG J. F. Stewart, Jr.

Intel School, FT Devens, MA	MG J. F. Stewart, Jr.
Military Police, FT McClellan, AL	BG S. P. Chidichimo
Ord Msl & Munitions, Redstone Arsenal, AL	COL W. W. Stirling
Ordnance, Aberdeen Proving Ground	MG J. G. Coburn
Quartermaster, FT Lee	BG R. K. Guest
Signal, FT Gordon, GA	MG R. E. Gray
Special Operations, FT Bragg, NC	MG S. Shachnow
Transportation, FT Eustis, VA	MG D. A. Whaley

TRADOC Specialist Schools

School of Music, Norfolk, VA	MAJ T. R. Davis
School of the Americas, FT Benning, GA	COL J. M. Alvarez

ROTC Cadet Command/Regions

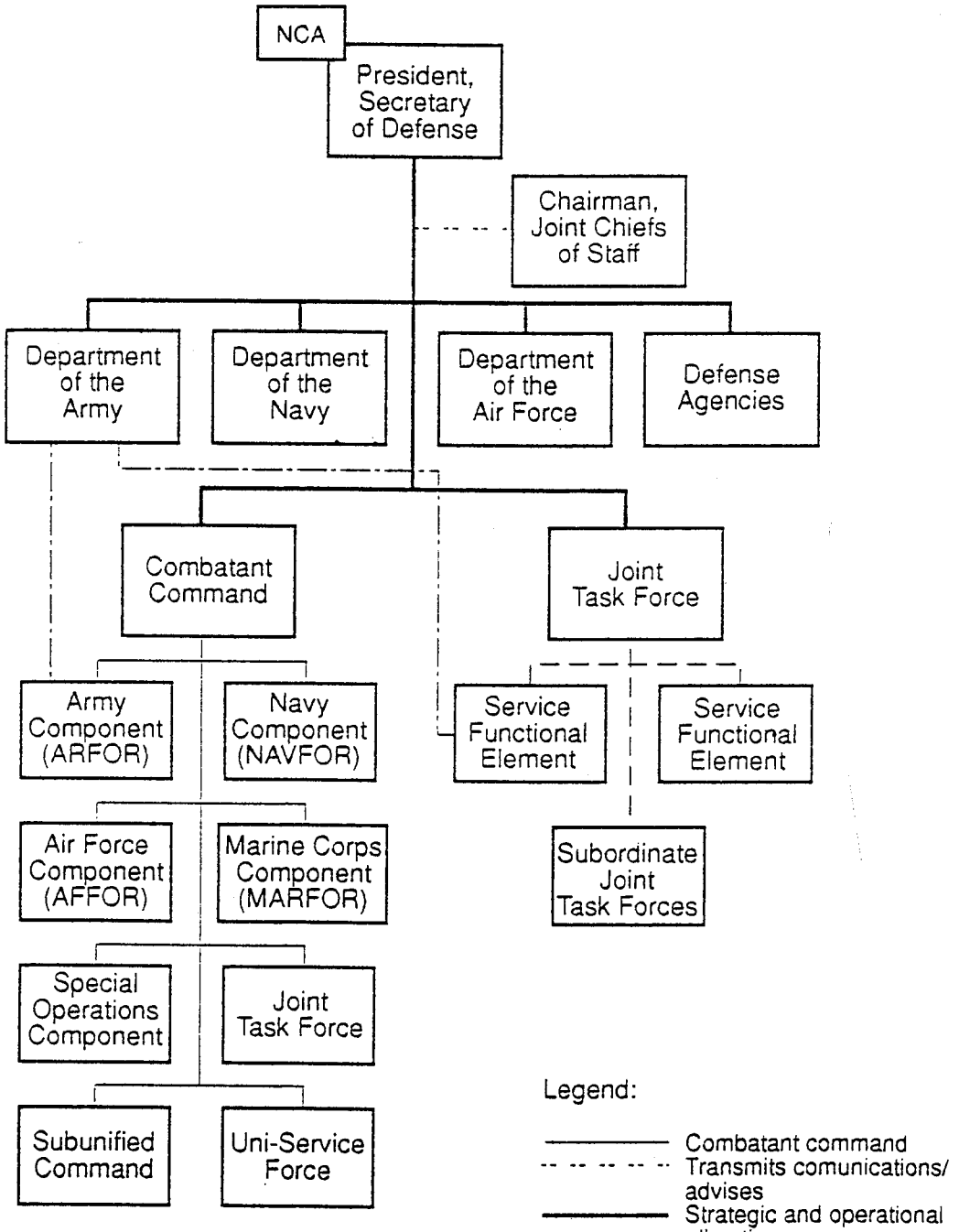
HQ ROTC Cadet Command	MG J. M. Lyle
First ROTC Region, Ft Bragg, NC	BG J. F. Johnson
Second ROTC Region, Ft Knox, KY	BG J. N. Frazar III
Fourth ROTC Region, Ft Lewis, WA	BG J. N. Daly

TRADOC Specialist Activities

Training Support Center, FT Eustis, VA	COL J. Braden
USDB, FT Leavenworth, KS	COL G. A. Lowe

APPENDIX D

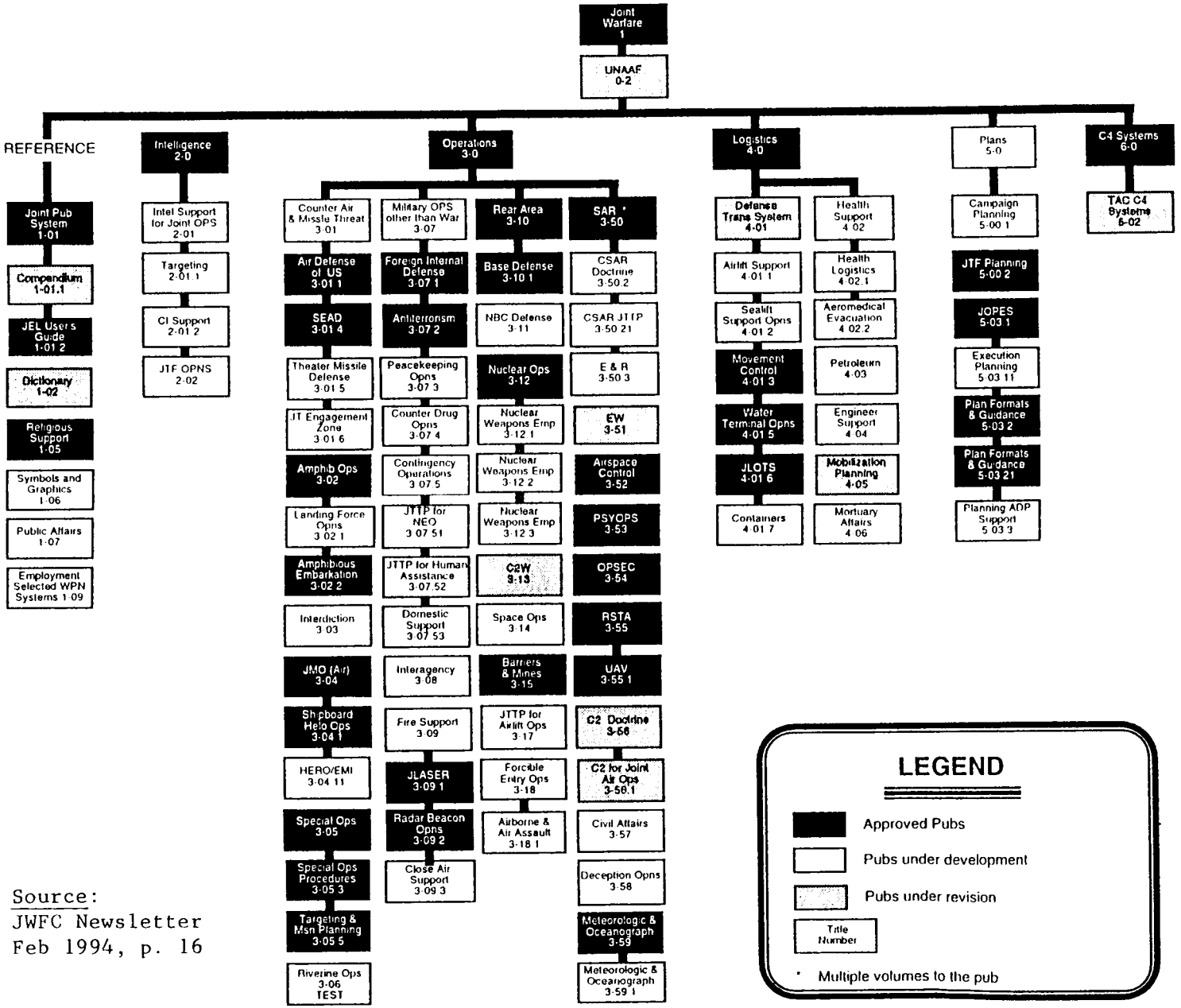
JOINT FORCE RELATIONSHIPS



Source: FM 100-5, Operations 14 Jun 93, p. 4-3.

APPENDIX E

JOINT PUBLICATION SYSTEM



Source:
JWFC Newsletter
Feb 1994, p. 16

Appendix F

FIELD MANUALS PUBLISHED IN 1993

FM 1-108	Doctrine for Army Special Operations Aviation Forces	3 Nov 93
FM 1-300	Flight Operations Procedures	22 Jun 93
FM 1-303	Air Traffic Control Facility Operations and Training	5 Apr 93
FM 1-513	Battlefield Recovery and Evacuation of Aircraft	20 May 93
FM 3-18	Special NBC Reconnaissance	7 May 93
FM 3-19	NBC Reconnaissance	19 Nov 93
FM 5-71-100	Division Engineer Combat Operations	22 Apr 93
FM 5-105	Topographic Operations	30 Sep 93
FM 5-420	Plumbing and Pipefitting	7 May 93
FM 5-422	Engineer Prime Power Operations	7 May 93
FM 5-488	Logging and Sawmill Operations	30 Sep 93
FM 6-2	TTP for Field Artillery Survey	23 Sep 93
FM 6-20-2	TTP for Corps ARtillery, DIVARTY, and Field Artillery Brigrade Headquarters	7 Jan 93
FM 7-7J	Mechanized Infantry Platoon and Squad (Bradley)	7 May 93
FM 8-10-7	Health Service Support in NBC Environment	22 Apr 93
FM 8-10-19	Dental Service Support in a Theater of Operations	12 May 93
FM 8-10-24	Area Support Medical Battalion TTP	13 Nov 93
FM 8-70	Standards for Bloodbanks and Transfusion Services	1 May 93
FM 9-38	Conventional Ammunition Unit Operations	2 Jul 93
FM 10-23-2	TTP for Garrison Food Preparation and Class I Operations Management	30 Sep 93
FM 10-27	General Supply in Theaters of Operations	20 Apr 93
FM 10-27-1	TTP for Quartermaster General Supply Operations	20 Apr 93
FM 17-12-1-1	Tank Gunnery (Abrams), Vol I	19 Mar 93
FM 17-12-1-2	Tank Gunnery (Abrams), Vol II	19 Mar 93
FM 19-4	MP Battlefield Circulation Control, Area Security, and Enemy Prisoner of War Operations	7 May 93
FM 21-26	Map Reading and Land Navigation	7 May 93
FM 21-305	Manual for the Wheeled Vehicle Driver	27 Aug 93
FM 31-19	Military Free Fall Parachuting TTP	18 Feb 93
FM 31-20-5	Special Reconnaissance TTP for special Forces	23 May 93
FM 33-1	Psychological Operations	18 Feb 93

FM 34-7	Intelligence and Electronic Warfare Support to Low Intensity Conflict Operations	18 May 93
FM 34-10-2	Intelligence and Electronic Warfare (IEW) Equipment Handbook	13 Jul 93
FM 41-10	Civil Affairs Operations	11 Jan 93
FM 44-12	AWACS-ADO Multiservice Procedures for AWACS-Ground Based Air Defense Operations	30 Sep 93
FM 44-48	TTP for the Sensor Platoon	21 Sep 93
FM 54-30	Corps Support Operations	17 Jun 93
FM 55-9	Unit Air Movement Planning	5 Apr 93
FM 55-50	Army Water Transport Operations	30 May 93
FM 57-38	Pathfinder Operations	9 Apr 93
FM 63-1	Support Battalions and Squadrons, Separate Brigades and Armored Cavalry Regiments	30 Sep 93
FM 71-100-2	Infantry Division Operations TTP	31 Aug 93
FM 100-5	Operations	14 Jun 93
FM 100-19	Domestic Support Operations	1 Jul 93
FM 101-52 -21-3	Effectiveness Data for F-5 Gun Direction Sight	21 Jan 93
FM 101-52 -21-4	Effectiveness Data for F-5 Gun Direction Sight	21 Jan 93
FM 101-52 -33-1	Effectiveness Data for F-16 Enhanced Envelope Gun Sight	21 Jan 93
FM 101-52 -33-2	Effectiveness Data for F-16 Enhanced Envelope Gun Sight	21 Jan 93
FM 101-61 -6-2	Joint Munitions Effectiveness Manual	15 Apr 93

Source: DA Pam 25-30, Index of Army Pubs and Blank Forms (Doctrine and Training Pubs), 1 OCt 93 and Change 1, 1 Jan 94.

Appendix G

U.S. ARMY TRAINING CENTERS, ACTUAL INPUTS FY 1993

BASIC COMBAT TRAINING, FISCAL YEAR 1993

INSTALLATION	1 QTR	2 QTR	3 QTR	4 QTR	TOTAL
KNOX	1,614	1,142	448	1,780	4,984
JACKSON	8,594	7,080	8,823	12,208	36,705
LEONARD WOOD	4,319	3,663	4,762	6,050	18,794
SILL	1,623	1,328	2,156	2,593	7,700
TOTAL	16,150	13,213	16,189	22,631	68,183

ONE STATION UNIT TRAINING, FISCAL YEAR 1993

KNOX	1,153	689	643	1,499	3,984
LEONARD WOOD	1,141	754	1,060	1,405	4,360
BENNING	3,272	3,120	4,669	6,725	17,786
SILL	797	458	1,136	800	3,191
MCCLELLAN	1,147	1,678	1,444	2,122	6,391
TOTAL	7,510	6,699	8,952	12,551	35,712
TOTAL BCT AND OSUT					103,895

ADVANCED INDIVIDUAL TRAINING, FISCAL YEAR 1993[a]

RUCKER	366	280	286	378	1,310
SILL	911	960	1,238	1,083	4,192
ABERDEEN PG	698	1,054	793	1,246	3,791
BELVOIR	409	439	270	0	1,118
ORD M&M	785	607	640	544	2,576
LEE	3,107	3,253	3,255	3,426	13,041
GORDON	2,626	2,519	2,010	2,416	9,571
FINANCE	197	259	200	202	858
ADJ GEN	376	619	511	630	2,136
MONMOUTH	66	122	117	116	421
KNOX	373	494	385	478	1,730
HUACHUCA	245	433	371	351	1,400
BLISS	531	566	576	822	2,495
EUSTIS	319	335	284	153	1,091
AVN LOG	867	762	635	647	2,911
JACKSON	2,524	2,013	2,011	2,123	8,671
LEONARD WOOD	2,756	1,431	1,973	2,362	8,522
DEVENS	349	274	315	336	1,274
TOTAL	17,505	16,420	15,870	17,313	67,108
TOTAL BCT/OSUT/AIT					171,003

[a] Figures for Fort McClellan are included in OSUT.

Source: SSHR, ODCST, Tng Ops and Mgmt Act, CY 93/II, Ann. A, B and C.

Appendix H

TRADOC SCHOOLS INPUT AND GRADUATES
FISCAL YEAR 1993

SCHOOLS	INPUT[a]	GRADUATES
Adjutant General School	4,659	4,453
Air Defense School	3,109	2,855
Armor School	8,782	6,242
Army Logistics Management College	17,989	17,628
Army Management Staff College	469	469
Aviation Logistics	2,374	2,271
Aviation School	8,552	8,031
Command and General Staff College	8,193	7,242
Chaplain School	813	804
Chemical School	2,645	2,431
Defense Language Institute, Monterey[b]	2,957	2,841
Drill Sergeant School - Ft Jackson	376	321
Engineer School/Training Center Ft Leonard Wood	4,925	4,052
Field Artillery School	6,772	5,959
Finance School	2,741	2,688
Infantry School	29,647	24,254
Intelligence School, Devens	2,232	2,093
Intelligence School, Huachuca	3,556	2,929
Military Police School	5,970	5,869
Missile and Munitions School	3,008	2,906
Northern Warfare TC - Ft Greely[c]	562	519
Ordnance School - APG	4,811	4,498
Ordnance School - Ft Belvoir	162	156
Polygraph Institute	278	276
Quartermaster School	6,037	5,922
Recruitment and Retention School	3,727	3,363
School of Cadet Command, Ft Monroe	796	796
School of the Americas	1,186	1,159
School Military Packing Techniques	3,374	2,955
School of Music[d]	336	297
Sgt Major Academy	3,905	3,702
Signal School	6,739	6,147
Staff Training Center, Ft Monroe	235	235
Training Center - Ft Dix	3,065	3,057
Training Center - Ft Jackson	609	587
Training Center - Ft McClellan	522	389
Transportation - Ft Eustis	3,201	3,030
Transportation - Ft Story	57	57
TOTALS	159,371	143,483

[a]Does not include IET

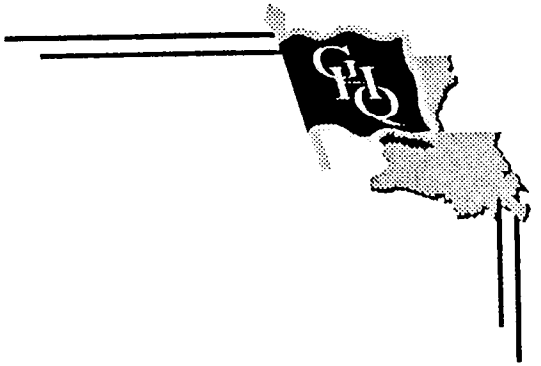
[b]Input figure includes 194 holdovers from previous classes. Graduation figure includes only U.S. military graduates. There were 63 others from law enforcement agencies, U.S. Coast Guard, foreign military, and diplomatic sources. Most 1993 graduates began training in 1992.

[c]Figures are included in the Army Training Requirements and Resurces System (ATRRS), but at the end of FY 1993, TRADOC ownership had not been established.

[d]U.S. Navy was the proponent. Figures include only U.S. Army attendees.

Source: (1) SSHR, ODCST, Tng Ops and Mgmt Activity, CY 93/II, Annex D. (2) PROFS msg, DLI historian to OCH, HQ TRADOC, 9 Mar 94, subj: Statistics.

LOUISIANA MANEUVERS SUPPORT STRUCTURE



Support Structure ...

CSA
(Director)

TRADOC Cdr
(Deputy)

Board of Directors (BoD)
- √ Focus For Maneuver Cycles
- √ Approves Issues
- √ Senior Advisors to Sec Army & CSA
- √ Members: CSA, VCSA, CINCs, MACOMs, DCSOPS, & Cmdt AWC

Louisiana Maneuvers Task Force Dir
- √ Operating Arm of CSA
- √ Principal Coordinator
- √ Synchronizes/Conducts the Process

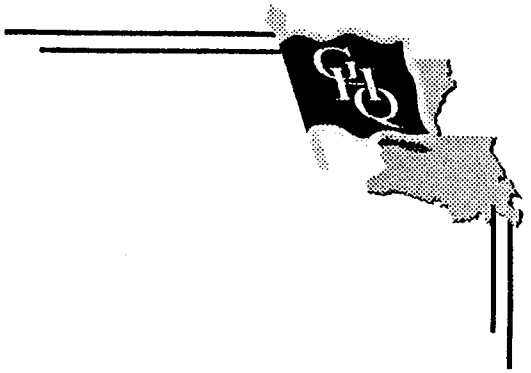
General Officers Working Group (GOWG)
- √ Recommends Issues for LAM Process
- √ Defines Conduct of Maneuvers
- √ Develops Agenda for BoD

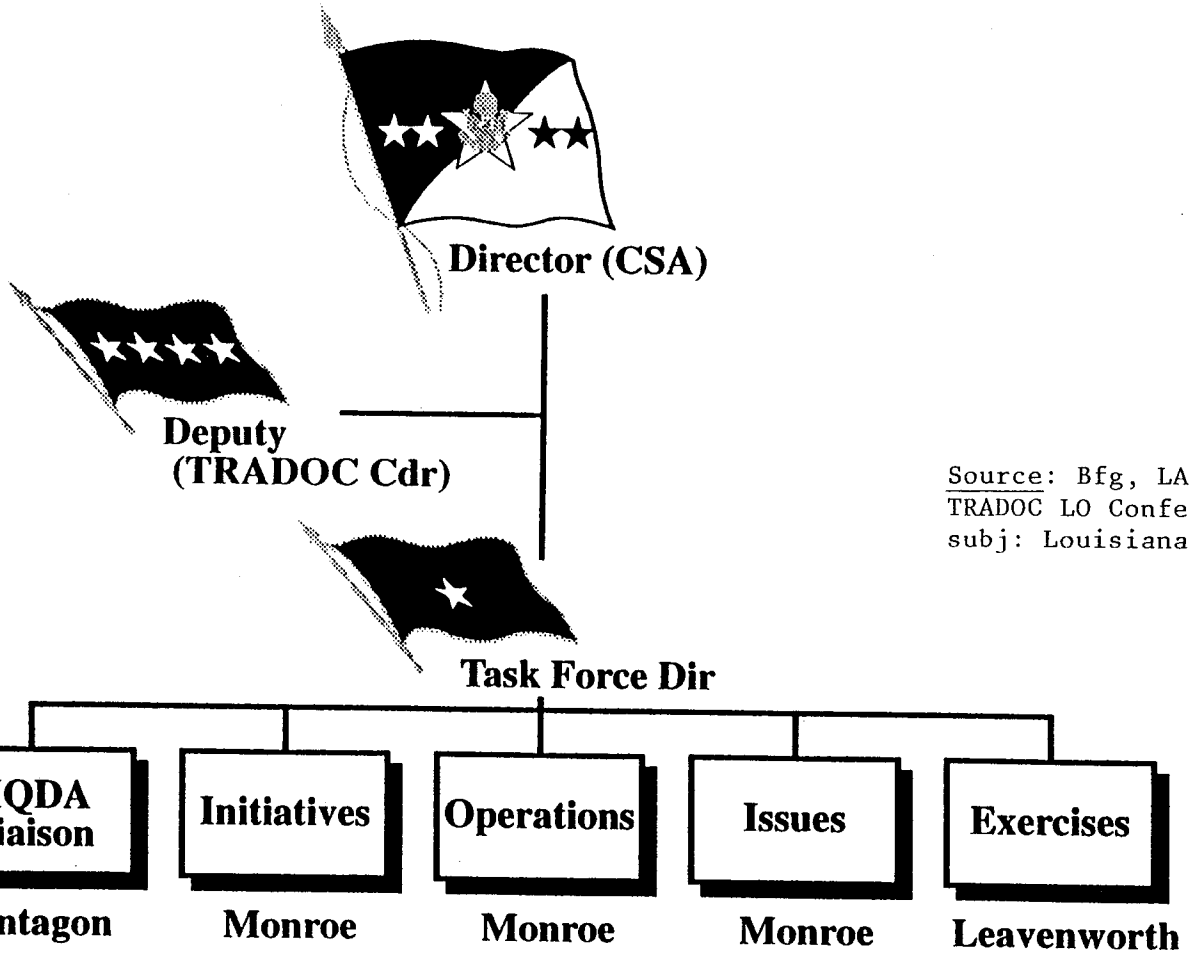
Source: Bfg, LAM TF to TRADOC LO Confer, 15 Mar 93, subj: Louisiana Maneuvers

APPENDIX J

LOUISIANA MANEUVERS TASK FORCE ORGANIZATION

Organization...



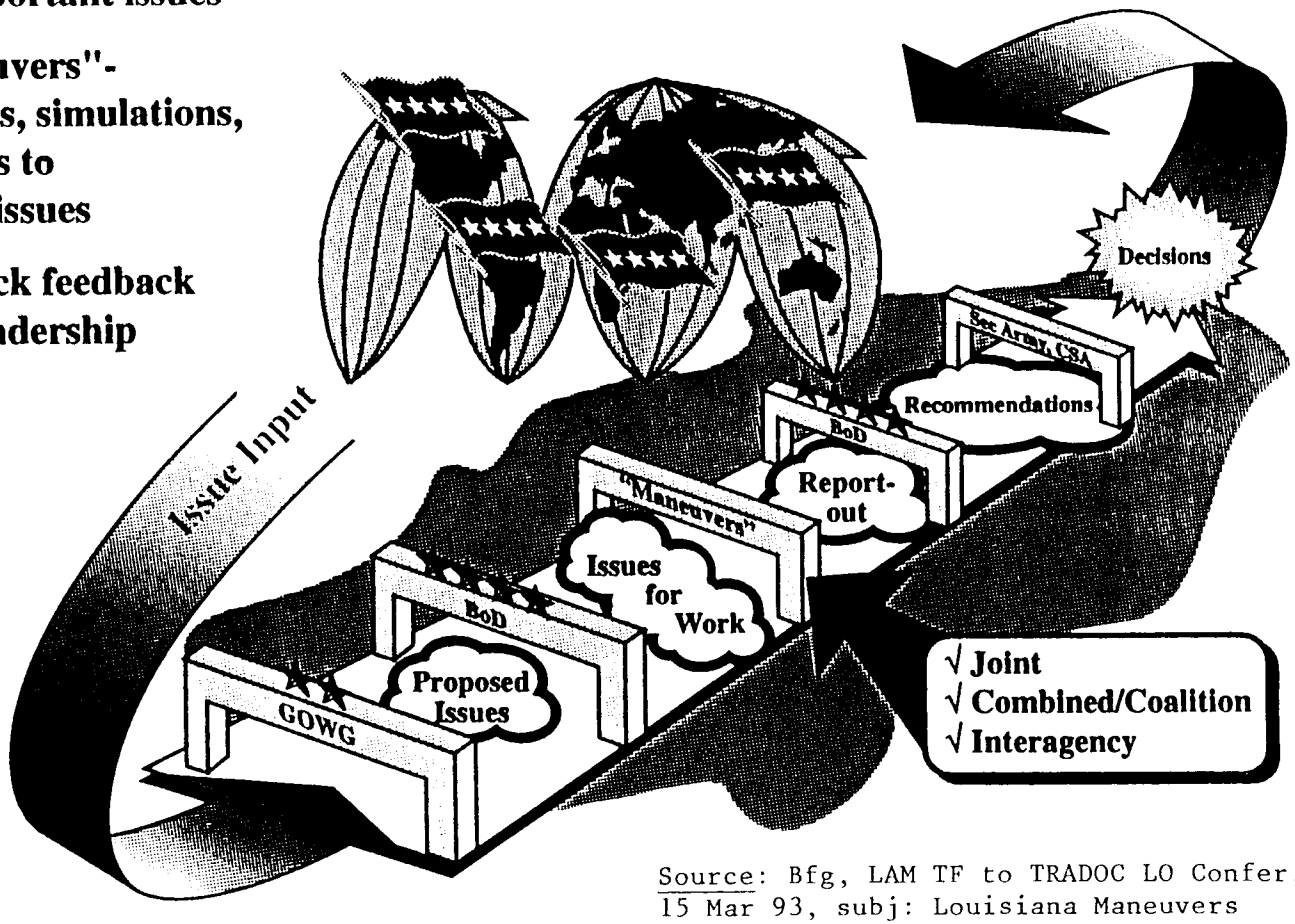


Source: Bfg, LAM TF to TRADOC LO Confer, 15 Mar 93, subj: Louisiana Maneuvers

LOUISIANA MANEUVERS PROCESS

The Process....

- √ Army's senior leaders identify important issues
- √ The "Maneuvers"- use exercises, simulations, and analysis to investigate issues
- √ Provide quick feedback to senior leadership



Source: Bfg, LAM TF to TRADOC LO Confer, 15 Mar 93, subj: Louisiana Maneuvers

Appendix L

LOUISIANA MANEUVERS BOARD OF DIRECTORS AND WORKING GROUPS 1993

Louisiana Maneuvers Board of Directors II
3-5 March 1993

General Gordon R. Sullivan	CofS U.S. Army
General Dennis J. Reimer	VCSA
General Robert W. RisCassi	CINC, UN Cmd/CFC/USFK/CG, EUSA
General Edwin H. Burba, Jr.	CINC, FORSCOM
General Carl W. Stiner	CINC, USCOM
General George A. Joulwan	CINC, SOUTHCOM
General Frederick M. Franks, Jr.	CG, TRADOC
General Jimmy D. Ross	CG, AMC
General John M. Shalikashvili	CINCEUR
General David M. Maddox	CINC USAREUR and Seventh Army
LTG Johnnie H. Corns	CG, USARPAC
LTG J. H. Binford Peay III	DCSOPS
LTG Wayne A. Downing	CG, USASOC
LTG Donald M. Lionetti	CG, USASSDC
MG William A. Stofft	Commandant, Army War College
BG Tommy R. Franks	Executive Director, LAM TF

Louisiana Maneuvers Board of Directors III
October 1993

General Gordon R. Sullivan	CofS U.S. Army
General J. H. Binford Peay III	VCSA
General Dennis J. Reimer	CINC, FORSCOM
General Gary E. Luck	CINC, UN Cmd/CFC/USFK/CG, EUSA
General George A. Joulwan	CINC, SOUTHCOM
General Wayne A. Downing	CG, USASOC
General Frederick M. Franks, Jr.	CG, TRADOC
General Jimmy D. Ross	CG, AMC
General John M. Shalikashvili	CINCEUR
General David M. Maddox	CINC USAREUR and Seventh Army
LTG Johnnie H. Corns	CG, USARPAC
LTG John H. Tilelli, Jr.	DCSOPS
LTG Donald M. Lionetti	CG, USASSDC
MG William A. Stofft	Commandant, Army War College
BG Tommy R. Franks	Executive Director, LAM TF

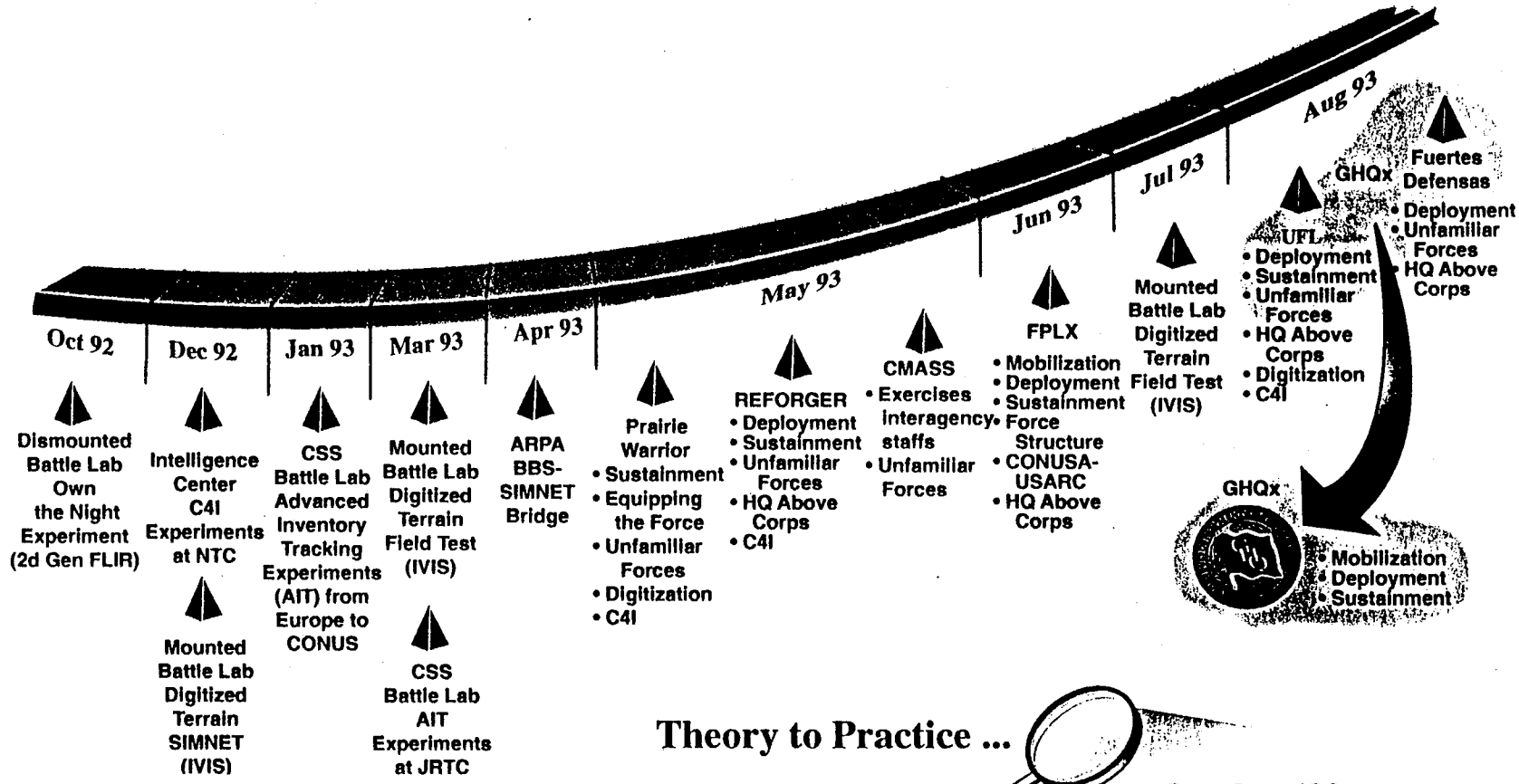
Members
Louisiana Maneuvers
General Officer Working Group III
28-29 July 1993

Member	Command	Position
MG Roger K. Bean	USARPAC	DCG
MG Stephen Silvasy	CFC/USFK/EUSA	CFC DCSOPS
MG William A. Stofft	AWC	Commandant
MG Sidney Shachnow	JFKSWC	CG
MG Thomas L. Prather	AMC	DCS RDA
MG Larry G. Lehowicz	TRADOC	DCSCD
BG Frank Miller	FORSCOM	J3
MG John F. Sobke	Corps of Eng	Deputy
BG George A. Crocker	SOUTHCOM	CG USARSO
BG Charles H. Baumann	USAREUR	Cdr 7th ATC
BG Erick Shinseki	ODCSOPS	DoT
BG(P) Tommy R. Franks	LAM Task Force	Exec Dir
COL Peter Franklin	SSDC	XO
COL John C. Mutarelli	ASA(FM)	Acting Dir, Ops & Sup
COL William J. Rice	III Army	C, Plans and Programs
COL Guy Huchet de Quenetain	French Army	National Representative
COL Charles T. Rogers	UK Army	National Representative

Sources: (1) Agenda, 1993 Winter Senior Commanders' Conference/LAM Board of Directors Meeting, 3-5 Mar 93.
(2) Msg, HQDA to distr, 311200Z Oct 93, Subj: Louisiana Maneuvers Board of Directors Meeting.
(3) Readahead, Louisiana Maneuvers General Officer Working Group, 28-29 Jul 93, Hampton, Va.

LOUISIANA MANEUVERS EXERCISE SCHEDULE

'93 Maneuvers ...



Theory to Practice ...

October '93
Board of Directors

Source: Bfg, GEN Franks to GOWG III, 28-29 Jul 93

APPENDIX N

LOUISIANA MANEUVERS EXERCISE COORDINATION

EXERCISE COORDINATION MATRIX

LAM ISSUES	MOBEX 93	DRAGON HAMMER	FUERTES DEFENSES	UFL	CERTAIN SUPPORT (FPLX)	PRAIRIE WARRIOR	INTERNAL LOOK	GHQ EX	PROPONENT
AMOPES		X			X				FORSCOM
DEPLOY		X	X	X	X				FORSCOM
SUSTAIN		X		X	X		X		AMC
EQUIPPING		X				X			TRADOC
ROLE OF CONUSAS					X				FORSCOM
OPNS W/ UNFAM FORCES		X	X	X	X	X	X		TRADOC
HQ ABOVE CORPS		X	X	X	X	X	X		TRADOC
BATTLE COMMAND				X		X			TRADOC
OWN THE NIGHT						X			TRADOC
FPA-C2 INTEL		X		X		X			TRADOC
POC	LTC TUTTLE	MAJ KWAN	LTC KNIGHTLY	LTC STUART	LTC STUART	MAJ VOGT	LTC KNIGHTLY	COL SMITH LTC TUTTLE	

PREPARED BY EXERCISE COORDINATION DIRECTORATE,LAMTF (552-4042)

as of 20 Jan 93
based on LAM-ECC

Source: Memo DACS-LM-ECL, OCSA to distr, 28 Jan 93, subj: Louisiana Maneuvers Exercise Coordination Conference

RESOURCE DATA, CY 1993
TABLE I: TRADOC Command Strength, CY 1993

	OFFICER		WARRANT OFFICER		ENLISTED		AGGREGATE MILITARY		CIVILIAN	
	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD	AUTH	ASGD[c]
FORT BEN HARRISON[a]	154	128	11	10	691	685	856	823	687	641
FORT BENNING[a]	575	489	25	31	4140	4561	4740	5081	2510	3017
FORT BLISS[a]	225	171	54	58	2037	2010	2316	2239	2357	1818
CARLISLE BARRACKS	4	3	0	0	71	87	75	90	248	228
FORT EUSTIS [a]	187	147	98	89	1498	1526	1783	1762	1679	1465
FORT GORDON	232	207	20	25	2347	2433	2599	2665	1444	1169
FORT HUACHUCA[a]	280	221	70	61	2266	2167	2616	2449	1299	983
FORT JACKSON	203	168	10	9	2425	2198	2638	2375	1351	977
FORT KNOX[a]	402	288	19	15	4535	4278	4956	4581	2958	2532
FORT LEAVENWORTH	992	810	14	18	1204	1130	2210	1958	1881	1781
FORT LEE [a]	387	278	27	34	1240	1236	1654	1548	1868	1575
FORT LEONARD WOOD	334	240	18	21	2725	2432	3077	2693	1350	993
FORT MCCLELLAN	263	209	18	15	1214	1214	1495	1438	809	699
FORT MONROE [b]	468	361	4	6	396	347	868	714	1705	1449
FORT RUCKER	375	287	593	588	1570	1439	2538	2314	2075	1861
FORT SILL	379	305	50	38	2836	2610	3265	2953	1856	1904
NON-TRADOC INSTALLATIONS	2138	1795	139	148	4647	4240	6924	6183	2962	1610
TOTALS	7598	6107	1170	1166	35842	34593	44610	41866	29039	24702

SOURCE: TRADOC STRENGTH DATA FROM ODCSBOS, AG, AND ODCSRM, FORCE MGT DIV, OPS BR

[a] INSTALLATION TOTALS INCLUDE SUBINSTALLATION STRENGTH
[b] INCLUDES HQ TRADOC, CADET COMMAND, AND FIELD ELEMENT
[c] CIVILIAN STRENGTH FIGURES AS OF 30 SEP 93

RESOURCE DATA CY 1993

TABLE II. TRADOC Manpower Requirements and Allocations (as of 31 December 1993)

	OFFICER	WARRANT OFFICER	ENLISTED	CIVILIAN	TOTAL
Combat Developments	1779/1214	86/59	782/606	3133/1733	5780/3612
Training Developments	817/648	183/136	1884/1873	3961/1707	6845/4364
Individual Training Army Training Centers	3294/2771	797/748	21729/21722	7008/4781	32828/30022
ROTC	1944/1390	0/0	1194/1179	740/667	3878/3236
Training Support	1092/977	201/129	3937/3926	3939/2730	9169/7762
Support Operations	1154/993	72/64	6397/6324	26410/17421	34033/24802
Command Summary	10080/7993	1339/1136	35923/35630	45191/29039	92533/73798

SOURCE: SSHR, ODCSRM, CY 93/II

RESOURCE DATA, CY 1993
TABLE III: OFFICER DISTRIBUTION PLAN DILEMMA

Authorization

Grade	FY93	FY94	DIFF
COL	320	313	-7
LTC	1128	1110	-18
MAJ	1829	1783	-46
CPT	4027	3528	-499
LT	294	258	-36
TOTAL	7598	6992	-606

Officer Distribution Plan

Grade	FY93	FY94	DIFF
COL	235	229	-6
LTC	837	838	+1
MAJ	1486	1458	-28
CPT	3713	2639	-1074
LT	304	457	+153
TOTAL	6575	5621	-954

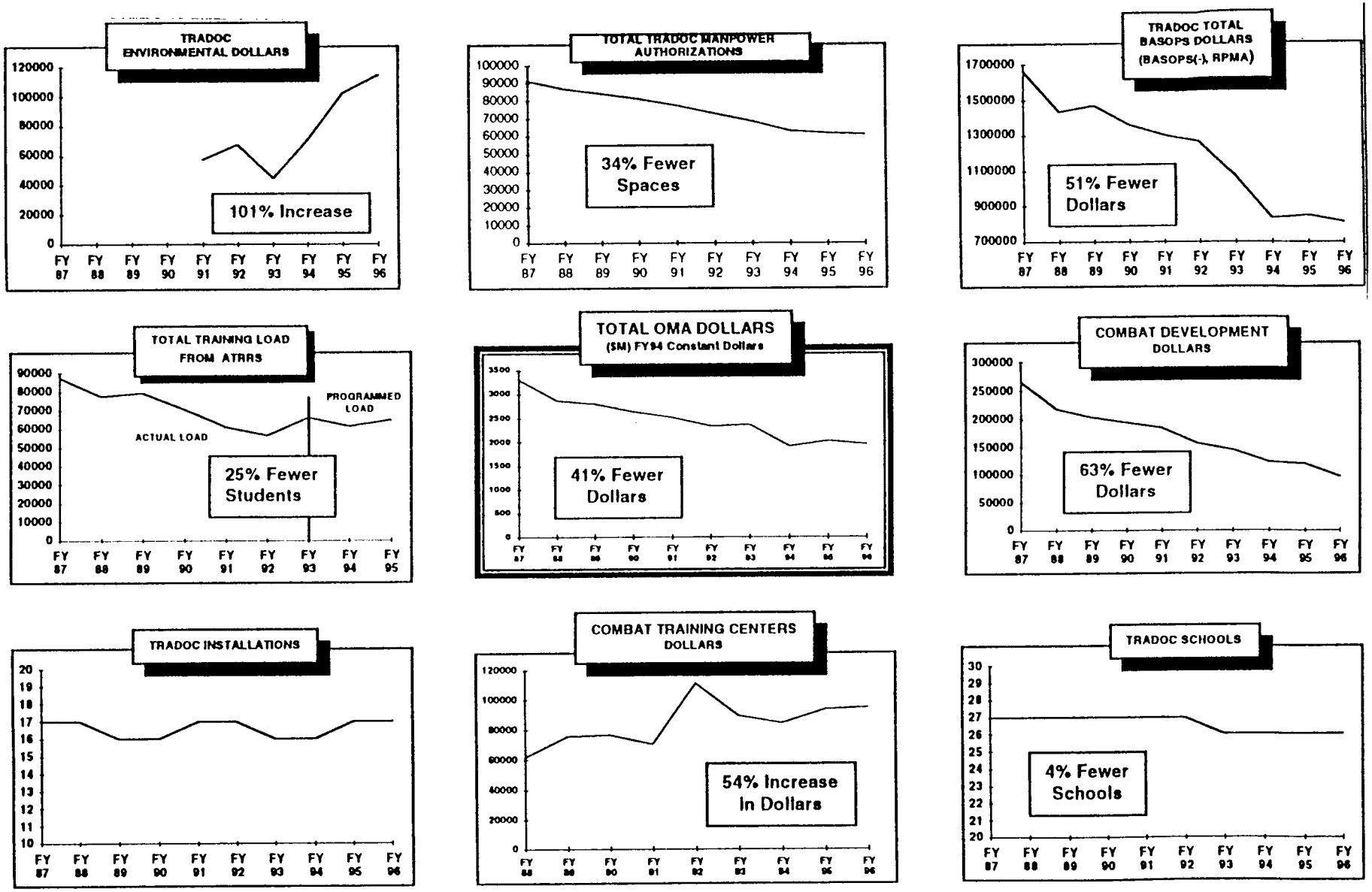
ODP as % of Authorizations

Grade	FY93	FY94	DIFF
COL	73	73	0
LTC	74	75	+1
MAJ	81	82	+1
CPT	92	75	-17
LT	103	177	+74
TOTAL	87	80	-7

Source: Briefing, ODCSRM for CG Presentation to Army Cdrs Confer, 22 Oct 93.

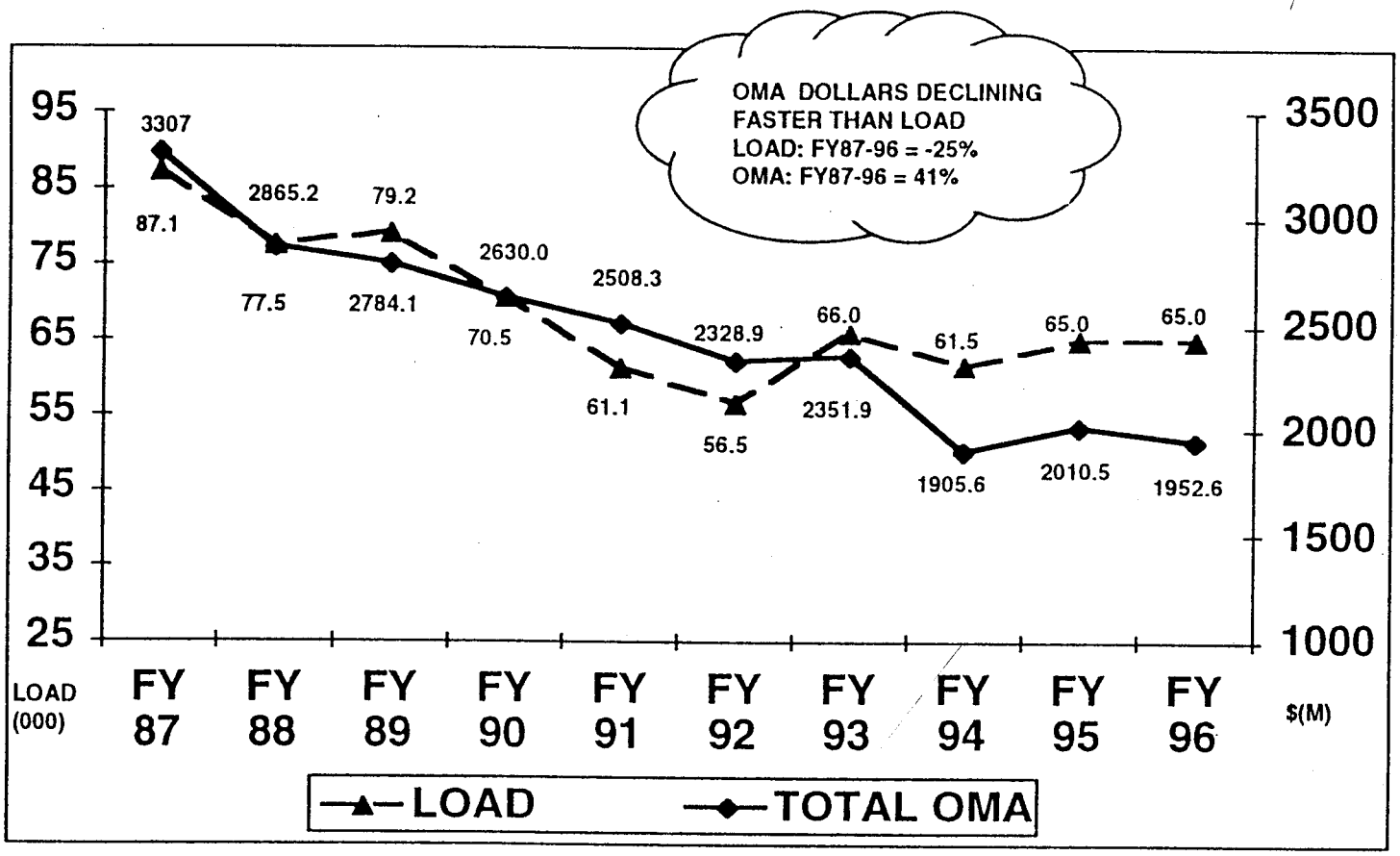
RESOURCE DATA, CY 1993

CHART I: TRADOC RESOURCE TRENDS IN FUNDING AND MANPOWER, FY 1987-1996



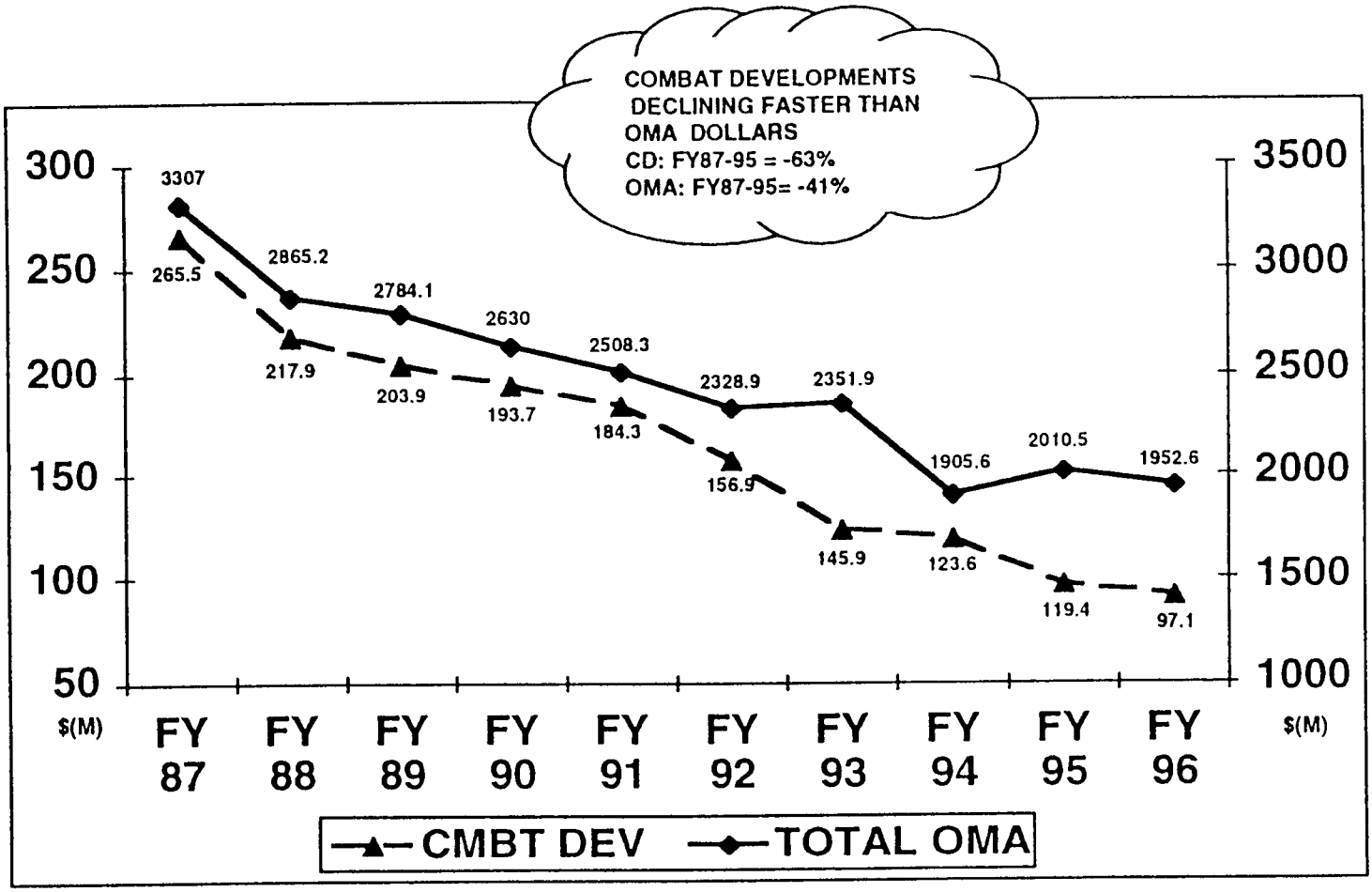
Source: Briefing, ODCSRM for CG Presentation to Army Cdrs Confer, 22 Oct 93.

RESOURCE DATA, CY 1993
CHART II
TRADOC TRAINING LOAD - OMA DOLLAR COMPARISON, FY 1987-1996



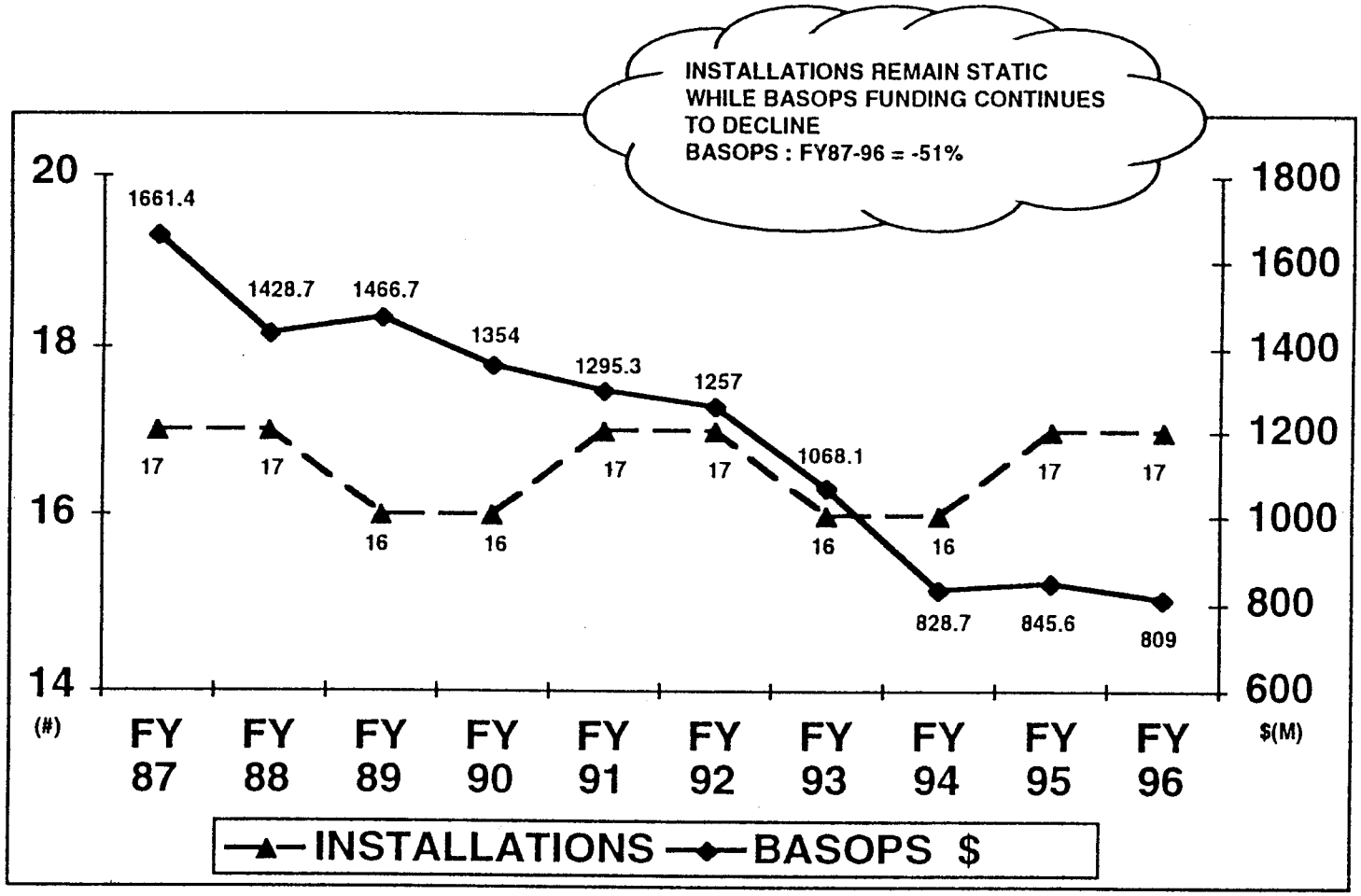
Source: Briefing, ODCSRM for CG Presentation
to Army Cdrs Confer, 22 Oct 93.

RESOURCE DATA, CY 1993
CHART III
TRADOC COMBAT DEVELOPMENTS EXPENDITURE - OMA DOLLAR COMPARISON
(FY 1987-1996)



Source: Briefing, ODCSRM for CG Presentation
to Army Cdrs Confer, 22 Oct 93.

RESOURCE DATA, CY 1993
CHART IV
TRADOC INSTALLATIONS - BASOPS DOLLAR COMPARISON
(FY 1987-1996)



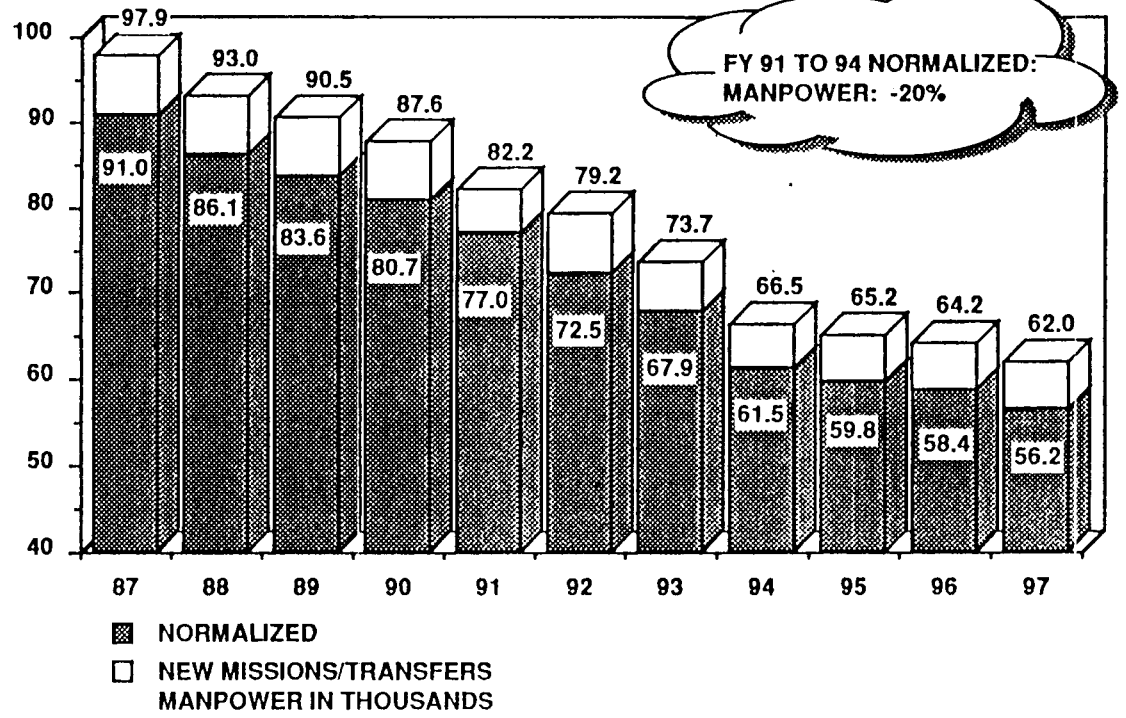
Source: Briefing, ODCSRM for CG Presentation
to Army Cdrs Confer, 22 Oct 93.

RESOURCE DATA, CY 1993
CHART V: TRADOC MANPOWER TREND, FY 1987-1997

FROM FY 87 TO 94 NORMALIZED:
MANPOWER: -32%

MAY 93 PBG IMPACTS

FY 94 ASPIN BUDGET: -2400 AUTH;
FY 95 IMPACT: -1500 AUTH
FY 96+ IMPACT: -3200 AUTH



NOV 93 PBG ADDITIONAL MPR DECREMENTS

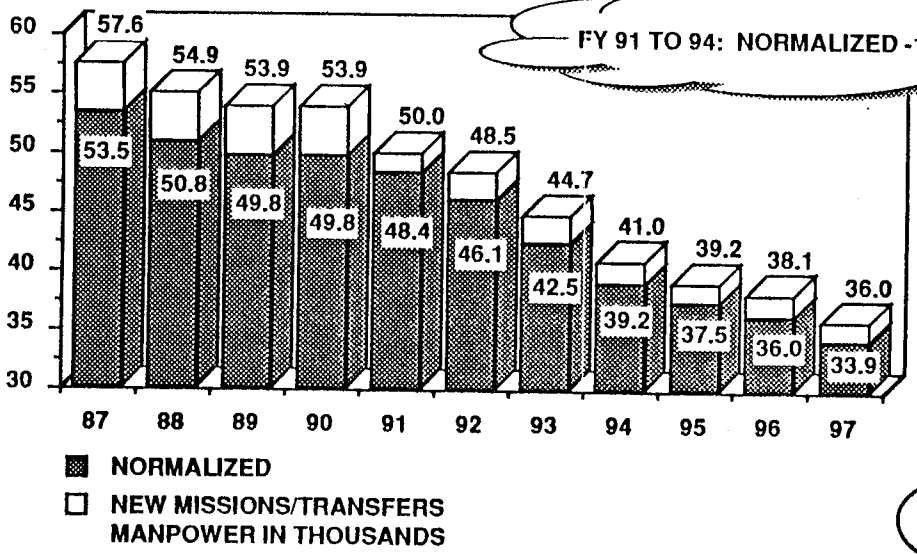
	CIV	MIL
FY 94	-1700	0
FY 95	-600	-1702
FY 96	-500	-1702
FY 97+	-500	-3802

Source: SSHR, ODCSRM, CY 93/II.

RESOURCE DATA, CY 1993
CHART VI
TRADOC MILITARY MANPOWER TREND, FY 1987-1997

FROM FY 87 TO 94 NORMALIZED MILITARY DECLINE: -27%

62% OF TRADOC WORKFORCE



FY 94 ASPIN BUDGET: -900 MIL

FY 96+ TAA-01 REDUCTION: -1702 MIL ROLLED BACK INTO FY 95
FY 97+ -3802 (INCLUDES -2100 ADDITIONAL FOR TDA MIL RED)

QUALITATIVE IMPACTS

ELIMINATION OF OFFICER DISTRIBUTION PLAN (ODP)

- DOWNGRADE 2,194 FIELD GRADE POSITIONS

COL	-94 (21%)
LTC	-582 (35%)
MAJ	-1,518 (53%)

IMPLEMENTED IN THE FY 92 TDA

DOWNGRADING OF MSG/1SG AND CSM/SGM AUTHORIZATIONS

- DOWNGRADE 627 OF 3,150 (20%) E8/E9 POSITIONS TO E7 OR LOWER

DCSPER "MANAGING AUTH GRADES/SKILLS" MAY FURTHER DEGRADE

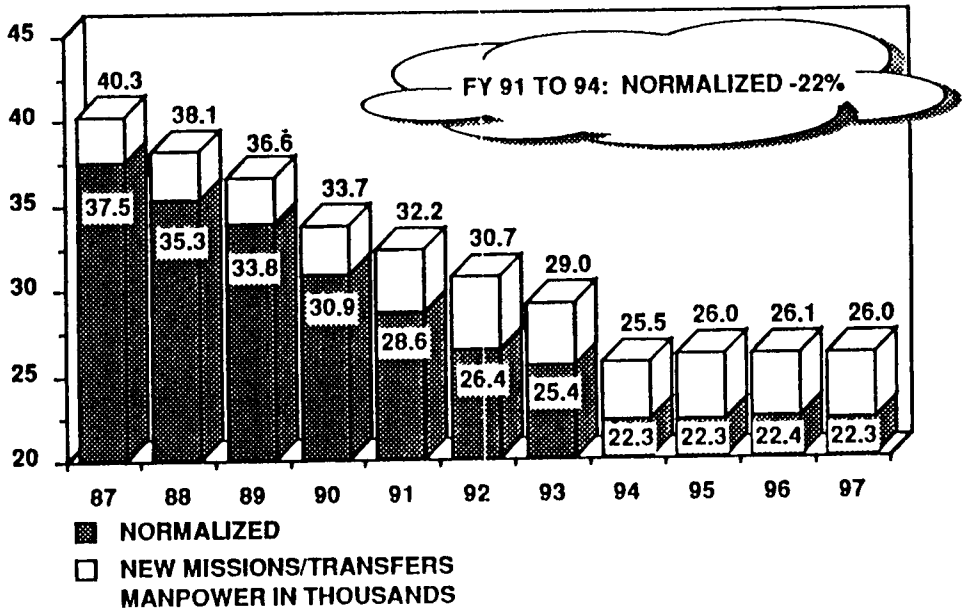
Source: SSHR, ODCSRM, CY 93/II.

RESOURCE DATA, CY 1993
CHART VII
TRADOC CIVILIAN MANPOWER TREND, FY 1987-1997

FROM FY 87 TO 94 NORMALIZED CIVILIAN DECLINE: -41%

38% OF TRADOC WORKFORCE

FY 94+ ASPIN BUDGET: -1500 CIV AFFORDABILITY STILL UNCERTAIN



CIV ES AFFORDABILITY REDUCTION

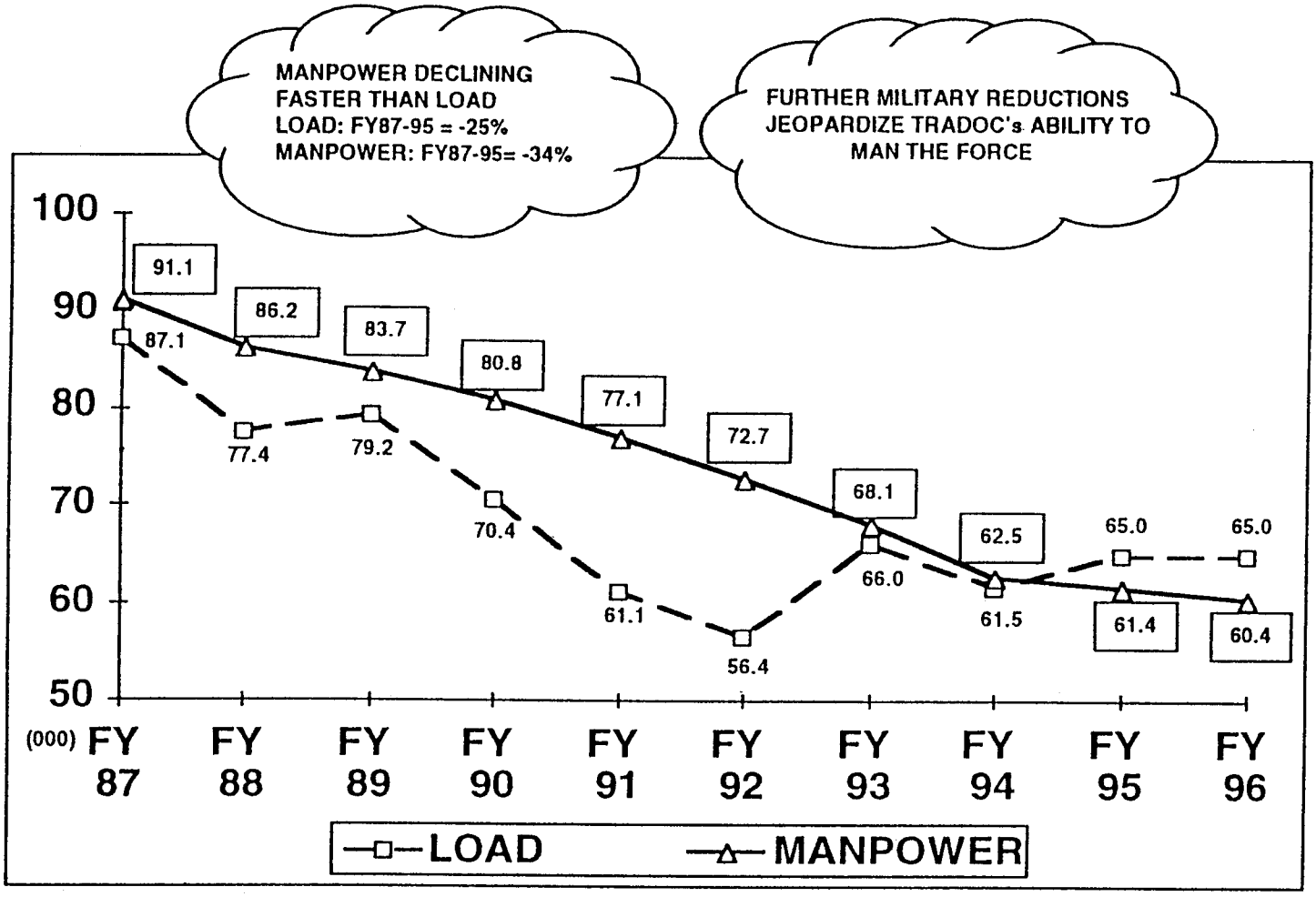
FY 94	-1700
FY 95	-600
FY 96+	-500

Source: SSHR, ODCSRM, CY 93/II.

SHADOW WORKFORCE
CONTRACT MANPOWER EQUIVALENTS (CME)

- TRADOC BOUGHT 16.7K WORK YEARS WITH CONTRACT DOLLARS IN FY 92; THESE WERE PRIMARILY SERVICE AND MAINTENANCE CONTRACTS.
- MISSION 4,414 OR 26%; BASOPS 12,306 OR 74%

RESOURCE DATA, CY 1993
CHART VIII
TRADOC TRAINING LOAD - MANPOWER COMPARISON
FY 1987-1996



Source: Briefing, ODCSRM for CG Presentation
to Army Cdrs Confer, 22 Oct 93.

DEPUTY COMMANDING GENERAL/

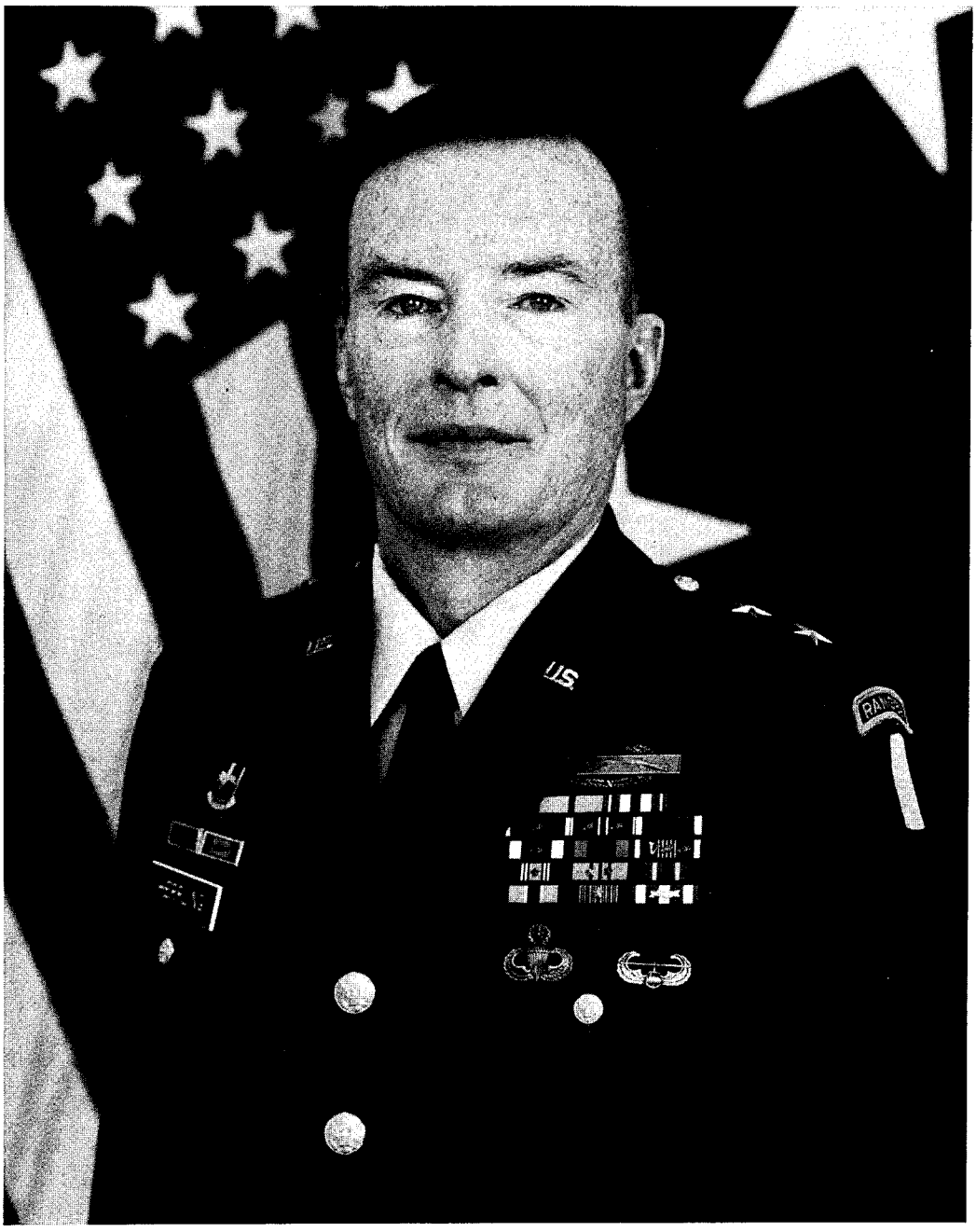
CHIEF OF STAFF

AND

DEPUTY CHIEFS OF STAFF

IN HEADQUARTERS TRADOC

CY 1993



MAJOR GENERAL JOHN P. HERRLING
DEPUTY COMMANDING GENERAL/CHIEF OF STAFF
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
8 September 1992 -

MAJOR GENERAL DENNIS P. MALCOR
DEPUTY CHIEF OF STAFF FOR TRAINING
14 SEPTEMBER 1991 - 2 JULY 1993

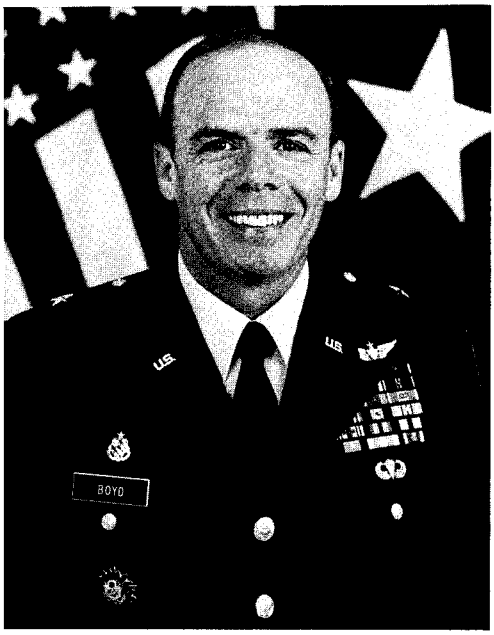
No Photo
Available

MAJOR GENERAL CARL F. ERNST
DEPUTY CHIEF OF STAFF FOR TRAINING
12 JULY - 14 OCTOBER 1993

BRIGADIER GENERAL JOE N. FRAZAR III
DEPUTY CHIEF OF STAFF FOR TRAINING (ACTING)
25 OCTOBER - 31 DECEMBER 1993

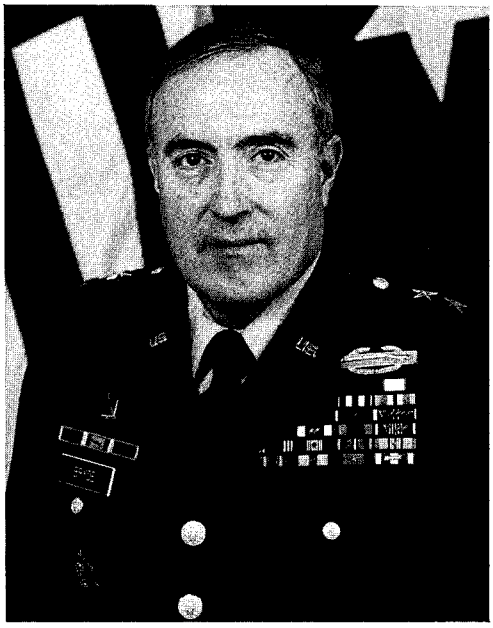
MAJOR GENERAL LARRY G. LEHOWICZ
DEPUTY CHIEF OF STAFF FOR COMBAT DEVELOPMENTS
27 JULY 1992 -

BRIGADIER GENERAL LON E. MAGGART
DEPUTY CHIEF OF STAFF FOR DOCTRINE
1 JANUARY - 31 OCTOBER 1993



BRIGADIER GENERAL MORRIS J. BOYD
DEPUTY CHIEF OF STAFF FOR DOCTRINE
1 NOVEMBER 1993 -

MAJOR GENERAL HENRY M. HAGWOOD, JR.
DEPUTY CHIEF OF STAFF FOR RESOURCE MANAGEMENT
11 SEPTEMBER 1989 -



MAJOR GENERAL WALTER J. BRYDE, JR.
DEPUTY CHIEF OF STAFF FOR BASE OPERATIONS SUPPORT
7 SEPTEMBER 1992 -

COLONEL DAVID FITZ-ENZ
DEPUTY CHIEF OF STAFF FOR INFORMATION MANAGEMENT
15 FEBRUARY 1990 - 30 JUNE 1993

COLONEL WILLIAM M. GUERRA
DEPUTY CHIEF OF STAFF FOR INFORMATION MANAGEMENT
26 JULY 1993 -

LIST OF APPENDED DOCUMENTS

Introduction

1. TRADOC Pam 525-100-1, Leadership and Command on the Battlefield: Operations Just Cause and Desert Storm. Fort Monroe, Va.: HQ TRADOC, 1992.

2. TRADOC Pam 525-100-2, Leadership and Command on the Battlefield: Battalion and Company. Fort Monroe, Va.: HQ TRADOC, 1993.

3. MOA Between HQ USATRADOC, HQ USAF ACC, Naval Doctrine Command, HQ USMCCDC, subj: Air Land Sea Application (ALSA) Center, 1 Oct 93.

4. Msg, COMNAVDOCCOM to distr, 211130Z Jul 93, NDC Assumption of Duties and Responsibilities as Joint Action Steering Committee Member at the Air Land Sea Application (ALSA) Center.

5. MOA Between HQ USATRADOC, Cdr Naval Doctrine Command, HQ USAF AMC, HQ USMCCDC, no subject [expansion and retitling of Airlift Concepts Requirements Agency to Mobility Concepts Agency], n.d. [effective 1 Oct 93].

6. Msg, Cdr TRADOC to distr, 161323Z Jul 93, subj: Command of United States Army TRADOC Analysis Center and TRAC.

7. Memo ATCG, General Frederick M. Franks, Jr. to Brig Gen Michael A. Canavan, Cdr TRAC, 7 Jun 93, subj: Command of U.S. Army TRADOC Analysis Center (TRAC), w/encls.

8. Fact Sheet ATCS-O, Ofc of the Chief of Staff, 20 Sep 93, subj: TRADOC Vision of DOD Consolidation/Base Closure and Realignment (Near and Far Term).

9. TRADOC Perm Ord 36-4, 9 Apr 93, effective 30 Jun 93.

10. Realignment Summary, attached to Memo ATCL-CG, Cdr CASCOM through Cdr TRADOC for HQ DA, Attn: DAMO-FDO, 12 Aug 93, subj: U.S. Army Combined Arms Support Command (CASCOM) Reorganization AR 5-10 Documentation.

11. Msg, Cdr FORSCOM to distr, 151800Z Jan 93, subj: Manpower Validation of Fort Ord Implementation Plan.

12. Msg, HQDA to Cdrs TRADOC and SOA, 151329Z Aug 93, subj: DOD School of the Americas Proposal.

Chapter I

1. FM 100-5, Operations, HQDA, 14 Jun 93.

2. Msg, Comdt CGSCS to distr, 301402Z Apr 93, subj: After Action Report, Tactics Directors Conference (TDC).

3. Briefing slides, Briefing, FM 100-5 Impact Analysis: Merging FM 100-5 into Training, Academic Year 1993, US Army Armor Center, presented to Nature of Future Conflict Seminar, Fort Monroe, Va., 30 Jun-1 Jul 93.

Chapter II

1. General Frederick M. Franks, Jr. and Col Gary B. Griffin, "The Army's View of Joint," Naval Institute Proceedings, May 1993, pp. 54-60.

2. CJCS Paper, A Doctrinal Statement of Selected Joint Operational Concepts, Office CJCS, 23 Nov 92, s/Colin L. Powell.

3. JP 3-0, Doctrine for Joint Operations, Ofc CJCS, 9 Sep 93.

4. Memo, General Frederick M. Franks, Jr., Cdr TRADOC to Lt Gen John H. Tilelli, Jr., DCSOPS DA, 14 Jun 93, subj: Joint Pub 3-0, Doctrine for Joint Operations.

5. Draft Proposed Final Pub, Joint Pub 3-0, Doctrine for Joint Operations, HQ TRADOC, 28 Jun 93.

6. Msg, Joint Staff to distr, 171846Z Jun 93, subj: Joint Pub 3-09.3, Joint Tactics, Techniques, and Procedures (JTTP) for Close Air Support (CAS) Program Directive.

7. Msg, Cdr TRADOC to HQDA for General Sullivan, 141728Z Apr 93, subj: TRADOC Warfighting Augmentation Capabilities.

8. PROFS Note, Autodin Postmaster to HQ TRADOC, 212055Z Jun 93, subj: Army Armor Support to Marine Corps.

9. Paper, "Army Armor Support to the Marine Corps, Executive Summary and Interim White Paper," n.d. [Oct 1993], U.S. Army Armor School.

10. Briefing, Future Battle Vision, Col Gary Griffin, Dir, Future Battle Directorate, n.d. [June 1993].

11. Paper, Preliminary Vision of Future Battle (draft), HQ TRADOC, 22 Apr 93.

12. Briefings packet, TRADOC 20th Anniversary Seminar: "The Nature of Future Conflict," 30 Jun-1 Jul 93.

13. Paper graphic, Space Map, w/encl: Linkages on the Space Map, ODCSCD Space and Electronic Combat Dir, n.d. [1993].

14. Certificate of Charter appointing Col Michal R. Robinson as the Director, Space and Electronic Combat, HQ TRADOC, s/General Frederick M. Franks, Jr., 17 Nov 93.

15. Paper, The Concept for Space Support to Land Force Operations, Summary, HQ TRADOC, n.d. [Dec 1993].

16. TRADOC Pam 528-58, Military Operations: U.S. Army Operations Concept for Combat Identification, 31 Aug 93.

17. Msg, Cdr USACAC to Cdrs, NTC, JRTC, and Training Area Hohenfels, 282021Z Jun 93, subj: Combat Training Centers Fratricide Data Collection.

18. Fact Sheet ATCD-GT, HQ TRADOC, 12 Mar 93, subj: Combat Identification.

19. Briefing slides, Briefing by TPIO to TRADOC Liaison Officers Conference, 16 Mar 93, subj: Combat Identification.

20. Msg, Cdr TRADOC to CSA, 251707Z Aug 93, subj: TRADOC/Russian Cooperation Panel Meeting.

21. Msg, Col Keith F. Merritt, ODCSOPS USAREUR to CINCUSAREUR, n.d. [July 1993], subj: Executive Summary--TRADOC/Russian Cooperation Panel 26-29 Jul 93.

22. Memo ECJ5-J, Lt Col Keith L. Snyder, USAF, EUCOM Political Military Officer to Dep Dir for Military-to-Military Contact Program, 5 Aug 93, subj: Trip Rept: U.S.-Russian Cooperation Panel, Ft. Monroe, Va., 27-30 Jul 93.

23. Msg, Cdr TRADOC to CSA, 281306Z Dec 93, subj: Russian Peacekeeping Working Group.

24. Protocol [of Russian Peacekeeping Working Group Meeting, 13-17 Dec 93, Ft. Leavenworth, Kan.], n.d. [Dec 1993].

25. Memo, Maj Gen John C. Ellerson, Dir of Strategy, Plans and Policy, ODCSOPS HQ DA to Sec Army, n.d. [Dec 1993], subj: U.S.-Russian Peacekeeping Conference at Fort Leavenworth--Info Memo.

26. Memo ATDO-YN, Maj Duncan M. Lang, Ger Prog Mgr to DCSCD, 28 Jul 93, subj: Minutes of German/U.S. Army Staff Talks 1993 (GE/US ST 93).

27. Memo ATDO-YN, Maj Duncan M. Lang, Ger Prog Mgr to DCSCD, 5 Jan 94, subj: Minutes of German/U.S. Army Steering Committee 1993 (GE/US SC 93).

28. Memo ATDO-YN, Erika L. Mitchell, UK Program Mgr to DCSCD, 3 Dec 93, subj: Minutes of United Kingdom/United States Army Staff Talks XXV (UK/US ST XXV).

29. Paper, Interoperability Plan, s/27 May 93, General de Division Christian Piroth, and Maj Gen Larry G. Lehowicz.

30. Memo ATDO-YN, Col Richard L. Bevington, Dir IAPD to distr, 22 Apr 93, subj Admin Instructions for French/U.S. Army Staff Talks (FR/US ST) XX.

Chapter III

1. Msg, DA (General Sullivan) to Cdr TRADOC, 061325Z Jan 93, subj: Force Design.

2. Msg, Cdr TRADOC to DA (for General Sullivan), 262050Z Jan 93, subj: Force Design.

3. Bfg Slides, Bfg, Col Bill McCaluley, ODCSCD, subj: Division Redesign for a Force Projection Army, to TRADOC LO Confer, 16 Mar 93.

4. MFR ATMH, OCH, 20 Apr 93, subj: Division Redesign.

5. Concept Paper, The Experimental Force, Exec Sum, n.d. [1993], developed by the ODCSCD Battle Laboratory Integration and Technology Directorate.

6. Msg, HQDA to distr, 151820Z Jan 93, subj: Light Cavalry Regiment (LCR) Design and Fielding IPR.

7. Msg, HQDA to Cdrs FORSCOM, USAEIGHT, and NGB and CINCUSAREUR, 192012Z Apr 93, subj: Early Conversion of Division Cavalry Squadrons to Four Tank x Six CFV Pure Platoon Design.

8. Msg, DA [CSA General Sullivan] to distr, 152005Z Jan 93, subj: Light Infantry Division (LID) Review Postponement.

9. Msg, DA to distr, 121610Z May 93, subj: Termination of the Army's Nonstrategic Nuclear Forces Survivability, Security, and Safety (NSNFS3) Program.

10. Msg, Cdr PERSCOM to distr, 061350Z May 93, subj: Women in Attack Aircraft.

11. Msg, Cdr USACAC to HQDA, 211814Z Jun 93, subj: Women in the Army: Combat Aviation.

12. PROFS Msg, Maj Arnold Bray, ODCSCD to Col Charles E. Beckwith, ACofS, 10 Oct 93, subj: Minutes From the Solider System Review 8 October.

13. Msg, DA to distr, 101211Z May 93, subj: Functional Area Assessment Update.

14. Msg, DA to distr, 292005Z Apr 93, subj: Quartermaster Functional Area Assessment Results.

15. Msg DAMO-FDZ, DA to distr, 241428Z May 93, subj: Force Management Study.

16. MFR ATMH, OCH, 4 May 94, subj: Force Management Study.

17. Final Report, US Army Force Management Study for DA ODCSOPS, 30 Jun 93, prepared by Military Professional Resources, Inc., Alexandria, Va.

18. Bfg Slides, DCSCD Overview for TRADOC Commanders Conference, Warfighting Lens Analysis (WFLA), ATCD-EP, 11 Mar 93.

19. Memorandum for General Gordon R. Sullivan, Chief of Staff, United States Army, ATCD-EP, n.d. [1993], subj: TRADOC Warfighting Lens Analysis.

20. Memo ATCD-EP, Maj Gen Larry G. Lehowicz, DCSCD for Commanders, Unified and Major Army Commands, 10 Aug 93, subj: Warfighting Lens Analysis I (WFLA I) Results.

21. Memo ATCD-EP, Maj Gen Larry G. Lehowicz, DCSCD for Commanders, TRADOC Installations and Commandants, TRADOC Service Schools, 6 Aug 93, subj: Warfighting Lens Analysis I (WFLA I) Insights.

22. Memorarandum for Distribution ATACD-EP, 31 Mar 93, subj: Warfighting Lens Analysis (WFLA) General Officer Survey.

23. Memorandum for Distribution ATCD-ZA, 30 Mar 93, subj: Enhanced Concept Based Requirements System (ECBRS) Implementation Guidance.

24. Bfg Slides, Battle Labs Advanced Warfighting Demonstrations, BLIT, 29 Jun 93.

25. Bfg Slides, Battle Lab Campaign Plan, The Second Year, BLIT, 28 Jun 93.

26. Paper, A Strategy for Institutionalizing Horizontal Technology Integration (HTI) in the Army, HQ TRADOC, n.d. [1993].

27. USA Training and Doctrine Command - USA Operational Test and Evaluation Command Memorandum of Understanding on Conduct of Army Operational Test and Evaluation, 19 Jul 1993.

Chapter IV

1. Memorandum for TRADOC Commanders' Conference Atendees ATZL-SWC-LE, 21 Sep 93, subj: Update on Leader Development Career Management Guides.

2. Joel M. Savell, Trueman R. Tremble, Jr., and Ross C. Teague, "Some Lessons Learned About Leadership in Operation Desert Shield/Storm," ARI Study Report 93-05, July 1993, Executive Summary.

3. Briefing Slides, TRADOC Commanders' Conference, Fort Gordon, Ga., 17 Mar 93.

4. Msg, Cdr FORSCOM to distr, 011955Z Jan 93, subj: Congressional Budget Reduction to Training Load Accounts.

5. Msg, Cdr FORSCOM to distr, 011955 Jan 93, subj: Congressional Budget Reduction to Training Load Accounts.

6. Msg, Cdr ATSC to distr, 311331Z Aug 93, subj: Self-Development Test (SDT) Implementation.

7. Msg, HQDA to distr, 301759Z Apr 93, subj: Nine Months Sergeants Major Course.

8. Memo for TRADOC Commanders' Conference Atendees ATZL-SWC-LE, 21 Sep 93, subj: The Holistic and Synergistic Review of Military Qualification Standards (MQS).

9. Bfg Slides, FAST Briefing to CSA, 29 Sep 93, subj: Future Army Schools Twenty-one.

10. Memo for TRADOC Commanders' Conference Atendees ATZL-CT, 22 Sep 93, subj: Brigade Command and Battle Staff Training Program.

Chapter VI

1. Msg, Office of Military Cooperation, Egypt, to distr, 301424Z Nov 93, subj: Egyptian National Training Center (ENTC) - Progress and Pitfalls.

2. Msg, Cdr NTC to distr, 031300Z Aug 91, subj: National Training Center Commander's Sitrep 93-10.

3. Msg, Cdr JRTC to distr, 221500Z Sep 93, subj: JRTC Rotation 93-8 Highlights.

4. CTC Directorate Significant Activities, 16 Dec 93.

5. Msg, CINCUSAREUR to distr, 131015Z Oct 93, subj: Combat Maneuver Training Center-Instrumentation System Acceptance Test.

6. Msg, CINCUSAREUR to distr, 292031Z Nov 93, subj: Combat Training Center - Instumentation System (CMTC-IS) Acceptance Test II.

7. TRADOC Reg 350-35, Combined Arms Training Strategy, 14 May 93.

8. TRADOC Pam 350-10, Combined Arms Training Strategy Development, 23 Aug 93.

9. Preface, Tactical Engagement Simulation Master Plan (TES-MP), May 1993.

10. Msg, CINCUSAREUR to distr, 261227Z Apr 93, subj: Corps Battle Simulation (CBS) Enhancements.

Chapter VII

1. TRADOC Mobilization and Operations Planning and Execution System (TMOPES), 26 May 1993.

2. Memo, Ops Dir (John Henderson) to distr, 14 May 93, subj: Call Forward 93 (CF 93) Final In Process Review (IPR).

3. PROFS Note, TRADOC EOC to Assistants, 13 Oct 93, subj: Restore Hope SITREP as of 131530R Oct 93.

4. PROFS Note, TRADOC EOC to Assistants, 30 Dec 93, subj: Restore Hope SITREP as of 301100R Dec 93.

5. Memo, CofS TRADOC to Assistant Secretary of the Army for RD&A, 17 Apr 93, subj: Research and Development/Production Compliance Certification.

6. Msg, Cdr TRADOC to HQDA, 251409Z May 93, subj: INF Treaty Six-Month Update.

7. TRADOC Plan, FY 1994-2022, Apr 93.

8. TRADOC POM, FY 96-01, 17 Dec 93.

9. Memo, ODCSRM (Maj Gen Hagwood) to TRADOC Commanders/Commandants, 18 May 93, subj: FY 94 TRADOC Budget Guidance.

10. Briefing Chart, ODCSBOS, TRADOC Review and Analysis, 28 Sep 93, subj: Civilian Work Force Planning.

11. Fact Sheet, ODCSRM (ATRM-F), 10 Sep 93, subj: TRADOC Manpower Trends FY 87-97.

12. Briefing Chart, ODCSBOS, TRADOC Review and Analysis, 28 Sep 93, subj: Hawkeye.

13. Briefing Slide, ODCSBOS, HQ TRADOC Review and Analysis, 9 Mar 94, subj: EEO Profile Commandwide, (data as of 31 Dec 93).

14. Briefing Slide, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: EEO-Commandwide (MG/GS 13-15), (data as of 31 Dec 93).

15. Briefing Slide, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Health of the Command, (data as of 31 Mar 93).

16. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: TRADOC Military Injury Rate.

17. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Installation Military Injury Rate.

18. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Military Injuries On Duty.

19. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Military Injuries Off Duty.

20. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: TRADOC Army Motor Vehicle Accident Rate.

21. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Installation Army Motor Vehicle Accident Rate.

22. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Aviation Accident Comparison, Class A-C.

23. Briefing Slide, Command Safety Office, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Fatal Accident Comparison, FY 92, 93, 94 - By Type.

24. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Soldier Property Crime Rates.

25. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Crime Trends: Drug Crimes.

26. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, subj: Crime Trends: Crimes of Violence.

27. Fact Sheet, ODCSBOS, n.d. [Sep 93], subj: NAF Cash.

28. Fact Sheet, OdCSBOS, n.d. [Sep 93], subj: Child Development Services (CDS).

29. Fact Sheet, ODCSBOS, n.d. [Sep 93], subj: Targets of Excellence (TOE).

30. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Permanent Party Barracks Renewal.

31. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Barracks Investment.

32. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Utility Condition.

33. Fact Sheet, ODCSBOS, 21 Sep 93, subj: Notice of Violation (NOV) Status.

34. Fact Sheet, ODCSBOS, 21 Sep 93, subj: Defense Environmental Restoration Fund Account (DERA) Funding Status.

35. Briefing Chart, ODCSBOS, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Notices of Violation (NOVs).

36. Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Print Savings under DMRD 998.

37. Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Enterprise Integration, TRADOC.

38. Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: SIMNET Support - TRADOC Simulation Internet (TSI).

39. Fact Sheet, ODCSIM, 28 Sep 93, subj: Transition to Open Systems Environment (OSE).

40. Fact Sheet, ODCSIM, 27 Sep 93, subj: Internet - Exploiting its Capabilities.

41. Fact Sheet, ODCSIM, 28 Sep 93, subj: DA Installation Support Modules/Sustaining Base Information Services (ISM/SBIS).

42. Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Enhanced Inprocessing and AG Management Support System.

43. Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Telephone Systems Modernization.

44. Briefing Chart, ODCSIM, HQ TRADOC Review and Analysis, 8 Mar 94, (data as of 31 Dec 93), subj: Defense Regional Telecomm System (DRTS).

45. Fact Sheet, ODCSIM, 28 Sep 93, subj: Telephone Divestiture in TRADOC.

LIST OF ACRONYMS AND ABBREVIATIONS

AAR	after action review
ABCA	America, Britain, Canada, Australia
ABGD	air base ground defense
AC	active component
ACC	Air Combat Command
ACDL	Army Commercial Driver's License
ACH	annual command history
ACCP	Army Correspondence Course Program
ACMI	Air Combat Maneuvering Instrumentation
ACRA	Airlift Concepts and Requirements Agency
ACTEDS	Army Civilian Training, Education, and Development System
ADTLP	Armywide Doctrine and Training Literature Program
AD-CATT	Air Defense Combined Arms Tactical Trainer
AF	Air Force
AFP	Automation Funding Program
AGR	Active Guard/Reserve
AIMS	Automated Instructional Management System
AIMS-R	Automated Instructional Management System-Redesign
AHIP	Army Helicopter Improvement Program
AIPD	Army Institute for Professional Development
AIT	advanced individual training
ALFA	Air-Land Forces Application Agency
ALMC	Army Logistics Management College
ALSA	Air Land Sea Application Center
AMC	U.S. Army Materiel Command
AMM	Army Modernization Memorandum
AMOPES	Army Mobilization, Operations, Planning and Execution System
AMOPS	Army Mobilization, Operations, and Planning System
AMP	Analysis of Mobility platform
AMSC	Army Management Staff College
ANCOC	Advanced Noncommissioned Officer Training Course
AOE	Army of Excellence
AR	Army regulation
ARCENT	Army Forces, U.S. Central Command
ARNG	Army National Guard
ARI	U.S. Army Research Institute for the Behavioral & Social Sciences
ARPA	Advanced Research Projects Agency
ARPRINT	Army Program for Individual Training
ARSPACE	Army Space Command
ARSTAF	Army Staff
ARTBASS	Army Training Battle Simulation System
ARTEP	Army Training and Evaluation Program
ASAT	Automated Systems Approach to Training
ASCC	Army Service Component Commander

ASET	Aircraft Survivability Equipment Trainer
ATACMS	Army Tactical Missile System
ATCOM	Aviation and Troop Command
ATRRS	Army Training Requirements and Resource System
ATSC	U.S. Army Training Support Center
AUSA	Association of the United States Army
AVCATT	Aviation Combined Arms Tactical Trainer
Avn	aviation
AWACS	Airborne Warning and Control System
AWC	Army War College
BASOPS	base operations
BBS	Brigade-Battalion battle simulation
BBS-ES	Brigade-Battalion Battle Simulation-Expert System
BBS-SIMNET	Brigade-Battalion Simulation Network Linkage
BCBST	Brigade Command and Battle Staff Training
BCIS	Battlefield Combat Identification System
BCT	basic combat training
BCTP	Battle Command Training Program
BCT/OSUT	basic combat training/one station unit training
BDP	Battlefield Development Plan
BFV	Bradley Fighting Vehicle
BFVS	Bradley Fighting Vehicle System
BLIT	Battle Labs Integration and Technology Directorate
BNCOC	Basic Noncommissioned Officer Training
BOIP	basis of issue plan
BOS	battlefield operating systems
BRAC	Base Realignment and Closure Commission
C^3I	command, control, communications, and intelligence
C^4I	command, control, communications, computers and intelligence
CAC	U.S. Army Combined Arms Command and Fort Leavenworth
CAC-T	Combined Arms Command - Training
CAL	Center for Army Leadership
CALL	Center for Army Lessons Learned
CAS	close air support
CAS^3	Combined Arms and Services Staff School
CASCOM	U.S. Army Combined Arms Support Command
CATIES	Combined Arms Training Integration Evaluation System
CATS	Combined Arms Training Strategy
CATT	Combined Arms Tactical Trainer
CBRS	Concept Based Requirements System
CBS	Corps Battle Simulation
CCTT	Close Combat Tactical Trainer
CD	combat developments
CDE	Commandement de La Doctrine et de l'Etrainement
Cdr	commander
CD-ROM	compact disc-read only memory
CDS	Child Development Services
CECOM	U.S. Army Communications and Electronics Command

CENTCOM	U.S. Central Command
CF	CALL FORWARD
CFE	Conventional Forces in Europe
CFSN	Call Letters for Chief Electronics Schoolhouse Network
CFV	Cavalry Fighting Vehicle
CGSC	Command and General Staff College
CGSOC	Command and General Staff Officers Course
CINC	commander-in-chief
CINCENT	Commander-in-Chief, U.S. Central Command
CINCLANTFLT	Commander-in-Chief, Atlantic Fleet
CINCSOUTH	Commander-in-Chief, Southern Command
CINCUNC/CFC	Commander-in-Chief, United Nations Command and Combined Forces Command
CINCUSAREUR	Commander-in-Chief, U.S. Army Europe
CIS	core instrumentation system
CJCS	Chairman Joint Chiefs of Staff
CLASS	Closed loop artillery simulation system
CLIC	Army - Air Force Center for Low Intensity Conflict
CMF	career management field
CMTC	Combat Maneuver Training Center
CMTC-IS	Combat Maneuver Training Center - Instrumentation System
CofS	chief of staff
Comdt	commandant
CONOPS	contingency operations
CONUS	continental United States
CPG	Commander's Planning Group
CPX	Command Post Exercise
CRCX	CONUS Replacement Center Exercise
CSA	Chief of Staff of the Army
CSI	Combat Studies Institute
CSSTSS	Combat Service Support Training Simulation System
CTC	Combat Training Centers
CY	calendar year
DA	Department of the Army
DART	Dynamic Analysis and Replanning Tool
DCS	deputy chief of staff
DCSA	Deputy Chief of Staff for Analysis
DCSBOS	Deputy Chief of Staff for Base Operations Support
DCSCD	Deputy Chief of Staff for Combat Developments
DCSCDD	Deputy Chief of Staff for Concepts, Doctrine, and Developments
DCSDOC	Deputy Chief of Staff for Doctrine
DCSIM	Deputy Chief of Staff for Information Management
DCSRM	Deputy Chief of Staff for Resource Management
DCST	Deputy Chief of Staff for Training
DERA	Defense Environmental Restortion Account
DIS	distributed interactive simulation
DISC^4	Director of Information Systems for Command, Control, Communications, and Computers
DISCOM	division support command
DIVARTY	division artillery

DLIFLC	Defense Language Institute Foreign Language Center
DMRD	defense management review decision
Doc	document
DOD	Department of Defense
DOIM	Directorate of Information Management
DPS	Defense Printing Service
DRTS	Defense Regional Telecommunication System
DSI	Distributed Simulation Internet
DTLOMS	doctrine, training, leader development, organization, materiel and soldier support
DTP	Distributed Training Program
EAD	echelons above division
ECAP	Environmental compliance achievement program
ECBRS	Enhanced Concept Based Requirements System
EELS	early entry lethality and survivability
EEO	equal employment opportunity
ENCATT	Engineer Combined Arms Tactical Trainer
ENTC	Egyptian National Training Center
EOC	emergency operations center
EPMS	Enlisted Personnel Management System
EUSA	Eighth U.S. Army
FA	field artillery
FAA	functional area assessment
FAADS	Forward Area Air Defense System
FAMSIM	family of simulators
FAST	Future Army Schools--Twenty-one
FCOE	TRADOC Functional Center of Excellence
FLIR	Forward Looking Infrared system
FLOT	forward line of troops
FM	field manual
FMFM	fleet marine field manual
FMS	foreign military sales
FOA	field operating agency
FORCEFLO	Force Flow Model
FORCEGEN	Force Generation Model
FORSCOM	U.S. Army Forces Command
FPLX	force protection logistics exercise
FSCATT	Fire Support Combined Arms Tactical Trainer
FSCL	forward support coordination line
FTX	field training exercise
FY	fiscal year
GHQ-X	General Headquarters Exercises
GOWG	general officer working group
GPALS	Global Protection against Limited Strikes
GPS	Global Positioning System
HET	Heavy Equipment Transporter
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HQ	headquarters

HQDA	Headquarters Department of the Army
HRS	high resolution scenario
HTI	Horizontal Technology Integration
IAPD	International Army Programs Directorate
IDF	Israeli Defense Forces
IET	initial entry training
IMA	individual mobilization augmentee
IMET	International Military Education and Training
IMS	international military student
INF	Intermediate-range Nuclear Forces (Treaty)
Intro	Introduction
IPR	in-process review
IRAC	Internal Review and Audit Compliance
IRR	Individual Ready Reserve
ISM	installation support module
IVIS	Inter-Vehicular Information System
JCBIS	Joint Computer Based Instructional System
JCS	Joint Chiefs of Staff
JESS	Joint Exercise Simulation System
JFAST	Joint flow and analysis system
JP	joint publication
JRTC	Joint Readiness Training Center
J-STARS	Joint Surveillance Target Attack Radar System
JTTP	joint tactics, techniques, and procedures
LADP	Leader Assessment Development Program
LAM	Louisiana Maneuvers
LAMNET	Louisiana Maneuver Network
LAM TF	Louisiana Maneuvers Task Force
LANTCOM	Atlantic Command
LCR	light cavalry regiment
LDAP	Leader Development Action Plan
LID	light infantry division
LIST	logistics intra-theater support tool
LNO	liaison officer
LOA	letter of offer and acceptance
LOI	letter of instruction
LOSAT	Line of Sight, Antitank Missile
LRAMRP	Long Range Army Materiel Requirements Plan
LRC	lesser regional contingency
LRRDAP	Long Range Research Development and Acquisition Plan
LRS	low resolution scenario
MAC	Military Airlift Command
MACOM	major Army command
MAS	Military Agency for Standardization
MASS	mobility analysis support system
MCA	Military Construction, Army
MCA	Mobility Concepts Agency
MCCDC	Marine Corps Combat Development Command

MCDEC	Marine Corps Development and Education Command
METL	mission essential task list
METT-T	mission, enemy, terrain and weather, troops, time available
MFR	memorandum for record
MHEP	Military History Education Program
MIDAS	model for intertheater deployment by air and sea
MILES	Multiple Integrated Laser Engagement System
MINI POM	Army for the Program Objective Memorandum
MLRS	Multiple Launch Rocket System
MOAT	model officer automation for TRADOC
MOS	military occupational specialty
MOU	memorandum of understanding
MOUT	military operations on urban terrain
MPRI	Military Professional Resources, Inc.
MPRS	mission planning rehearsal system
MQS	Military Qualification Standards
MUTA	multiple unit training assembly
NAAG	NATO Army Armaments Standardization Group
NAF	nonappropriated funds
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, and chemical
NCO	noncommissioned officer
NCOA	noncommissioned officer academy
NCOES	Noncommissioned Officer Education System
NDC	Naval Doctrine Center
NGB	National Guard Bureau
NLOS-CA	Non-line-of-site combined arms
NOV	notice of violation
NSC	National Simulation Center (Ft. Leavenworth)
NSNFS[3]	nonstrategic nuclear forces survivability, security, and safety
NTC	National Training Center
OCH	Office of the Command Historian
OAC	Officer Advanced Course
OBC	Officer Basic Course
ODT	overseas deployment training
OES	Officer Education System
OMA	Operations and Maintenance, Army
OOTW	operations other than war
OPTEC	U.S. Army Operational Test and Evaluation Command
OPTEMPO	operating tempo
OSE	open systems environment
OSUT	one station unit training
OSV	OPFOR Surrogate Vehicle
OTEA	U.S. Army Operational Test and Evaluation Agency
PDP	player detection devices
PERSCOM	U.S.Total Army Personnel Command
PLDC	Primary Leadership Development Course
PLS	Palletized Load System

POI	program of instruction
POM	Program Objective Memorandum
POMCUS	prepositioning of materiel configured to unit sets
PROFS	Professional Office System
PSRC	Presidential Selected Reserve Call-up
QWG	quadripartite working group
RC	reserve component
RC-CAS^3	Reserve Component Combined Arms and Services Staff School
RC-LDAP	Reserve Component Leader Development Action Plan
RC-TDAP	Reserve Component Training Development Action Plan
RDMS	Range Data Measurement Subsystem
RECBASS	Reception Battalion Automated Support System
RIF	reduction in force
RMCS	Range Monitoring and Control Subsystem
ROKA	Republic of Korea Army
ROTC	Reserve Officers' Training Corps
RTB	Ranger Training Brigade
SAMS	School of Advanced Military Studies
SAR	significant activities report
SAT	Systems Approach to Training
SATFA	Security Assistance Training Field Activity
SAWE	Simulated Area Weapons Effects
SAWE-RF	Simulated Area Weapons Effects-Radio Frequency
SBIS	sustaining base information services
SDI	Strategic Defense Initiative
SDT	Self Development Test
SES	senior executive service
SIDPERS	Standard Installation/Division Personnel System
SIMNET	Large Scale Simulation Network
SINCGARS	Single Channel Ground and Air Radio System
SITREP	situation report
SKB	skills, knowledge and behaviors
SMA	Sergeants Major Academy
SMC	Sergeants Major Course
SMDR	Structure Manning Decision Review
SMEE	subject matter expert exchange
SOA	School of the Americas
SQT	Skill Qualification Test
SSHR	semiannual staff historical report
ST	staff talks
STANAG	standardization agreement
START	Srategic Arms Reduction Treaty
STOW-E	synthetic theater of war-Europe
STRICOM	simulation, training and instrumentation team command
TADSS	training aids, devices, simulators, and simulations
TAGS	Theater Air Ground System
TASS-CA	total Army school system coordinating activity
TATS	total Army training structure

TBG	TRADOC budget guidance
TC	training circular
TDC	tactics director's conference
TDSS	TRADOC Decision Support System
TDWP	Training Development Workload Planner
TECO	test and evaluation coordination office
TENCAP	Tactical Exploitation of National Capabilities
TES	tactical engagement simulation
TES-MP	Tactical Engagement Simulation Master Plan
TF	task force
TMOPES	TRADOC Mobilization, Operations, and Execution Planning System
TNET	TRADOC Teletraining Network
TOE	table of organization and equipment
TOE	targets of excellence
TOW	tube-launched, optically-tracked, wire-guided
TPIO	TRADOC Program Integration Office
TR	TRADOC regulation
TRAC	TRADOC Analysis Command
TRADOC	U.S. Army Training and Doctrine Command
TRALINET	TRADOC Library and Information Network
TRAMOD	training module
TRICAP	tri-capability
TRS	theater resolution scenario
TSI	TRADOC simulation internet
TTP	tactics, techniques, and procedures
TWGSS	Tank Weapons Gunnery Simulation System
TWGSS-PGS	Tank Weapons Gunnery Simulation System-Precision Gunnery System
UAE	United Arab Emirates
UAV	unmanned aerial vehicle
UCATT	Urban Combined Arms Tactical Trainer
U.K.	United Kingdom
U.N.	United Nations
USAEC	U.S. Army Environmental Center
USAF	U.S. Air Force
USAISC	U.S. Army Information Systems Command
USAR	U.S. Army Reserve
USARC	U.S. Army Reserve Command
USAREUR	U.S. Army Europe
USDB	U.S. Disciplinary Barracks
USMC	U.S. Marine Corps
USMCCDC	U.S. Marine Corps Combat Development Command
USN	U.S. Navy
UTA	unit training assembly
V&V	verification and validation
VTC	video teleconferencing
WARSIM	warfighting simulation
WFLA	Warfighting Lens Analysis

INDEX

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- DCG/CofS
- CSM
- DCG USAR
- DCG ARNG
- CPT
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- Ops Dir (ATCS-O)
- DCSCD (10)
- DCSDOC (7)
- DCST (10)
- DCSBOS (13)
  - Surg
  - Chap
- DCSRM
- DCSA
- DCSIM
- TRADOC Fld Elm (60)
- CPA
- SJA
- IG
- Sr USAR Advr
- Sr ARNG Advr
- Cmd Safety Ofc
- Cdr Integ Gp

- LAM TF

- U.S. Atlantic Command
- USAF Air Cmbt Cmd
- USMC Combat Dev Cmd
- U.S. Nav Doc Cmd
- USAF Doc Center
- Joint Warfighting Center
- ALSA
- Mobility Concepts Agency
- CLIC

- Ofc of the Cmd Hist (16)