

9/8

UNITED STATES ARMY
AVIATION CENTER

ANNUAL COMMAND HISTORY
1 January 1993 - 31 December 1993

(RCS ATZQ-MH)

By
John W. Kitchens

Office of the Command Historian
U.S. Army Aviation Center
Fort Rucker, Alabama

July 1993

Property of U.S. Army Aviation Technical Library
Fort Rucker, AL 36362-5163

of



MAJOR GENERAL JOHN D. ROBINSON
COMMANDING GENERAL

COMMANDER'S SUMMARY

The progress made on the Aviation Restructure Initiative (ARI) was easily the most important development of 1993. The U.S. Army Aviation Center (USAAVNC) had formulated the initiative during 1992 as a means of continuing to accomplish the Army aviation mission with a reduced budget and a downsized force. The chief of staff of the Army strongly endorsed and approved the bold and creative initiative in February 1993, and the USAAVNC began to implement it. The ARI consisted in part of a programmed reduction of the size of the Army aircraft fleet by phasing out older aircraft and replacing them with smaller numbers of modernized aircraft--an updated version of the Army Aviation Modernization Plan. The other principle element of ARI consisted of eliminating Army of Excellence deficiencies by extensive force design changes. The total number of attack battalions was to be reduced from sixty to forty-five, and utility aircraft were to be consolidated in general support aviation battalions at division and corps level. Aviation restructuring was keyed to the "Total Army Analysis 2001," which identified the force structure required to meet the national military strategy of a force projection army. This army would consist of twenty divisions (twelve active and eight national guard) and three armored cavalry regiments. The aviation force structure would consist of twenty-nine brigade-equivalent organizations and three regimental aviation squadrons. The restructuring plan established 2001 as the "interim year," at which time all aviation units would be reorganized under the plan, and 2015 as the "objective year," by which time the fleet would be fully modernized.

The stripes-on-the-flightline initiative was closely related to ARI. Stripes-on-the-flightline established two tracks (technical and leadership) for senior enlisted aviation personnel. The objective of this initiative was to keep experienced maintenance personnel on the flightline to service and maintain Army aviation's modernized aircraft.

Significant progress was made in 1993 in the area of the further consolidation of Army aviation at the Army Aviation Center at Fort Rucker. The Combat Arms Support Command (CASCOM) attempted early in the year to consolidate at Fort Lee, Virginia, the combat developments, training developments, evaluation and standardization, and proponency functions and personnel of all subordinate combat service support schools, including the U.S. Army Aviation Logistics School (USAALS). The USAAVNC strongly opposed the CASCOM consolidation plan as being detrimental to the Aviation Branch unity and operational effectiveness; to a large degree, the USAAVNC won this battle. The USAALS was downgraded from a separate school to become the U.S. Army Aviation Maintenance Training Activity (USAAMTA)--generally equivalent to a brigade. Very significantly, the USAAMTA was to be subordinate to the USAAVNC rather than to CASCOM. Furthermore, maintenance management and test pilot training and most aviation logistics combat developments, training development, and evaluation and standardization were to be physically moved to Fort Rucker. These constituted some very important steps in the

progression toward the consolidation of all Army aviation training at the Aviation Center.

Some other very significant developments during 1993 included the following: implementation of crew coordination training; notable progress in simulation and simulation training; increased aviation participation in the Army's distributed interactive simulation; progress in the Army-wide doctrinal acceptance of aviation as a maneuver force; participation in the battle labs exercises; increased aviation involvement at the combat training centers; the transfer of most training development functions to the training brigades; and the consolidation of the remaining functions of the Directorate of Training and Doctrine into the Directorate of Simulation to create the new Directorate of Training, Doctrine, and Simulation.

Fort Rucker, July 1994

John D. Robinson
Major General, U.S. Army
Commanding Officer

FOREWORD

In accordance with guidelines from the Center of Military History and the Command History Office of the U.S. Army Training and Doctrine Command (TRADOC), the 1993 U.S. Army Aviation Center (USAAVNC) annual command history is arranged topically rather than organizationally. Also, it is written from the perspective of the Aviation Center and its commanding general rather than from the perspectives of individual organizations.

The emphasis of this annual history is on the major missions and functions of the USAAVNC, i.e., on training and leader development, doctrine and combat developments, and mission support. These topics constitute three of the four chapters of the history. The main body of the text is followed by seven appendices. The first three appendices deal respectively with USAAVNC organizations at Fort Rucker, the U.S. Army Aviation Logistics School (USAALS) organizations at Fort Eustis, and tenant organizations at Fort Rucker; these appendices briefly describe changes in mission, function, organizational framework, leadership, and personnel strength of the various organizations and provide some other information peculiar to each organization. A USAAVNC organization chart comprises Appendix IV. The other appendices consist of a list of source documents collected by the Aviation Branch History Office, a list of acronyms, and an index.

In accordance with guidance from higher headquarters, the use of acronyms in the text is kept to a minimum. With very few exceptions, acronyms are used only for names of organizations, e.g., TRADOC, DCD (Directorate of Combat Developments), etc. A significant exception is that other acronyms are used in footnotes when they constitute part of the citation.

This entire history and all sources cited herein are unclassified. Some classified documents were collected by the Aviation Branch History Office (ABHO), but only unclassified portions of them were used in the preparation of this volume.

The annual command history is only one of several parts of the historical record of the USAAVNC for any given year. Cost and time constraints require that the command history cover only the most important developments of the Army Aviation Center in the fulfillment of its principal missions. The writing of the historical reports of the individual subordinate units and tenant organizations was the responsibility of the historical officers appointed by the respective directors and commanders. These historical reports, along with primary documents, transcripts of oral interviews, and other materials, were used as references in writing this annual command history. All materials submitted to the History Office and those collected by the historians are kept on file in the History Office. Along with the historical review itself, these documents constitute the complete historical record for any given year.

With a very few exceptions, the documents, staff historical reports, and other sources cited are located in the 1993 document file in the Aviation Branch History Office. The documents submitted by directorates, departments, and other USAAVNC and tenant organizations or obtained by the historians from key Aviation Center offices are arranged according to provenance. Transcripts of and notes on oral interviews are organized alphabetically in the oral history file. Most other source materials acquired by the historians are filed in the 1993 document file according to the chapter to which they pertain. In a few instances, documents located in other files in the Aviation Branch History Office are cited; the names of these other files are indicated in the citation. The final notation in each citation (e.g., "DCD" or "Chapter I file") indicates the file or sub-file in the Aviation Branch History Office in which the cited document may be found. A few documents have been assigned document numbers; these numbers are given in footnotes, following the file name.

Considerable effort was expended to obtain documentary support for the historical reports submitted to the ABHO. Several organizations provided adequate documentation, and documents submitted to the History Office or obtained by the historians through other means constitute the major sources for this narrative history. When documents were unavailable, some information was taken from the historical reports submitted by the various organizations. These reports were used with discretion, however, as some of them lacked the necessary clarity, precision, and/or reliability to be used as the only documentation for published history. Furthermore, since these reports were already parts of the historical record and were usually compiled by persons who had primary source documentation at their disposal and/or had personal involvement in the activities described, the historians were not in a position to make significant contributions to the record without access to additional sources.

Several issues discussed in this annual history were ongoing at the end of the year. Other issues may have concluded, or they may have developed somewhat further than described herein. The general guideline followed in dealing with such issues was to describe the developments about which adequate reliable documentation was available. For example, if this historical narrative indicates that some important decision on an issue was to be made in September 1993, and nothing else is said about it, it may be concluded that the historians were unable to obtain documentation regarding what transpired in September and afterwards. Should additional documentation subsequently be made available, further developments relating to these matters will be described in a later annual history.

In the process of writing an annual history, the historian inevitably becomes indebted to many persons for their advice, assistance, and support. I wish to express sincere appreciation to those who supported this endeavor in various ways. I especially thank those who patiently explained technical matters and the unit directors, commanders, and historical officers who cooperated with the historians in the

collecting valuable documentary materials to support the writing of this history and to build a document collection on the history of Army aviation. The USAAVNC staff historian, Dr. Burton Wright III, provided a great deal of support in collecting and organizing documents and in editing oral interviews; he also compiled the list of appended documents that constitutes Appendix V.

Fort Rucker, July 1994

John W. Kitchens, Ph.D.
Command Historian

TABLE OF CONTENTS

	PAGE
CHAPTER I INTRODUCTION	1
A. Historical Background	1
B. Mission	8
C. Command and Control	10
D. Organizational Changes in 1993	14
E. Conferences, Ceremonies, Awards, and Visitors	28
CHAPTER II TRAINING AND LEADER DEVELOPMENT	39
A. Initial Entry Rotary Wing Training	41
B. Graduate Flight Training	43
C. International, Joint, Combined, and Shared Training	44
D. Simulation and Simulator Training	48
E. Enlisted Training at Fort Rucker	51
F. Other Training	51
G. Commissioned Officer Leader Development	55
H. Warrant Officer Leader Development	55
I. Noncommissioned Officer Leader Development at Fort Rucker	58
J. Aviation Logistics Training and Leader Development	59
CHAPTER III DOCTRINE AND COMBAT DEVELOPMENTS	63
A. Doctrine and Force Design	63
Aviation Restructure Initiative	66
Battle Laboratories	71
Doctrinal Publications	75
B. Equipment Requirements	77
Branch Assessment and Priorities	77
AH-64 Apache and Longbow	78
OH-58D Kiowa and Kiowa Warrior	82
RAH-66 Comanche	84
TH-67 Creek	88
UH-60 Black Hawk	89
Special Operations Aircraft	90
CH-47D Chinook	91
Fixed Wing Aircraft	92
Other Aircraft	93
Weapons Systems	94
Avionics, Visionics, Electronic Warfare	96

Training Aids, Devices, Simulations, and Simulators	103
Aircraft Survivability Equipment Trainers	110
Multiple Integrated Laser Engagement System/ Air to Ground Engagement Simulation II	112
Air Traffic Control Equipment	113
Aviation Logistics Equipment	114
Other Equipment Requirements	116
CHAPTER IV MISSION SUPPORT	119
A. Resource Management	119
B. Personnel Management	121
C. Information Management	137
D. Air Traffic Control	137
E. Library, Museum, and Training Support	139
F. Logistics Support	141
G. Evaluation and Standardization	143
H. Commercial Activities and Contracting	146
I. Physical Plant, Construction, and Environmental Protection	147
J. Safety, Security, and Legal Services	152
K. Medical and Dental Support	159
L. Religion, Welfare, and Morale	160
M. Army Aviation Related Research	164
N. Contingency Operations	165
Operations Restore/Continue Hope	165
APPENDICES	
I USAAVNC ORGANIZATIONS AT FORT RUCKER	169
II USAAVNC ORGANIZATIONS AT FORT EUSTIS	185
III TENANT ORGANIZATIONS AT FORT RUCKER	189
IV UNAAVNC ORGANIZATION CHART	195
V LIST OF APPENDED DOCUMENTS	197
VI LIST OF ACRONYMS	249
VII INDEX	253

CHAPTER I

INTRODUCTION

A. Historical Background

Although U.S. Army aviation was a product of World War II, it traces its origins back to the use of balloons by the Union and Confederate armies during the American Civil War. The 19th and early 20th century balloon corps, like the Army Air Service of World War I and the Army Air Corps of the 1930s, were forerunners of modern Army Aviation; more precisely, however, these early aeronautical organizations evolved into the Army Air Forces of World War II and then into the U.S. Air Force in 1947. While the Army Aviation Branch of the U.S. Army shares some of the legacies and traditions of the various Army aviation organizations that eventually evolved into the U.S. Air Force, modern Army aviation actually grew out of the Army Ground Forces of the World War II era--quite distinct from the Army Air Corps and Army Air Forces of that period.

Organic Army aviation (organic, that is, to the Army Ground Forces) was established initially within the Field Artillery Branch for aerial artillery fire adjustment. Responsibility for providing aircraft and pilots for aerial fire adjustment had been assigned to the Army Air Corps, but the Air Corps services were deemed by some field artillery officers to be unreliable and unsatisfactory. The Army conducted a series of experiments from 1940 to 1942 using small aircraft organic to the ground forces for artillery fire adjustment. As a result of the success of these experiments, the secretary of War ordered the establishment of organic air observation for field artillery, effective 6 June 1942--hence, the birth of modern Army aviation.

The Department of Air Training was established in June 1942 as a department of the U.S. Army Field Artillery School at Fort Sill, Oklahoma. During World War II and the Korean conflict, Army aviators and mechanics were trained at Fort Sill to adjust artillery fire, to maintain their small, single-engine airplanes, and to provide other types of aerial support to the Army Ground Forces. The training at Fort Sill was generally limited to tactical or advanced training. For the purpose of saving costs by avoiding duplication, the Army Air Corps/Army Air Forces provided primary training for aviators and mechanics of the Army Ground Forces during World War II. Notwithstanding repeated Army attempts to gain responsibility for all training of Army aviation personnel, the Air Force continued providing primary training to Army pilots and mechanics for several years after it became separate from the Army in 1947.

During World War II, organic Army aviation's aircraft inventory consisted mostly of L-4 Piper Cubs (popularly called Grasshoppers), supplemented by some other older aircraft of comparable size during the early part of the war and by a few L-5 Sentinels during the latter part of the war. In addition to artillery fire adjustment,

the missions of organic Army aviation during World War II included reconnaissance, command and control, courier services, aerial terrain studies, photography, rescue, and other functions.

Organic Army aviation obtained its first helicopters, thirteen two-place Bell H-13 Sioux, in 1947. These, along with the equally famous L-19 Bird Dog fixed wing aircraft, were the mainstay of Army aviation during the Korean conflict. Because of the terrain of the Korean peninsula, Army aircraft (especially helicopters) were in great demand and played constantly expanding roles. The Army's fixed-wing aircraft inventory doubled during the war to over 2,100 (mostly Bird Dogs), and the inventory of helicopters increased by fourteen times to over 800. The missions of Army aviation were similar to those of World War II, but with increased emphasis on medical evacuation and aerial resupply.

On 16 January 1953, as a result of the rapidly growing demand for trained aviators and aviation mechanics during the Korean conflict, the Department of Air Training at Fort Sill was reorganized as the United States Army Aviation School. The continued growth of Army aviation contributed to overcrowding at the Oklahoma post, which resulted in the Army's decision to move the aviation school to Camp Rucker, Alabama. The move occurred during the latter part of 1954. The following year, the Army Aviation Center was established at Rucker, and the post gained permanent status by becoming Fort Rucker.

The U.S. Army Transportation Corps became involved with Army Aviation in 1951, when it initiated a program for training warrant officer candidates as helicopter pilots for combat duty in Korea. Both the scarcity of cargo helicopters and rivalry between the Army and Air Force over aerial transport and supply missions delayed this program; shortly before the termination of hostilities in 1953, however, two Army aviation transportation companies, equipped with Sikorsky H-19 Chickasaws, arrived in Korea.

In 1952 and 1953, the Transportation Corps assumed responsibility from the Ordnance Corps for logistical support of Army aviation. In June 1954, the Transportation Corps and School began field maintenance training of aviation mechanics at Fort Eustis, Virginia. Under Transportation Corps auspices, several important new cargo helicopters entered the Army inventory during the mid 1950s, and dozens of transportation helicopter companies were organized; these aircraft included the CH-21 Shawnee, the CH-34 Choctaw, and the CH-37 Mojave.

After extended negotiations between the Army and Air Force, the Department of Defense (DOD) transferred to the Army responsibility for all training of its own mechanics in 1955 and of its aviators in 1956. Although the maintenance training formerly conducted at Fort Sill was transferred to Fort Rucker in 1954, the Transportation Corps and Fort Eustis were given responsibility for the primary

training of mechanics that the Army assumed from the Air Force as well as for most other advanced maintenance training as new Army aircraft were acquired.

When the Army assumed responsibility for the primary training of its own aviators in 1956, Fort Rucker did not have enough air fields for all Army aviation training. Therefore, Gary and Wolters Air Force bases in Texas, where the Air Force had been conducting this training, were transferred to the Army. Army Aviation continued primary fixed wing training at Camp Gary until 1959 and primary rotary wing training at Fort Wolters until 1973, at which time virtually all flight training was consolidated at Fort Rucker.

In 1956, the Army Aviation Center began assembling and testing weapons on helicopters. These tests, conducted while the Air Force still theoretically had exclusive responsibility for aerial fire support, led to the development of armament systems for Army helicopters. The first armed helicopter company was activated in Okinawa in 1962. It was deployed to Thailand and then to Vietnam, where it flew escort for CH-21 Shawnee transport helicopters. The Department of Defense did not abolish mission restrictions on the Army's rotary wing aircraft until 1966. Therefore, the Army's use of armed helicopters was not technically authorized until that time.

The "Howze Board" or "Tactical Mobility Requirements Board" was established in 1962 to develop and test the concept of air-mobility. After test exercises, war games, and concentrated study and analysis, the Howze Board recommended that the Army commit itself to organic air-mobility--later known as air assault. The Howze Board recommended the extensive use of helicopters to transport infantry troops, artillery, and supplies, as well as to provide local aerial fire support. These recommendations were tested by the 1st Air Assault Division (Test) from 1963 to 1965. In 1965 the 1st Cavalry Division (Airmobile) was organized and sent to Vietnam, where it repeatedly demonstrated the validity of the airmobile concept in actual combat.

Both Army aviation and the helicopter came of age during the conflict in southeast Asia. From the arrival in Vietnam of the first Army helicopter units in December 1961 until the completion of the disengagement and Vietnamization processes in 1973, it was America's "Helicopter War."

The most widely used helicopter, the UH-1 Iroquois or Huey, began to arrive in Vietnam in significant numbers in 1964; before the end of the conflict, over 5,000 of these versatile aircraft had been introduced into southeast Asia. They were used for medical evacuation, command and control, and air assault; to transport personnel and materiel; and as gun ships. The AH-1 Cobra arrived in 1967 to partially replace the Huey in its gun ship capacity. Other important helicopters in Vietnam included the CH-47 Chinook, the OH-6 Cayuse, the OH-58 Kiowa, and the CH-54 Tarhe. In the fixed-wing category, the L-19 Bird Dog was extensively used during the early part of the war. New fixed-wing aircraft used in Vietnam included the CV-2 Caribou, the

CV-7 Buffalo, the OV-1 Mohawk, and the U-21 Ute. In the compromise settlement with the Air Force, by which all restrictions on the Army's use of helicopters were removed, the fixed-wing transport aircraft, Caribou and Buffalo, were transferred to the Air Force in 1966.

Although the concept of air-mobility had been developed with a mid-intensity European conflict in mind, Army aviation and the helicopter had proven themselves during the low intensity conflict in southeast Asia. Afterwards, the Army turned its major attention back to the threat of a mid or high intensity conflict in Europe, and doubts reemerged about the value of helicopters in that sort of arena.

Some military leaders believed that the helicopter could not survive and perform an essential role in a heavy combat environment. In order to gain general acceptance and ensure further success, Army aviation continued to develop new doctrine, tactics, aircraft equipment, and organizational structure. New or radically modified aircraft adopted during the late 1970s and early 1980s consisted of the AH-64 Apache, the UH-60 Black Hawk, the upgraded CH-47D, and the OH-58D version of the Kiowa.

Throughout the mid and late 1970s there was increasing need for the creation of a separate Army aviation branch. Although there was considerable Army-wide sentiment in favor of a separate branch, there was also continuing and deep seated opposition from aviators and non-aviators alike. The opposition to a separate aviation branch resulted in part from Army attitudes regarding the Army Air Corps and the U.S. Air Force. In Army circles, both were believed to have been unreliable in performing their mission of supporting the ground forces—even after having been given resources to do so.¹

Since Army aviation had demonstrated its commitment to support the ground battle in Vietnam, however, opposition to a separate aviation branch began to wane. Also, Army aviation continued to grow in size and technological sophistication. This growth caused increasingly complex problems in training, procurement, doctrine development, proponent responsibility, and personnel management. Many non-aviators as well as aviators became convinced that these problems could be solved more effectively by the creation of an aviation branch.

The Department of the Army (DA) and the Army Training and Doctrine Command (TRADOC) conducted extensive studies of the separate-branch question during the early 1980s. By 1983, there was a near consensus among Army leaders,

¹This brief summary of the history of Army aviation is extracted from the draft of a history of Army aviation being prepared for publication by the command historian. Parts of the history were published in series of articles in Army Aviation and U.S. Army Aviation Digest.

and the Aviation Branch came into being by an order of Secretary of the Army John O. Marsh, Jr., with an effective date of 12 April 1983.²

Following the creation of the Aviation Branch, there was a move toward the gradual consolidation of all aviation-related activities and training under the auspices of the USAAVNC and the branch chief. In 1984, for example, aviation officer courses and an enlisted aeroscout observer course were implemented at Fort Rucker. In 1986 the U.S. Army Air Traffic Control Activity was transferred from the U.S. Army Information Systems Command at Fort Huachuca, AZ, to the USAAVNC at Fort Rucker.³ The Noncommissioned Officer Academy (NCOA) was established at the USAAVNC in 1987.

Another very significant step in the process of the consolidation of Army Aviation was the incorporation into the USAAVNC of the U.S. Army Aviation Logistics School (USAALS) at Fort Eustis, VA, in 1988. Since maintenance training was provided at both Fort Rucker and Fort Eustis, several studies had been conducted over a period of more than twenty years to determine the advantages of consolidation at one place or the other, but conflicting interests and anticipated costs of expanding the facilities at either location prevented any change.⁴

Shortly after the creation of the Aviation Branch in 1983, the USAALS was established at Fort Eustis, effective 1 October of that year. The USAALS was made the proponent for all aviation logistics training, but it was placed under the auspices of the commandant of the U.S. Army Transportation and Aviation Logistics School. The division of responsibilities for aviation-related functions was inconsistent with the new branch charter, and recommendations and plans were made for the gradual consolidation of the aviation mission area--including logistical support. The rationale for the USAAVNC's becoming the proponent for all aviation matters involved cost effectiveness, standardization, training effectiveness, logical and consistent development of doctrine, and organizational responsiveness to defense needs.⁵ Most of the planned consolidation of the aviation mission area was completed before 1988,

²See, e.g., TRADOC Review of Army Aviation (4 vols Fort Monroe, VA: Headquarters TRADOC, Sep 82) I, 1-10; General Orders no. 6, Secretary of the Army John O Marsh Jr and Gen John A Wickham Jr, 15 Feb 84, sub: Army Aviation Branch, Aviation Branch History Office (ABHO) general reference file.

³Ltr DAMO-ZA, Lt Gen Carl E Vuono to distr, 20 Mar 86, sub: air traffic control transfer plan (also encls), USAAVNC History Office, 1986 document file, USAATCA.

⁴Emma-Jo L Davis, History of the United States Army Transportation School, 1942-1962, Fort Eustis: U.S. Army Transportation School, 1967, p. 292, passim; Richard P. Weinert, Jr, A History of Army Aviation--1950-1962 (Fort Monroe, VA: TRADOC, 1991), pp. 257-63, passim.

⁵Ltr ATCG, Gen William R Richardson to distr, 11 Jul 83, sub: establishment of aviation proponentcy, Tab C of "Implementation Plan: Transfer of the U.S. Army Aviation Logistics School, Fort Eustis, Virginia, to the Command and Control of the Commander, U.S. Army Aviation Center," 7 Sep 88 [hereinafter referred to as "Implementation Plan--Logistics,"], 1988 document file, USAALS; "Army Aviation Logistics at Fort Eustis," DA, USAALS: Ft Eustis VA, Sep 89.

but notwithstanding repeated branch efforts to realign the USAALS under the USAAVNC in accordance with the terms of the Aviation Branch charter, the logistics school remained separate for almost five years after the creation of the branch.

In December of 1987, however, the vice chief of staff of the Army directed a special study group "to conduct a comprehensive study and evaluate the manning, management, and support of aviation logistics,...to provide recommended corrective action(s), and develop an implementation plan."⁶ The commander of the U.S. Army Training and Doctrine Command (TRADOC) subsequently approved the recommendations of the special study group to transfer command and control of USAALS to the commander of the USAAVNC.⁷ A memorandum of agreement was prepared jointly by the USAAVNC and the U.S. Army Transportation Center and Fort Eustis and signed by their respective commanders in September 1988. The USAAVNC assumed command and control as well as resource management responsibilities for USAALS as of 1 October 1988.⁸

Also in 1988, the Army Aviation Modernization Plan was given final approval by the DA, and implementation of the plan began. The modernization plan called for a gradual reduction in the number of Army aircraft as older models were replaced by modern ones. Aircraft adopted or planned and developed during the late 1980s and early 1990s included the OH-58D Kiowa Warrior (scout/reconnaissance), the RAH-66 Comanche (reconnaissance/attack), and the TH-67A Creek (primary trainer).

The aviation forward support battalion concept was developed in 1989 and tested successfully in 1990. In 1990 and 1991, the USAAVNC devoted considerable effort to defining and quantifying the roles of Army aviation on the nonlinear battlefield of AirLand Battle-Future and in planning the roles of Army aviation in contingency operations and the various missions of unconventional warfare.

In 1990 and 1991, the Army Aviation Branch and the USAAVNC played significant roles in Operation Just Cause and then in Operation Desert Shield/Storm. Fort Rucker served as a mobilization post during the crisis in the Middle East, and Fort Rucker personnel also conducted the mobilization efforts at Camp Shelby, Mississippi.

⁶Memo, Gen Arthur E Brown Jr for distr, sub: aviation logistics study--study directive, Tab D of Implementation Plan--Logistics, 1988 document file, USAALS.

⁷Msg, General Thurman to distr, 17 Jun 88, sub: command and control of the Aviation Logistics School, Implementation Plan--Logistics, 1988 document file, USAALS.

⁸Memo of agreement, Maj Gen Ellis D Parker, cdr USAAVNC, and Maj Gen Samuel N Wakefield, cdr USATCFE, 20 Sep 88 and 23 Sep 88, sub: operating procedures U.S. Army Aviation Logistics School, Implementation Plan--Logistics; Permanent orders, USATCFE, to distr, 14 Sep 88, sub: U.S. Army Aviation Logistics School, Implementation Plan--Logistics.

The USAAVNC leadership devoted considerable time to reorganizational planning during 1991. The goal was to reorganize USAAVNC (including USAALS) directorates, departments, and commands so as to promote greater efficiency of operation so as to maintain uniformly high standards and meet training requirements with rapidly decreasing budgets. The reorganization efforts also involved adopting the necessary organizational framework to make greater and more effective use of simulation in the training of aviation soldiers.

During 1991 and 1992, considerable attention was given to total force integration as it related to Army aviation. In 1991, deputy assistant commandant positions for both U.S. Army Reserve (USAR) and Army Reserve National Guard (ARNG) were created at Fort Rucker to assist the branch chief in this effort. The principal reason for the creation of these positions was to support total force integration by giving greater visibility and emphasis to the reserve components, by integrating reserve component training into the combined arms training program, and by improving readiness levels of reserve component aviators and aviation soldiers. Other branches followed the lead of aviation in creating and filling these positions.

In October 1992, the Total Army Warrant Officer Career Center (WOCC) was established provisionally at Fort Rucker. This was the culmination of the Total Warrant Officer Study conducted in 1984 and 1985 and of the Warrant Officer Leader Development Action Plan of 1991-1992. In 1988, the Warrant Officer Candidate School was established at Fort Rucker, and the USAAVNC was given proponency for almost all warrant officer leader development and non specific military occupational specialty training. During 1991, the DA and TRADOC moved forward with the Warrant Officer Leader Development Action Plan, leading to the establishment of the WOCC as a provisional organization of the U.S. Army Combined Arms Center (USACAC) on 2 October 1992. The 1st Warrant Officer Company was established under the WOCC to provide the vehicle for command and control of warrant officer candidate training.⁹

In 1992, the Aviation Branch and the USAAVNC became involved to varying degrees in all six of the TRADOC-sponsored battle laboratories as well as in the Louisiana Maneuvers initiative. According to the 1992 version of the Army Aviation Modernization Plan, the Army aircraft inventory of 7,793 aircraft in 1992 would be reduced to 6,150 in 1999.

The rapid growth of simulation training at the Aviation Center during the early 1990s necessitated successive organizational changes to effectively support this training while simultaneously reducing administrative costs. A plan was developed in 1991 to transfer all simulation operations and flight academic training to the Aviation Training Brigade (ATB), thereby consolidating actual and simulated flight training,

⁹The above summary of major developments during the late 1980s and early 1990s was taken from the USAAVNC annual histories for 1987 through 1992.

along with simulation academics, under one organization. This transfer was implemented in 1992 as part of a general USAAVNC reorganization.

Another aspect of the 1992 organizational changes designed to accommodate the rapid growth of simulation training was the abolition of the Department of Tactics and Simulation (DOTS) and the establishment on 1 March of the new Directorate of Simulation (DOS). The former department's responsibility for flight academic training and simulator operations was transferred to ATB, and its responsibility for professional development training and aviation doctrine preparation and publication was transferred to the Directorate of Training and Doctrine (DOTD). The new DOS was established on 1 March by removing the Simulation Development, Management, and Research Division and the Worldwide Software Division from the DOTD and then by expanding these and other simulation-related functions. The DOS became the Aviation Branch chief's central point of contact and user representative for the development, fielding, sustainment, and software configuration management of aviation training aids, devices, simulators and simulations, and aircraft survivability training issues. The DOS was to represent the Aviation Branch chief and worldwide users in all actions concerning these devices and all training for their use.

The Warfighting Simulation Division of DOS was created provisionally in September 1992 to increase the priority for aviation assets in warfighting simulations across the joint services. The division managed the contract operations of the Aviation Test Bed (see chapters II and III, below) and used the test bed as a vehicle to exploit simulation technology to support collective training, training development, doctrinal development, and materiel development through a variety of programs and tests. The Warfighting Simulation Division was also the focal point for infusing battle lab efforts into simulation to support demonstrations in which aviation was a key player.

With the loss of its simulation-related responsibilities, the new DOTD was a smaller organization--especially after the Warrant Officer Division was separated from DOTD in October and joined with elements of the 1st Aviation Brigade to form the WOCC. The remaining major missions of DOTD consisted of training development, development of aviation doctrine, and management of the technical library, learning center, and staff and faculty training.¹⁰

B. Mission

The missions of the USAAVNC in 1993 were in the areas of doctrine, organization, materiel, training, leader development, soldiers/quality of life, and safety/risk management. In the area of doctrine, the USAAVNC was to develop,

¹⁰"United States Army Aviation Center Annual Command History, 1 January 1992 - 31 December 1992" (Jul 93) (hereinafter cited as "ACH 1992"), pp. 10-13, *passim*.

refine, and disseminate aviation doctrine to optimize aviation's contribution to the combined, joint, and combined arms fight across the operational continuum. It was also to develop tactics, techniques, and procedures from individual to corps level and to develop future warfighting concepts that would integrate aviation across the battlefield operating systems.

The Aviation Center's mission in the area of organization was to determine force structure requirements that optimized the best mix of active and reserve component forces to arrive at the most lethal, deployable, and affordable unit structure. The USAAVNC also developed aviation organizational designs that met the commander in chief's wartime requirements using a building block concept which standardized unit design and support requirements. The Aviation Center also developed documents that allowed for a logical, incremental introduction of new systems into existing unit designs.

In the area of materiel, the USAAVNC focused cost-effective materiel development and technical advancements on optimizing deployability, versatility, and lethality. It also developed and documented materiel requirements to meet battlefield deficiencies, and it developed effective simulators based on battlefield task analysis.

The Aviation Center's training mission focused on combined arms and joint warfighting. It developed training support programs, facilities, and equipment that enabled tough, realistic individual, crew, and collective training programs. It also evaluated and established priorities for simulation strategies based on battlefield task analysis and provided tactically, technically competent officers and soldiers to combat, combat support, and combat service support units. The USAAVNC also administered the Army aviation flight standardization program, defined specific areas of emphasis, evaluated training effectiveness on a global scope, and evaluated training standardization for all Army aviation units.

The USAAVNC developed and executed leader development programs that recognized leadership as a primary dynamic of combat power. It fostered leaders who were able to shape fighting power within units and counseled leaders to understand that only excellence in the art and science of war--coupled with loyalty, cohesion, and fighting spirit of soldiers--would enable units to generate and apply combat power. It also sought to instill the foundations of professional ethics in each leader and soldier.

The Aviation Center provided the command climate and necessary garrison services to provide soldiers, civilians, and families with a safe, healthy environment in which to live and work. Through care and concern, it sought to strengthen the commitment of soldiers and their families to a career of service to the nation. It was prepared to provide critical life support and disaster relief services to the community in the event of emergency and to act as a primary wartime mobilization site.

Finally, the USAAVNC developed risk assessment protocols that would identify areas of risk, both in training and under battlefield conditions. It refined and exported safety programs to make leaders, soldiers, and units sensitive to areas of risk. It attempted to make risk assessment part of the thought process of every aviation officer and soldier.¹¹

The mission of the USAALS was to develop and conduct aviation logistics training for active Army and reserve component personnel; to support and evaluate aviation logistics training in the field; to conduct and guide development of logistic support concepts, doctrine, materiel, and organizations for Army Aviation; to perform proponency functions for 15D (aviation logistics) and 151A (aviation maintenance) areas of concentration and for career management field 67 (aircraft maintenance); and to support the Army Aviation Branch chief and the Combined Arms Support Command commander.¹²

C. Command and Control

Overall command and control of the USAAVNC, including the USAALS, was vested in the commanding general, who was supported and assisted by all other members of the USAAVNC command group. Maj. Gen. John D. Robinson commanded the Aviation Center throughout 1993.

The commanding general was responsible for the implementation of policies and directives of the Department of the Army (DA) and TRADOC. He was also the principal adviser to and representative of the commanding general of TRADOC for equipment, doctrine, training, tactics, and techniques of aviation and aviation logistics. Through the assistant commandants of USAAVNC and of USAALS, the commanding general established, maintained, and supervised the agencies and departments established for the efficient execution of assigned missions. The commanding general also served as chief of the Army Aviation Branch.

During 1993 the commanding general of the USAAVNC was especially involved in Army aviation and Army doctrinal developments, Army aviation participation in TRADOC's Battle Laboratories and the Louisiana Maneuvers, and in the implementation of the Aviation Restructure Initiative (ARI). He also devoted considerable time and effort to the USAAVNC-U.S. Army Aviation Logistics School (USAALS) and Combined Arms Support Command (CASCOM) reorganization, to enhancing the role of Army aviation in combined arms and joint training, and to

¹¹USAAVNC Regulation 10-1, "Organization and Functions Manual," pp 9-11, *passim*; Memo ATZQ-APG, Col Patrick J Bodelson for distr, 21 Feb 92, sub: USAAVNC mission essential task list, also encl, 1992 documents file, DOS, TADD # 98.

¹²"Army Aviation Logistics at Fort Eustis," *passim*, 1992 document file, USAALS; Historical report, USAALS, CY 92.

Army aviation combat developments. Other matters of particular interest to USAAVNC commander during 1993 included the establishment of the organizational framework and the technological base to accommodate the rapid growth in importance of simulation in aviation training and the development of combined arms leadership through exchange programs between the Aviation School and other branch schools. The deputy commanding general played a support role in these activities and substituted for the commanding general during his absence.¹³

The deputy commanding general of the USAAVNC from 1 January until 30 June was Brig. Gen. (P) Robert A. Goodbary. On 1 June, in a ceremony in the Army Aviation Museum, Lt. Gen. Wilson A. Schoffner, commanding general of the Combined Arms Command, pinned a second star on Goodbary and presented him with a major general flag. Brig. Gen. John M. Riggs assumed duties as deputy commanding general on 6 July.¹⁴

The deputy commanding general served as principal assistant to the commanding general, assisted him as directed, and assumed command in his absence. Although the schoolhouse was under the daily supervision of the deputy assistant commandant, the deputy commanding general had overall responsibilities for training and training development; he also played major roles in directing combat developments, evaluation and standardization, and training development. He frequently represented the branch chief in providing guidance to and maintaining close relationship with aviation brigades and battalions throughout the Army and in directing the execution of various special missions and projects in support of the branch and of aviation training.

During the early part of 1993 General Goodbary was especially involved with reorganizing the schoolhouse, finding solutions to aviation gunnery problems so as to permit more meaningful aviation participation in rotations at the combined training centers, updating the Army Aviation Modernization program, implementing total force integration, implementing the Aviation Restructure Initiative, and USAAVNC-USAALS reorganization. During the latter part of the year, General Riggs was especially involved with combat developments issues, training developments, and the implementation of the Aviation Restructure Initiative. Each deputy commanders assumed primary responsibility for issues for which he had particular knowledge and expertise and thereby relieved the commanding general of much of the day-to-day oversight of those particular issues.¹⁵

¹³Notes on oral interviews by the author with Maj Gen John D Robinson, 30 Jun and 20 Jul 94, oral history file; Transcript of interview by author with Brig Gen (P) John M Riggs, 20 May 94, oral history file.

¹⁴Army Flier, 4 Jun, 9 Jul 93; E-mail notes, HackleL to cdns/dirs, 27 May, 2 Jun, 21 Jun 93, Chapter I file.

¹⁵Transcripts of oral interviews, John W Kitchens with Brig Gen (P) Robert A Goodbary, 6 and 21 May 93, and with Brig Gen (P) John M Riggs, 23 May 94, oral history file.

Col. Robert N. Seigle served as chief of staff of the USAAVNC from 1 January until his retirement in April. Col. Seigle was succeeded on 12 April by Col. Thomas W. Garrett, who served as chief of staff for the remainder of the year.¹⁶

The chief of staff served as principal assistant to the commanding general and assistant commandant in the command and management of the USAAVNC and Fort Rucker, advising and acting for them as directed. He supervised and directed the staff to ensure coordinated action in accomplishing the assigned missions of the Aviation Branch and of the USAAVNC. The chief of staff exercised primary authority, under the commanding general, over center support activities at the USAAVNC. These included resource management; plans, mobilization, and security; internal review; public affairs; legal affairs; aviation proponentcy; liaison; and safety.¹⁷

The deputy assistant commandant from 1 January until he assumed the duties of chief of staff was Col. Thomas W. Garrett. Col. Charles M. Burke became deputy assistant commandant effective 19 April and continued in that capacity until 3 December. Col. Warren C. Edwards and Col. Palmer J. Penny performed some of the functions of the office following Burke's departure, but, the position was abolished as of 14 December.¹⁸

The deputy assistant commandant served as principal assistant to the deputy commanding general in the accomplishment of administrative and management duties associated with assigned aviation training responsibilities and as the primary point of contact for mission training activities. Among other specific duties, he monitored and integrated assigned training elements and effected coordination among training elements, higher headquarters, integrating centers, and other schools and activities. He also acted as the command group's "eyes and ears" in the school, assisted in school house reorganization, coordinated the incorporation of Desert Shield/Storm lessons learned into the school, and administered the Precommand Course. As a senior leader of the Aviation Center, the deputy assistant commandant was also involved with virtually all major school and center projects and planning activities.¹⁹

The deputy assistant commandant-USAR from 1 January to 3 March was Col. (P) Clifford L Massengale; he was succeeded by Col. William E. Miller, Jr., who

¹⁶E-mail note, HackleL to XO/OPS personnel, 12 Apr 93, sub: signature block for USAAVNC chief of staff, Chapter I file; "Honor Eagle Ceremony in Honor of Colonel Robert N. Seigle," 23 Apr 93, Chapter I file; "Army Aviation Warfighting Center Newsletter," May 93.

¹⁷Notes on oral interview, John W Kitchens with Col Robert N Seigle, 9 Apr 93, oral history file.

¹⁸E-mail notes, DawkinsL to cdrs/dirs, 13 Apr 93, sub: assumption of deputy assistant commandant duties, and GarrettT to cdrs/dirs, 14 Dec 93, sub: formation of DOTDS.

¹⁹Notes on oral interviews, John W Kitchens with Col Robert N Seigle, 9 Apr 93, Col Thomas W Garrett, 11 Mar 93, and Col Charles M Burke, 24 Nov 93, oral history file.

served the remainder of the year.²⁰ The deputy assistant commandant-ARNG was Col. Mario Meola from January to October and Col. Greg Parrish for the remainder of the year.²¹ The deputy assistant commandants for USAR and ARNG served as the principal assistants to the USAAVNC assistant commandant on total force integration efforts relating to the USAR and the ARNG. Directly and through subordinates in key directorates and other USAAVNC organizations, they participated in the formulation, coordination, and administration of policies, plans, and programs affecting the reserve components. They also provided assistance to reserve component students attending courses of instruction at the USAAVNC and assisted in the resolution of various problems encountered by these students. Finally, they played important roles in the Army aviation total force integration planning.²²

The garrison commander from January until his retirement on 23 May was Col. Samuel P. Walker. From 1 June until August, the Garrison Support Command functions were divided between the chief of staff and the director of Engineering and Housing/Public Works. Col. Larry Turnage served as garrison commander from 16 August through the remainder of the year. Sgt. Maj. Richard D. Wessel was garrison sergeant major the entire year. The garrison commander was the principal assistant to the commanding general in the command and management of garrison activities of the USAAVNC. The garrison commander had primary responsibility in the areas of personnel and community activities, industrial operations, engineering and housing, civilian personnel, logistics, post security, information management, contracting, equal employment opportunity, and reserve component support. He also chaired boards and committees relating to various personnel and garrison activities.²³

Cmd. Sgt. Maj. Fredy Finch, Jr., served as USAAVNC command sergeant major the entire year. The principal function of the command sergeant major was to serve as the primary adviser to the commanding general on all matters pertaining to the enlisted soldiers of the USAAVNC and of the Aviation Branch. He monitored and influenced assignments of senior noncommissioned officers and all aspects of aviation-related enlisted training and made recommendations to the commander regarding these matters. The command sergeant major was also the principal adviser

²⁰E-mail note, Col Clifford L Massengale to cdrs/dirs, 2 Mar 93, Chapter I file.

²¹E-mail note, Col Mario Meola to cdrs/dirs, 21 Oct 94, sub: Farewell, Chapter I file.

²²Notes on interviews by the command historian with Colonel Meola on 24 Feb 93 and with Colonel Massengale on 9 Mar 93, oral history file.

²³E-mail notes, HackleL to cdrs/dirs, 27 May, 10 Jun 93, Chapter I file; Historical report, Garrison Support Command, CY 93.

to the commander on all matters relating to discipline, esprit de corps, and proficiency of the enlisted members of the command and of the branch.²⁴

The assistant commandant of the USAALS until his retirement in mid January was Col. William J. Blair. Col. Benjamin Kean served as assistant commandant from mid January until his retirement in June, and Col. Dennis Healy served as interim assistant commandant until the arrival of Col. Thomas E. Johnson in September. Colonel Johnson served as assistant commandant for the remainder of the year. Mr. Rodney J. Schulz served as deputy assistant commandant, and Sgt. Maj. Alan A. Gott, as sergeant major. The deputy assistant commandants for the ARNG and USAR were Lt. Col. James E. Sutton and Lt. Col. Bruce A. Peterson respectively.²⁵ Although a separate school, the USAALS was a part of the USAAVNC. The commanding general of the USAAVNC was also the commandant of USAALS; the USAALS assistant commandant was directly responsible to the commander of the USAAVNC and served as his principal assistant in the management of all aspects of aviation logistics training at the USAALS.

D. Organizational Changes in 1993

The USAAVNC gained command and control over aviation logistics training at Fort Eustis with the creation of the USAALS in 1988. Shortly afterwards, a plan was developed at the Aviation Center to relocate aviation logistics training to Fort Rucker. The cost of constructing facilities at Fort Rucker and political opposition in Virginia to the move prevented the relocation from taking place. The USAAVNC continued trying to achieve a more effective and efficient training program for Army aviation by gradually unifying the parts located at Fort Rucker and Fort Eustis and by planning for the eventual relocation. Several planning sessions were conducted during 1991, for example, to more closely integrate the USAALS into the USAAVNC on an interim basis while long-range plans were being developed for eventual relocation. The "lead/colab" relationships between Fort Rucker directorates and their counterpart organizations at the USAALS was proposed as a short term arrangement during the 1991 planning sessions and partly implemented in 1992. According to this concept, the Fort Rucker directorates would provide the "lead" and their counterpart organizations at the USAALS would be in the "colab" position and would work through the Fort Rucker organizations. In the area of enlisted training, the USAALS organization would provide the "lead," and enlisted training at Fort Rucker would be in the "colab" position. The USAALS would continue to receive direct tasking,

²⁴In addition to the sources already cited, the following sources were used in compiling the section on command and control: USAAVNC Regulation 10-1, "Organization and Function Manual," pp. 01.01-01.07, passim; 1993 draft revision of USAAVNC Regulation 10-1, passim; 1993 USAAVNC organization charts; and "ACH 1992," passim.

²⁵Historical report, USAALS, CY 93; E-mail note, Hackle to cdrs/dirs, 14 Sep 93, sub: new USAALS AC, Chapter I file.

however, from the U.S. Army Combat Support Command (CASCOM), the commander of which would also continue to serve as intermediate rater of the USAAVNC commander.²⁶

Early in 1993, the commander of CASCOM directed the development of a plan for the consolidation at Fort Lee, Virginia, of combat developments, training developments, evaluation and standardization, and proponenty functions and personnel of all subordinate combat service support schools, including the USAALS. The CASCOM plan would have reconfigured the remaining elements of USAALS into a directorate of instruction, subordinate to a single Fort Eustis training brigade commander.²⁷ The rationale for the reorganization was that expected future budget reductions would make proponent schools incapable of accomplishing these functions. However, the reorganization was to be carefully designed "to ensure that the essence of the vitally important branch proponent role in these functional areas remain, to the maximum extent possible, as it was before consolidation."²⁸

The USAAVNC strongly opposed the CASCOM consolidation plan as destructive of Aviation Branch unity and operational effectiveness. The USAAVNC objected to the CASCOM plan because of the expectation that it would have the following adverse effects: reverse the 1988 decision giving the USAAVNC commander command and control over aviation logistics training; deprive the branch chief of control over aviation logistics training and training assets; eliminate single authority line for evaluation and standardization issues; divide aviation doctrine responsibility between two commanders; separate Aviation Branch proponenty responsibilities for development of aviation force structure; divide force integration effort between two integrating centers; degrade combat operations due to separation of logistics and systems; and align logistics to a separate supporting function with no allegiance to aviation roles, mission, and doctrine.²⁹

The USAAVNC countered the CASCOM plan with a plan that would maintain and enhance Aviation Branch unity as well as the branch chief's command and control of aviation logistics. Specifically, the USAAVNC proposed that portions of the aviation logistics evaluation and standardization, combat developments, and proponenty functions be merged with their counterpart functions at Fort Rucker, resulting in significant manpower savings. Aviation logistics training development functions would remain at Fort Eustis or be divided between Fort Eustis and Fort

²⁶See, e.g., "ACH 1992," pp. 11-12.

²⁷Memo ATCL-RAP, Col Michael E Velten for distr, 13 Sep 93, sub: CASCOM reorganization AR 5-10 documentation, also encl, DRM; Historical report, DRM, CY 93.

²⁸Memo ATCL-RAP, Col Michael E Velten for distr, 13 Sep 93, sub: CASCOM Reorganization AR 5-10 documentation, DRM.

²⁹Briefing slides, "USAAVNC/USAALS Realignment Plan," 15 Apr 93, DRM; Transcript of interview by author with Brig Gen (P) John M Riggs, 23 May 94, oral history file.

Rucker. In lieu of the single training brigade at Eustis, there would be both a transportation training brigade and an aviation maintenance training brigade. The commander of the aviation maintenance brigade would be directly subordinate to the USAAVNC commander.³⁰

According to the compromise arrangement approved by the TRADOC commander, essentially all aviation logistics evaluation and standardization, combat developments, proponency, and training developments functions would remain subordinate to the USAAVNC commander. Furthermore, when the CASCOM reorganization was implemented, the USAALS would be replaced by the new U.S. Army Aviation Maintenance Training Activity (USAAMTA), also subordinate to the USAAVNC commander. On the other hand, in accordance with the wishes of CASCOM and the U.S. Army Transportation Center and Fort Eustis (USATCFE), there would be only one training brigade at Fort Eustis, the 8th Transportation Brigade, which would provide command and control for the staff and faculty of the USAAMTA, as well as for Transportation Corps staff and faculty and garrison operations.³¹

The CASCOM reorganization action was to be fully implemented by 1 October 1994. The approved plan, for the most part, exempted the USAALS and the U.S. Army Chaplain Center and School from the consolidation at Fort Lee of combat developments, training developments, proponency offices, and evaluation and standardization functions of CASCOM subordinate schools. The reorganization of these functions of other CASCOM schools was expected to result in a net savings to the Army of 438 civilian authorizations. The reorganization was expected to achieve net annual savings of \$39.3 million. One-time costs were estimated to be \$20.774 million. The expected annual savings of moving USAALS functions to Fort Rucker were \$2 million, and the estimated one-time costs were \$1.335 million.³² The secretary of the Army approved the revised CASCOM reorganization plan on 26 January 1994.³³

Most of the details of the CASCOM reorganization, as it affected the USAAVNC and aviation logistics training at Fort Eustis, were outlined in a memorandum of agreement signed by the USAAVNC and CASCOM commanders in October and November 1993. This memorandum provided for the USAAMTA to be established from USAALS assets, as a non-supporting tenant activity at Fort Eustis, in

³⁰Briefing slides, "USAAVNC/USAALS Realignment Plan," 15 Apr 93, DRM.

³¹Memorandum of agreement between USAAVNC and CASCOM, Maj Gen John D Robinson and Lt Gen Samuel N Wakefield, 22 Oct and 9 Nov 93, DRM, also USAALS.

³²Memo ATCL-RAP, Col Michael E Velten for distr, 13 Sep 93, sub: CASCOM Reorganization AR 5-10 documentation, DRM; "United States Army Combined Arms Support Command (CASCOM) Realignment Implementation Plan" (draft), 2 Nov 93, DRM.

³³Memo DAMO-FDO, Brig Gen William J Bolt for distr, 1 Feb 94, sub: reorganization of CASCOM, DRM.

accordance with milestones of the CASCOM Reorganization Plan. The USAAMTA, "as a subordinate unit of the USAAVNC, was to manage and conduct aviation maintenance instruction..., command and control assigned staff and faculty personnel, complete internal training literature requirements, and interface with...CASCOM regarding combat service support matters." All aviation logistics combat developments, proponency, and evaluation and standardization functions would be incorporated into the USAAVNC at Fort Rucker, except that a small cell of four combat development aviation logistician personnel and one aviation logistics proponency representative would be located at Fort Lee to interface with the combat service support community. The training development function and corresponding personnel authorizations would be divided between Fort Rucker and the USAAMTA at Fort Eustis. Savings, resulting from the elimination of forty-five position, would be realized by relocating these functions to Fort Rucker.

The USAAVNC commander was to be responsible to the CASCOM commander for aviation maintenance concepts, doctrine, threat, training, and materiel systems and would coordinate organization and force structure actions relative to aviation logistics with the CASCOM commander. The CASCOM was to ensure that pertinent combat service support information was disseminated to the USAAVNC for use in completing aviation related actions. Also, the CASCOM commander was to task the USAAVNC commander for all aviation input required to accomplish his logistics integration mission. The USAAVNC commander would initiate and complete all coordination requirements between subordinate units in response to actions or inquiries from the CASCOM commander.

The commander/director of the USAAMTA was to be rated by the USAAVNC commander and senior rated by the CASCOM commander. Letter input would be provided by the USATCFE commander. Principal staff members of USAAMTA would be rated by the commander/director of USAAMTA and senior rated by the USAAVNC commander. The 8th Transportation Brigade was to provide command, control, personnel, administrative services, Uniform Code of Military Justice (UCMJ), common military and physical training, billeting, and related support services to all USAAMTA student soldiers. The 8th Transportation Brigade would also provide administrative, billeting, and UCMJ support to all USAAMTA permanent party soldiers. Staff and faculty development training, academic records maintenance, library services, and international military service office services were all to be provided by the 8th Transportation Brigade. The USATCFE commander was to continue operating and funding a noncommissioned officer academy and provide common core training for career management field 67 advanced and basic noncommissioned officer course students. Resource management functions and some other details were to be determined by a separate memorandum of understanding between the commanders of the USAAVNC and USATCFE.³⁴

³⁴Memorandum of agreement between USAAVNC and CASCOM, Maj Gen John D Robinson and Lt Gen Samuel N Wakefield, 22 Oct and 9 Nov 93, DRM, also USAALS.

By June of 1993, the USAAVNC and the USATCFE had agreed on most issues relating to the operation of the USAAMTA at Fort Eustis. On one major issue, however, there remained some disagreement. The Transportation Center proposed that the brigade commander of the 8th Transportation Brigade should rate the personnel of the two companies supporting the USAAMTA. The Aviation Center insisted that the rating scheme of these personnel should be internal to the activity, with the director/commander serving as their senior rater. This approach, General Robinson noted, would help him to unify the staff and faculty of the USAAMTA and "add a degree of substance to the overall organization." Robinson proposed that the two command and control companies be attached to the 8th Transportation Brigade only for quarters, administration, and UCMJ.³⁵

In December 1993, a memorandum of agreement was negotiated between the commanders of the USAAVNC and the USATCFE regarding the relationship between the USAAMTA and the USATCFE. This memorandum reiterated and/or amplified upon the terms of the memorandum between the USAAVNC and CASCOM, but it also established a few additional understandings. Concurrent with the implementation of the CASCOM Reorganization Plan, two companies of the 765th Battalion, 8th Transportation Brigade, would be reassigned, with associated manpower requirements and authorizations, to the USAAMTA in support of the command and control function for staff and faculty personnel. The commanders of the faculty companies would be rated by the commander of the 765th Transportation Battalion, intermediate rated by the commander, 8th Transportation Brigade, and senior rated by the commander/director of the USAAMTA.

Resource management responsibilities relative to the USAAMTA would be vested with the commander of the USAAVNC. These responsibilities would include programming, budgeting, managing funds and manpower, and other related activities. The USAAMTA would manage and execute the USAAMTA resource program in accordance with policies and procedures established by the USAAVNC. The Transportation Center would exercise administrative control of all funds allocated to the USAAMTA. The commander/director of the USAAMTA would assume responsibility for control and fund certification of USAAMTA accounts; he would accomplish this responsibility in accordance with policies and procedures established by the commander of the USAAVNC; he would, however, comply with and support year-end requirements of the Transportation Center.

The Transportation Center would include commercial activities resource data for the USAAMTA in the Fort Eustis inventory and data base. The Transportation Center would also provide the required base operations support to the USAAMTA. The USAAVNC would manage all manpower and equipment allocated to the activity

³⁵Ltr, Maj Gen John D Robinson to Maj Gen Kenneth R Wykle, CG file.

and also the organizational and manpower structures, and personnel selection and management.³⁶

In 1993, coincident with the successful effort by the USAAVNC to maintain effective control over aviation logistics training following the promulgation of the initial CASCOM Reorganization Plan, the USAAVNC updated the 1989 plan for relocating all aviation logistics training to Fort Rucker. The study identified updated workloads, facility requirements, and operating concepts. It concluded that the relocation of aviation logistics training and total consolidation into the USAAVNC could be accomplished with one time costs of \$72.5 million. Of this total, \$60 million would be for construction of training facilities at Fort Rucker. The remaining \$12.5 million would be offset by reduced operating costs of approximately \$1.9 million per year resulting from consolidation.³⁷

Significant progress was made during 1993 on the relocation of one aspect of aviation logistics training from Fort Eustis to Fort Rucker. In response to a USAAVNC initiative, HQDA had approved the concept of relocating maintenance manager/maintenance test pilot training, along with related evaluation and standardization functions, from Fort Eustis to Fort Rucker in 1991. The DA provided funding for one-time costs for the move in the fiscal year 1994 budget. During 1993, the USAAVNC developed planning documents to implement the realignment. The relocation of this training would consist of transferring seventy-eight manpower requirements and sixty-four authorizations, along with related equipment to Fort Rucker. The training was to be relocated in phases beginning on 11 April and ending on 18 July 1994. The evaluation and standardization function was to be realigned on 2 August. The move was to be completed prior to October 1994. Manning and equipment documents for the realignment were to be adjusted during the fiscal year 1995 cycle. Significant savings and cost avoidance were projected to result from the realignment.³⁸

The move of the maintenance management/maintenance test pilot training to Fort Rucker was significant for the cost savings that would result. Even more

³⁶Ltr, Maj Gen John D Robinson to Maj Gen David A Whaley, 6 Dec 93; enclosure consists of a memorandum of agreement, David A Whaley and John D Robinson, signed by Robinson on 6 Dec 93, and by Whaley on 7 Jan 94, sub: operating procedures for USAAMTA, CG file, also USAALS.

³⁷Memo ATZQ-RFM (570-4g), Lt Col Stephen D Milburn for deputy commanding general, 23 Sep 93, sub: update of USAALS relocation plan, also encl, DRM; Historical report, DRM.

³⁸Historical report, DRM, CY 93; 1st end ATZQ-RFM (570-4g), (ATZQ-DPT-P/undated), sub: administrative/logistics plan for the MM/MTP realignment, DRM; "Army Aviation Warfighting Center Newsletter," May 93; Memo ATRM-M (5-4), Maj Gen Henry H Hagwood Jr for distr, 1 Apr 93, sub: Aviation Center initiative to realign training, DPTMSEC; Memo ATTG-IA (350-1c), Maj Gen John P Herring for distr, 2 Feb 94, sub: relocation of Maintenance Manager/Maintenance Test Pilot Course, DPTMSEC.

significantly perhaps, the move was another step toward the consolidation of aviation training at the Aviation Center.³⁹

Further reorganization affecting the Directorate of Simulation (DOS) and the Directorate of Training and Doctrine (DOTD) occurred in 1993. This change was driven largely by budget reductions and especially by a TRADOC-directed reduction in training development manpower costs. Either the total abolishment or the drastic downsizing of DOTD was necessary in order to achieve the required reductions in training development costs without depriving the teaching organizations of necessary course development/instructional personnel.⁴⁰

The Directorate of Resource Management (DRM) studied the matter of the decentralization of training development functions and schoolhouse reorganization during the summer of 1993. The command guidance to DRM in the development of the plans was as follows: (1) retain the position of deputy assistant commandant; (2) decentralize training development functions and personnel and align training elements in accordance with the concept that "writers teach and teachers write"; (3) align flight products to the Aviation Training Brigade and professional development products to the 1st Aviation Brigade; and (4) develop organizational alternatives for placement of residual DOTD functions--including Library, Learning Center, staff and faculty training, and also a "think tank." In accordance with this guidance, the DRM developed five options, but by early August, when the plan was ready to be presented to the commanding general, all but one of the five options had already been rejected. The remaining option called for decentralizing the DOTD functions and personnel, establishing a department of training with "think tank" capability, retaining the deputy assistant commandant, and identifying functions and personnel subject to the DOTD reorganization proposal.⁴¹

Following a commanding general decision brief on 13 August 1993, an implementation plan for DOTD reorganization was developed with the proposed provisional implementation date of 1 November. The DOTD, to be reorganized as the Directorate of Training (DOT), was to retain a scaled down training development responsibility consisting of the word processing, staff and faculty development, technical library, learning center, new equipment training, total force integration, and advanced aviation doctrine and tactics functions. Responsibility for most doctrinal and training literature was to be distributed among the 1st Aviation Brigade, the

³⁹Transcripts of oral interview by author with Brig Gen (P) John M Riggs and Col Charles M Burke, 23 May 94 and 24 Nov 93, oral history file.

⁴⁰Transcript of interview by author with Col Charles M Burke, 24 Nov 93, oral history file; Historical report, DOTD, CY 93.

⁴¹Memo ATZQ-RFM (570-4g), Lt Col Stephen D Milburn for cdr, 6 Aug 93, sub: DOTD reorganization, action memo, CG file; Transcript of interview by author with Col Charles M Burke, 24 Nov 93, oral history file.

Aviation Training Brigade (ATB), the Warrant Officer Career Center (WOCC), and the Noncommissioned Officer Academy (NCOA).⁴²

In November 1993, most training development functions were transferred to the 1st Aviation Brigade and ATB, generally according to the earlier plan. The 1st Brigade assumed responsibility for the analysis of all enlisted training and officer professional development products. Seven enlisted training developers were transferred to the 1-13th Aviation Regiment of the 1st Brigade along with responsibility for writing doctrine for military occupational specialties 93P, 93C, 93B, 67V, and 67N as well as for ensuring program of instruction updates. Twenty-two personnel, along with responsibility for doctrinal literature for officer professional development and for aviation operations for battalions and subordinate units were transferred to the 1-145th Aviation Regiment.⁴³ The ATB assumed training development responsibilities for flight training literature, training support, and night vision devices. The ATB's authorizations were accordingly increased by eleven military and eight civilian spaces. Three military personnel and five civilians were transferred to ATB from DOTD to support the new mission.⁴⁴

The proposed new DOT was not created; instead, what remained of DOTD was reorganized internally in accordance with the planned structure for the DOT. This downsized DOTD continued functioning as a separate directorate until 14 December. On that date, the DOTD and the DOS were merged to form the new Directorate of Training, Doctrine, and Simulation (DOTDS). The implementation of the merging of DOTD and DOS began on 14 December, when the director of DOS assumed responsibility for DOTD as well as for some functions of the Office of Deputy Assistant Commandant, but the actual moves and transfers were delayed until after the end of the year.⁴⁵

USAAVNC leaders began planning for another major schoolhouse reorganization during the latter part of 1993. This initiative was called "New Way" and aimed at abolishing existing directorates and realigning their functions into two new directorates--a battle dynamic exploration directorate and a warfighting capabilities development directorate. The USAAVNC schoolhouse would then consist of these two directorates plus the two training brigades at Fort Rucker and the Aviation Maintenance Training Activity at Fort Eustis. One of the purposes of the

⁴²Historical report, DRM, CY 93; Memo ATZQ-RFM (570-4g), Lt Col Stephen D Milburn for distr, 12 Oct 93, sub: memorandum of instruction for implementation of DOTD reorganization, DRM, 1st Brigade.

⁴³Memo ATZQ-RFM (570-4g), Lt Col Stephen D Milburn for distr, 12 Oct 93, sub: memorandum of instruction for implementation of DOTD reorganization, DRM, 1st Brigade; Historical report 1st Brigade; Transcription of oral interview by author with Brig. Gen. John M. Riggs, 23 May 94, oral history file.

⁴⁴Historical report, ATB, CY 93; Provisional TDA (0294 from DOTD), 3 Sep 94, ATB.

⁴⁵E-mail note, Garrett to cdrs/dirs, 14 Dec 93, sub: formation of DOTDS, Chapter I file; Historical report, DOTD, CY 93.

initiative was to provide aviation and the USAAVNC with some of the advantages of having a battle lab without additional funding. This concept was only being discussed and considered at the end of 1993.⁴⁶

Effective 1 January 1993, CWO5 David E. Helton formally assumed command of the WOCC.⁴⁷ The WOCC was created in 1992 out of personnel and fiscal resources of the USAAVNC and operated under the umbrella of the Aviation Center's command operating budget. While the WOCC operated in some respects as a USACAC tenant agency at Fort Rucker, it remained on the USAAVNC budget and table of distribution and allowance throughout 1993. Also, USAAVNC general officers continued to rate and senior rate the senior WOCC leaders. The extensive experience of the USAAVNC in warrant officer training, the preponderance of aviators among the warrant officer ranks, and the location of the WOCC at Fort Rucker were major reasons for this arrangement. During 1993, the USAAVNC also continued to fill civilian staff positions and to provide enlisted soldiers to the WOCC.⁴⁸

The expanded roles and expected growth of the Warrant Officer Career Center was expected to require additional resources above those allocated by the USAAVNC. Early in 1993, the USAAVNC proposed the establishment of a resource support scheme for the WOCC which would provide for DA, USACAC, and TRADOC involvement. The USAAVNC proposed the establishment of a separate Army management structure code and a management decision package for the Career Center. The cooperation of the USACAC was sought both in developing a separate resource scheme for the WOCC and in obtaining funds needed by the USAAVNC to continue the activation and sustainment efforts in the short term.⁴⁹

In July 1993, the USAAVNC submitted a concept plan for the establishment of a stand-alone tenant WOCC, with its own unit identification code, at Fort Rucker. It was expected to become increasingly difficult for the USAAVNC to continue supporting the WOCC with decreasing budgets and manpower authorizations. Also, training conducted by the WOCC was scheduled to increase in fiscal year 1995, generating a need for additional resources. In July 1993, the WOCC had thirty-nine approved manpower requirements and thirty-six authorizations to support fiscal year 1994 workloads. These assets were subject to transfer to the

⁴⁶Transcripts of interviews by author with Col Charles M Burke and Brig Gen (P) John M Riggs, 24 Nov 93 and 23 May 94, oral history file; Notes on interview with Maj Gen John D Robinson, 20 July 94, oral history file.

⁴⁷Memo ATZQ-WCC, dir WOCC for distr, 1 Jan 93, sub: assumption of command, WOCC.

⁴⁸Memo ATZQ-CG, Maj Gen John D Robinson for Lt Gen Wilson A Shoffner, 25 Feb 93, sub: implementation of Warrant Officer Leader Development Plan, CG file, Historical report, WOCC, CY 93; Memo ATZQ-WCC (570), dir WOCC for DRM, sub: 0294 TDA, WOCC.

⁴⁹Memo ATZQ-CG, Maj Gen John D Robinson for Lt Gen Wilson A Shoffner, 25 Feb 93, sub: implementation of Warrant Officer Leader Development Plan, CG file.

stand-alone organization. Four additional manpower requirements and authorizations plus those generated by workload increases would result from the establishment of the stand-alone WOCC. The organization's funding requirements to support programmed fiscal year 1994 workloads was \$588,000; the USAAVNC was able to finance only \$328,000 of these requirements. The \$328,000 was subject to transfer to the WOCC, leaving an unfinanced requirement of \$260,000. The establishment of the WOCC as a tenant activity would increase funding requirements by \$156,000, which would require DA and/or TRADOC approval and allocation. The fiscal year 1995 programmed workload adjustments would require approximately \$172,000 additional funding for that year to support increases in student training. All warrant officer courses that were not aviation specific would be transferred to the stand-alone WOCC, which would be responsible for conducting warrant officer candidate and warrant officer professional training for the Army.⁵⁰ The DA approved the concept plan for the stand-alone WOCC, but denied the request for additional manpower, suggesting instead internal realignment within TRADOC. The DA proposed that the request for additional funding be submitted as a personnel, operations, and maintenance issue. Given the resolution of those issues, the documentation of the WOCC was to occur during 1994.⁵¹

A decision was made in 1993 for further consolidation of warrant officer training and leader development at Fort Rucker. The chief of staff of the Army directed that the reserve component warrant officer candidate program at Ft. McCoy, WI, be discontinued and that reserve component training be conducted by the Warrant Officer Candidate School at Fort Rucker. The target date for the relocation of reserve warrant officer candidate training was 1st quarter of fiscal year 1995. An annual student load increase of 350 students was projected.⁵² All other warrant officer candidate training had been relocated to Fort Rucker and placed under the auspices of the Warrant Officer Candidate School in 1988.⁵³

Fort Rucker's involvement in the consolidation of functions within the DOD continued during 1993. The first implementation planning review for the consolidation of the Fort Rucker Civilian Payroll Office into the Defense Civilian Pay System was scheduled for 7 and 8 December. The consolidation was scheduled to be

⁵⁰Memo ATZQ-RFM (570-4g), Lt Col Stephen D Milburn, for cdr TRADOC, 20 Jul 93, sub: concept plan for WOCC, also encl, DRM.

⁵¹Memo DAMO-FDF, Brig Gen William J Bolt for cdr USAAVNC, 28 Feb 94, sub: abbreviated concept plan-WOCC, WOCC.

⁵²"Army Aviation Warfighting Center Newsletter," Aug 93.

⁵³"U.S. Army Aviation Center Annual Historical Review, 1988" p. 36.

implemented in August 1994; the Fort Rucker civilian payroll was to be handled by the Pensacola Payroll Office of the consolidated DOD system.⁵⁴

Beginning in 1992 and continuing through 1993, studies were conducted relating to the consolidation of the Fort Rucker Directorate of Civilian Personnel with other Army civilian personnel offices in the southeastern United States. One phase of the study was headed by the USAAVNC commander, Maj. Gen. John D. Robinson. This study recognized no savings in consolidation with one or two other posts, but recommended that other options be explored. It also recommended that the Peninsula Civilian Personnel Support Activity, which had consolidated the civilian personnel functions of several posts in Virginia, be used as a model. The study phase headed by General Robinson also strongly emphasized that no consolidation be attempted until the complete automation requisite for the program was in place.⁵⁵

By the end of 1993, a plan had been developed calling for the consolidation of the civilian personnel offices of four TRADOC installations, two Forces Command (FORSCOM) installations and one Army Materiel Command (AMC) installation. These consisted of Forts Benning, Gordon McPherson, and Stewart in Georgia, Forts McClellan and Rucker and the Anniston Army Depot in Alabama, and Fort Jackson in South Carolina. Phases II and III of the plan proposed the incorporation of other Army installations in the southeastern region. The plan, as developed by the end of 1993, called for retaining some functions (including labor and management-employee relations specialists and civilian personnel generalists for other areas) on site at each installation; other functions would be centralized at a single location with on-line access through automation. The Peninsula Civilian Personnel Support Activity was used as a model in developing this plan. Savings were estimated to be between 10 and 15 percent upon implementation of phase I of the plan.⁵⁶

A decision was made in TRADOC headquarters in 1992 to redesignate the TRADOC Management Engineering Activity as the TRADOC Manpower Activity. The activity was to change from a field team/lead team concept to two regional input teams, located at Forts Jackson and Sill, with a small headquarters at Fort Monroe.⁵⁷ The activity's functions during 1993 affecting the USAAVNC consisted of completing efficiency reviews and developing manpower staffing standards. Each action completed by the activity was to be analyzed and evaluated by the affected functional

⁵⁴E-mail note, Amanda C Simmons to BB-RUC1, 16 Nov 93, sub: Defense Civilian Pay System, Chapter I file.

⁵⁵Memo ATZQ-DCP, John D Robinson for cdr TRADOC, 12 Apr 93, sub: implementation of BASOPS partnership/regionalization initiative, also encl, CG file.

⁵⁶E-mail note, Lynden H Rosenberry to cdrs/dirs, 4 Jan 93, sub: SAGE visit CPO consolidation; Briefing slides on CPO regionalization, Ft Rucker, 4 Feb 94, Historian's notes on briefing of 4 Feb 94. All documents transferred to 1994 Chapter I file.

⁵⁷Memo ATRM-F, Maj Gen Henry M Hagwood Jr for distr, 1 Oct 92, sub: TRAMEA reorganization, DRM.

proponent as well as by the USAAVNC DRM during the study process. The Fort Rucker position relative to each study was to be prepared and submitted to TRADOC. The DRM was delegated authority to provide installation input on all the activity's studies and related actions. In support of this requirement, the Force Management Division of DRM was to evaluate, prepare, and coordinate position papers for these actions.⁵⁸

Early in 1993, the USAAVNC studied a plan for the regional consolidation of provost marshal operations at Fort Benning to reduce personnel costs. The original proposal would have eliminated one civilian and ten military positions. The Aviation Center concurred with most but opposed two of the recommendations. The USAAVNC proposed that the plan be modified so that Fort Rucker would retain one military security specialist and one civilian security specialist. These two specialists, who should have technical knowledge and familiarity with the unique challenges of securing aircraft and airfields, would conduct required on-post inspections and surveys and assist Fort Benning personnel with other functions. While the USAAVNC concurred with eliminating patrol dog positions at Fort Rucker, it proposed that the two narcotic detector dogs, two explosive detector dogs, and their handlers be kept. The original plan would have eliminated two civilian and ten military positions. Fort Rucker's counter proposal would eliminate one civilian and six military positions, provide greater security, and also save temporary duty costs of sending Fort Benning personnel to conduct inspections at Fort Rucker.⁵⁹

In 1993 Headquarters, TRADOC, floated a proposal for the regionalization of environmental/natural resources offices for the Forts Rucker, McClellan, Benning, Gordon, and Jackson, with the regional office to be located in Fort Jackson. The USAAVNC objected to the regionalization plan as proposed on several grounds, including the lack of adequate local staff to remain in compliance with environmental laws, high cost of temporary duty for experts from regional office to deal with problems at other posts, lack of action officers on site to deal with spills and other emergencies, and lack of familiarity with local installation on the part of the regional action officers.⁶⁰

During the early part of 1993, planning proceeded for the consolidation of Navy, Marine Corps, and Coast Guard primary helicopter training at Fort Rucker along with Army and Air Force training. It was expected that up to 550 aviators of other services would be training at Fort Rucker, possibly before the end of fiscal year

⁵⁸Memo ATZQ-RFM (570-5a), Col Robert N Seigle for distr, 4 Jan 93, sub: installation position for staffing manpower..., Chapter IV file.

⁵⁹Memo ATZQ-MPA (190), Maj Gen John D Robinson for Maj Gen Robert D Orton, 8 Apr 93, sub: implementation of BASOPS partnership/regionalization initiative..., CG file.

⁶⁰Memo ATZQ-DEH-EN (200), Col Thomas W Garrett for cdr TRADOC, 24 Sep 93, sub: TRADOC BASOPS environmental regionalization initiative, CG file.

1994. A joint conference was held at Whiting Field, Florida, on 28 April to study the consolidated flight school curriculum.⁶¹ Little progress toward consolidation was made during 1993, however, because the Department of the Navy continued to oppose it, and there was also political opposition. The USAAVNC deputy commanding general expected, however, that consolidation would occur and that progress toward that end would resume during fiscal year 1995.⁶²

A decision was made during 1993 to further consolidate aviation testing within the U.S. Army Test and Evaluation Command (TECOM). In order to accomplish the downsizing goals set forth by DOD for the out-years, it was decided that, effective with the beginning of fiscal year 1997, the U.S. Army Aviation Technical Test Center (ATTC), located at Fort Rucker, and the Airworthiness Qualification Test Directorate of the ATTC, located at Edwards Air Force Base, California, would reorganize and consolidate as the Aviation Materiel Test Directorate at Yuma, Arizona. By the end of 1993, however, it appeared that necessary military construction funding would not be available until 1997, which would postpone the planned physical consolidation at least until 1998.⁶³

Plans developed in 1993 to move the 46th Engineer Battalion Combat, Heavy) from Fort Rucker to Fort Polk, LA. The USAAVNC opposed the move and made a strong argument for leaving the battalion at Fort Rucker. General Robinson pointed out that the retention of the battalion at Fort Rucker costs FORSCOM nothing, and that excellent training opportunities were provided in the form of repair and modification of stagefields and airfields and in repair work on towers, berms, and maintenance sheds and hangers.⁶⁴

The DOD continued base realignment and closure planning during 1993. Although TRADOC was very much involved in the development of a 1993 implementation plan for realignment and closure, the USAAVNC and Fort Rucker were only marginally affected.⁶⁵

In October of 1993, the USAAVNC directors of Public Works, Resource Management, and Civilian Personnel were appointed as an ad hoc committee to develop a base operations (BASOPS) organization that would allow Fort Rucker to operate at maximum efficiency, with the increasingly scarce resources, while continuing to provide quality training. The members of the committee were directed

⁶¹Army Flier, 30 Apr 93.

⁶²Transcript of oral interview by author with Brig Gen John M Riggs, 23 May 94, oral history file.

⁶³Historical Report, ATTC, CY 93.

⁶⁴Msg 261115Z Oct 93, cdr USAAVNC to cdr TRADOC, sub: MTOE stationing review, CG file.

⁶⁵See, e.g., Memo ATCS-OR (5-10c), Maj Gen John P Herring for distr, 30 Mar 93, Chapter I file.

to design and present three alternative organizational plans for the commanding general's consideration no later than 3 December 1993. They were encouraged to be innovative and imaginative and not to be constrained by the way the post was currently organized.⁶⁶ The decision on Fort Rucker BASOPS reorganization was pending at the end of 1993.

During 1992, the USAAVNC, in conjunction with representatives from other Army organizations, conducted a series of studies concerning the relocation of the training base for some aviation related military occupational specialties. The studies resulted in a decision to recommend the relocation of the training base for specialties 68L, 68Q, 68R, and 93D from Fort Rucker to Fort Gordon. An endorsement by TRADOC of the proposal to transfer proponency for these specialties to the U.S. Army Ordnance, Missile, and Munitions Center and School (USAOMMCS) was expected early in 1993. The USAAVNC also proposed that training for military occupational specialty 68N be relocated to Fort Eustis, with the USAAVNC retaining proponency, and that 67N30 and 67V30 training be moved from Fort Eustis to Fort Rucker. These changes were intended to have occurred in October 1993.⁶⁷

The relocation of enlisted training courses, planned for 1993, was delayed, in part because the plans were expanded so as to involve other courses. In April and May, several working sessions were held with USAAVNC and USAALS staff. After an in-process review was presented to the commanding general on 13 May, the Directorate of Resource Management (DRM) prepared a workload/resource analysis. The expanded enlisted training relocations proposed in 1993 consisted of four groups, as follows: (1) five courses (68L30, 68Q30, 68R30, 93D30, and 93D40) from Rucker to Gordon; (2) six courses (67R40, 67T40, 67H40, 67U40, 67Y40, and 67J40) from USAALS to Rucker; (3) four courses (68N10, ASI X1, ASI W5, and ASI W6) from Gordon to USAALS; and (4) aviation life support equipment training from USAALS to Rucker.⁶⁸

All relocations would require approval by the TRADOC commander, and some of them were not feasible unless one or more of the others occurred. All would be advantageous in various ways, and some would provide significant savings or cost avoidance. The one-time cost for the relocations would be small for all except group 3, the move of the four courses from Gordon to the USAALS, which would cost \$1.452 million. The USAAVNC DRM recommended that the proposed relocations of

⁶⁶Memo ATZQ-GC, Thomas W Garrett for distr, 27 Oct 93, sub: BASOPS reorganization, CG file.

⁶⁷Historical report, DOTD, CY 92; Historical report, NCOA, CY 92; Staffing response, NCOA, CY 93.

⁶⁸"Army Aviation Warfighting Center Newsletter," Aug 93; Briefing slides, "Training Realignment," 1 Nov 93, DPTMSEC.

groups 1, 2, and 4 in fiscal year 1994 be submitted to TRADOC for approval, and that the group 3 moves be considered for fiscal year 1996.⁶⁹

Late in 1993, the USAAVNC Proponency Office prepared a memorandum of agreement for signature by the commanders of the USAAVNC, the USASCFC, and the USAOMMCS to transfer proponency for military occupational specialties 68L, 68Q, 68R, and 93D and also training responsibility for 68L30, 68Q30, 68R30, 93D30, and 93D40 from the USAAVNC to the USAOMMCS. The transfer was scheduled to be completed in June 1996.⁷⁰

At the beginning of 1993 the USAAVNC consisted of thirteen directorates at Fort Rucker and three at Fort Eustis; in addition, there were three training departments at Fort Eustis and the Noncommissioned Officer Academy at Fort Rucker. Also at Fort Rucker under the USAAVNC commander, there were two separate commands (Aviation Training Brigade and 1st Aviation Brigade), the U.S. Army Air Traffic Control Activity, four TRADOC systems managers or project offices, and several personal and special staff offices. More than two dozen tenant agencies were also located at Fort Rucker. In addition to its directorates and training departments, the USAALS had two mission support offices under the assistant commandant.⁷¹

Efforts were underway from 1990 through 1993 to revise and update USAAVNC Regulation 10-1, "Organization and Function Manual," to reflect the numerous changes that had occurred since the current manual was published in March 1988. Because of the workload created by Operations Desert Shield and Desert Storm, reductions in force, and reorganization initiatives, this action had not been completed by the end of calendar year 1993.⁷²

E. Conferences, Ceremonies, Awards, and Visitors

The annual Aviation Brigade Commanders' Conference at Fort Rucker began on 30 November and ended on 3 December 1993. The Army chief of staff, Gen. Gordon R. Sullivan, attended a luncheon at the beginning of the conference. The theme of the 1993 conference was "Aviation Advancing on the 21st Century." Major topics of discussion included the Comanche program, total force integration, force structure, aviation safety, battle command and control, personnel policies, combined

⁶⁹Briefing slides, "Training Realignment," 1 Nov 93, DPTMSEC.

⁷⁰Memo ATZQ-AP (5-8a), Lt Col Robert L Johnson Jr, for cdr USAAVNC, 25 Feb 94, sub: MOU for change of proponency..., also encl, APO; Historical report, APO, CY 93,

⁷¹See Appendices I and II.

⁷²"ACH 1992," p. 17.

arms and aviation doctrine, and the Aviation Restructure Initiative. The conference was held in the Army Aviation Museum.⁷³

The 1993 Aviation Logistics Conference was held at Fort Eustis in January. According to General Robinson, the USAALS team conducted a superb conference that was well-attended and that raised important issues, many of which were being resolved. There were fruitful discussions on risk management in logistics operations, crew coordination, maintenance test pilots, aircraft survival equipment maintenance, coding and training of aviation logisticians, and other important issues.⁷⁴

The 1993 Aviation Noncommissioned Officer Symposium was conducted at Fort Rucker on 2-4 November. Formal updates were presented on simulation and the Comanche. More than 120 senior noncommissioned officers attended. Group discussion topics included the Aviation Restructure Initiative, the leadership/technical track initiative, the soldier development test, and the aeroscout observer. The purpose of the symposium was to update the aviation branch senior noncommissioned officers on new and prospective changes for enlisted soldiers.⁷⁵

The annual worldwide Aviation Trainers' Conference was conducted at Fort Rucker from 26 to 28 October 1993. The conference was hosted by the Directorate of Training and Doctrine. The conference highlighted current and proposed aviation trends in the areas of doctrine, equipment, organization, and personnel management. Forty-one persons attended the conference.⁷⁶

German/United States Army Expert Talks were conducted at Fort Rucker on 12-18 February. Topics of discussion included future Army aviation force structure, Army Aviation Modernization Plan, Aviation Test Bed, aviation logistics concepts, the new training helicopter, results of the air-to-air combat test, aviation reconnaissance, and communications equipment.

The nineteenth European-North Atlantic Treaty Organization (NATO) Helicopter Pilot Training Conference was held at Fort Rucker in October. Crew coordination in flight training was a major topic of the conference.⁷⁷

⁷³Agenda, 1993 Aviation Brigade Commanders' Conference, Brigade Commanders' Conference file; Historian's notes, and Dec 92, Brigade Commanders' Conference file; Army Flier, 10 Dec 93; "Army Aviation Warfighting Center Newsletter," August 93.

⁷⁴E-mail note, Maj Gen Dave Robinson to cdrs/dirs, 30 Jan 93, sub: Avn Logistics Conference, Chapter II file.

⁷⁵Army Flier, 5 Nov 93; "Army Aviation Warfighting Bulletin," Dec 93.

⁷⁶E-mail note, Lt Col Robert L Thomson, to cdrs/dirs, 7 Oct 93, sub: 1993 Aviation Trainers' Conference, Chapter I file; Historical report, DOTD, CY 93.

⁷⁷Historical report, Protocol, CY 1993.

The annual convention of the Army Aviation Association of America (AAAA) was held at the Tarrant County Convention Center, Fort Worth, TX, from 31 March to 4 April.⁷⁸ The convention was deemed to be a resounding success in that the format provided balance for professional and exhibit time, and long sessions were avoided by having awards presented at various functions.⁷⁹

The Army Aviation 10th Anniversary Ball was held at Fort Rucker on 27 March.⁸⁰

Hispanic American Heritage month was celebrated at Fort Rucker in September. The 1993 theme was "Hispanics--A Diversified Workforce to Change the Future." The speaker at the luncheon on 28 September was the Reverend Edward Salazar, S.J.⁸¹

The Asian/Pacific American Heritage month was celebrated in May. The theme for 1993 was "Harmony and Diversity."⁸² The theme of Women's History month (March) was "Discover a New World: Women's History."⁸³

February was Black History month; the 1993 commemorative occasion theme was "Afro-American Scholars, Leaders, Activists, and Writers." Black History month activities included a gospel extravaganza on 2 February, a display contest, a luncheon, training seminars, a basketball tournament, and a ball.⁸⁴

An Honor Eagle ceremony was held on 23 April on the occasion of the retirement of the USAAVNC chief of staff, Col. Robert N. Seigle. During his twenty-seven year career in the Army, Colonel Seigle served combat tours in Vietnam and in Operations Urgent Fury, Just Cause, and Desert Shield/Storm.⁸⁵

⁷⁸Announcement, Chapter I file.

⁷⁹"Army Aviation Warfighting Center Newsletter," May 93.

⁸⁰Program, Chapter I file.

⁸¹Program, Chapter I file.

⁸²Memo ATZQ-PAE (600-20A), Maj Gen John D Robinson for distr, 22 Apr 93, Chapter I file.

⁸³Memo ATZQ-EEO (690-12), Maj Gen John D Robinson for distr, 19 Feb 93, Chapter I file.

⁸⁴Memo ATZQ-PA (600-20a), Maj Gen John D Robinson for distr, 11 Jan 93, Chapter I file; E-mail note, Col Joseph L Perry to cdrs/dirs, 19 Jan 93, sub: Black History month activities, Chapter I file; Memo ATZQ-PA (600-20a) Lt Col Errol C Pratt, for distr, 8 Jan 93, sub: Black History month training/education, Chapter I file.

⁸⁵Army Flier, 30 Apr 93.

A second Honor Eagle ceremony was conducted on 8 July to welcome the new deputy commanding general, Brig. Gen. John M. Riggs.⁸⁶

On 4 June an activation ceremony was held on the Fort Rucker parade field for the reactivation of the 511th Infantry Regiment. The 511th Infantry (Airborne/Pathfinders) was reactivated after 28 years of inactivity. With the reactivation of Company A, 511th Infantry, Company C, 509th Infantry (Pathfinders) was scheduled to move to Fort Polk, LA, due to base realignments.⁸⁷

An acceptance ceremony was held at Fort Rucker on 15 October for the purpose of officially accepting the first TH-67 Creek training helicopter from the manufacturer. The USAAVNC commanding general landed the helicopter on the parade field in front of the reviewing stand at the beginning of the ceremony. Remarks were made during the ceremony by Maj. Gen. Robinson, Mr. George Dausman, acting assistant secretary for Research, Development, and Acquisitions; Maj. Gen. DeWitt Irby, Procurement Executive Office, Aviation; Mr. Webb Joiner, president Bell Helicopter, Textron; and Mr. Eddie Tullis, tribal chairman of the Poarch Creek Indians.⁸⁸

The only memorialization ceremony at Fort Rucker in 1993 was for the dedication of the U.S. Army Safety Center complex. The complex was dedicated to the memory of retired Col. Eugene Blair Conrad, a veteran of World War II and Vietnam and a survivor of the Bataan Death March and of three years as a prisoner of war. Colonel Conrad served as director of the U.S. Army Board for Aviation Accident Research from 1970 through 1971 and as commander of the U.S. Army Agency for Aviation Safety in 1972. During that period, he was responsible for numerous initiatives which have tremendously improved flight safety. He also played a major role in transforming the board into an agency of the U.S. Army. After thirty-two years of active duty, Conrad retired in 1972; he ran his own aviation safety and accident prevention consultation business until 1986. In 1978, the U.S. Army Agency for Aviation Safety was renamed the U.S. Army Safety Center, with responsibility for both aviation and ground safety. Colonel Conrad died in 1992 at the age of 75.⁸⁹

Over 150 people attended a decommissioning worship service conducted in the Fort Rucker Chapel of the Flags on 26 September 1993. This World War II-era chapel began as Division Road Chapel when the post opened in 1942. Upon the closing of Fort Wolters, Texas (where Army primary helicopter training was

⁸⁶E-mail note, Col David W Swank to cdrs/dirs, 1 Jul 93, sub: Honor Eagle for BG Riggs, Chapter I file.

⁸⁷Activation ceremony program, Chapter I file; Army Flier, 11 Jan 93.

⁸⁸Program and announcement, Chapter I file; Army Flier, 8 Oct 93.

⁸⁹Building dedication program and invitation, Chapter I file; Army Flier, 12 May, 11 Jun 93.

conducted), in 1973, the fifty state flags and eighteen stained glass windows were relocated from two chapels at Fort Wolters and placed in the Division Road Chapel at Fort Rucker. The fifty flags had originally been in the Chapel of the Flags in Da Nang, Vietnam, and had been sent to Fort Wolters upon the withdrawal of American forces from that country. Following the installation of the flags and nine of the windows in the Division Road Chapel at Fort Rucker in 1973, that chapel was renamed Chapel of the Flags. The plan in 1993 was to move the flags and windows to the Chapel of the Wings. This chapel, formerly known as Headquarters Road Chapel, was closed for renovation in 1993. It was to become a memorial-type chapel and was to be the only World War II chapel that would remain on Fort Rucker by the year 2000.⁹⁰

The Fort Rucker, Dr. Martin Luther King, Jr. birthday observance was held on 15 January. The guest speaker was Dr. James H. Elancon, professor of New Testament and Biblical languages at Oakwood College, Huntsville, Alabama. The National Prayer breakfast for Fort Rucker was held on 10 February. The guest speaker was Chaplain (Brig. Gen.) Donald W. Shea, deputy chief of Army chaplains. The Easter sunrise service was on 11 April at Lake Tholocco. Approximately 1,200 persons attended the Easter service, which was the fiftieth anniversary of this event at Fort Rucker.⁹¹

Some of the more prestigious awards bestowed during 1993 are described below. Other awards are described under the respective organizations in the appendices of this history.

The TRADOC Communities of Excellence program nominated Fort Rucker and Fort Gordon, Georgia, for the Most Improved Installation award in 1993. Following further evaluation, Fort Rucker was announced as the winner in October. This victory enabled Fort Rucker to compete in the DA competition, the winner of which would be awarded \$125,000.⁹² Fort Rucker was also recognized for winning the TRADOC Nutrition Awareness Program competition for fiscal year 1993.⁹³

The 3rd Battalion, 160th Special Operations Aviation Regiment, Hunter Army Airfield, Savannah, Georgia, was the first recipient of the prestigious new Lt. Gen. Ellis D. Parker award. The new award, announced at the time of the retirement of General Parker in 1992, recognized excellence in Army aviation. The chief of staff

⁹⁰Army Flier, 1 Oct 93; "Chapel of the Flags," History Office reference file; Memo ATZQ-CH (165), Chaplain (Col) Marvin K Vickers Jr, for distr, 23 Sep 93, sub: Chapel of Flags/Wings..., CG file; Decommissioning service program, 26 Sep 93, Chaplain; Historical report, Chaplain, CY 93.

⁹¹Historical report, Chaplain, CY 93; E-mail note, Col Marvin K Vickers Jr to cdrs/dirs, 8 Jan 93, Chapter I file.

⁹²Army Flier, 8 Oct 93; E-mail note, Maj Gen Dave Robinson to cdrs/dirs, 30 Jun 93, Chapter I file.

⁹³Certificate of achievement, Headquarters TRADOC, DOL.

of the Army formally approved the award on 29 January 1993. Active and reserve battalions worldwide competed in four categories (combat, combat support, combat service support, and table of distribution and allowances) for the Parker Award. In the total force, 179 aviation battalions were eligible to compete. The selection process was designed to enhance readiness and improve efficiency in the branch. Seven permanent members of the Parker Awards Board, headed by the USAAVNC deputy commanding general and including one warrant officer and one sergeant major, were selected in August 1993. The USAAVNC garrison commander served as president of the board in 1993. In addition to the 3-160th, other units recognized in their respective categories consisted of the 25th Regiment, Fort Drum, New York, in the combat category; the 421st Medical Evacuation Battalion, Weisbaden, Germany, in the combat service support category, and the 1st Battalion, 212th Aviation Regiment, Aviation Training Brigade, Fort Rucker, in the table of distribution and allowances category. The awards were presented by the chief of staff of the Army in the Army Aviation Museum at Fort Rucker on 30 November.⁹⁴

The annual Army Aviation Association of America (AAAA) awards banquet on 2 December was the occasion of the presentation of Army wide air traffic control (ATC) and other aviation awards. The Combat Support ATC Platoon of the Year award went to the 2nd Platoon, B Company, 3rd Battalion, 58th Aviation Regiment, Ansbach, Germany. Libby Tower, Libby Army Airfield, Fort Huachuca, Arizona, received the ATC Facility of the Year award. The Maintenance Technician of the Year award went to Sgt. Alan J. Moditz, of the 256th Signal Support Company at Fort Rucker. The ATC Manager of the Year award went to Sfc. Stanley S. Revell, B Company, 2nd Battalion, 58th Aviation Regiment, Fort Hood, Texas; and the ATC Controller of the Year award, to Spec. Timothy W. Cantwell, E Company, 3rd Battalion 58th Aviation Regiment, Ansbach, Germany. Cantwell also received the Air Traffic Control Association Special Medallion award.

Other national awards went to aviation units and individuals worldwide. Second Lt. Marc A. Wehmeyer received the AAAA Military Academy Cadet of the Year award, and 2nd Lt. Roy R. Trumble received the AAAA Reserve Office Training Corps (ROTC) Cadet of the Year award. The Air And Sea Rescue award went to the 50th Medical Company (Air Ambulance), Fort Campbell, Kentucky. The recipient of the AAAA Trainer of the Year award was Sfc. Alexander A. Tejada of USAALS.

Several Fort Rucker personnel received awards during the local chapter awards portion of the AAAA banquet. The James H. McClellan Aviation Safety award was presented to CW05 James Raiford of the Aviation Branch Safety Office. Mr. Rickie

⁹⁴Memo ATZQ-AGP-A (672-5-1b), M J Wesley for each board member, 17 Sep 93, sub: appointment memorandum—LTG Ellis D Parker Aviation Unit Awards Board, CG file; Memo ATZQ-AGP-A (672-5-1e), M J Wesley for distr, 27 Oct 93, sub: appointment memorandum..., Garrison Support Command; Army Flier, 3 Dec 93; E-mail note, Col Thomas W Garrett to cdrs/dirs, 29 Nov 93, Chapter I file; "Army Aviation Warfighting Center Newsletter, May 1993.

L. Barron of the Directorate of Evaluation and Standardization received the Joseph P. Cribbins Outstanding Department of the Army Civilian award, and the Aviation Training Brigade (ATB) was awarded the Robert M. Leich award. The Army Aviator of the Year award went to CWO4 James Church of the 1st Battalion, 212th Aviation Regiment, ATB. CWO3 Stephen Woods of the Directorate of Simulation received the AAAA Trainer of the Year award. The Outstanding Aviation Unit award went to the 1st Battalion, 11th Aviation Regiment, ATB.⁹⁵

The Fort Rucker NCO of the Year award for 1993 was slated to be presented to S.Sgt. Sonia R. Patton, Company A, 1st Battalion, 13th Aviation Regiment, 1st Aviation Brigade. The Fort Rucker Soldier of the Year award for 1993 was to go to Spec. Dennis E. Ard, Headquarters, Headquarters Company, 46th Engineer Battalion, 1st Aviation Regiment. These awards were scheduled to be presented on the Center Parade Field in March 1994.⁹⁶

The TRADOC 1993 Reserve Components Transition NCO of the Year award went to M.Sgt. Max Gunthrie. Gunthrie was recognized for his success in helping soldiers leaving active duty to transition into the USAR or ARNG.⁹⁷

In April 1993, General Robinson recommended that Col. Robert B. Kean be awarded the Legion of Merit in recognition of his outstanding leadership at UAAALS-including a period as assistant commandant. In December, the USAAVNC commander nominated the 1st Battalion, 212th Aviation Regiment, ATB, for the Order of Daedalians, Lt. Gen. Allen M. Burdett, Jr., Army Aviation Flight Safety Award for fiscal year 1993. During the fiscal year, the battalion flew a total of 54,616 accident-free hours and 1,317 students.⁹⁸

On 7 September, the members of the 1st Battalion, 212th Aviation Regiment received a bronze safety award for logging over 230,000 accident-free flight hours from October 1989 to July 1993. The battalion had accrued more than 500,000 hours since its last accident. The 212th's 263 military and civilian instructor pilots and 60 enlisted personnel guided initial entry rotary wing students through primary training to combat skills and night-vision goggle training.⁹⁹ On 29 September, the advanced division of the contracted helicopter flight training reached the 250,000 accident-free

⁹⁵Army Flier, 10 Dec 93; Msg 161932Z Jun 93, cdr USAAVNC to AIG, sub: annual air traffic control awards, CG file, also USAATCA; "Army Aviation Warfighting Center Newsletter," Aug 93.

⁹⁶E-mail note, Pamela J Leiva to cdrs/dirs, 7 Feb 94, sub: 1993 NCO and Soldier of the Year, Chapter I file.

⁹⁷Army Flier, 14 Jan 94.

⁹⁸Memo ATZQ-CG, Maj Gen John D Robinson for cdr TRADOC, 5 Apr 93, sub: recommendation for award of Legion of Merit, CG file; Memo ATZQ-S (672-74a), Maj Gen John D Robinson for cdr TRADOC, 13 Dec 93, sub: Order of Daedalians...Safety Award, CG file.

⁹⁹Army Flier, 10 Sep 93.

flying hour mark. Logging the 250,000 hours began on 16 January 1986 and was achieved under three different contractors. The latest contractor, UNC Aviation Services, was responsible for over 143,000 of those hours. The UNC's advanced division taught both undergraduate and graduate courses.¹⁰⁰

The chief of staff of the Army, General Gordon R. Sullivan, visited Fort Rucker twice during 1993. General Sullivan was guest speaker at an Association of the United States Army general membership luncheon on 5 February. He also spent several hours being briefed on various aspects of Army aviation training, doctrine, and equipment during his brief visit. On 30 November, General Sullivan presented the first Lt. Gen. Ellis D. Parker Outstanding Aviation Unit award. He also toured the WOCC, attended a luncheon at the Noncommissioned Officers and Enlisted Club, and rode in the new TH-67 Creek helicopter.¹⁰¹ In his trip report following his February visit, General Sullivan observed that "at Fort Rucker, you can truly see the future of our Army in microcosm." "Quality people from several major commands," he added, were "all working together to realize the potential of our technology. The power of our technology will enable us to be very precise in our application and sustainment of combat power."¹⁰²

Sergeant Major of the Army Richard A. Kidd visited Fort Rucker on 1-3 November. Sgt. Maj. Kidd attended parts of the 1993 Aviation Noncommissioned Officer Symposium.¹⁰³

Gen. Frederick M. Franks, Jr., the TRADOC commander visited Fort Rucker on 2-4 May to conduct an Aviation Branch assessment, visit training, and conduct discussions on aviation readiness and safety. Aviation branch personnel briefed General Franks on Army aviation doctrine, gunnery, crew coordination, environmental issues, new barracks design, changes in USAAVNC and USAALS organization, and several other topics. General Franks visited the WOCC, the simulation facility, and officer and enlisted training sites.¹⁰⁴

On 1 June, Lt. Gen. Wilson A Schoffner, commander of USACAC, visited Fort Rucker to attend the promotion ceremony of General Goodbary. On 16-18

¹⁰⁰Ibid, 8 Oct 93.

¹⁰¹E-mail note, Col Robert N Seigle to cdrs/dirs, 26 Jan 93, Chapter I file; E-mail note, Maj William P Gerhardt to cdrs/dirs, 20 Jan 93, Sub: CSA itinerary; Chapter I file; Army Flier, 12 Feb and 3 Dec 93.

¹⁰²E-mail note, Barbara A Clark to cdrs/dirs, 3 Mar 93, sub: CSA trip report, Chapter II file.

¹⁰³Army Flier, 5 Nov 93.

¹⁰⁴Memo for record ATCG-P, Gen Frederick M Franks Jr, 22 Jun 93, sub: visit to Fort Rucker and Fort Knox, 2-5 May 1993, CG file; E-mail note, Capt Craig R Mack to cdrs/dirs, 7 Apr 93, Chapter I file; E-mail note, Col Thomas W Garrett to cdrs/dirs, 24 Apr 93, Chapter I file; Army Flier, 7 May 93.

November, Lt. Gen. John E. Miller visited Fort Rucker. General Miller succeeded Lt. Gen. Wilson A. Schoffner as commander of USACAC in July 1993.¹⁰⁵

Other U.S. military visitors to Fort Rucker during 1993 included Lt. Gen. Teddy G. Allen, the director of the Defense Security Assistance Agency; Lt. Gen. Samuel E. Ebbesen, commanding general of the Second U.S. Army; Lt. Gen. Henry H. Shelton, commanding general of the XVIII Airborne Corps; Vice Admiral Robert K.U. Kihune, director of naval training; Rear Admiral Robert Spane, the head of Aviation Manpower and Training Branch; and Rear Admiral William B. Hayden, the chief of naval air training.¹⁰⁶

Maj. Gen. Pieter Huysman, the commander of the Multinational European Division, visited Fort Rucker in early March. He presented a thirty-minute briefing on the division to Aviation Center leaders.¹⁰⁷

Other foreign military visitors included the following: General A.K Van der Vlis, chief of the Netherlands Defense Staff; Lt. Gen. D'Auber de Peyrelongue, commanding general of the French Training and Doctrine Command; Maj. Gen. Herzle Bodinger, commander, Israeli Air Force; Maj. Gen. Hsun-Min Tu, commander of the Taiwan Army Aviation Command and Training Center; Maj. Gen. Jose Herrera, chief of operations of Ecuadorian Army; Maj. Gen. Simon W. StJ. Lytle, director, United Kingdom Army Air Corps; Brig. Gen. Young Sik Kim, chief of Korean Army Aviation; Brig. Gen. Gerd Meyer, of the German Embassy, Washington, D.C.; Brig. Gen. Gilberto Bandeira, Brazil; Brig. Gen. Benjamin Zin, Israeli Embassy, Washington, DC; Brig. Gen. Ragnar Knut Oshv, inspector of flying of Norway; and Brig. Gen. Paul Thomas Richard Buckland, director of General Army Health Services of Australia.

Distinguished American civilian visitors included the following: Congressman Terry Everett; Dr. Herbert K. Fallin, Jr., Office of the Assistant Secretary of the Army; Dr. Robert G. Hinkle, deputy under secretary of the Army; Mr. Feliciano Giodano, associate director, Research and Engineering Center, Fort Monmouth, New Jersey; Mr. Wade Heck, military legislative assistant, Washington, D.C.; Mr. Timothy P. Forte, director of aviation safety, Washington, D.C.; Dr. Merrill Skolnik, superintendent, Radar Division, Naval Research Laboratory, Washington, D.C.; Mr. Joseph R. Varady, director, Procurement Policy DSA, Washington, D.C.; Mr. George E. Dausman, assistant secretary of the Army for Research, Development, and

¹⁰⁵E-mail note, Capt D Lee Hackle to cdrs/dirs, 13 July 93, Chapter I file; E-mail note, Col Thomas W Garrett to cdrs/dirs, 7 Oct 93, sub: visit by LTG Miller, Chapter I file.

¹⁰⁶Historical report, Protocol, CY 93.

¹⁰⁷E-mail note, 3 Mar 93, Barbara A Clark for cdrs/dirs, sub: Multinational European Division briefing, Chapter I file.

Acquisition, Washington, D.C.; and Mr. Vincent Roske, deputy director for technical operations, J-8 directorate, Washington, D.C.

Distinguished foreign civilian visitors included the following: Dr. Michael J. Healey, Dr. Roger Cadwallader, and Dr. Timothy Moores of the Ministry of Defence of the United Kingdom; and Dr. M.H. Rejam, United Kingdom Army Air Corps.¹⁰⁸

¹⁰⁸Historical report, Protocol, CY 1993.

CHAPTER II

TRAINING AND LEADER DEVELOPMENT

The Aviation School Board was established at the USAAVNC in 1992 as a council of colonels chaired by the deputy assistant commandant. The purpose of the board was to review proposals, discuss concepts, and resolve issues that related to more than one organization or represented significant changes in policies or programs. The deputy assistant commandant served as facilitator of the board, and members consisted of the commanders of the two USAAVNC training brigades, the director of simulation, and the directors of training and doctrine of both the USAAVNC and the U.S. Army Aviation Logistics School (USAALS).¹ In February 1993, the members of the School Board reviewed the purpose, accomplishments, and the future role of the board with the purpose of determining whether there was a continuing need for it. The School Board continued meeting through 1993 and continued to coordinate training and leader development activities of the various teaching activities; Brigadier General Riggs headed the board after he became deputy commanding general. Most colonels at Fort Rucker who were involved in training, as well as the heads of the Noncommissioned Officer (NCO) Academy and the Warrant Officer Career Center (WOCC), attended meetings. Major concerns of the board during 1993 included the delineation of training and training development responsibilities with the abolishment of the Directorate of Training and Doctrine (DOTD) and the determination and deletion of unnecessary courses.²

It was announced in December 1992 that the Congressionally mandated cuts in Army training would amount to \$80 million. Headquarters, Department of the Army (HQDA), subsequently directed that fiscal year 1993 flight training expenditures be reduced by \$23.3 million.³ The USAAVNC needed \$215 million to train the Army fiscal year 1993 requirement. The decrement of \$23.3 million, coupled with an under funded base operations account and a 3 percent TRADOC command bill, left the USAAVNC \$38 million under funded for fiscal year 1993. It was therefore necessary to adopt major changes in flight training. Prior to the February cut in funding, the Aviation Center was training only 90 percent of the downsized force projections in accordance with HQDA guidance. This reduction was expected to reduce initial entry training to 76 percent of requirements and training in modernized systems (OH-58D, UH-60, CH-47D, and AH-64) to an average of 74 percent of requirements. This

¹Memo ATZQ-DAC, Brig Gen Robert A Goodbary for distr, 1 Oct 92, sub: Aviation School Board charter, DAC file.

²Memo for record ATZQ-TDI (351), Col Thomas W Garrett, 16 Feb 93, sub: School Board meeting, Chapter II file; Transcriptions of oral interviews by author with Col Charles M Burke and Brig Gen (P) John M Riggs, 24 Nov 93 and 23 May 94, oral history file.

³E-mail note, Barbara Clark to XO/OPS personnel, 6 Jan 93.

meant that nearly 500 officers required in the force in fiscal year 1993 would not be trained. The USAAVNC commander directed that the budget decrement be applied in a way that would best preserve the training cadre work force. Initial analyses suggested that the fiscal year 1993 training load would be reduced by a total of 479 persons. The USAAVNC leadership decided to reduce the number of initial entry trainees by 209 and the instructor pilot/advanced qualification courses by 270. At the USAALS, critical military occupational specialties were being trained at only around 80 percent of authorizations. It was expected that the USAALS would have to reduce its output by one-half.

Various economies had been instigated during 1992 and were continuing in 1993. Almost 100 instructor pilots and 170 aircraft maintenance technicians were cut from the force. The multi-track approach to initial entry training ending in qualification of aviators in one of four aircraft was being reduced to dual-track (see below). Advanced aircraft qualifications would be given to only those aviators destined for a specific cockpit. Civilian training development manpower was being reduced by 25 percent and training support civilian manpower by 8 percent. All base operations flying at Fort Rucker was discontinued. While this saved approximately \$1 million, the savings would be partially offset by the cost of required refresher training once the aviators were given flying assignments. The deletion of the air crew training program at the USAAVNC saved approximately \$2 million during fiscal year 1993; this deletion was to be continued for fiscal year 1994. The restructuring of Army aviation would eventually bring about significant savings by removing 3,500 aircraft from the fleet and capitalizing on modern systems over a five-year period. However, some of these savings had to be reinvested in the training base in order for there to be trained aviators and maintenance personnel for the modern systems. It became more necessary than ever in 1993 for the Army to decide how much aviation it required and then to resource the training base accordingly.⁴

By May of 1993, the \$23.3 million cut in the flight training budget had caused training to fall behind the Army requirements by 30 percent. There were already shortages of pilots qualified in modernized aircraft systems in some divisions, and the shortages were exacerbated by the reduction in training.⁵

The Resident Training Management Division of the Directorate of Plans, Training, Mobilization, and Security (DPTMSEC) programmed and arranged most training activities at the USAAVNC. The numbers of personnel for which training was programmed for fiscal year 1993, with corresponding numbers for 1992 were as follows:

⁴Msg 160900Z Feb 93, cdr USAAVNC to cdr TRADOC, sub: impact of reduced flight training funding, CG file; Memo ATZQ-CS, Col Robert N Seigle for HQDA-TR, 16 Feb 93, sub: resource bill for FY 94 MEGA..., CG file.

⁵Msg 031030 May 93, cdr USAAVNC to distr, CG file; Msg 261725Z Apr 93, cdr 101st Abn Div to distr, sub: non-modernized aviators, 101st Abn. Div., CG file.

	FY 93	FY 92
Undergraduate flight training	1,072	1,227
Graduate flight training	2,506	2,772
Advanced individual training	1,145	1,421
Noncommissioned officer training	410	532
Professional development	<u>2,207</u>	<u>2,300</u>
Total	7,340	8,252

Flying hours programmed during the two fiscal years were as follows:

	FY 93	FY 92
Mission	248,262	291,197
Base operations	<u>6,008</u>	<u>8,073</u>
Total	254,270	299,270 ⁶

The total number of persons for whom training was programmed in 1993 was approximately 89 percent of the 1992 number, and the total number of 1993 flying hours was 85 percent of the 1992 hours.⁷ There was a total of 9,577 graduates from all USAAVNC courses at Fort Rucker for which academic records were maintained during 1993, compared to 9,677 during 1992.⁸

A. Initial Entry Rotary Wing Training

During 1993, 427 officers and 511 warrant officers graduated from the common core phase of the Initial Entry Rotary Wing Course. The total of 938 graduates in 1993 compared to 1,161 in 1992, 1,360 in 1991, and 1,576 in 1990. During 1993, 191 officers and 178 warrant officers completed the OH-58 track; 161 officers and 187 warrant officers completed the UH-1 track; 58 officers and 70 warrant officers completed the AH-1 track; and 117 officers and 131 warrant officers completed the UH-60 track.⁹ During fiscal year 1993, 176,643 hours were logged in support of initial entry training.¹⁰

⁶Historical report, DPTMSEC, CY 93; "ACH 1992," pp. 25-26.

⁷See, e g, "ACH 1992," pp. 25-26.

⁸Academic records data, Chapter II file; Academic records data, 1992 Chapter II file.

⁹Academic records data, Chapter II file; "ACH 1992," p. 27.

¹⁰Historical report, ATB, CY 93.

The multi-track approach to initial entry rotary wing training began in 1988, when the TH-55 Osage, the Army's last reciprocating-engine helicopter was retired. The change in 1988 was designed to produce better pilots more efficiently. The TH-55 was replaced as the primary trainer by the UH-1 Iroquois (Huey), which was already used as the transition training aircraft following primary training. The use of the Huey as the primary training helicopter permitted more efficient use of instructor pilots because two students could accompany one instructor pilot. Savings were also realized as a result of the elimination of the transition training from reciprocating-engine to turbine-powered helicopters. In the multi-track training program, students were divided into three groups for the second phase of the initial entry training. One group continued its training in the Huey, and each of the other groups transitioned into the OH-58, the AH-1, or the UH-60.¹¹

For initial entry rotary wing classes beginning after 1 October 1993, multi-track training was replaced by a dual-track approach, using only the OH-58 and the UH-1. This change was necessary to produce the required number of graduates with the resources allocated for fiscal year 1994. The change from multi-track to dual-track deleted advanced combat skills training for two of the more expensive tracks, the UH-60 and the AH-1, from initial entry training. This change produced savings of approximately \$4 million in fiscal year 1993 and an expected estimated savings of \$7.3 million for fiscal year 1994. These savings would be partially offset by conducting UH-60 and AH-1 training in the aircraft qualification courses after students completed initial entry training; however, since aircraft qualification training was less expensive than the contracted initial entry training, some savings would be realized.¹² The last multi-track students were scheduled to complete their training during the summer of 1994.¹³

The U.S. Army Research Institute Aviation Research and Development Activity (ARIARDA) provided an interim adaptation of the multi-track assignment algorithm software package to meet the requirement for dual-track assignments. The ARIARDA also recommended an approach for the development of a final classification system for dual-track training.¹⁴

In December 1993, Shell Army Heliport was changed from an OH-58 basefield to a stagefield. At that time, the 1st Battalion, 212th Aviation, Aviation Training Brigade (ATB), moved its training program and assets from Shell Army

¹¹"United States Army Aviation Center Annual History, 1 January 1988 - 31 December 1988" (Jun 89), pp. 14-17.

¹²Memo ATZQ-CS, Col Robert N Seigle for HQDA DAMO-TR, 16 Feb 93, sub: resource bill for FY 94..., CG file; "Army Aviation Warfighting Center Newsletter," May, Aug 93.

¹³Historical report, ATB, CY 93.

¹⁴Historical report, ARIARDA, CY 93.

Heliport to Lowe Army Airfield. The consolidation of most initial entry training at Lowe Army Heliport was approved in 1992 in an effort to reduce operating and training costs. The cost of the relocation of training and assets from Shell to Lowe was approximately \$69,000. Following the completion of the move, all initial entry rotary wing training was conducted at/from Lowe with the exception of the instrument phase, which continued to be conducted at Cairns Army Airfield under the auspices of the 1-223rd Aviation.¹⁵

Initial entry training costs were expected to be further reduced as the new training helicopter, the TH-67 Creek, became available for initial entry training. From August through October 1993, the USAAVNC sent sixty-two personnel to the Bell Helicopter factory to receive flight and maintenance training for the new helicopter. The first TH-67 initial entry rotary wing class was scheduled to begin on 20 April 1994. By July 1996, core initial entry training was to be done exclusively in the TH-67.¹⁶

In 1993, the USAAVNC exercised the option to renew the contract with UNC Aviation Services of Annapolis, Maryland, for initial entry rotary wing training. The amount of the award was \$24.191 million for the period of 1 October 1993 through 30 September 1994.¹⁷

B. Graduate Flight Training

During calendar year 1993, 128 students graduated from the C-12 Aviator Qualification Course; 163 from the Fixed Wing Multi-Engine Qualification Course; and 172 from other fixed wing courses. The numbers of graduates from these courses during 1992 were 134, 186, and 203 respectively. During 1993, 982 students completed graduate rotary wing qualification and related courses. Of this total, 66 graduated from the AH-1 course, 144 from the CH-47D course, 294 from the UH-60 course, 339 from AH-64 courses, 126 from OH-58D courses, and 13 from an OH-58A/C aerial observer course. In comparison to the total of 982 for 1993, 1,072 aviators graduated from comparable courses the previous year. During 1993, 305 students completed rotary wing instructor pilot courses compared to 289 in 1992, and 247 completed various rotary wing methods of instruction courses, compared to 265 the previous year. A total of 289 students completed various other rotary wing graduate and refresher courses in 1993, compared to 231 in 1992. Twenty-six

¹⁵Memo ATZQ-DPT-P (310-2d), Col David W Swank for distr, 23 Nov 93, sub: MOI for consolidation of 1-112th..., DPTMSEC; Memo ATZQ-DPT, Col David W Swank for chief of staff, 23 Nov 93, sub: request for funding consolidation of 1-212th Avn Reg...,DPTMSEC.

¹⁶Historical report, ATB, CY 93.

¹⁷Amendment of solicitation/modification of contract, DABT01-92-C-0054 (5 Mar 92), 1 Oct 93, DOC.

students completed flight simulator specialty courses in 1993, the same number as in 1992.¹⁸

The USAAVNC developed a plan in 1992 for extending the length of the AH-64 Qualification Course from ten weeks to twelve weeks and two days. This revision was deemed necessary because the rotation of Apache pilots through the Apache Training Brigade at Fort Hood, Texas, had been discontinued, and the new pilots were consequently arriving at their units without an adequate level of combat skills.¹⁹ During 1993, the course was expanded as planned. Individual tactical training and aircraft survivability equipment training were integrated into the revised course. Also, a front-seat, night-system phase and an intense combat mission simulator-based combat skills phase were added. The combat skills phase exposed pilots to employment techniques, crew drills, and other coordination tasks.²⁰

A plan for training the OH-58D crew to perform the armed reconnaissance mission in lieu of the earlier aeroscout mission was developed by the 1-14th Aviation Regiment of the ATB. The training plan developed at the USAAVNC was adopted by air cavalry squadrons in the field for armed reconnaissance mission training.²¹

The USAAVNC exercised two options to extend flight training contracts with Flight Safety International, Inc., during 1993. Both contracts were originally awarded in 1989. Contract number DABT01-90-C-0031 provided for C-12 initial qualification training. It was extended for the period 1 October 1993 through 30 September 1994 in the amount of \$1.135 million. Contract number DABT01-90-0034 provided for fixed wing multi-engine qualification training. It was extended for the same time period in the amount of \$7.779 million (192 students at \$40,513 each). The fixed wing multi-engine training was conducted through an innovative "turnkey" approach to contracting; the Army provided the student, and the contractor provided everything else (facilities, aircraft, flight instructors, aircraft maintenance, services, and fuel).²²

C. International, Joint, Combined, and Shared Training

During 1993, over 420 international military students attended a wide range of courses at the USAAVNC, including the Advanced and Basic Officer Courses and

¹⁸Academic records data, Chapter II file; Academic records data, 1992 Chapter II file.

¹⁹"ACH 1992," p. 30.

²⁰"Army Aviation Warfighting Center Newsletter," May, Aug 93; Historical report, ATB, CY 93.

²¹Historical report, ATB, CY 93.

²²Amendment of solicitation/modification of contracts, 578147-L400-0201 and 578147-L400-0301, both signed on 20 Sep 93, DOC; Historical report, DOC, CY 93.

various aircraft qualification courses.²³ Twenty-nine NATO students completed phase one, and twenty eight completed phase two of the Initial Entry Rotary Wing Course.²⁴

During 1991, details were worked out for a joint arrangement between the USAAVNC and the U.S. Army School of the Americas for the training of Spanish speaking helicopter pilots in their native language at Fort Rucker. The Helicopter School Battalion of the School of the Americas was activated at Fort Rucker on 2 December 1991 to administer this training program.²⁵ In 1992, a similar program to provide Spanish language maintenance training was established by the USAALS at Fort Eustis.²⁶

During calendar year 1993, 161 students graduated from Spanish language aviator courses. This number compares with 172 graduates during 1992 and 120 during 1991. Of the total graduates from Spanish language aviator courses during 1993, twenty-two graduated from the Helicopter Pilot Course, twenty-six from the UH-60FS Course, six from the UH-60 Transition Course, two from the UH-60 Night Vision Goggle Course, twelve from the UH-1 Transition Course, eight from the UH-1 Instructor Pilot Course, seven from the UH-1 Night Vision Goggle Qualification Course, and seventy-two from the UH-1FS Instrument Refresher Course. Additionally, twenty-nine students graduated from the Spanish language 67N10 Advanced Individual Training Course.²⁷ Students enrolled in Spanish language courses during calendar year 1993 were from the armed forces or the police of the following countries: Colombia, Ecuador, Peru, Paraguay, Mexico, El Salvador, and Bolivia.²⁸

During 1993, the lack of adequate funding and support from outside the USAAVNC for these Spanish language training programs necessitated a comprehensive review of the Spanish language training program. The USAAVNC could not afford to provide training without complete reimbursement.²⁹ Several representatives from the USAAVNC at Fort Rucker and TRADOC, along with representatives from the USAALS and the School of the Americas were involved in

²³Historical report, 1st Avn Bde, CY 93.

²⁴Academic records data, Chapter II file.

²⁵"ACH 1991," pp. 25-26.

²⁶"ACH 1992," pp. 47-48.

²⁷Academic records data, CY 93, Chapter II file; "ACH 1992," p. 37.

²⁸"Helicopter School Battalion, U.S. Army School of the Americas, Background Information," 21 Jan 94, HSB.

²⁹E-mail note, Maj Gen Dave Robinson to Brig Gen John M Riggs, 9 Nov 93, sub: Spanish speaking helicopter training, DRM.

the review of the program. Training funds to support the program had been reduced by approximately 50 percent; training levels were to be correspondingly reduced. Manpower would also be reduced, and the workload would be kept stable so as to make efficient use of manpower. TRADOC agreed to increase the enlisted and civilian manpower authorizations so as to parallel the workload. The existing shortage of warrant officers was expected to disappear with the reduced training load. The manpower shortage at the USAALS was to be addressed by TRADOC's providing additional civilian authorizations. TRADOC also agreed to ensure that the funds for these authorizations went to the USAALS and not to Fort Eustis.³⁰

The USAAVNC requirements for use of the combat mission simulator increased substantially in 1993. The Fort Rucker simulators were operating at 75 percent for the AH-64 qualification course classes alone. When other Fort Rucker organizations and classes were added, there was practically no time remaining. Therefore, the USAAVNC informed the Israeli Air Force that Fort Rucker would not be able to continue to support Israeli combat mission simulator training. It was suggested that the Israelis should consider moving their AH-64 simulator training to Germany, where the combat mission simulator was operating at only 61 percent of its capacity.³¹

During 1993, thirty-six U.S. Air Force pilots graduated from the UH-1 Rotary Wing Qualification Course. These consisted of twenty-one active duty and fifteen reserve component officers. Eight Air Force pilots, all reserve component, completed the UH-60 Aviator Qualification Course in 1993.³² The Air Force reduced the numbers of pilots sent to Fort Rucker for helicopter training during fiscal years 1991 to 1993 because of a surplus of helicopter pilots. During calendar year 1992, only eleven Air Force pilots (six active duty and five reserve component) completed the Rotary Wing Qualification Course, and none completed other courses.³³

The Joint Readiness Training Center sponsored an aviation seminar in January 1993. Army participants included aviation brigade and battalion commanders and representatives from Medical Evacuation (MEDEVAC) units, MEDEVAC Proponency Office, and from Air Defense, Armor, and Aviation centers. The USAAVNC planned to conduct tactical seminars at Fort Rucker incorporating trends

³⁰E-mail note, Howell Flowers to Brig Gen John M Riggs, 9 Nov 93, sub: Spanish speaking helicopter training, DRM; Historical report, DRM, CY 93.

³¹Ltr Maj Gen John D Robinson to Brig Gen Benjamin Zin, 31 Aug 93, CG file.

³²Historical report, Det 1/14th FTW, CY 93.

³³"ACH 1991," p. 21; Historical report, Det 1/14th FTW, CY 92.

and discussion from all three combat training centers and to cover aviation employment throughout the continuum of military operations.³⁴

The USAAVNC considered the proper integration of aviation into every rotation at the combat training centers to be a critical element in the USAAVNC aviation training strategy.³⁵ There was, however, a shortage of personnel at the National Training Center (NTC) to support this broader aviation involvement. The USAAVNC supported the efforts of the NTC to increase its table of distribution and allowances (TDA) to cover the additional missions placed upon the operations group at Fort Irwin. An evaluation team for the aviation brigade tactical operations centers was deemed to be a high payoff utilization of manpower. Providing an evaluation capability for a full-up aviation blue cell would not only improve aviation warfighting skills, but it would also help train the entire combined arms team. The USAAVNC, however, was unable to augment the operations group to accommodate an aviation blue cell rotation. The Fort Rucker TDA was supported for only 80 percent of its current requirement. The USAAVNC's proposed solution, until the National Training Center's TDA could reflect its requirements, was to continue evaluating the aviation brigade tactical operations centers with augmentees from Forces Command.³⁶

Significant improvement in opportunities for Army aviation to play a realistic role in combat training center rotations occurred during 1993 with the improvement and deployment of the multiple integrated laser engagement system/air ground engagement simulation II (see Chapter III). The combat training centers, however, continued to be primarily concerned with training and testing mounted task forces in close-fight scenarios. While aviation's mission included the close fight, some aviation leaders were beginning to doubt that these training centers' concentration on the close fight was realistic in the post-Cold War world of limited engagements and operations-other-than-war. Aviation's ability to destroy the enemy while standing off and without taking the casualties normally associated with the close fight caused its involvement in combat training center exercises, as they were currently configured, to be somewhat less significant.³⁷

During the latter part of 1993, the USAAVNC prepared to support a synthetic theater-of-war exercise to be conducted by U.S. Army Europe (USAREUR) as part of

³⁴Memo ATZQ-GG, Maj Gen John D Robinson for avn cdrs, 24 Mar 93, sub: Joint Readiness Training Center seminar, CG file.

³⁵Msg, 171635Z May 93, cdr USAAVNC to cdr USACAC, sub: support of CTC aviation initiatives, CG file.

³⁶Memo ATZQ-CG, Maj Gen John D Robinson for Brig Gen William L Nash, 25 May 93, sub: TDA increase at the NTC, CG file.

³⁷Transcript of oral interview by author with Brig Gen (P) John M Riggs, 23 May 94, oral history file. See also, transcript of oral interview by author with Col Charles M Burke, 24 Nov 93, oral history file.

Reforger 94. The simulators at Fort Rucker were to be linked with those in Europe to provide assistance in preparing the necessary battlefield scenarios.³⁸

The USAAVNC continued to promote shared training with other Army combat arms branches. Several aviation officers attended advanced courses at the infantry, armor, and other branch schools, but officers from other branches had not begun attending the Aviation Advanced Course. However, several officers from other branches attended the five-week USAAVNC Aviation Warfighting Course during 1993.³⁹

Two ARNG aviation training sites were established during the late 1970s for training ARNG aviators in systems found almost exclusively in the reserve components. Aviators were trained in modernized aircraft at these sites as the reserve components phased out the older aircraft. In 1993, the vice chief of staff of the Army suggested a shared training arrangement at these sites and at Fort Rucker involving both active and reserve components. The USAAVNC took issue with the vice chief's proposal. Because of funding constraints, the Aviation Center was operating at only approximately 50 percent of capacity. Therefore no efficiencies could be realized by transferring or sharing systems training responsibilities with the ARNG training sites; the reverse would more likely be the case. The USAAVNC proposed instead that the ARNG training sites continue to conduct modernized training to meet their requirements that could not be met at Fort Rucker because of resource constraints. The training sites would thereby be available for the immediate expansion of the USAAVNC in the event of a mobilization emergency or other contingency. For such requirements, the ARNG sites would come under the command and control of the commanding general of the USAAVNC.⁴⁰

D. Simulation and Simulator Training

A new program, using video cameras in flight simulators to record crew interactions, was developed for crew coordination training. Pilot tests showed significant differences among crews on cockpit teamwork. High technology cockpits demanded high technology crew coordination. This training program was expected to significantly enhance aviation safety and improve mission proficiency. The DA approved the concept. The USAAVNC prepared to send training teams (to train trainers) to eight active duty and two ARNG locations during a two-year period. The

³⁸Memo ATZQ-DS, Maj Gen John D Robinson for Gen David M Maddox, 15 Nov 93, sub: STOW-E, CG file.

³⁹Transcripts of oral interviews by author with Col Charles M. Burke and Brig Gen (P) John M Riggs, 24 Nov 93 and 23 May 94, oral history file.

⁴⁰Memo ATZQ-CG, Maj Gen John D Robinson for vice chief of staff, Army, 20 Sep 93, sub: ARNG roles and missions--RCCC tasking 93-07, CG file.

exportable training package consisted of two courses: a fifty-one hour Aircrew Coordination Trainers Course and a thirty-eight hour Aircrew Coordination Course.⁴¹

The USAAVNC School Board studied the question of whether Janus and battalion/brigade simulation training needed to be established at Fort Rucker. Janus training was scheduled for fiscal year 1994 and would require sixteen work stations and two computers. Battalion/brigade simulation, scheduled for fiscal year 1995 would require ten work stations and five computers. It was concluded that both Janus and battalion/brigade simulation were needed at Fort Rucker. The Directorate of Combat Development (DCD) building 107 would be the Janus location, and a new simulator training center for battalion/brigade simulation would possibly be available by fiscal year 1995.⁴²

During 1993, the Aviation Test Bed continued to exploit the advantages of networked virtual simulation in training, warfighting exercises, and demonstrations. The test bed provided an opportunity for all aviation officers to interactively execute the plans they developed in the Aviation Basic and Advanced Courses. They thereby had opportunities to appreciate the difficulty in maneuvering, massing, and synchronizing combined arms forces on a battlefield. During 1993, the Aviation Pre-Command Course was moved to the Aviation Test Bed facility, which provided these senior aviators greater opportunity for simulator training. Active duty aviation units from Forts Campbell, Bragg, and Stewart also trained at the Aviation Test Bed.

The test bed was also the focus for the USAAVNC's participation in the War Breaker series of exercises. The 1993 phase of this series was called Zealous Pursuit. During the week-long event in September, a central planning cell at Fort Belvoir, Virginia, fed planning and targeting data to a battalion headquarters and manned simulators in the Aviation Test Bed. The simulated battalion performed a flanking maneuver to catch and destroy low-dwell targets critical to the theater commander. Although some technical networking problems limited the effectiveness of the simulated battalion in executing its mission, much was learned about command interaction and the limitations of the system.

The USAAVNC School Board decided in 1993 to modify the Initial Entry Rotary Wing Training Course, the Aviation Officer Basic Course, and the Aviation Officer Advanced Course to include the use of the aircraft survivability equipment trainer II. The change would provide students a complete introduction to the

⁴¹"Army Aviation Warfighting Center Newsletter," May 93; "Army Aviation Warfighting Bulletin, Dec 93.

⁴²Memo for record, ATZQ-TDI (351), Col Thomas W Garrett, 16 Feb 93, sub: School Board meeting, Chapter II file.

survivability equipment associated with their assigned airframe, which would coincide with training already being given in the field.⁴³

Operations during Desert Storm identified a need to improve performance in aircraft survivability and electronic warfare. During 1992, a mobile training team concept was developed for the short term and a formal course to qualify aircraft survivability equipment/electronic warfare officers was planned. These plans were implemented in 1993. The mobile training team scheduled six training sessions at various locations during 1993 and one for early 1994. The USAAVNC resident course was scheduled to begin in October 1994. One warrant officer from each company with aircraft assigned in each table of equipment organization was to be trained. The additional skill identifier of the training would be designated H3.⁴⁴

The Aircraft Survivability Training Management Division of the Directorate of Simulation (DOS) acted as the training management agency for the USAAVNC for all functions and actions associated with the training, technical manual validation, and training development of aircraft survivability equipment. In addition, the division developed and fielded a mobile training team for the initial training of electronic warfare officers for the new additional skill identifier H3. The mobile training team produced over 200 qualified officers at seven locations around the world. Initial school training at the USAAVNC was scheduled for October 1994.⁴⁵

Computer based instruction was used in enlisted training during 1993 to enhance the training program in control tower operations. The Quest software package was used. The development of the Data Automated Tower System, a control tower simulator to train air traffic control specialists, began in 1993.⁴⁶ The USAAVNC (1-13th) was scheduled to receive four data automated tower simulators in June 1993 to replace the static tower control labs theretofore in use. The new simulators would produce computer-generated images of aircraft and vehicles in lieu of the plastic models manually moved on magnetic boards by instructors. Air traffic control training would therefore become much more realistic. The purpose of the new simulators was to teach how to sequence aircraft while maintaining aircraft flow

⁴³Historical report, DOS, CY 93.

⁴⁴Memo ATZQ-DSA (70-17a), Col Robert N Seigle for distr, [early 1993], sub: aircraft survivability equipment/electronic warfare officers course, also encls, DOS.

⁴⁵Memos ATZQ-DSA (70-17a), Col Palmer J Penny for dir AP, 21 Apr, 10 Jun, 1 Sep 93, sub: graduates of Aircraft Survivability Equipment/Electronic Warfare Officer Course..., DOS; Historical report, DOS, CY 93.

⁴⁶Historical report, 1st Avn Bde, CY 93.

and spacing.⁴⁷ However, the new simulators were not received during calendar year 1993.⁴⁸

E. Enlisted Training at Fort Rucker

A total of 1,343 enlisted soldiers completed advanced individual training at Fort Rucker during calendar year 1993. This number compared to 1,402 during 1992 and 1,350 during 1991. The numbers of students completing each advanced individual training class in 1992 were as follows: 93B10--141; 93C10--136; 93P10--519; 67N10--274; 67V10--244; and Spanish language 67N10--29. Additionally, thirty-five noncommissioned officers completed the Flight Engineering Instructor Course.⁴⁹

During 1993, some aviation units restricted the utilization of enlisted aerial observers during night and night vision goggle flight. As a safety measure, battle rostered crews of two rated aviators was the preferred option. The USAAVNC inquired as to how widespread the practice was so as to determine whether night vision goggle training should be continued in the enlisted aerial observer course.⁵⁰

F. Other Training

In February 1993, the USAAVNC scheduled seven, two-week mobile training team-conducted courses in aircrew survivability equipment/electronic warfare training at five field locations in the U.S., Korea, and Germany. Each company with aircraft assigned was to designate an officer or warrant officer to receive the training, after which he or she would become the aircraft survivability equipment/electronic warfare officer for the company. The USAAVNC resident training would start in late 1995. It was tentatively planned that DOS, ATB, and 1st Aviation Brigade would pool resources under DOTD, which would teach all aircrew survivability equipment courses.⁵¹

⁴⁷Army Flier, 23 Apr 93.

⁴⁸Memo ATZQ-BDE-P, Capt Jan T Swicord for cmd hist, 6 Jun 94, sub: 1993 annual command history--staffing, 1st Avn Bde.

⁴⁹Academic records data, Chapter II file.

⁵⁰Msg 051200Z May 93, John D Robinson to distr, sub: utilization of enlisted aerial observers..., CG file.

⁵¹Memo ATZQ-DSA (70-17a), Col Robert N Seigle for distr, 23 Feb 93, sub: aircraft survivability equipment/electronic warfare officers course, CG file; Memo for record ATZQ-TDI (351), Col Thomas W Garrett, 16 Feb 93, sub: School Board meeting, Chapter II file.

A USAAVNC mobile training team conducted two iterations of the Aircraft Survivability Equipment/Electronic Warfare Officers' Course in 1993. Fifty students completed the first class at Fort Campbell in May. The second class began at Fort Hood in August. The plans were to train as many units as possible prior to the resident course beginning at Fort Rucker in October 1994.⁵²

The scope and content of maintenance training for all officer professional development courses were revised in 1993. Hands-on practical exercises (including flight line maintenance, unit level logistics system, flying hour management, maintenance flow charts, man-hour productivity, and interpretation and management of aircraft logbooks) were added to the training program.⁵³

During April 1993, sixty-eight personnel and twelve aircraft of the 2-229th Attack Helicopter Regiment deployed to the Joint Readiness Training Center for training. Company B of the 2-229 conducted tests of the second generation Hellfire missile at Eglin Air Force Base, Florida, in February.⁵⁴ From 15 to 20 May, the 2-229th participated in a deployment to Yuma, Arizona. The 2-229th performed crew and company level gunnery qualification using the draft version of the new TC 1-40, "Attack Helicopter Gunnery." Both day and night tables were conducted. The battalion conducted table VI gunnery exercises on Fort Rucker in November. A 2-229th crew fired the Army's 1000th Hellfire missile at Eglin Air Force Base on 1 October 1993.⁵⁵

The USAAVNC Air Assault School conducted eleven regular air assault classes, two critical leaders classes, and five rappel master classes during 1993. The graduates from each totaled 1,050, 40, and 25 respectively.⁵⁶

Door gunnery training was redesigned to provide a better battle rostered crew. The Aviation Center worked with the national training centers to add multi-ship live fire into tactical scenarios.⁵⁷

Both Company A and Company B of the 46th Engineering Battalion deployed to the National Training Center for training and to support training operations during

⁵²"Army Aviation Warfighting Center Newsletter," Aug 93.

⁵³"Army Aviation Warfighting Center Newsletter," May 93.

⁵⁴Historical report, 1st Avn Bde, CY 93; Memo AFFR-BAH-B, Capt Francis S Pacello for cdr 1-229th, sub: HOMS II...schedule, 1st Avn Bde.

⁵⁵Information paper ATZQ-TMD-A, Capt. Mazarella, 28 Mar 93, sub: ATAC II confirmation study..., 1st Avn Bde; Historical report, 1st Avn Bde, CY 93.

⁵⁶Historical report, 1st Avn Bde., CY 93.

⁵⁷"Army Aviation Warfighting Center Newsletter," May 93.

1993. Company A deployed during March and Company B during April and May. Company A also deployed to El Salvador during October and November. The company constructed schools and medical facilities in a joint exercise with Panamanian and Salvadoran soldiers.⁵⁸ The 46th Engineers also combined training with community service in performing construction services for Boy Scout and Girl Scout camps, and several nearby communities.⁵⁹

Elements of the 46th Engineering Battalion from Fort Rucker departed for Colombia in December 1993 on an operation called Exercise Fuertes Caminos 94 South. The training exercise was conducted northwest of the city of Cali. The purpose of the exercise was to provide training opportunities while demonstrating continued U.S. support for strengthening democracy in Colombia and assisting its people. The engineering units, assisted by Colombian government personnel, were slated to build access roads and construct a medical clinic and school in the Colombian province of Valle del Cauca.⁶⁰ The advance party departed Fort Rucker for Colombia on 26 December 1993.⁶¹

Several short courses were conducted by the U.S. Army School of Aviation Medicine during 1993. Four classes with a total of 112 students (compared to 128 during 1992) completed the Flight Medical Aidman Course. There were five iterations of the Aeromedical Evacuation Officers Course with a total of 199 students (compared to 104 students in 1992). Three classes of the Army Flight Surgeon Primary Course were conducted for 118 students (compared to 112 students in 1992). Twelve students graduated from the Aeromedical Psychology Training Course in one class during 1993. The Operational Aeromedical Problems Course was conducted in Aurora, Colorado, in March of 1993. There were 133 trainees, compared to 145 for that course in 1992.⁶²

During 1993, the Reserve Component Support Division of DPTMSEC provided coordination of training and administrative and logistical support for twenty-six USAR centers, fifty-six USAR units, six senior ROTC schools, and fifty-five junior ROTC schools. The division also provided billeting messing, and training site support for 1,778 reservists on annual training.⁶³

⁵⁸Historical report, 1st Avn Bde, CY 93; Travel orders, Fort Rucker numbers 04-671 and 10-509.

⁵⁹FRAGOs 92-130 (Dec 92), 93-31 (May 93), 93-38 (May 93), and 93-52 (Jun 98), 1st Avn Bde.

⁶⁰Washington Post, 19 Dec 93.

⁶¹Memo ATZQ-BDE-P, Capt Jan T Swicord for cmd hist, 6 Jun 94, sub: 1993 annual command history--staffing, 1st Avn Bde.

⁶²Historical report, USASAM, CY 93.

⁶³Historical report, DPTMSEC, CY 93.

A memorandum of agreement was concluded between the ATB and the ATB Augmentation, which documented the need for the Fort Rucker mobilization station to retain a current and qualified cadre of aviation flight instructors. The ATB Augmentation normally maintained its mobilization proficiency through administration of the Ready Reserve Aviator Training Program. Since this program was not funded in fiscal year 1993, the ATB Augmentation maintained proficiency (and also assisted the USAAVNC training effort) through the integration of its aviators into the ATB manpower pool. During 1993, ATB Augmentation personnel were detailed throughout the installation. Drilling individual mobilization augmentees who trained throughout the year reported to the unit they supported during drill periods, with the primary mission of completing their required flight hours for currency. The unit held two mandatory training periods during the year; these meetings, on 23 January and 31 July, consisted of presentation of required training subjects, safety and standardization meeting, and training plans for the upcoming period.⁶⁴

During 1993, the Staff and Faculty Development Division of DOTD trained a total of 597 students. The division also conducted 106 instructor evaluations, provided training support to the Directorate of Civilian Personnel in supervisory training courses, and hosted the Brazil/U.S. Army staff talks.⁶⁵

Effective 19 July 1992, the USAAVNC established the Executive Steering Committee for Total Army Quality. This committee, headed by the USAAVNC commander, established policy, direction, and goals for the overall total quality management effort at the Aviation Center and in the Aviation Branch. The commander designated the Directorate of Resource Management (DRM) as the agency responsible for developing and implementing total army quality concepts for the USAAVNC. This was to be accomplished through the Total Quality Management Division, established in the DRM to develop, publish, and implement the steering committee policy and plans and to serve as the command facilitator for the program.⁶⁶

The DRM developed and distributed a "Total Army Quality Process Improvement Guide" to be used by the process action teams on post in making continuous improvements on management processes. During 1993, DRM trained 1,409 installation employees in the principles of total quality management. The cost of obtaining the training on the commercial market would have cost a minimum of \$147,500, but the DRM provided the training for \$14,846, for a cost avoidance of

⁶⁴Historical report, ATB Aug, CY 93.

⁶⁵Historical report, DOTD, CY 93.

⁶⁶"Charter of the Total Army Quality Executive Steering Committee, U.S. Army Aviation Center and Aviation Branch," approved by Maj Gen John D Robinson, CG file; Memo ATZQ-RQM, Maj Gen John D Robinson for distr, 4 Jan 93, sub: Total Army Quality, DRM.

\$132,654. An additional cost savings of \$9,000 resulted from the DRM's providing training for two process action teams.⁶⁷

According to directives from TRADOC and DA, all soldiers and civilian employees at Fort Rucker were to receive one hour of ethics training during 1993 in compliance with a new ethics regulation. The OSJA conducted this training at Fort Rucker. Between 1 May and 31 December, attorneys from the OSJA instructed 3,007 soldiers and federal employees on new ethics rules.⁶⁸

G. Commissioned Officer Leader Development

As a result of changes implemented in 1993, leadership development courses came to offer officers more combat flavor. This was achieved by deleting redundant material and establishing additional field training exercises and doctrinal instruction. The expected results were better, more knowledgeable, and more flexible field leaders.⁶⁹

Eighty-two officers completed the Pre Command Course during calendar year 1993.⁷⁰ This number compares to eighty-one graduates in 1992, and eighty-three in 1991.⁷¹ During the latter part of 1993, the Pre-Command Course was relocated from building 5302 to building 5101. The space reserved for the Pre-Command Course was being utilized less than 10 percent of the time, and that space was needed by the WOCC to accommodate expanding student loads. The new location of the Pre-Command Course in the Aviation Test Bed was advantageous to the students in the course in several respects and also did not monopolize space for limited use.⁷² No other major changes were made in the Pre-Command Course during 1993, but the course content remained flexible so as to meet the needs of students in each class.⁷³

⁶⁷Memo ATZQ-RQM, Lt Col Stephen D Milburn for distr, 2 Sep 93, sub: Total Army Quality, DRM; Historical report, DRM, CY 93.

⁶⁸Memo ATJA, John P Herrling for distr, 31 Mar 91, sub: ethics training, CG file; Historical report, OSJA, CY 93.

⁶⁹Memo ATZQ-BDE (870-5), 19 Mar 94, Col Albert L Patterson III for cmd hist, 19 Mar 94, 1st Avn Bde.

⁷⁰Academic records data, Chapter II file.

⁷¹"ACH 1992," p. 40.

⁷²Memo ATZQ-DPT, Col David W Swank for distr, 21 Sep 93, sub: movement of Pre Command Course, CG file.

⁷³1st end ATZQ-TDS, (ATZQ-MH) (870-5), Col Palmer J Penny, 13 Jun 94, sub: 1993 annual command history staffing, DOS.

There were 365 graduates from the Aviation Officer Advanced Course in calendar year 1993. For comparison, there were 436 graduates in 1992 and 378 in 1991.⁷⁴ The 1993 graduates included five members of the Egyptian Air Force (one colonel and four lieutenant colonels), who were preparing to become the first Egyptian AH-64 brigade and battalion commanders.⁷⁵

During 1993, there were 350 graduates from phase one and 417 from phase two of the Aviation Officer Basic Course. The corresponding numbers of graduates in 1992 were 518 and 486. There were 334 graduates from the Officer Professional Development Course in 1993.⁷⁶

H. Warrant Officer Leader Development

In accordance with the Warrant Officer Leader Development Plan, the Warrant Officer Career Center (WOCC) made major changes in the warrant officer training and leader development program during 1993, the first full year of the WOCC. As a result of the changes in warrant officer training during 1993, the total student load was expected to increase by approximately 600 students in fiscal year 1994.

The Warrant Officer Candidate School, which operated as the 1st Warrant Officer Company, came under the command and control of the WOCC on 13 January 1993. The candidate school remained a high-stress six-week course for all branches and components and had a renewed focus on officer and leadership skills. In March 1993, proponency for common core warrant officer military qualification standards development was transferred from the USACAC to the WOCC.⁷⁷ During 1993, 404 Aviation Branch and 549 non-aviation warrant officers graduated from the Warrant Officer Candidate School.⁷⁸

A new four-week course, Warrant Officer Professional Development, began in February 1993 as the final phase of initial entry rotary wing training. The new course had been planned and developed over a period of eighteen months and was modeled after the Officer Professional Development Course, but modified to address

⁷⁴Historical records data, Chapter II file; "ACH 1992," p. 40.

⁷⁵Historical report, 1st Avn Bde, CY 93.

⁷⁶Academic records data, Chapter II file.

⁷⁷"Army Aviation Warfighting Center Newsletter," May 93; Memo for record ATZQ-DCG (680-1b), Maj Gen Robert A Goodbary, 18 Jun 93, sub: elimination process for warrant officer students, CG file; Memo ATZQ-WCC (340), CWO5 David E Helton for DPTMSEC, 18 May 93, sub: building 5302 classrooms, CG file; Fact sheet ATZQ-WCC, dir WOCC for distr, 20 Jan 93, sub: implementation plan Warrant Officer Leader Development Action Plan, WOCC.

⁷⁸Academic records data, Chapter II file.

warrant officer specific issues. The new course, consisting of three weeks of academic instruction and one week of field training exercises, emphasized warfighting skills to better prepare the aviation warrant officer for real life situations. The instructors of the course were selected for their combat experience and skills in aircraft. As a result of modifications in warrant officer candidate and rotary wing training, the total length of initial entry training did not increase; it remained 220 days.⁷⁹ During 1993, there were 411 graduates from the Warrant Officer Professional Development Course.⁸⁰

Phase one of the new Warrant Officer Advanced Course was a non-resident, common core distributive education course requiring approximately eighteen months to complete. It was made required training for all CWO2s prior to their attending their branch-specific resident advanced courses, but it did not affect promotion to CWO3. The WOCC made the first mailing of this new non-resident course on 15 April 1993. One hundred and two students completed this course during 1993.⁸¹

Phase two of the Aviation Warrant Officer Advanced Course replaced the Aviation Senior Warrant Officer Course. The new course was an eleven-week, aviation-specific, resident training course for all aviation warrants selected for promotion to CWO3 and who had completed the non-resident phase. Small group instruction was used in the course. There were 209 graduates from this course during 1993.

The Warrant Officer Staff Course was a new course based on the former Master Warrant Officer Course. The new course began in October 1993. It was a five-week course, using small group instruction, and offered for all active duty and reserve component warrant officers who had been selected for promotion to CWO4. The course curriculum stressed safety/risk assessment, military history, sexual harassment, senior leadership, threat, and total fitness. The final iteration of the Master Warrant Officer Course was in August and September 1993. Seventy-four active duty and twenty-three reserve component warrant officers graduated from the Master Warrant Officer Training Course prior to October 1993. Twenty-four warrant officers graduated from the new Warrant Officer Staff Course during the latter part of the year.

Warrant officers, upon being selected for promotion to CWO5, would automatically be selected for the new Warrant Officer Staff Senior Course, which replaced the Master Warrant Officer Training Course in some respects. This two-

⁷⁹Army Flier, 5 Feb 93; Memorandum of agreement, CWO5 David Helton and Col Charles M Burke, 12 and 11 Jan 93, sub: delineation of responsibilities between the WOCC and DOTD, WOCC; Historical report, 1st Avn Bde, CY 93.

⁸⁰Academic records data, Chapter II file.

⁸¹"Army Aviation Warfighting Center Newsletter," May 93; Historical report, WOCC, CY 93.

week course was designed to prepare selected warrant officers (approximately 100 per year) for positions of greater responsibility throughout the Army. It was scheduled to begin in 1994.⁸²

I. Noncommissioned Officer Leader Development at Fort Rucker

During calendar year 1993, 107 NCOs graduated from the Advanced NCO Course. This number compared to ninety-seven graduates in both 1992 and 1991. Of this total, fourteen completed 68P40; thirty-one completed 93C40; eight completed 93D40; and fifty-four completed 93P40.

The Basic NCO Course graduated 274 students during 1993. For the purpose of comparison, there were 346 graduates in 1992 and 298 in 1991. The number was unusually high in 1992 because of delays in enrollment resulting from Operations Desert Shield/Storm. The 1993 Basic Course graduates were distributed among the various courses as follows: 93B30--thirty-eight; 93C30--sixty-nine; 93D30--five; 93P30--sixty-four; 68L30--twenty-six; 68N30--forty-eight 68Q30--fourteen; and 68R30--ten.⁸³

New plans of instruction were developed for the following courses and implemented (during the indicated month) by the NCO Academy during 1993: 93C40 (July); 93D40 (November); 93P40 (May); 68L30 (June); 68R30 (March); 93P30 (December).⁸⁴

During General Franks' visit to Fort Rucker in June, Advanced Noncommissioned Officer Course students expressed to him that the level of instruction in two areas (preventive maintenance checks and services and nuclear, biological and chemical) was too low. The programs of instruction for the blocks of instruction were mandated by the Sergeants Major Academy, however, and could not be changed without an exception to policy. Proposals for modification were developed, and exceptions to policy were requested from the Sergeants Major Academy in July. The modifications changed the approach from small group

⁸²Memo ATZQ-WCC (340) CWO5 David E. Helton for DPTMSEC, sub: building 5302 classrooms, CG file; Academic records data, Chapter II file; "Army Aviation Warfighting Center Newsletter," May 93; Army Flier, 15 Oct 93.

⁸³Academic Records Office data, Chapter II file; "ACH 1992," p. 44; Historical report, NCO Academy, CY 93.

⁸⁴Historical report, NCO Academy, CY 93. Copies of the new programs of instruction are in the Aviation Branch History Office, 1993 Historical File, NCO Academy.

instruction to field training exercise with the noncommissioned officers working as team leaders and supervisors of advanced individual training students.⁸⁵

J. Aviation Logistics Training and Leader Development

Late in 1993, two critically important aviation logistics training programs at Fort Eustis were threatened--one by the discontinuation of support by Martin Marietta and the other by funding shortfalls at the U.S. Army Aviation and Troop Command (ATCOM). When Martin Marietta Corporation withdrew technical support of a critical pilot night vision system program, the USAALS contributed funds so that it could continue. Shortly afterwards, ATCOM requested that the USAAVNC/USAALS provide \$800,000 funding support to fulfill the terms of a weapons systems training contract between McDonnell Douglas Training Systems and ATCOM. The USAAVNC declined to assume responsibility for the existing contract because the USAALS was already 27 percent under funded and had a fiscal year 1994 unfinanced requirement of \$3.6 million. The USAAVNC rejected changes in support philosophy proposed by ATCOM but suggested that should the aircraft proponent be unable to continue operating under the existing system-peculiar/single-supplier support arrangement, a support system could be devised that could be accommodated within TRADOC and managed within USAALS; the USAAVNC suggested that management from the USAAVNC/USAALS level would probably be more cost efficient.⁸⁶

During calendar year 1993, the USAALS trained 5,155 students. The total numbers of students trained by USAALS in 1991 and 1992 were 4,134 and 4,365 respectively. Of the students trained in 1993, 634 were officers, 1,035 were noncommissioned officers (advanced and basic courses), 3,168 were enlisted, and 318 were officers and enlisted students given aviation life support equipment training.

Of the students trained in 1993, 2,913 were skill level 1 (advanced individual training) students trained in career management field 67. Over 900 more students received this training in 1993 than in 1992. Of the students given skill level 1 training in 1993, 405 were trained in 67R, 111 in 67S, 636 in 67T, 355 in 67U, 113 in 67Y, 149 in 68B, 218 in 68D, 144 in 68F, 214 in 68G, 234 in 68J, and 334 in 68X. During 1993, the USAALS also trained 438 additional skill identifier students; of these, 318 were trained in ASIQ2 (enlisted)/ASIH2 (officer), 19 in ASIW5 (68F), 39 in ASIW5 (68J), 47 in ASIX1 (68D), and 15 in ASIX1 (68H). Also during 1993, 66 students were trained in the 67R20/30 (T) AH-64 Attack Helicopter Repairer Course, and 69 in the 68X20/30 (T) AH-64 Armament/Electrical Systems Transition courses. The USAALS submitted forty-three resident and thirty-nine individual ready

⁸⁵Fact sheet ATZQ-CSM, 13 Jul 93, sub: PMCS and NBC training in ANCOC, CG file; Ltr, Maj Gen John D Robinson for Gen Frederick M Franks Jr, 20 Jul 93, CG file.

⁸⁶Memo ATZQ-CG, Maj Gen John D Robinson for cdr ATCOM, 3 Jan 94, sub: Apache fiscal responsibilities, CG file.

reserve course administrative data for career management field 67 courses to TRADOC during 1993.⁸⁷

In accordance with AR 611-201, the 602-ASIX1 (68D) Powertrain Repairer Course was deleted and incorporated into the 602-68D10, Aircraft Powertrain Repairer Course in 1993. The 68D10 course was then increased by three weeks to a total of nineteen weeks.⁸⁸

Three other USAALS courses were discontinued during 1993. Two of these consisted of the 600-ASIB7 (67H) Ejection Seat Repairer Course and the 600-67H10, Observation Airplane Repairer Course.⁸⁹ In accordance with plans developed earlier, the experimental Aviation Apprentice Mechanic Course was deleted in 1993.⁹⁰ The course consolidation represented by this course was to be accomplished on a broader front by the military occupational specialty consolidation program, aimed at reducing the total specialties by one-half by the year 2000.⁹¹

Steps toward military occupational specialty consolidation were taken during 1993 by the move toward the establishment of two new specialties (68E and 68S), effective 1996. The plan was to consolidate aircraft electrical/avionic tasks for the UH-60, CH-47D, OH-58A/C and AH-1F into the new 68E course and armament/electrical/avionics tasks for the OH-58D into the new 68S course. Avionics for the AH-64 were to be placed in the 68X course.⁹²

In the area of leader development, 711 students completed the Basic Noncommissioned Officer Course, and 324 completed the Advanced Noncommissioned Officer Course during 1993. These numbers compare to 764 and 345 during 1992 and 558 and 238 during 1991. The leadership training for both courses was conducted at the U.S. Army Transportation Center Noncommissioned Officer Academy before the students began their aviation logistics and technical training in the USAALS. Of the basic course students, 7 were trained in 67H, 76 in

⁸⁷Historical report, USAALS-DOTD, CY 93; "ACH 1992," pp. 45-46.

⁸⁸1st end ATOM-P (ATSQ-LTD-M/30 Jun 92) (351e), Col William B Snow III, 23 Jul 93, sub: course administrative data for 602-ASIX1..., USAALS-DOTD; 1st end ATOM-P (ATSQ-LTD-M/undated) (351e), Col William B Snow III, 23 Jul 93, sub: course administrative data for 602-68D10..., USAALS-DOTD.

⁸⁹1st end (ATSQ-LTD-O/3 Dec 92) (351e), Col William B Snow III, 25 Mar 93, sub: course administrative data for 600-ASIB7 (67H)..., USAALS-DOTD; 1st end (ATSQ-LTD-O/3 Dec 92) (351e), Col William B Snow III, 25 Mar 93, sub: course administrative data for 600-67H10..., USAALS-DOTD.

⁹⁰1st end (ATSQ-LTD-O/3 Dec 92) (351e), Col William B Snow III, 25 Mar 93, sub: course administrative data for 600-67A10..., USAALS-DOTD.

⁹¹Notes on oral interview by author with Mr Rodney Schulz, 19 Jan 94, Historian note file.

⁹²Historical report, USAALS-DOTD, CY 93; Memo ATSQ-LTD-P (351), Col Dennis W Healy, 12 Nov 93, for cdr TRADOC, 12 Nov 93, sub: individual training plan..., USAALS-DOTD.

67N, 70 in 67R, 11 in 67S, 133 in 67T, 89 in 67U, 54 in 67V, 24 in 67Y, 43 in 68B, 30 in 68D, 32 in 68F, 39 in 68G, 12 in 68H, 33 in 68J, and 47 in 68X specialties. Of the advanced course students, 3 were trained in 67H, 34 in 67R, 115 in 67T, 23 in 67U, 78 in 67Y, 25 in 68J/X, and 46 in 68K specialties. Also, eleven reserve component students completed phase 2 of the basic course.

The Aviation Logistics Officer Advanced Course was discontinued in February 1993, and the Combined Logistics Officer Advanced Course began at the Army Logistics Management College at Fort Lee, Virginia.⁹³ During 1993, ten officers graduated from the Aviation Logistics Officer Advanced Course, and ninety-eight, from the Combat Service Support Pre-Command Course. There were 438 graduates from the Maintenance Management/Maintenance Test Pilot Course, 34 from the Aviation Maintenance Technician Course, and 35 from the Aircraft Armament Maintenance Technician Course. Of the test pilot course graduates, 44 were trained in OH-58A/C, 19 in OH-58D, 6 in OH-58D supplemental, 110 in UH-1, 120 in UH-60, 52 in CH-47D, 35 in AH-1F, and 52 in AH-64 helicopter systems. Of the armament maintenance students, 19 were trained in AH-1 and 35 in AH-64 helicopter weapon systems.⁹⁴

From January through September 1993, the USAALS assistant commandant's overall training assessment was red on training capability reports because of instructor shortfalls in many specialties. Without additional instructors, the USAALS would have been required to start canceling classes by January 1994. However, as a result of excellent cooperation from PERSCOM, TRADOC and CASCOM, the situation improved significantly during the last quarter. By 30 December, the assistant commandant's overall training assessment improved from red to amber for the first time in eighteen months (since the training capability reports were begun). However, support for the School of the Americas training remained red. Since the table of distribution and allowances for this training was approved for fiscal year 1995 only, all fiscal year 1994 training had to be "taken out of hide."⁹⁵

⁹³Historical report, USAALS-DAST, CY 93.

⁹⁴Historical report, USAALS-DOTD, CY 93.

⁹⁵Training capability reports, Col Thomas E Johnson to cdr TRADOC, 30 Sep and 30 Dec 93; Historical report, USAALS-DOTD, CY 93.

CHAPTER III

DOCTRINE AND COMBAT DEVELOPMENTS

A. Doctrine and Force Design

For several years prior to 1993, Army aviation leaders and developers of doctrine as well as some other Army leaders attempted to dispel the notion within the Army, the DOD, and Congress that Army aviation should be centrally apportioned to support the ground forces commander as the air component of the U.S. Army. Army aviation leaders contended instead that aviation was a principal element of combined arms in dominating the land battle and that its mission was to defeat the enemy's ground forces in land warfare as an integral part of the combined arms team. The publication of Field Manual (FM) 100-5 "Operations" in 1993 provided aviation leaders an opportunity to pursue their objective.

As FM 100-5 neared completion in 1993, the USAAVNC reviewed the final draft and recommended that the unique ability of the U.S. Army to conduct combined arms maneuver in three dimensions be stressed. The USAAVNC also recommended that the section on aviation on page 2-36 of the draft be rewritten to express more accurately Army aviation's conception of its doctrine. It was recommended that the aviation section of the edited version read as follows:

Army aviation places the enemy in a position of disadvantage through flexible application of combat power in the third dimension.

In the third dimension of the ground regime, the attack helicopter is the primary offensive weapon. Its firepower, agility, and speed permit the ground commander to close with and defeat a wide range of enemy forces. Attack helicopters are ideally suited for rapid reaction in close, deep, or rear operations. They may also be used where the terrain restricts or prohibits ground force occupation. Attack helicopters can favorably influence the battle when ground forces may be decisively engaged.

Scout helicopters provide a wide range of armed and unarmed reconnaissance and security capability. Whether autonomous or operating with a cavalry organization, air scout assets are essential in detecting and identifying enemy forces throughout the battlefield; an important source of real-time battlefield information. On board radios and digital communications are key in winning the information war at the tactical and operational level.

Utility aircraft provide airmobile and air assault capabilities for dismounted infantry and ground antitank units. Dismounted forces achieve greatly increased mobility and can gain positional advantage

when rapidly airlifted across the battlefield. Utility assets can quickly move towed artillery, light elements of the combined arms team as the commander requires, and perform lifesaving MEDEVAC missions. Utility aircraft provide a full range of critical CSS to forces throughout the battlefield.¹

The final version of the field manual was published with the changes proposed by the USAAVNC.

During 1993, FM 71-100 and FM 100-6 recognized Army aviation doctrinally as being very capable in the deep fight--a deep fight that had a far more resounding effect than just shaping the close fight. On the future battlefield, the deep fight could well be the decisive fight, so Army aviation was in effect recognized as having a great deal more to offer than just fighting the close fight against tanks and other forward deployed forces. This deep-fight capability, with stand-off ability to locate and destroy the enemy, was deemed to be of increasing importance in a post-Cold War world, in which the nation would not tend to tolerate casualties associated with the close fight.²

Also in 1993, the Concepts and Studies Division of the USAAVNC Directorate of Combat Development (DCD) prepared and distributed "Military Operations: U.S. Army Operational Concept for Aviation," as a complement to FM 100-5. The purpose of the document was to help to educate Army aviation personnel as well as military and civilian leaders about the role and mission of Army aviation. The study was designed to be the foundation for the principle that aviation, like armor, infantry, and artillery was an instrument of land power. It thereby promoted aviation's role as a principal element of the combined arms team in dominating the land battle. The study also examined the post-Cold War threat environment and described aviation's missions in various possible contingencies.

The historical evolution of the role and mission of Army aviation was also described in the study. During World War II and the Korean Conflict, its missions were almost exclusively combat service support. During the Vietnamese Conflict, its missions were largely a combination of combat service support and combat support, but with the beginnings of a combat mission. With the advent of the AH-64 Apache during the 1980s, the study contended, aviation was capable of doing much more than supporting the movement of the ground commander. Aviation became a combat oriented force that operated in the ground domain but greatly extended the commander's control of the battlefield by extended observation, superior maneuver, and stand-off-fires. Under air-land battle doctrine, aviation came to be recognized by

¹Memo ATZQ-CG, Maj Gen John D Robinson for Gen Frederick M Franks Jr, 25 Feb 93, sub: final draft to FM 100-5.

²See, e.g., transcript of oral interview by author with Brig Gen (P) John M Riggs, 23 May 94, oral history file.

many as having the potential for actual maneuver by air. Aviation was capable of functioning as a full member of the combined arms team in heavy, light, and special operations forces. Aviation elements could be responsive directly to a joint task force commander at the operational level as well as to a ground brigade commander in tactical level close combat. By the 1990s, the combat role of Army aviation exceeded all other roles combined, but this fact had not been adequately reflected in all aspects of Army doctrine and force structure.

The aviation operational concept study listed and discussed Army aviation operational principles for the 1990s. These principles were as follows:

- (1) Aviation operates in the ground environment, not the aerospace environment;
- (2) Aviation expands the battlefield in space, time, and echelon; (3) Aviation performs combat and combat support battlefield functions;
- (4) The role of combat aviation is to locate and destroy enemy ground forces and support elements;
- (5) Combat aviation is concentrated at division level;
- (6) Combat aviation is employed primarily against deep targets and on flanks, secondarily in support of ground maneuver elements in the close battle;
- (7) Combat aviation will be supported by all of the battlefield operating systems;
- (8) Combat support aviation is concentrated primarily at corps and employed at both corps and division levels;
- (9) Aviation units are integrated into the combined arms down to the level at which they will be employed;
- (10) Planning times for air and ground maneuver elements will be the same.³

The USAAVNC DCD conducted the biannual functional area assessment of aviation during 1993 and briefed it to the vice chief of staff of the Army at Fort Belvoir, Virginia, on 23 September. The functional area assessment provided the Army leadership with an update on aviation modernization, functional review issues, and force readiness. The cornerstone of the briefing was the implementation of the Aviation Restructure Initiative (q.v., below). Both doctrine and force structure were assessed as green, in part as a result of the beginning of the implementation of the Aviation Restructure Initiative. Leader development was green also as a result of consolidation of leader training at the USAAVNC, employment of system approach to training, and use of exportable training in the field. Materiel was assessed as amber because some resources that should be invested in modernization programs continued to be used to upgrade old systems such as AH-1 and UH-1. Training the soldier was judged as amber because the training base was under resourced, and only 68 percent of requirements were being met. The personnel situation was amber because more knowledge, experience, and leadership were needed on the flight line to work on technologically sophisticated systems. Simulation was judged to be red because it was significantly under-funded. General Peay rated the aviation area assessment as the

³"Military Operations: U.S. Army Operational Concept for Aviation," pp. 1-10, passim, DCD; Historical report, DCD, CY 93.

best presentation to date. A back brief was presented to the vice chief on 7 December. Issues presented in the back brief included aircraft inventory reduction, aviator training funding, digitization/communication funding, simulation funding, and logistics/support equipment overview.⁴

During 1993 the USAAVNC DCD reviewed and revised the tables of organization and equipment for all types of divisional aviation units and corps-level units. This encompassed more than seventy-five separate standard requirement codes. Much of this work was done in support of the development and implementation of the restructure initiative.⁵

Aviation Restructure Initiative (ARI)

Between 1980 and 1985, Army organizations were reduced in strength across-the-board in order to create the four additional divisions called for by the "Army of Excellence" organization. During the late 1980s and early 90s, further reductions in strength of aviation organizations rendered them too austere and threatened their ability to accomplish their missions. Efforts to correct the deficiencies between 1985 and 1990 accomplished very little, but lessons learned from Operation Desert Storm highlighted some of the problems. Late in 1991, the USAAVNC began work on a plan to correct the Army of Excellence deficiencies and organize Army aviation to perform its mission in the post-Cold War environment.

During 1992, the USAAVNC formulated the Aviation Restructure Initiative, a plan based in part on the earlier Army Aviation Modernization Plan. From the modernization plan, the restructure initiative adopted the programmed reduction of the size of the Army aircraft fleet by phasing out unmodernized aircraft and replacing them with smaller numbers of modernized aircraft. In addition, the ARI aimed at eliminating other deficiencies, reducing logistics requirements and costs and adjusting to the new military strategy of a continental United States-based force projection army. These objectives were to be accomplished by extensive force design changes and by modernizing and downsizing the fleet. The most significant cost savings were to be accomplished by reducing structure. According to new allocation rules, attack helicopter battalions were to be allocated at the rate of two per heavy division, three per corps, and one per light division. The total number of required attack battalions was to be reduced from sixty to forty-five. Utility aircraft were to be consolidated in general support aviation battalions at division and corps level. The Army deputy

⁴Briefing slides, "Aviation Functional Area Assessment," [Sep 93], DCD; Fact sheet ATZQ-CDO, Maj Calatayud, 11 Jan 94, sub: functional area assessment, DCD; "Army Aviation Warfighting Bulletin," Dec 93.

⁵Historical report, DCD, CY 93, SRC structure, "Aviation A-Edition TOEs," [1993], DCD.

chief of staff for operations approved the work done on the restructure initiative in December 1992.⁶

The ARI was briefed to the chief of staff of the Army on 3 February 1993 as the centerpiece of the "Force Design Update, Winter 1992," for the purpose of obtaining the chief's guidance on the force design issues and obtaining his approval of the initiative. The restructure initiative aimed at solving known deficiencies within the aviation community while remaining within the constraints of personnel and fiscal guidance. It aligned with and complemented a continental U.S.-based force projection Army. Specifically, it eliminated the "Army of Excellence" deficiencies, reduced logistics requirements and costs, and retired old aircraft.⁷

Aviation restructuring was keyed to the Total Army Analysis-2001, which identified the force structure required to meet the national military strategy of a force projection army. This army would consist of twenty divisions (twelve active and eight USAR) and three armored cavalry regiments. The aviation force structure would consist of twenty-nine brigade equivalent organizations and three regimental aviation squadrons. The restructuring plan established the beginning of 2001 as the "interim year," at which time all aviation units would be reorganized under the plan, and 2015 as "objective year," by which time the fleet would be fully modernized. In order to correct the Army of Excellence deficiencies without restructuring, aviation would require an additional 8,366 personnel above the Total Army Analysis-approved structure of 52,087 for the year 2001. With restructuring, however, aviation could perform its missions with approximately 52,000 personnel in that year. From the 1993 aircraft inventory of 8,150, of which 30 percent were modernized, the restructure initiative aimed at an objective year inventory of around 5,000 aircraft, of which all or almost all would be modernized. The total number of types of rotary wing aircraft in use would be reduced from ten in 1993 to five in 2015; this among other changes would reduce logistics costs.⁸

The ARI analyzed aviation brigades at each level of command, division through theater, in order to structure battalions for optimum contribution to their respective missions. The redesigned heavy division attack battalion would consist of twenty-four AH-64 aircraft in the interim and of fifteen AH-64s and nine RAH-66s in the objective design. The attack battalion in light divisions would consist of twenty-four aircraft--OH-58Ds and AH-1s in the interim and RAH-66s in the objective. The air cavalry troop would be standardized to eight OH-58D or AH-1 aircraft in the

⁶Memo ATZQ-CDO, Lt Col Jesse M Danielson for PMO DCD, 28 Jun 93, sub: annual historical report, also encl, Chapter III file; "Aviation Restructure Initiative," May 93; "ACH 1992," pp. 53-54.

⁷"Force Design Update, Winter of 1992," 3 Feb 93, DCD; "Employment of Aviation into the 21st Century," Dec 93; Historical report, DCD, CY 93.

⁸"Army Aviation Restructure Initiative," May 93; "Force Design Update, Winter 1992," 3 Feb 93, DCD; Notes on telephone conversation with Maj Charles N Hardy II, 20 and 21 Jun 93; Briefing book, "Aviation Force Structure," Dec 93, DCD.

interim design evolving to twelve RAH-66s in the objective design. Utility aircraft would be consolidated into a general support aviation battalion as part of each heavy divisional aviation brigade, a command aviation battalion and a combat support aviation battalion in each corps aviation brigade, and an aviation battalion at echelons above corps. Combat service support would be provided by division aviation support battalions. Doctrine was to be modified as restructuring was implemented and aircraft were modernized to reflect the enhanced capability, survivability, and maintainability of attack and scout battalions.⁹

In February 1993, the chief of staff of the Army approved the restructure initiative and directed that it be implemented as soon as possible. Restructuring became Army aviation's top priority during 1993. A restructuring implementation team was organized at the USAAVNC and given tasking authority in order to expedite the program. It was believed that the implementation of the restructure initiative would correct long-standing maintenance shortfalls and staff voids at brigade and battalion levels. Maintainability would be enhanced by the addition of aviation support battalions to heavy divisions while aviation intermediate maintenance structure would be enhanced for other type divisions. A planning conference was held at Fort Rucker in April to carry out the Army chief of staff's guidance to implement the restructure initiative as quickly as possible.¹⁰

In support of the implementation of the ARI, the USAAVNC DCD conducted a study during 1992 and 1993 to evaluate a set of alternative organizational mixes of AH-64Ds (Apache Longbows) and AH-64Cs. The objective of the study was to recommend the optimal method of fielding AH-64Cs and AH-64Ds within the fleet. The study concluded that since procurement of Longbow radar systems for the Apache was to be limited to a maximum of 227 systems, there should be nine Apaches with Longbow and fifteen without Longbow in each of the twenty-five AH-64 attack battalions proposed in the restructure initiative. Another study, conducted at Fort Leavenworth, compared the effectiveness of the 1993 current attack battalion, consisting of a combination of AH-64s and OH-58Cs, with the proposed restructure initiative design of twenty-four AH-64s. The pure AH-64 battalion excelled in all aspects of the analysis.¹¹

Preparation for the implementation of aviation restructuring proceeded rapidly during the latter half of 1993. On 20 July, a general officer steering council jointly chaired by the USAAVNC commander and the director of force programs of the

⁹"Army Aviation Restructure Initiative," May 93; "Force Design Update, Winter 1992," 3 Feb 93, DCD.

¹⁰Msg [17 Feb 93], HQDA to distr, sub: winter 1992 force design update briefing, DCD; "Army Aviation Warfighting Center Newsletter," May 93; Memo Col Thomas W Garrett for distr, 28 Jul 93, sub: aviation restructure initiative implementation team, Chapter III file; Msg 301500Z Mar 93, cdr USAAVNC to distr, sub: USAR aviation long range planning conference, CG file.

¹¹Nathan H Cleek, "AH-64C/D Organizational Analysis, Executive Summary," (Aug 93), DCD; Historical report, DCD, CY 93.

Office of the Deputy Chief of Staff for Operations (ODCSOPS) approved the formation of an implementation team and designated the USAAVNC as the executive agent to develop the implementation plan. The charter for the team was to develop an implementation plan for reorganizing the aviation force in accordance with the restructure initiative. The team consisted of five full-time members and several others serving on an as needed basis; all members were from USAAVNC directorates and staff agencies. The team held in-process reviews monthly.

The USAAVNC DCD prepared a restructuring briefing book and distributed over 1,000 copies. Another informational bulletin, explaining how the design and mission of each type aviation unit would be affected by restructuring, was completed for distribution in December. All division and corps aviation brigade tables of organization and equipment (TOE) were completed by October 1993. These tables were distributed to all commanders during the brigade commanders' conference in December. The aviation intermediate maintenance and echelon-above-corps unit tables were scheduled for completion by April 1994. The implementation plan was to be completed by August 1994. The conversion of the 8-229th Attack Battalion and the 6-159th Assault Battalion was scheduled for fiscal year 1994. Several divisions were scheduled for conversion during 1996, and the remainder of the force, by 2001.¹²

The 1992 force structure assessment had been integrated into the restructure initiative and briefed through the force design update process when restructuring was approved by the chief of staff of the Army in February 1993. While the recommended aviation intermediate maintenance doctrine and force structure changes were incorporated into the restructure initiative, these approved organizational changes were not translated into TOE documentation. The efforts of the U.S. Army Aviation Logistics School (USAALS) DCD to implement this documentation were interrupted by the transfer of TOE documentation responsibilities from the experienced personnel at the USAALS to contractor personnel at the U.S. Army Combined Arms Support Command (CASCOM).

Prior to 1993, two division aviation support battalions were established in Europe and also one for the 24th Infantry Division at Fort Stewart. Work continued on an increased multi-functional aviation support battalion for fielding in fiscal year 1995. The ARI began to correct the maintenance shortfall across the force.

During 1993, the force design efforts of the USAALS DCD were focused on developing aviation maintenance support capabilities to accommodate the changing operational techniques brought about by a smaller, continental U.S.-based, forward projected Army. The changes in overall Army strategies, however, caused the

¹²"Army Aviation Warfighting Center Newsletter," Aug 93; "Army Aviation Warfighting Bulletin," Dec 93; Historical report, DCD, CY 93; Briefing book, "Aviation Force Structure," Dec 93, DCD; "Employment of Aviation into the 21st Century," Dec 93, DOTD; SRC structure, "Aviation A-Edition TOEs" [1993], DCD.

completion date for the battlefield logistics system for aviation concepts to be moved from 1993 to mid 1994.¹³

During 1993, the stripes-on-the-flightline initiative continued to be developed and implemented. This initiative had the objective of putting senior enlisted personnel (master sergeants and sergeants major) back into the maintenance arena and putting experienced maintainers (sergeants and staff sergeants) in crew chief positions on the flightline of modernized aircraft in order to take advantage of their experience. An essential element of this program was to track aviation soldiers so as to allow progression to sergeant major as a technician, as well as a leader. Experienced supervisors would be mentors for the lower enlisted ranks in maintenance support facilities. Stripes on the flightline was a term used to describe five changes in the military occupational classification structure for enlisted aviators. These changes were as follows: (1) revision of the standard grade table for military occupational specialties 67R, 67S, 67T, 67V and 67Y from the rank of specialist and sergeant to sergeant and staff sergeant; (2) revision of military occupational specialty 67Z standard of grade table downgrading 155 first sergeant positions to sergeant first class in units where forty-one or fewer soldiers were assigned; (3) upgrading of 155 maintenance positions from sergeant first class to master sergeant; (4) upgrading nine table of organization and equipment positions from master sergeant to sergeant major; and (5) downgrading nine table of distribution and allowances from sergeant major to master sergeant.¹⁴ As the maintenance portion of the ARI developed, it incorporated the ongoing stripes-on-the-flightline initiative.¹⁵

Both Army downsizing and the implementation of the ARI were expected to cause increased interaction between active and reserve components. The integration of reserve components into training programs and other aspects of total force integration were given renewed emphasis at all levels. The USAAVNC moved toward the development of a total Army solution to designing the aviation force structure by integrating senior reserve component officers into the Directorate of Combat Developments. Plans were formulated during 1993 for developing a total force framework for Army aviation institutional training. This would involve shared active component/reserve component training in some aircraft systems.¹⁶

¹³Historical report, USAALS-DCD, CY 93.

¹⁴"Army Aviation Warfighting Center Newsletter," Dec 92, Aug 93; Historical report, USAALS-LD/PPO, CY 93; Memo ATZQ-AP (611-1a), Maj Gen John D Robinson for Maj Gen Gerald H Putman, 18 Oct 93, sub: aviation restructure initiative/stripes on the flight line, CG file.

¹⁵Memo ATZQ-AP (611-1a), Maj Gen John D Robinson for Maj Gen Gerald H Putman, 18 Oct 93, sub: aviation restructure initiative/stripes on the flightline, CG file.

¹⁶Msg 081418Z Sep 93, cdr USAAVNC to CNGB, sub: Aviation Branch personnel plan, CG file; "Army Aviation Warfighting Center Newsletter," May 93; Briefing slides, "AATS Total Force Training," [May 1993], CG file.

It was necessary to make hard decisions regarding implementation of ARI in the active and reserve components. Many of these wanted to convert to ARI immediately. Although some reserve component units were to be in the early stages of ARI implementation, logic dictated that ARI should be implemented earliest, for the most part, in the units that would be the first to fight--active component units.¹⁷

The Cavalry Board, consisting of USAAVNC and Armor Center personnel, continued meeting on a periodic basis. A session in early 1993 dealt with the restructure initiative, the value of reconnaissance, and the light armor cavalry regiment force. The USAAVNC deemed it important to continue the dialogue on cavalry and mounted warfare matters.¹⁸

The USAAVNC and the Army medical community continued working closely together to link the aviation dimensions of medical evacuation (MEDEVAC) operations to local senior aviation commanders. MEDEVAC detachments performed important work for the Army. However, they needed aviation brigade and corps aviation commander support in standards, maintenance, and safety. On the operational side, doctrine was being shaped to co-locate MEDEVAC aviation assets with divisional aviation. Mission tasking would still be through medical channels.¹⁹ The USAAVNC concluded an agreement with the Army Medical Department in 1993 for air ambulance companies operating in the division area to be attached to aviation brigades. The tactics, techniques, and procedures were being developed in coordination with the MEDEVAC proponent and would be integrated into aviation and medical evacuation field manuals. This agreement was expected to serve as a model for a similar agreement with the Army Intelligence Center regarding electronic aircraft.²⁰

Battle Laboratories

The USAAVNC created the Aviation Battle Lab Support Team within the DCD in 1992 to coordinate among the TRADOC battle labs. While no battle lab was located at Fort Rucker, aviation was represented in all of them. The labs were to provide a structured means of examining, experimenting with, and evaluating concepts, doctrine, force structure, training, and technology for the purpose of reshaping the Army to meet the challenges resulting from the end of the Cold War. The six labs established were as follows: Early Entry, Lethality, and Survivability--

¹⁷Transcript of oral interview by author with Brig Gen (P) John M Riggs, 23 May 94, oral history file.

¹⁸"Army Aviation Warfighting Center Newsletter," May 93.

¹⁹"Army Aviation Warfighting Center Newsletter," Dec 92.

²⁰"Army Aviation Warfighting Center Newsletter," May 93; Transcript of interview by author with Col Charles M Burke, 24 Nov 93, oral history file.

Fort Monroe; Depth and Simultaneous Attack--Fort Sill; Mounted Battle Space--Fort Knox; Dismounted Battle Space--Fort Benning; Battle Command and Control--Fort Leavenworth; and Combat Service Support--Fort Lee.²¹

During 1993, the Aviation Battle Lab Support Team (ABLST) continued to facilitate the close interaction necessary for aviation participation in the six TRADOC Battle Labs. In February, the Systems Integration and Priority Division of DCD merged with ABLST to enhance the capability of the organization to integrate the science and technology input to the future battlefield. This expanded ABLST became the major conduit for the insertion of aviation's future concepts, technologies, and organizations into the battle lab process. Throughout the year, the ABLST focused on future warfighting by educating and by demonstrating concepts, high technology applications, and the use of simulations for increased effectiveness.²²

In May 1993, the ABLST participated in the Command and General Staff College Prairie Warrior exercise, which conducted a series of mobile strike force war games. These war games used 1994 forces (AH-64A) against a 2015 Red Force and then incorporated a 2015 force (RAH-66 and AH-64D) in the same scenarios. Numerous problems in simulation of the Longbow and Comanche became apparent. The computer war games were unable to simulate digitization of the battlefield, situational awareness, multi-sensor fusion, Longbow Hellfire, and the reduced radar cross section of the Comanche.²³

The Mounted Battle Lab sponsored a demonstration at Fort Knox in December 1992. A ground armor team and attack/air cavalry teams were involved. An OH-58D was used to pass on information digitally through an improved data modem to an M1A2 tank and an M2 inter-vehicular information system. Also, phototelesis was used to transfer AH-64 gun camera pictures to a UH-60 console. The purpose of the battlefield synchronization demonstration was to determine if situational awareness of the battlefield would be increased through use of high tech digital equipment and if this equipment could be used by the combined arms team. During 1993, the ABLST continued its role of providing an aerial platform to digitally link the combined arms team for synchronizing direct and indirect fires, coordinating battlefield command and control, and other objectives. The value of integrated digitized communications capability was clearly demonstrated.²⁴

²¹"Army Aviation Warfighting Center Newsletter," Dec 92; "ACH 1992," p. 58; Maj Gen John D Robinson, "Army Aviation's Role in the Future Defined through Battle Labs," Army Flier, 8 Jan 93.

²²Historical report, DCD, CY 93; "Army Aviation Warfighting Center Newsletter," May 93; "Army Aviation Warfighting Bulletin," Dec 93.

²³Historical report, DCD, CY 93.

²⁴DCD, "Program and Project Summary Sheets," May 1993, pp. D-1-3 to D-1-7, DCD; "Army Aviation Warfighting Center Newsletter," May 93.

In early September, the Mounted Battle Lab held an initial conference to plan an advanced warfighting demonstration called Desert Hammer VI--the Army's first experiment with maneuvering digitally equipped troops against an opposing force at the National Training Center (NTC). This was scheduled for NTC rotation 94-7. It would include an improved data modem, phototeletype, enhanced communications interface terminal, and an aviation mission planning system. It would display the capabilities of the AH-64+, OH-58D, and UH-60 C2 aircraft. The ABLST and Program Executive Office-Aviation developed aviation's portion of this digitized rotation. The plan included fielding prototype equipment to the 25th Aviation brigade, training personnel, and developing an evaluation plan.²⁵

The Army aviation battlefield integration and digitization project officer prepared and initiated staffing of the aviation battlefield integration and digitization mission need statement during 1993. This statement served as an Aviation Center position to the Mounted Battle Lab mission need statement entitled "The Third Wave" to justify aviation specific digitization requirements.²⁶

In June of 1993, the Depth and Simultaneous Attack Battle Lab and the Advanced Research Projects Agency conducted the exercise Rapid Strike II, the first phase of War Breaker. War Breaker, an advanced warfighting demonstration scheduled to run through 1999, focused on joint precision strikes against time-critical, fixed and mobile targets. Through simulations, Rapid Strike II demonstrated existing capabilities to provide a rapid strike response for an early entry force. Aviation participation included the execution of a deep attack against an armor threat by an attack helicopter battalion. Several members of Congress observed the rapid reaction precision strike demonstration at the Topographic Engineer Center at Fort Belvoir, Virginia. The USAAVNC's Aviation Test Bed and other players in the exercise were linked to the Joint Precision Strike Demonstration Task Force at Fort Belvoir through the Defense Simulation Internet.²⁷

The ABLST completed the War Breaker exercise, Zen Regard, in November. Twelve aviators manned six Aviation Test Bed simulators, four operated the Aviation Tactical Operations Center, and one participated from the Deep Operations Coordination Cell at Fort Belvoir. The exercises demonstrated the simulation network capabilities and provided a baseline against which to measure all follow-on

²⁵"Army Aviation Warfighting Bulletin," Dec 93; Historical report, DCD, CY 93.

²⁶Historical report, DCD, CY 93. The mission need statement was submitted to the Aviation Branch History Office in digitized form, but could not be accessed at the time of the writing of the history because of technical difficulties; it remains on file in DCD section of ACH 1993 files.

²⁷Memo ATZQ-CDB (70-li), Col Robert M Stewart, for CG, 4 Jun 93, sub: read ahead packet for Rapid Strike II demonstration, also encls, DCD; Historical report, DCD, CY 93; "Army Aviation Warfighting Center Newsletter," Aug 93.

exercises. Aviation demonstrated its capability to conduct deep attacks on Scud missile launchers with support assets and surface-to-air missile sites.²⁸

In August 1993, the commander of the U.S. Army Field Artillery Center called a meeting, billed an "azimuth check," of commanders of organizations participating in the Depth and Simultaneous Attack Battle Lab; the meeting was to ensure that the focus was on developing capabilities for a force projection army. The meeting was scheduled for mid-October at Fort Sill. The USAAVNC commander strongly endorsed the meeting and planned to attend.²⁹

During September and October, the ABLST participated in the Dismounted Battle Space Battle Lab "Own the Night" experiment at Fort Campbell. Numerous night vision devices, including black lights for inverted Ys, laser pointers for identifying loads in pickup zones, infrared pen flares, and small infrared strobes were tested and evaluated. A package of these devices was sent to Somalia for the enhancement of the real-world mission there.³⁰

In November and December, the ABLST participated in the Air Force Air Combat Command's four-phase Operation Crossbolt. Phase I was conducted at Kirtland Air Force Base, New Mexico; and Phase II was conducted at White Sands Missile Range, New Mexico. The objective of Crossbolt was to find, locate, identify, and destroy critical mobile targets in a theater missile defense scenario. Each mission would assess and/or examine sensor-to-shooter time lines, joint interoperability of systems, and deep operations capability. The first two phases were to verify simulation capability of national assets to locate and track tactical ballistic missiles after launch. The exercise was to culminate in April 1994 with a live hardware demonstration of theater assets at Nellis Air Force Base, Nevada. Planned aviation participation would be with a UH-60 C2 Black Hawk attack aircraft and the manning of the Deep Operations Coordination Cell.³¹

Other doctrinal issues examined by the ABLST during 1993 included conceptual early entry force structure and rapid force projection. The objective of conceptual early entry force structures for 2,000 and 10,000-soldier assault forces was to maximize ground force lethality for rapid deployment in forcible scenarios. The emphasis was on light/rapid deployment divisional assets. The Early Entry, Lethality, and Survivability Battle Lab was staffing proposed structure in cooperation with other

²⁸Historical report, DCD, CY 93.

²⁹Msg 100800Z Aug 93, cdr UAAFAC to distr, sub: Depth and Simultaneous Attack Battle Lab Seminar, CG file; Msg 131200Z Aug 93, cdr USAAVNC to distr, sub: SAB, CG file.

³⁰"Army Aviation Warfighting Bulletin," Dec 93, Historical report, DCD, CY 93.

³¹Historical report, DCD, CY 93.

supporting labs. The ABLST was reviewing force structures to ensure adequate aviation assets.

The rapid force projection, through simulation and hardware development, demonstrated the optimal rapid force projection requirements for the fiscal year 1999 time frame. The ABLST was working to demonstrate that Army aviation could be a key player in all aspects of rapid force projection; this included covert target acquisition, real time reconnaissance, situation awareness, position information, lethal target engagement, and rapid air mobility.³²

The above-described involvement of Army aviation in battle lab exercises during 1993 notwithstanding, the Army aviation community was less than satisfied with the battle lab experiment. Although the TRADOC commander had apparently intended that there would be extensive horizontal integration in each battle lab, that was not perceived to have been the case. Some aviation leaders believed that there should have been an aviation or a third dimension battle lab so that aviation doctrine and equipment could be developed and tested as those of artillery, armor, and infantry were being developed and tested at Forts Sill, Knox, and Benning. Although aviation was technically involved in all battle labs, the experiments were controlled for the most part by the commandants of the posts where the labs were located, and it was difficult for aviation to do more than play a supporting role in each lab. Some consideration was given to establishing an aviation or third dimension battle lab at Fort Rucker. At the same time, there were some expressions of doubt that the battle lab experiment was proving to be as significant and as relevant to the future battlefield as earlier believed. At the end of 1993, the future of Army aviation's involvement in the battle lab experiment was somewhat uncertain.³³

Doctrinal Publications

During 1993, the U.S. Army Air Traffic Control Activity (USAATCA) revised Field Manual (FM) 1-303, "Air Traffic Control Facility Operations and Training." The purpose of this manual, which replaced Training Circular 95-93, dated March 1989, was to provide instructions, standards, and guidance for operating and managing U.S. Army air traffic control facilities and units. Major changes included moving the currency requirements for air traffic controllers from the manual to AR 95-2 and the inclusion in the new manual of the five steps of risk management assessment. The 1993 manual also formally implemented the certification of

³²"Program and Project Summary Sheets," May 1993, pp. D-1-3 to D-1-7, DCD.

³³Transcripts of oral interviews by author with Col Charles M Burke and Brig Gen John M Riggs, 23 Nov 93 and 23 May 94, oral history file; Notes on oral interview by author with Maj Gen John D Robinson, 20 Jul 94, oral history file.

maintenance technicians by establishing uniform standards for measuring and procedures for documenting their technical proficiency.³⁴

The USAATCA completed an initial air traffic control concept statement during 1993. The document described the roles, missions, and functions of Army air traffic services organizations and provided the conceptual view of how these services would link into current and future Army airspace command and control doctrine and structure. The concept statement was submitted to the USACAC for approval and returned with comments and recommended changes. Revisions were ongoing at the end of the year.³⁵

Effective 1 December 1993, proponenty for Army airspace command and control was transferred to the USAAVNC. The USACAC remained the proponent for command and control and was responsible for the functional validation of Army command and control system concepts and requirements, including army airspace command and control. Authority for approval of requirements documents remained at TRADOC headquarters.³⁶ An Army airspace command and control concept paper was scheduled for publication in 1994.³⁷

The new aviation gunnery manual, FM 1-140, was researched, written, and published in draft form during 1993. A great deal of input from the field was used in its preparation. The new manual made objective gunnery the standard; the area weapons scoring system was to be used to objectively score helicopter gunnery qualification ranges. The USAAVNC considered it essential that the scoring system be upgraded so as to enhance its reliability in accurately scoring each engagement. Table VIII qualification was a live-fire event; simulation qualification was unacceptable. The unit status report was to be the vehicle to relay training and resource shortcomings. Door gunnery training and qualification standards were also included in the draft of FM 1-140. The draft was circulated for review in December 1993 and was scheduled to be completed in 1994.³⁸

³⁴FM 1-303, "Air Traffic Control Facility Operations and Training," 5 Apr 93, USAATCA; Historical report, USAATCA, CY 93.

³⁵Memo ATZQ-CG (1b), Maj Gen John D Robinson for Lt Gen John E Miller, 26 Oct 93, sub: U S Army operational concept for air traffic services, also encls, USAATCA; Historical report, USAATCA, CY 93.

³⁶Msg 171836Z Nov 93, cdr TRADOC to cdr USAAVNC, sub: Army airspace command and control, DOTD.

³⁷Historical report, DOTD, CY 93.

³⁸Memo ATZQ-TDA (351), Brig Gen John M Riggs for cdr U S Army Simulation...Command, 18 Nov 93, sub: statement of urgency for area weapons scoring system, CG file; Memo ATZQ-TDA-G (350, Maj Gen John D Robinson for distr, 29 Nov 93, sub: draft FM 1-140, "Helicopter Gunnery," CG file; "Army Aviation Warfighting Center Newsletter," May, Aug 93; "Army Aviation Warfighting Bulletin," Dec 93; Historical report, DOTD, CY 93; Msg 271623Z Oct 93, cdr USAAVNC to CICUSAREUR, sub: Helicopter gunnery program, CG file.

Annexes in the attack and air cavalry tactics, techniques, and procedures manuals were slated to replace FM 1-107. Air-to-air combat test II confirmation testing was conducted in September 1993. The test results were published as a concept paper and distributed in December 1993. The purpose of the testing was to confirm that drills and tactics, techniques, and procedures for air-to-air encounters developed in the Aviation Test Bed were ready for publication. The objective was to develop standardized procedures for armed helicopters to counter enemy rotary and fixed wing air threats on the air-land battlefield. Army aviation air-to-air combat was to be defensive in nature but offensive in execution.³⁹

B. Equipment Requirements

Branch Assessment and Priorities

In accordance with the new enhanced concept based requirements system, the USAAVNC DCD produced an assessment of the Aviation Branch in May 1993. The underlying assumptions for the assessment were that U.S. military forces must be prepared to operate across the continuum of military operations from nation assistance to war, and that Army aviation would provide a lethal, early deployable force capable of meeting the various possible contingencies. In its assessment of current Army aviation programs in 1993, the study used the standard terms "green," "amber," and "red." The cargo aircraft, aviation life support equipment, and aviation ground support equipment programs were judged to be **green**. The programs evaluated as **amber** and the principal reasons why they were not green were as follows: **attack mission**--because the AH-1 and OH-58A/C helicopter that constituted parts of this program were very old and were only marginally survivable, supportable, and maintainable and also limited in night pilotage; **utility**--because there were insufficient quantities of UH-60s, and the aged UH-1 still constituted a major part of this mission; **fixed wing**--because the U-21 was approaching 30 years in service and the C-12 required major upgrades; **avionics**--because current aircraft lacked effective nap-of-earth, precision navigation, and other requisite systems; **aircraft survivability equipment**--because of the requirement to install systems that were more user friendly and that incorporated enhanced countermeasures against threat weapon systems; **air traffic control**--because existing equipment used outdated technology that did not possess capabilities that were becoming available. The only Army aviation program that was assessed as **red** was **reconnaissance/security**; this low assessment resulted from the fact that the principal reconnaissance/security aircraft were still the AH-1 and the OH-58A/C, both of which lacked the capabilities to successfully operate at night and were also deficient in other areas. The OH-58D operating in this mission area was considerably better, but it also lacked some requisite systems and there were insufficient numbers of that aircraft. The assessment provided aviation's future as

³⁹Briefing slides, "Air-to-Air Combat Test II," DOTD; "Army Aviation Warfighting Center Newsletter," Aug 93; Historical report, DOTD, CY 93.

well as current capabilities in meeting the demands of a continental U.S.-based, power projection force. Future assessments are reflected in the descriptions of the 1993 status and developments in the aviation equipment systems below. The assessment was completed and delivered to TRADOC in May 1993.⁴⁰

The USAAVNC's priorities for fiscal year 1994 AR 5-5 study programs were as follows:

- (1) contributions of reconnaissance;
- (2) AH-64C/AH-64D cost and operational effectiveness analysis (COEA) (category I);
- (3) C-XX Medium Range COEA (category III);
- (4) RAH-66 Comanche training effectiveness analysis;
- (5) improved CH-47 COEA;
- (6) multi-purpose fixed-wing cargo aircraft study (category I);
- (7) aviation training aids, devices, simulators and simulations software management study;
- (8) aircrew survivability equipment requirements study; (9) aviation tactical operations center COEA (category III);
- (10) Army aviation simulation strategy study;
- (11) suite of integrated infrared countermeasures COEA (category III);
- (12) tactical airspace integration system COEA (category III);
- (13) airborne electro-optical countermeasures COEA (category III);
- (14) forward area shelterized terminal COEA (category III).⁴¹

AH-64 Apache and Longbow

The AH-64 Apache was a twin-engine, four-rotor blade, multi-mission, attack helicopter with a tandem-seated crew of two. It was the first helicopter developed for day, night, and adverse weather combat missions. In 1993 there was a need to enhance the AH-64 to AH-64+ in order to correct deficiencies and to maintain the aircraft as the world's premier attack helicopter until the fielding of the modernized Apache Longbow. The changes proposed to upgrade the aircraft to AH-64+ included a global positioning system, high frequency radios, antenna relocation, 30mm gun improvements, and an enhanced fire control computer. The intent was to maintain combat advantage while positioning the fleet for remanufacture into the modernized Apache configuration. Although the Longbow weapon system would not be applied to the AH-64+, no applications would be made in upgrading that aircraft that could not later transfer directly to the modernized Apache configuration. The operational

⁴⁰U.S. Army Aviation Warfighting Center Branch Assessment." May 1993, DCD; Historical report, DCD, CY 93.

⁴¹Memo ATZQ-CDC (5), Maj Gen John D Robinson for Gen Frederick M Franks Jr, 5 May 93, sub: FY 94 TRADOC AR 5-5 study program resource requirements, CG file.

requirements document for the AH-64+ was completed in December and forwarded to HQ TRADOC for approval.⁴²

There were tense moments and uncertainties during the first half of 1993 with regard to the Apache Longbow program. The DOD "bottom up" review was conducted during this time period with the objective of reducing or eliminating DOD developmental programs to meet diminishing budget objectives. In a departure from past program reviews, the Army management, at the ODCSOPS level, depicted the Comanche and Longbow-equipped Apache as constituting a dynamic fighting force, maintaining that the attributes of both systems were required to accomplish the Army readiness objective for the 21st century. This bold step succeeded in justifying both programs.⁴³ Congress funded Apache production for fiscal year 1994 in the amount of \$150 million and funded the Longbow radar system in the full amount requested by the administration.⁴⁴ However, the slowdown in both domestic and foreign sales of the aircraft, caused McDonnell Douglas Corp. to reduce output of AH-64s from five to four a month during 1993. This reduction was intended to avert the necessity of closing the plant down before the upgraded Apache Longbow went into full production.⁴⁵

During 1993, the engineering and manufacturing development phase of the Longbow program continued with no major anomalies. Program development during the first half of the year continued to be on hardware and software development of both the Longbow weapon system and the modernized Apache. These activities proceeded relatively smoothly and culminated in the integration of an operational Longbow weapon system onto a modernized Apache. The official roll-out and first flight of the first full-operational prototype AH-64D Apache Longbow occurred on 1 September 1993, with the chief of staff of the Army in attendance. The Longbow targeting and adverse weather capability were the major features that made Apache Longbow far more effective than the AH-64A. The plan early in the year was eventually to convert the Army's 811 AH-64As to 584 AH-64Cs and 227 AH-64D Longbows. The only differences between the two models was that D model had Longbow fire control radar, radar frequency interferometer, and the 701C engine, while the C model did not.⁴⁶

⁴²"Program and Project Summary Sheets," May 93, DCD; Memo ATZQ-TSM-LB (70-1c), Maj Gen John D Robinson for cdr TRADOC, 21 Dec 93, sub: operational requirements document..., DCD; Operational requirements document for the AH-64+ Apache, 21 Dec 93, DCD.

⁴³Historical report, TSM Longbow, CY 93.

⁴⁴Aviation Week and Space Technology, p. 23.

⁴⁵Wall Street Journal, 9 Sep 93.

⁴⁶"Army Aviation Warfighting Center Newsletter," May, Aug 93; "Army Aviation Warfighting Bulletin," Dec 93; Historical report, TSM Longbow, CY 93; Apache Newsletter, Oct 93, passim; Army Flier, 29 Oct 93.

Following the initial official roll-out, Longbow development personnel turned their full attention to the functional interfaces between the modernized aircraft and the Longbow weapon system and to the development and optimization of the fire control radar modes of operation. The fire control radar modes consisted of ground targeting, air targeting, and terrain profile modes. By the end of 1993, four prototype Apache Longbows were flying with functional radars.⁴⁷ During the latter part of the year, the efforts of the TRADOC System Manager (TSM) Longbow personnel were dominated by the testing and program documentation required to execute the government test program. The test evaluation master plan had been under review all year with little progress being made. Many months were spent defining the critical technical parameters of the program to meet the user's requirements without undue risk of the program's being canceled during a major milestone review. The year ended with these parameters still under review. In the meantime, it was determined at DA level that the required operational capability document and the Apache materiel needs document had to be revised into the new operational requirements document format in order to simplify the program milestone reviews. The documents were to be completed and delivered to the DCSOPS by 14 January 1994. During the revision process, it was decided to write the requirements into three separate operational requirements documents--one for the AH-64A+, one for the modernized Apache (capable of having the Longbow installed), and one for the Longbow weapon system. All three documents were signed by the USAAVNC commander on 21 December 1993 and transmitted to TRADOC headquarters for approval and forwarding to the DA. In the process of completing these documents, the Longbow project manager determined that the modernized Apache was to be referred to as the AH-64D, with or without the Longbow weapon system installed. The AH-64C nomenclature was thereby eliminated. The new plan was to procure 811 modernized Apache AH-64Ds and 227 Longbow weapon systems; these systems could be installed on any AH-64D in the fleet as a mission equipment package.⁴⁸

The Fort Rucker-based 2nd Battalion of the 229th Aviation Regiment was scheduled to be the test unit for the force development test and experimentation and for initial operational test and evaluation for Apache Longbow.⁴⁹ These tests were very complex and manpower intensive, however, and the 2-229th also had responsibility for regional contingency missions. The USAAVNC commander requested that the battalion be relieved of this latter responsibility so that it would be

⁴⁷Historical report, TSM Longbow, CY 93; Longbow "C" & "D" series flight test schedule, 3 Nov 93, TSM Longbow.

⁴⁸Memos, Maj Gen John D Robinson for cdr TRADOC, 21 Dec 93, subs: operational requirements documents for Longbow weapon system, ...modernized Apache, and ...AH-64A+ Apache, TSM Longbow; Historical report, TSM Longbow, CY 93; Operational requirement document for the Longbow weapon system, 20 Dec 93 (SECRET, info used is UNCLASSIFIED), DCD.

⁴⁹"Army Aviation Warfighting Bulletin," Dec 93; Historical report, TSM Longbow, CY 93.

able to focus on the Longbow testing during the period from July 1994 to June 1995.⁵⁰

Apache Longbow deployment was scheduled to begin in the fall of 1997. The Army's A model AH-64s were to be modernized in the interim to AH-64A+s by adding global positioning systems, altitude voice warning systems, scan converters, identification friend or foe systems, single channel ground-to-air radio systems, high frequency radios, and other upgrades. The plan was to maintain the Apache's dominance through technology insertion. Technologies selected for insertion were reviewed and prioritized by the TRADOC System Manager (TSM) Longbow and incorporated in the system improvement plan.⁵¹

The U.S. Army Technical Test Center (ATTC) was tasked to perform a preliminary airworthiness evaluation of the Apache Longbow during 1993. The first evaluation was conducted on an airframe that did not have all of the systems operational, but it provided useful information about the status of the developmental effort. Five enhancing characteristics, five unsatisfactory findings, and twenty-seven undesirable findings were presented to the project manager and the contractor. A second airworthiness evaluation was scheduled for fiscal year 1994.⁵²

The ATTC continued Apache Longbow pre-production qualification test planning during 1993. Test pilot training requirements and ground rules for combined technical test operations were established through a test integration working group. ATTC test pilots supported the force development data collection effort and conducted the test at the aircraft contractor's simulation facility. Project pilots also participated in contractor cockpit lighting evaluations and monitored communication/navigation systems demonstrations. The pre-production qualification test was to be conducted during fiscal year 1994 by ATTC and U.S. Army Yuma Proving Ground in support of the U.S. Army Materiel Systems Analysis Activity's independent evaluation of the Apache Longbow.⁵³

Problems with the integration of the T700-GE-701C engines (701C) in the AH-64A helicopter were first documented during the late 1980s. The ATTC conducted a series of airworthiness evaluations to investigate engine-airframe compatibility on a variety of proposed fixes. The final evaluation of the AH-64A equipped with the 701C engines, MOD 5A/F-1 digital electronic control units and

⁵⁰Msg 180900 Aug 93, cdr USAAVNC to Lt Gen Tilelli, sub: test unit for Longbow..., CG file.

⁵¹"Army Aviation Warfighting Center Newsletter," May, Aug 93; "Army Aviation Warfighting Bulletin," Dec 93; Historical report, TSM Longbow, CY 93; Memo ATZQ-CDB (70-1i), Brig Gen John M. Riggs for Mr Larry D Holcomb, sub: system improvement plan review, TSM Longbow.

⁵²Historical report, ATTC, CY 93. A final report on the preliminary airworthiness evaluation was in progress at the end of the year.

⁵³Historical report, ATTC, CY 93.

MOD 5V1 hydro-mechanical units was completed in June 1993. The engine-airframe response of the AH-64A helicopter equipped with T700-GE C engines, digital electronic control units, and hydro-mechanical units was satisfactory. One deficiency was the failure of the engines in control configuration 1 (77 pound per hour start fuel flow schedule) to consistently start above 11,000 feet density altitude. The most important shortcoming was the increased likelihood of hot start when using the bump start procedure.⁵⁴

OH-58D Kiowa and Kiowa Warrior

The OH-58D Kiowa Warrior, an upgraded and armed variant of the OH-58D Kiowa, was the Army's armed interim reconnaissance/light attack helicopter, pending the fielding of the RAH-66 Comanche. The Kiowa Warrior was developed to satisfy the 1988 Army Aviation Modernization Plan proposal and requirement to arm the OH-58D with air-to-air and air-to-ground weapons. By 1993, Kiowa Warrior armament included the .50 caliber machine gun, Hydra 70 rockets, Hellfire missiles, and air-to-air Stinger missiles. The machine gun was mounted on only the left side of the aircraft. Rocket pods and Hellfire and Stinger mounts could go on either side. The Kiowa Warrior was provided with a fully integrated cockpit and a MIL-STD 1553B digital data bus, making digital technology upgrades relatively easy. The most mounted sight included a low light television, a thermal imaging system, and a laser range finder/designator. The Army had a requirement for 507 Kiowa Warriors and procurement authority at the end of 1993 for up to 369.⁵⁵ The Defense authorization bill for fiscal year 1994 allocated \$258 million for modification of up to eighteen OH-58A helicopters to armed OH-58Ds.⁵⁶

Phase I of Kiowa Warrior force development test and experimentation was conducted at Fort Bragg, North Carolina, in March 1993. E Troop of the 2-229th Aviation Regiment conducted phase II of the tests at Fort Hood, Texas, from September to November 1993. The troop was formed as the early operational capability unit to develop, test, validate, and refine Comanche tactics, techniques, and procedures prior to fielding the aircraft. In the interim, the troop performed a similar role with regard to the Kiowa Warrior. E Troop's validation of the training plan established the program for future Kiowa Warrior units to follow. The tests also provided data for the Operational Evaluation Command to answer the OH-58D Kiowa Warrior critical operational issues and criteria and to validate tactics, techniques, and procedures already written in draft form. The tests and experimentation for the OH-58D, consisting of over 600 incident-free flight hours, was completed on 3

⁵⁴Historical report, ATTC, CY 93. The final report of these evaluations was in progress at the end of 1993.

⁵⁵Memo for record, Col David L. Ahern Jr, [Apr 94], TSM Kiowa Warrior.

⁵⁶Aviation Week and Space Technology, 15 Nov 93, p. 23.

November. The aviation mission planning system was used in a collateral test. Identified shortcomings were being corrected.⁵⁷

During 1993 Kiowa Warriors were deployed to the 4-17th Cavalry and 1-17th Cavalry. Deployment was underway to the Combat Aviation Training Brigade (formerly the Apache Training Brigade) and 5-17th Cavalry. One hundred seventeen aircraft had been fielded by the beginning of December 1993. All Kiowa Warrior units were to go through combat readiness training with the Combat Aviation Training Brigade at Fort Hood.⁵⁸

In March 1993, a Kiowa Warrior participated in a live fire battlefield synchronization demonstration at Fort Knox, Kentucky. In this test a Kiowa Warrior with an improved data modem installed in place of the airborne target hand-over system communicated digitally with an M1A2 Abrams tank.⁵⁹ The Kiowa Warrior was also scheduled to be a key player in efforts to digitize the battlefield at the NTC in March and April of 1994. During 1993 plans were developed at TSM Kiowa Warrior for these tests.⁶⁰

The U.S. Army Aviation Technical Test Center (ATTC) conducted the cold weather test of the Kiowa Warrior at Cold Regions Test Center during February 1993. During the first week of the test, the temperatures were very cold (-55 °F), and the aircraft had malfunction codes related to the electronic supervisory control which delayed the test start. After the first week, temperatures above the test plan limit caused test delays. When the temperatures did not decrease, personnel resumed the test with the understanding that the tests were conducted outside the temperature range of the test plan. High winds and associated turbulence caused additional delays. The test plan weather requirements were expected to be completed by 27 February 1993; however, several sub-tests were conducted in temperatures fifteen degrees higher than the warmest temperature allowed in the test plan. The tests were terminated on 28 February 1993.

ATTC pilots delivered a Kiowa Warrior to U.S. Army Yuma Proving Ground in December 1991 for the production qualification test conducted jointly by ATTC

⁵⁷Memo AFVU-AH-T, Capt Michael Senters for cdr E/2-229th, sub: after action review..., TSM Comanche; "Kiowa Warrior Newsletter," Nov/Dec 93, TSM Comanche; Historical report, TSM Kiowa Warrior, CY 93; Memo CSTE-EAV (1ii), Maj Gen Robert B Rosencranz for TSM Kiowa Warrior, 6 Dec 93, TSM Kiowa Warrior; Test report for force development experimentation of the Kiowa Warrior, Mar 93, TSM Kiowa Warrior; "Army Aviation Warfighting Center Newsletter," Dec 93; Army Flier, 26 Mar, 27 Aug, 19 Nov 93.

⁵⁸"Army Aviation Warfighting Center Newsletter," Dec 93.

⁵⁹Memo SFAE-AV-ACH-T (70-17b), Lt Col Laurence E Thomas Jr for proj mgr Kiowa Warrior, 1 Mar 93, sub: trip report..., TSM Kiowa Warrior; Historical report, TSM Kiowa Warrior, CY 93.

⁶⁰Historical report, TSM Kiowa Warrior, CY 93; Memo ATZQ-TSM-KW (70-1i), Col David L Ahern Jr for ATZQ-CDB, 18 Jan 03, sub: measures of performance for NTC 94-07, TSM Kiowa Warrior.

and Yuma Proving Ground. During this test, ATTC pilots fired each type of weapon system, including the first Hellfire from a production Kiowa Warrior. In April 1992, after being updated with the latest modifications, the aircraft began the 1,000-hour logistics evaluation and reliability, availability, and maintainability qualification. The aircraft then went on to be displayed in Atlanta, Georgia, at the May 1992 Army Aviation Association of America (AAAA) convention. On 24 January 1993, the test aircraft was loaded aboard a C-130 and deployed to Fort Greely, Alaska, where it underwent the cold weather testing described above. The aircraft was returned to Fort Rucker and reliability, availability, and maintainability testing resumed on 1 March 1993. During the entire test series, this Kiowa Warrior accumulated 1,000 flight-hours, fired 6 Hellfire missiles, 5 Stingers, 709 folding-fin aerial rockets, and 27,914 rounds of .50 caliber ammunition. By the end of 1993, it had the most flying hours of any Kiowa Warrior in the Army inventory.⁶¹

During 1993 the ATTC test team briefed appropriate personnel and installed the new night vision imaging system software on the OH-58D Kiowa Warrior. As a result of the ATTC evaluation, the previously restricted aviator night vision imaging system display symbology system was authorized for in-flight use. During the first week of November 1992, test personnel conducted weapons firing from the OH-58D to determine the effects of live fire on the AN/AVR-2A laser detector. On 7 July 1993, software evaluation was conducted at Yuma Proving Ground, Arizona. Test personnel identified several problems during the first two run-ups and three subsequent flights. The Kiowa Warrior project manager decided that the problems were significant enough to have the software returned to Honeywell for rework and back to the system integration laboratory at Bell Helicopter Textron, Inc., for examination prior to further testing. On 16 August 1993, test personnel returned to Yuma Proving Ground to re-initiate the version 6.0 software evaluation. These tests consisted of 22.5 flight-hours and numerous ground runs. Overall, the software improvements were acceptable. However, some minor problems existed that were not considered significant enough to prevent deployment. The ATTC consequently released the version 6.0 software to E Troop, 2nd Battalion, 229th Attack Helicopter Regiment for operational testing.⁶²

RAH-66 Comanche

In accordance with the new defense acquisition strategy announced by President Bush in 1992, a modified contract for the development of the RAH-66 Comanche reconnaissance/attack helicopter was developed in 1992. The new strategy deleted the production commitment for the 2,000 plus aircraft that had been planned and also removed the funding for the engineering, manufacturing and development

⁶¹Final report, "Cold Weather Demonstration of the OH-58D Kiowa Warrior Helicopter," (Oct 93) ATTC; Historical report, ATTC, CY 93.

⁶²Historical report, ATTC, CY 93.

phase of the program.⁶³ The modified contract, signed on 5 January 1993, awarded the Boeing-Sikorsky Joint Program Office \$2.07 billion for the development and testing of three prototype RAH-66 aircraft. The Longbow fire control system and the T-800 growth engine were to be included in the initial design phase. This contract also extended the demonstration/validation phase of the developmental process from three to five years. However, funding reductions required that the development and testing of many systems and components of the Comanche be deferred until later in the developmental process.⁶⁴ Following the successful demonstration of the critical elements of the Comanche weapons system in the demonstration/validation phase, the Army intended to proceed into the engineering and manufacturing and low rate initial production phases of the program, leading to full-scale production in 2002 and beyond.⁶⁵

The USAAVNC and the Army aviation community considered the Comanche critical to fill the armed reconnaissance helicopter void and a central aspect of the inventory reduction of Army aircraft envisioned in the Army Aviation Modernization Plan. The Army chief of staff was a strong supporter of the Comanche program; he visited the Comanche plant in Trumbull, Connecticut, during 1993 and was highly impressed with the Comanche's advanced technology.⁶⁶ General Sullivan was quoted as saying: "We must have the Comanche; the Comanche is vital to the US Army's future."⁶⁷ In March, President Clinton noted the importance of the Comanche as a top priority modernization program of the Army. The Administration also directed the Pentagon to plan to provide money for engineering, manufacturing, and development and for low rate initial production.⁶⁸ The Comanche fared relatively well in the DOD "bottom up" review, conducted from March to August 1993. This review examined the roles, missions, and capabilities of each service in view of the changing world situation to ensure optimum defense spending. The review validated the Comanche program and recommended continuation. The number of Comanches planned to be produced was fixed at 1,292.⁶⁹ The final successful

⁶³"ACH 1992," p. 76.

⁶⁴Information paper, Lt Col Quinn, 19 Nov 93, sub: Comanche restructure, TSM Comanche; "Army Aviation Warfighting Center Newsletter, May 93; Historical report, TSM Comanche, CY 93.

⁶⁵"The Comanche Courier," Feb 93, TSM Comanche.

⁶⁶Army Aviation Warfighting Center Newsletter, May, Aug 93; "The Comanche Courier," Jun 93, Chapter III file.

⁶⁷"The Comanche Courier," May 93, Chapter III file.

⁶⁸"The Comanche Courier," Mar 93, TSM Comanche.

⁶⁹Army Aviation Warfighting Bulletin," Dec 93; "The Choppy World of Army Aviation," Air Force Magazine, Jan 94, p. 58.

hurdle of the year was the full funding by Congress of the Administration's proposed Comanche program in the Defense authorization bill for fiscal year 1994.⁷⁰

During 1992, the Comanche required operational capability document was updated and converted to an operational requirements document in accordance with DA guidance. In January 1993, the USAAVNC sent the revised document to TRADOC for approval. The operational requirements document was approved by both TRADOC and DA by March 1993⁷¹

During 1993, Army maintainers continued assessing the maintainability of several subsystems of the Comanche manpower integration mock-up. The assessments aimed at evaluating Comanche sub-system design and the integration of the designs onto the Comanche airframe. The assessments began in December 1991 and were held periodically through June 1993. The evaluation of systems access, tool requirements, and support equipment resulted in several design enhancements that would facilitate maintenance. A final assessment was scheduled for 1997 on the Comanche prototype.⁷²

In November 1993, the Comanche program manager began the development of a streamlined Comanche developmental program. The principal motivation was the concern about whether the Comanche could demonstrate a significant improvement over current fleet capability and whether a full-up integrated training system would be ready by 2002, since the development and testing of so many of the Comanche systems and components had been deferred for budgetary reasons. The streamlined program aimed at overcoming these problems by blending the demonstration/validation phase into the engineering, manufacturing, and development phase; by deleting duplication of effort; and by removing all specifications, standards, regulations, and practices that added no value to the developmental process. The goals of the streamlined program were to retain all Comanche capabilities and DOD milestones while maintaining the schedule for initial operational capability in 2003. In December 1993, the streamlined concept was briefed to the vice chief of staff of the Army, and guidance was given for the Comanche team to finalize the streamlined process for final review and formal approval early in 1994.⁷³

⁷⁰Aviation Week and Space Technology, 15 Nov 93, p. 23.

⁷¹ATZQ-CDM-C (70-1i), Maj Gen John D Robinson for cdr TRADOC, sub: RAH-66 Comanche operational requirements document, DCD; RAH-66 Comanche operational requirements document, 19 Jan 93 (SECRET, info used is UNCLASSIFIED), DCD; Historical report, DCD, CY 93.

⁷²Briefing slides, "Comanche Maintenance Briefing," TSM Comanche; Historical report, TSM Comanche, CY 93.

⁷³Information paper, Lt Col Quinn, 19 Nov 93, sub: Comanche restructure, TSM Comanche; Historical report, TSM Comanche, CY 93; Briefing slides, "Comanche Streamline Program," [Dec 94], TSM Comanche.

The Light Helicopter Turbine Engine Company, the contractor for the Comanche engine, successfully completed the T800-LHT-801 growth engine preliminary design review in April 1993. The engine received an Army qualification rating in July and a Federal Aviation Administration type certification in September. Also, an Army UH-1H Iroquois, retrofitted with a T800 engine and auxiliary fuel tanks broke a world helicopter record in April by traveling a distance of 1,975 miles on one fuel load; the test demonstrated both the range and fuel efficiency of the engine.⁷⁴

The Comanche weapons system critical review was successfully completed in December 1993 resulting in the contractor's receiving permission to proceed with detailed design, fabrication, and construction of the first Comanche prototype. Construction began on the first RAH-66 Comanche prototype on 29 November 1993. By the end of the year, this prototype was nearing completion of the first assembly phase.⁷⁵

The U.S. Army Aviation Technical Test Center (ATTC) conducted several plant assessments of the Comanche helicopter during 1993. A test team conducted a proof-of-principle test on aircraft instrumentation for the night vision pilotage system, after which the U.S. Army Aeromedical Research Laboratory and Honeywell Corp. installed the equipment needed for the prototype helmets to be used in the front seat. ATTC Comanche test team members attended tests, evaluations, reviews, meetings, demonstrations, and exercises relating to the development of various components of the Comanche throughout the year.⁷⁶

E Troop, 2-229th Aviation Regiment, was organized at Fort Rucker in 1992 as an early operational capability unit to test, validate and refine tactics, techniques, and procedures for the RAH-66 Comanche prior to the deployment of the aircraft. The Comanche program was the first aviation program to employ the early operational capability concept.⁷⁷ In August 1993, an evaluation cell from the Combat Aviation Training Brigade at Fort Hood conducted dual station training evaluation of E Troop at Fort Rucker. The overall performance of E Troop was satisfactory with all crews qualifying.⁷⁸

⁷⁴"T800 Newsletter," Apr, Aug, Sep 1993, TSM Comanche; Historical report, TSM Comanche, CY 93.

⁷⁵Historical report, TSM Comanche, CY 93.

⁷⁶Memo STEAT-FS-E (70-10r), Jim McCrory for distr, 6 Oct 93, sub: monthly report no. 4, RAH 66 Comanche combined test team..., ATTC; Memo STEAT-FS-A (70-10r), Jim McCrory for distr, 26 Oct 93, sub: monthly report no. 5, RAH-66 Comanche combined test team..., ATTC; Historical report, ATTC, CY 93.

⁷⁷"ACH 1992," p. 71; Army Flier, 26 Mar 93.

⁷⁸Evaluation out-brief of E/2-229th, Combat Aviation Training Brigade, 1st Avn Bde; Historical report, 1st Avn Bde, CY 93.

TH-67 Creek

The first TH-67 Creek, the Army's new training helicopter, arrived at Fort Rucker on 15 October 1993. Plans called for the TH-67 to phase out the UH-1 Iroquois (Huey) as the primary core training helicopter between 1994 and 1996.⁷⁹ With a total estimated cost of approximately \$2.7 million, the TH-67 was a bargain for the Army. By selecting a non-developmental aircraft as its new training helicopter, the Army saved millions of dollars in man-hours and engineering work. The USAAVNC received the first two TH-67s from the manufacturer in October 1993. A total of 157 were scheduled to be acquired over a two-year period. The principal purpose for acquiring a new training helicopter was to reduce operating and support costs for initial entry training without degrading training effectiveness. An estimated \$27 million per year of savings in fuel, training, and maintenance costs was expected to be realized when the TH-67 completely replaced other aircraft for all core initial entry training. During November and December 1993, the USAAVNC acquired and installed four TH-67 cockpit procedures trainers. These trainers also would contribute to savings and economies in the training program.⁸⁰

Approximately five TH-67s per month were scheduled for delivery from the time of the first arrival in October 1993 until the final delivery in July 1996. Forty-five of the new TH-67s were to be of the instrument flight rules version and were to be located at Cairns Army Airfield. The remaining 112 Creeks were to be of the visual flight rules version, but twenty of these were to be equipped with complete instrument flight rules provisions; all 112 of these were to be located at Lowe Army Airfield. The estimated cost of operating the Creek was around \$218 per hour, compared to about \$518 per hour for the UH-1 Iroquois.⁸¹

The TH-67, also known as the Bell 206 helicopter, was tested extensively by the military as well as the civilian community before it was selected by the Army. Bell Helicopter Textron, the manufacturer of the TH-67, had produced more than 7,600 of the 206 series helicopter, and it was the Navy's primary training helicopter for twenty-four years before being adopted by the Army. The aircraft came equipped with crash-worthy seats, five-point restraint systems, and crash-worthy fuel systems.⁸² The U.S. Army Test and Experimentation Command (TEXCOM) Aviation Division conducted the training effectiveness user's evaluation of the new training helicopter during late 1992 and early 1993. U.S. Army Aviation Technical Test Center (ATTC) personnel participated in the test by flying the five candidate aircraft a total of 14.5 hours during phase II of the test. The phase II test objective

⁷⁹Army Flier, 22 Oct 93.

⁸⁰Historical report, DOL, CY 93; Historical report, ATB, CY 93.

⁸¹Army Flier, 1 Oct 93; Historical report, ATB, CY 93.

⁸²Army Flier, 1 Oct 93.

was to provide limited qualitative handling qualities and performance data to substantiate user findings reported during the test. The results of ATTC's part of the test were sent to TEXCOM for inclusion in the final test report.⁸³

A complication in the acquisition program for the new training helicopter occurred late in 1993 when Congress reduced fiscal year 1994 funding for the program. The total number that could be purchased was reduced to 150, with a minimum of forty-five being configured for instrument flight rules. The USAAVNC's position was that 157 aircraft were essential for the 1100 students in initial entry rotary wing training at any one time. Plans were being developed to resubmit requirements to Congress.⁸⁴

UH-60 Black Hawk

The UH-60 A/L Black Hawk was a twin engine helicopter designed to support the Army's air mobility doctrine for employment of land forces into the 21st century. It was also used for aerial resupply, medical evacuation, and command and control. Modernization enhancements for the UH-60 included single channel ground-to-air radio, global positioning system, command and control console, and aviator night vision imaging system. The USAAVNC DCD prepared a briefing for the Army deputy chief of staff for operations and for the secretary of the Army for research and development. This briefing identified Black Hawk missions, utility requirements, aircraft performance characteristics, and specialized requirements.⁸⁵

The planned UH-60Q was the standard UH-60 Black Hawk modified with a medical interior package designed to provide an enhanced medical evacuation capability. Lessons learned from Operation Desert Storm included the recognition of the need to upgrade the capability of helicopters used for the medical evacuation mission. During 1993, the USAAVNC DCD participated in several test coordination meetings and test integration working groups to assist in defining the modernization program. The critical operational issues and criteria for the UH-60Q mission equipment package for support of the in-process review production decision were developed. The issue to be resolved was whether the UH-60Q mission equipment

⁸³Memo STEAT-FS-A (70-10r), Jim McCrory for distr, 10 Mar 93, sub: change 1 to final report..., ATTC; Final report, "Training Effectiveness User's Evaluation of the New Training Helicopter..." (Jan 93), ATTC; Historical report, ATTC, CY 93.

⁸⁴Memo ATZQ-DPT-RT, Col David W Swank for PEO Aviation, [30 Nov 93], sub: new training helicopter requirement, CG file.

⁸⁵Historical report, DCD, CY 93; Briefing slides, "Team Black Hawk Requirements Review," 6 Jul 93; "Program and Project Summary Sheets," May 93, pp. A-1-10 to A-1-12.

package corrected the medical evacuation effectiveness and compatibility deficiencies of the UH-60A mission equipment package.⁸⁶

A modified version of the UH-60A, designated the YUH-60A(Q1), was selected for development as a proof-of-principle aircraft to fulfill the need statement that was generated by the user. An airworthiness release allowing operational pilots to fly the aircraft was required to support further development of the proof-of-principle aircraft. Modifications to the aircraft included: integration of a MIL-STD-1553B multiplex data bus, integrated avionics system, integrated enhanced navigation system, integrated radio navigation system, altitude hover hold system, forward-looking infrared system, external rescue hoist, voice altitude warning system, weather radar, storm-scope, a medical interior package including environmental control system, molecular sieve oxygen generating system, modified pilot/copilot and cargo bay windows, and a personnel locator system.

The U.S. Army Aviation and Troop Command (ATCOM) requested that the U.S. Army Aviation Technical Test Center (ATTC) conduct a limited qualitative preliminary airworthiness evaluation to support the issuance of a user airworthiness release for the proof-of-principle aircraft. The handling qualities of the YUH-60A(Q1) were virtually the same as the UH-60A except for small, controllable pitch and roll oscillations encountered at approximately 55 degrees angle-of-bank. The integrated avionics and navigation systems of the aircraft demonstrated satisfactory performance in both day and night conditions. The civil navigation/communication system's overall operation was reliable and consistent throughout the evaluation. There were a total of three enhancing characteristics, six deficiencies, and ten shortcomings. A limited airworthiness release was issued for operational pilots to support the proof-of-principle aircraft.⁸⁷

Special Operations Aircraft

The MH-60K and MH-47E helicopters were being developed to satisfy the special operations aircraft requirements. The ATTC was tasked to perform additional airworthiness testing on the aircraft to evaluate deficiencies found during the first preliminary airworthiness evaluations. Another evaluation was conducted on an MH-60K to evaluate production-compliant software, to verify correction of the integrated avionics systems-related deficiencies and shortcomings identified during the previous evaluation, and to provide sufficient information to ATCOM to determine whether the

⁸⁶Memo ATZQ-CDM-C (70-li), Col Robert M Stewart for dist, [1993], sub: coordination of critical issues and criteria..., DCD; Critical operational issues and criteria for the UH-60Q mission equipment package for support of the in process review production decision, DCD; Historical report, DCD, CY 93; Msg 171500Z Jun 93, CG USAAVNC to cdr CASCOM, sub: UH-60Q medical evacuation helicopters, CG file.

⁸⁷Memo STEAT-AQ-TC, for cdr ATCOM, 16 Sep 93, sub: report, limited qualitative preliminary airworthiness evaluation of the YUH-60A (Q1)..., ATTC; Historical report, ATTC, CY 93.

MH-60K was capable of safe flight in a visually degraded environment, since the first evaluation restricted the aircraft to flight during visual flight rules.

The aircraft, as it was configured for the latest evaluation, was safe to fly in a visually degraded environment. However, it was determined after the evaluation that the software was not prime-item, development specification-compliant. Seven deficiencies and fourteen new shortcomings were identified. Twenty-five previous shortcomings had been corrected. The ATTC was continuing to support the special operations aircraft developmental effort. ATTC personnel attended seven coordination and planning meetings for multi-mode radar development, four aircraft survivability equipment meetings, and three others for shipboard dynamic interface testing, performance testing, and aerial refueling testing. ATTC personnel also gave briefings on the preliminary airworthiness evaluation results and on terrain following radar. The special operations aircraft project manager decided to use non-standard developmental methodology for these aircraft, and the 160th Special Operations Aviation Regiment decided to direct its own multi-mode radar development testing. However, ATTC was to continue providing as much support as possible to the project.⁸⁸

The U.S. Army recognized the need to convert existing McDonnell Douglas Helicopter Co. A/MH-6J helicopters to a no-tail-rotor configuration. After the conversion, the helicopter was redesignated the A/MH-6N. The ATTC conducted tests to determine the performance and low speed flight characteristics of the A/MH-6N helicopter in order to provide technical data in support of a production decision. One deficiency relating to the occurrence of a suspected main rotor stability problem was identified. Four shortcomings were also noted.⁸⁹

CH-47D Chinook

The CH-47 was a twin turbine engine, tandem rotor, medium cargo helicopter with a crew of three, capable of carrying internal or external cargo in excess of 15,000 lbs. The Army began acquiring production model CH-47As in 1962, and that aircraft was designated as the Army's standard medium lift helicopter the following year. Fielding of the upgraded CH-47D began in 1983 and was scheduled to continue until the procurement objective of 446 aircraft were delivered in 1994. By 1993, the oldest of the CH-47D airframes were thirty years old, and, by 2008, 50 percent of the CH-47 fleet would have airframes more than forty years old.⁹⁰

⁸⁸Historical report, ATTC, CY 93; Memo STEAT-FS-(70-10r), Jim McCrory for proj mgr special operations aircraft, 17 Dec 93, sub: test record, MH-47E..., also encl, ATTC.

⁸⁹Historical report, ATTC, CY 93. The final report on this project had restricted distribution and was not included in ATTC report to historian.

⁹⁰"Program and Project Summary Sheets," May 93, pp. A-1-14 to A-1-16, DCD; Historical report, DCD, CY 93.

The improved cargo helicopter program was instigated to extend the life of the CH-47D fleet for the near term, until a new replacement could be developed for the far term--around 2020. During 1993, the USAAVNC DCD prepared a statement of work for modernizing and extending the life of the CH-47D fleet. Planned potential modifications included the following: long-range fuel tanks, modern technology engines, reduced vibration rotor systems, improved cargo handling system, improved night flying system, 1553 databus for future aircraft survivability equipment and avionics, integrated cockpit, eleven additional seats, improved payload, rescue hoist, and an area suppression weapon. Also in 1993, the DCD developed a mission need statement for an aerial cargo transport, describing the Army's near and far term requirements for aerial cargo transport capability. TRADOC approved the mission need statement and forwarded it to HQDA for review and approval. Later in the year, the DCD began work on the operational requirements document for an improved cargo helicopter, which would further define the system requirements.⁹¹

Fixed Wing Aircraft

The USAAVNC formulated a fixed-wing investment strategy during 1993 to serve as a road map for the Army's future fixed-wing fleet. The strategy received a favorable review when briefed at TRADOC and DA; the strategy document was at TRADOC for staffing and approval at year's end. Also in 1993, the USAAVNC DCD developed a mission need statement for a medium range utility airplane. This statement was approved by HQDA in December, with the recommendation that it become a joint-interest project involving the Marine Corps, Navy, and Air Force.⁹²

The C-XX Medium Range was a conceptualized turbo jet utility airplane designed to support the Army's operational support airlift requirement. This utility airplane was intended to supplement the C-12 and offset the loss of the retiring U-21 aircraft. During 1993, the USAAVNC began a cost and operational effectiveness analysis in support of a milestone I program decision anticipated in 1994. Congress appropriated funds in the fiscal year 1994 budget to purchase four aircraft. A mission need statement was also developed for a high capacity ambulance. It was then decided, however, to combine the high capacity ambulance requirements into a multi-mission medium tactical transport, combining airframe requirements for medical,

⁹¹Memo ATZQ-CDM-CS (70-1i), Maj Gen John D Robinson for Maj Gen Larry G Lehowicz, 22 Apr 93, sub: aerial cargo transport mission need statement, CG file; Mission need statement for aerial cargo transport capability, [1993], DCD; Historical report, DCD, CY 93.

⁹²Memo DAMO-FDZ, Jay M Garner for assistant secretary of the Army, 9 Dec 93, sub: mission need statement for C-XX..., DCD; Mission needs statements for the utility airplane (C-XX medium range), DCD; Historical report, DCD, CY 93.

intelligence, and cargo missions. A joint working group was scheduled for January 1994 to write the mission need statement for the multi-mission tactical transport.⁹³

The Washington Times reported that the Army was spending \$102 million for twenty C-23B Sherpa transport planes, even though the Army's purchasing office had refused to sign the contract because there was little evidence that the planes were needed. The inclusion of the purchase of the Sherpas, to be assembled at Clarkesburg, West Virginia, in the Defense acquisition legislation was attributed to influential West Virginia politicians.⁹⁴

Other Aircraft

The Aviation Modernization Plan identified the AH-1 Cobra, UH-1 Iroquois, and OH-58 Kiowa A/C for retirement. Therefore, the USAAVNC DCD continued to proceed with a minimum investment approach for these aircraft. The USAAVNC goals were to maintain safe, sustainable aircraft in the force until such time as they could be retired. Although the ATCOM came forward with various proposals for aircraft upgrades, the USAAVNC limited modification to only those necessary for continued safe and sustained operations.⁹⁵

The lead-the-fleet program of the U.S. Army Aviation Technical Test Center (ATTC) continued to provide reliability, availability, and maintainability data to users during 1993. The program during fiscal year 1993 involved one AH-64, one UH-60, and one CH-47, with each aircraft scheduled to fly forty hours per month. This constituted a significant reduction from lead-the-fleet testing of previous years. The lead-the-fleet AH-64A fell behind schedule due to the phase inspection (completed on 14 January 1993) and the Army-wide grounding of all AH-64A backup control systems aircraft in November 1992. Later in the fiscal year, however, an aggressive flight schedule compensated for the lost time. The lead-the-fleet CH-47D was deployed to Aberdeen Proving Ground, Maryland, during January to support the U.S. Army Combat Systems Test Activity with slingload certification. The three aircraft were flown a combined total of 1,405.5 hours during fiscal year 1993. The funds expended on the program during the fiscal year totaled \$2,284,982. As a result of the benefits received from lead-the-fleet testing, the U.S. Army Aviation and Troop Command extended the program into fiscal year 1994.⁹⁶

⁹³Memo Maj Gen John D Robinson for cdr TRADOC, 20 Apr 93, sub: high capacity air ambulance mission need statement, also encl, Chapter III file; "Program and Project Summary Sheets" May 93, p. A-1-18; Historical report, DCD, CY 93.

⁹⁴Dec 93, p. 15.

⁹⁵Historical report, DCD, CY 93.

⁹⁶Memos STEAT-FS (70-10r), Jim McCrory for distr, 4 Feb, 5 May, 10 Aug, 3 Nov 93, subs: quarterly report[s]...lead-the-fleet testing..., ATTC; Historical report, ATTC, CY 93.

The U.S. Army obtained several surplus C-23A aircraft from the U.S. Air Force and modified those aircraft for air sensor test bed work. Modifications included the addition of a moving target indicating radar dome, an infrared line-scanner, a forward looking infrared sensor, a satellite communications antenna, and a twenty-four-inch sphere to house an infrared sensor. The ATTC initiated the C-23 test program in 1993 with an airworthiness evaluation of the airframe to certify the aircraft for flight with numerous externally mounted sensors, turrets, spheres, and radar domes. No significant differences in aircraft characteristics were found between the baseline and mission configuration. Deficiencies found that were not related to the modifications consisted of unsatisfactory stall and stall recovery characteristics. The Flight Systems Test Directorate of ATTC configured the C-23 as an airborne multi-sensor test-bed. This configuration included infrared radar, a low-cost interoperable data link, an AN/ARC-199 high frequency radio, and a Litton-92 inertial navigation system with imbedded global positioning navigation system. Testing was scheduled to begin in fiscal year 1994.⁹⁷

The USAAVNC conducted a study during 1993 to determine whether the current unmanned aerial vehicle program would support aviation mission requirements, to evaluate conceptual unmanned aerial missions and capabilities which would support aviation, and to determine potential solutions to enhance unmanned aerial vehicle operations. The study, completed in August 1993, concluded that the unmanned aerial vehicle programs offered limited support for Army aviation and many other combined arms missions. Conceptual applications supporting Army aviation could support many non-intelligence and electronic warfare mission applications supporting other combined arms.⁹⁸

Weapons Systems

A crew from the Fort Rucker-based 2-229th Attack Helicopter Regiment fired three Hellfire missiles (including the 1000th Hellfire fired) at the Redstone Arsenal Hellfire Test Activity on Eglin Air Force Base, Florida, from 30 September through 1 October. Apache crews from Fort Rucker participated in the annual air-to-ground missile project at Eglin since 1991. Because the Hellfires fired during the test cost about \$41,000 each, most Hellfire training was done in simulators, with flight crews firing the actual missiles only about once a year. The target of the 1000th Hellfire was a M-48 Sherman tank about a mile away from the Apache launching the missile.⁹⁹

⁹⁷Historical report, ATTC, CY 93. Final report was in progress.

⁹⁸"Program and Project Summary Sheets," May 93, p. B-1-15; Historical report, DCD, CY 93.

⁹⁹Army Flier, 15 Oct 93.

During November 1993, the Longbow Hellfire Program Office fired the first two telemetry Longbow prototype fire-and-forget missiles at Eglin Air Force Base. These missiles were inertially guided, and the shots were successful. This test was followed on 21 December by the first inertially guided, radar-aided missile firing in the Longbow rail-launched test matrix. The mission consisted of acquiring a stationary T-72 main battle tank located 1.5 kilometers down range and 100 meters cross range from the launch point. The test resulted in a direct hit on the target.¹⁰⁰

The Hellfire II missile was the latest addition to the Hellfire program. It incorporated a dual warhead, effective against current and future threat armor systems. The programmable warhead incorporated an alternate laser coding capability. The size and weight of the missile was to be the same as earlier models. Martin Marietta Corporation was awarded the production contract on 26 May 1993. Both the Army and the Navy were to acquire the Hellfire II missiles. The initial buy was to total 3,941 all up rounds. The first delivery was scheduled for December 1994. The Hellfire II bus was to be used in the Longbow Hellfire. A second production option was expected to be exercised in February 1994. Also, an export version of the Hellfire was being considered; this missile would be identical to the U.S. version minus the electro-optical countermeasures.¹⁰¹

The Hydra 70 family of rockets had the potential of being used against many targets other than tanks. However, calculated performance data indicated such a low probability of hit/kill that the use of rockets for such purposes was questionable. A study was conducted during 1993 to examine the lethality of aerial rockets against area type targets in order to correct understated lethality data in current models. Also during 1993, the USAAVNC DCD reviewed the test and evaluation master plan on the Hydra 70 XM264 red phosphorous smoke rocket. This rocket was type classified standard and was scheduled to be procured in 1995. The development of the Hydra 70 M433 fuse was completed and type classified on the ten-pound high explosive warhead (M151). This warhead/fuse combination would allow the penetration of bunkers and buildings up to ten feet and a 45 foot penetration of trees when using a time delayed fuse.¹⁰²

The Army joined the Navy's advanced rocket system program after milestone II during September 1992, and the USAAVNC began incorporating Army aviation

¹⁰⁰Historical report, TSM Longbow, CY 93; E-mail note, Howard Charnel to LundG @ Rucker, 4 Feb 94, sub: retransmitted Longbow flash report, TSM Longbow.

¹⁰¹"Army Aviation Warfighting Center Newsletter," Aug 93; Historical report, TSM Longbow, CY 93; Amendment of solicitation/modification of contract, U.S. Army Missile Command and Martin Marietta Missile Sys., 26 May 1993, TSM Longbow.

¹⁰²"Program and Project Summary Sheets," May 93, p. B-1-13; Historical report, DCD, CY 93.

requirements into the program. The advanced rocket system was a higher-velocity variant of the 2.75 inch Hydra 70 rocket.¹⁰³

During 1993 the USAAVNC DCD developed the Army annex to the Navy operational requirements document for the advanced rocket system. The advanced rocket system was to be mounted on Army attack and reconnaissance aircraft for use as an anti-helicopter and air-to-ground weapon. It would replace the Hydra 70 rocket system. The advanced rocket would possibly also be used in a ground-to-ground configuration as a component of the XM11101 smoke system. The Army annex to the Navy operational requirements document was approved in October 1993. The Center for Naval Analyses and the USAAVNC DCD began a joint cost and operational effectiveness analysis study in 1993 with a completion date set for March 1994. The study analyzed the current Hydra family rockets, the Hydra 70 product improvement program, the advanced rocket system, and the hyper-velocity rocket. This effort was to help determine the Army's future participation in the advanced rocket system program. By August 1993, however, Army aviation concluded that it had adequate stocks of Hydra 70 rockets to fulfill anticipated requirements and that it had no major documented deficiencies. Therefore, the Army would not participate further in the advanced rocket system program.¹⁰⁴

During 1993, the USAAVNC DCD worked with the Air Defense Artillery DCD to update the required operational capability document for the air-to-air Stinger to reflect the current threat and to correct known shortcomings of the current missile. A three-stage product improvement program was started as a result of the required operational capability updates. Funding for the Stinger was withdrawn in 1993, however, and, although the USAAVNC fully supported the efforts of Air Defense Center to restore it, future funding was uncertain at the end of the year.¹⁰⁵

Avionics, Visionics, Electronic Warfare

The AN/APR-39A(V)2 radar warning was a passive wide band receiver being developed for special electronic mission aircraft. The system was being developed for the Navy as well as for the Army. Due to procurement funding shortfalls that developed during the latter half of 1993, however, the Army decided not to acquire the receivers. While continuing to support the developmental process in accordance

¹⁰³"Program and Project Summary Sheets," May 93, DCD.

¹⁰⁴Army annex to Navy operational requirements document for advanced rocket system, 27 Sep 93 (CONFIDENTIAL, info used is UNCLASSIFIED), DCD; Historical report, DCD, CY 93; Memo ATZQ-CDM-C (70-1i) Brig Gen John M Riggs for Office of Asst Dep CofS for Opers & Plans, 26 Aug 93, sub: Army participation in the Navy advanced rocket system, CG file.

¹⁰⁵Historical report, DCD, CY 93, Memo ATZQ-CDM-C (70-li), Maj Gen John D Robinson for Maj Gen James J Cravens Jr, 28 Oct 93, sub: air-to-air Stinger, CG file.

with a memorandum of agreement with the Navy, the Army discontinued procurement plans.¹⁰⁶

The AN/ARC-220 was a high frequency, single side band radio that provided improved internal aviation net communications at non-line of sight ranges up to 300 Km. Army aviation planned to use the capability for nap-of-the-earth communications to communicate air-to-air, air-to-ground, and ground-to-air. During 1993, the USAAVNC DCD finalized the operational requirements document, an updated and reformatted version of the required operational capability document approved in 1980. The revised document described aviation's requirements for a new high frequency radio for Army aircraft, air traffic control facilities, and aviation tactical operations centers. The document also described Army aviation's requirement for a power amplifier to boost the output power of the already fielded very high frequency, frequency modulated AN/ARC-201, airborne single channel radio. Collectively, the new high frequency radio and the improved frequency modulated radio would significantly increase the quality and capabilities of aviation command, control, and communications. The operational requirements document was forwarded to TRADOC headquarters for approval in November 1993.¹⁰⁷

The radar frequency interferometer was a passive target acquisition system that provided range and accurate bearing to threat emitters. The system detected, classified, ranged and prioritized radar emitters, cuing target acquisition systems for rapid hand-over or acquisition. The operational requirements document for the radar frequency interferometer was approved by TRADOC on 9 June 1993. The system was to be used on scout and attack helicopters to aid in detection and location of radar systems and provide cuing to other elements of the combined arms team for target acquisition. The system would provide fire support units with near real time intelligence and targeting data to attack enemy forces. The system completed developmental testing in October 1993, meeting or exceeding all performance requirements. Because of the reduced threat and funding, however, it was decided not to procure the system for the OH-58D. It was to be procured only for the AH-64 Longbow.¹⁰⁸

¹⁰⁶Memo SFEA-AV-AEC, Col Thomas E Reinkober for dir DCD, 21 Sep 93, sub: AN/APR-39A(V)2 radar warning receiver program, DCD; Memo ATZQ-CDM-A, Col Robert M Stewart for prog mgr Aviation Electronic Combat, 30 Sep 93, sub: AN/APR-39A(V)2..., DCD.

¹⁰⁷Operational requirements document for nap-of-earth communications system, DCD; Memo ATZQ-CDM-A (70-1i), Col Robert M Stewart for cdr TRADOC, sub: materiel change to airborne SINCGARS radio, DCD; Historical report, DCD, CY 93; "Program and Project Summary Sheets," May 93, p. A-2-48; Memo ATZQ-CDM-A (70-1i), Maj Gen John D Robinson for Maj Gen Larry G Lehowicz, 15 Nov 93, sub: operational requirement document..., CG file.

¹⁰⁸Operational requirements document for the AN/APR-48 radar frequency interferometer, 28 Apr 93 (SECRET, info used is UNCLASSIFIED), DCD; Memo ATCD-MV (70-1i) Bettie B Gonser for cdr USAAVNC, sub: AN/APR-48..., DCD; Historical report, DCD, CY 93; "Program and Project Summary Sheets," May 93, p. A-2-54; Memo ATZQ-DSA (1hh), Sfc Peyton D Abrams for dir DOS, 27 Apr 93, sub: trip report--Bell Helicopter Textron...19-23 Apr 93, DOS; 1st end AMSTE-TA-L (STEEP-MT-1/26 Jan 94) (70-10p), 24 Feb 94, sub: draft test report PPQT of

The advanced threat radar jammer was an automatic airborne jammer. The system analyzed incoming radar signals and automatically jammed those identified as coming from threat sources. The system continued jamming until the threat radar broke lock, at which time it ceased jamming but continued receiving and analyzing radar signals. The system was designed for both rotary and fixed wing aircraft. During 1993, the USAAVNC DOS reviewed the test and evaluation master plan and developed a system training plan for the jammer.¹⁰⁹ The AN/ALQ-136 (V)2 countermeasures set was to be programmed to respond to the pulse radar signals of the most critical threat weapons systems anticipated to be encountered by the aircraft in a hostile environment. The system was applicable to the EH-60 and RC-12K aircraft. The USAAVNC DOS developed a system training plan for the countermeasures set in 1993.¹¹⁰

The battlefield combat identification system program grew out of the fratricide incidents of Operation Desert Storm. The near term phase of the program focused on armor vehicles (ground to ground). Selected scout and attack aircraft would be equipped as the program developed. The system would provide positive identification of friends with comparable equipment. During 1993, the USAAVNC DCD provided operational requirements and the need quantities to the system program manager. At the end of 1993, the program manager was considering two prototype systems for use by Army aviation. Both prototypes were to be evaluated to determine the better alternative.¹¹¹

Among other shortcomings, the first generation forward looking infrared radar system did not provide a visual range capability for autonomously fired point target weapon systems, and it was incompatible with digital equipment. In February 1993, a DA special task force was established to horizontally integrate the second generation forward looking infrared radar across the Army. Resulting plans developed in the Dismounted Battle Lab aimed at the integration of technology to reduce costs by standardizing components of various Army systems. An "A kit/B kit" configuration was designed. The AH-64, OH-58D, UH-60 C/Q and the Comanche were to have this new second generation radar, which was expected to provide significant improvements in both target acquisition and night vision pilotage capabilities during night/adverse weather operations. The USAAVNC DCD participated in the

the radar frequency interferometer..., also encl, TSM Kiowa Warrior.

¹⁰⁹Memo ATZQ-DSA (70-17a), Col Palmer J Penny for proj mgr Aviation Electronic Combat, 14 May 93, sub: advanced threat radar jammer test and evaluation master plan, DOS; Memo ATZQ-DSA (1hh) S/c Peyton D Abrams for dir DOS, 25 May 93, sub: trip report..., DOS; Memo ATZQ-DSA (70-17a), Col Palmer J Penny for cdr TRADOC, 10 Nov 93, sub: approval of system training plan..., DOS.

¹¹⁰Memo ATZQ-DSA (70-17A), Col Palmer J Penny for cdr TRADOC, 8 Oct 93, sub: approval of system training plan..., also encl, DOS.

¹¹¹"Program and Project Summary Sheets," May 93, p. A-2-32; Historical report, DCD, CY 93.

preparations and processing of the operational requirements document, which was approved by the TRADOC commander in July 1993.¹¹²

The global positioning system was a world-wide navigation system that provided position, time, and velocity to the host platform twenty-four hours per day, anywhere in the world. In December 1992, Draper Laboratories completed a study to determine the best global positioning system solutions for attack/scout and for utility/cargo helicopters. For attack and scout aircraft, the study chose embedded systems in an inertial navigation system or the miniaturized airborne receiver. For utility and cargo aircraft, the study recommended a miniaturized airborne receiver/control display navigation unit or the embedded global positioning system/doppler (ANS-128/G). The decision on which system to procure for each aircraft was scheduled for June 1994. In June 1993, the USAAVNC decided to move the AN/ASN-149 out of the UH-60 aircraft and place it in the CH-47D fleet. Staffing of the critical operational issues and criteria for the embedded global positioning system was ongoing at the end of 1993.¹¹³

The aviation night vision system heads up display was a modification to the aviator's night vision imaging system. It would collect and display critical flight information from an aircraft sensor and convert it into visual imagery. The system would allow continuous "heads-up" flight without the need to continuously look back at the instrument panel. The system would sense critical flight data (altitude, airspeed, attitude, torque, compass heading, etc.) and transmit the data to the goggles. During 1993, the Test and Experimentation Command conducted a follow-on operational test and evaluation on the UH-60 heads up display and issued a final test report. Fielding of this system was expected to begin in 1994. The follow-on test and evaluation on the CH-47 installation was scheduled for February 1994.¹¹⁴

The ATTC completed production qualification testing of the HGU-56/P aircrew integrated helmet system during 1993. A follow-on test of an electro-optic helmet sight system was scheduled to begin in fiscal year 1994. The electro-optic helmet sight system would allow the HGU-56/P to be used in the AH-64 helicopter. The ATTC also began planning during 1993 for a production qualification test of an aircrew microclimate conditioning system for the OH-58D, UH-60, and CH-47D

¹¹²Memo ATCD-MI Maj Gen Larry G Lehowicz for distr, sub: operational requirements document..., DCD; Operational requirements document for improved forward looking infrared capability (SECRET, info used is UNCLASSIFIED), DCD; "Army Aviation Warfighting Center Newsletter," Aug 93; Historical report, DCD, CY 93; DCD, "Program and Project Summary Sheets," p. D-1-7, DCD.

¹¹³Historical report, DCD, CY 93; Memo ATZQ-CDM-A (70-li), Col Albert L Patterson III for DCD, 11 Jun 93, sub: installation of AN/ASN-149 (V) ..., DCD.

¹¹⁴"Program and Project Summary Sheets," May 93, pp. A-2-16 to A-2-19, DCD; Historical report, DCD, CY 93.

helicopters. This liquid cooling system would provide body cooling to the aircrew of those helicopters.¹¹⁵

During 1993, both the ATTC and the USAAVNC DCD participated in planning for the production qualification test of the XM-45 aircrew protective mask. The program moved into the validation and demonstration phase of the life cycle model. It was determined, however, that XM45 was not compatible with the integrated helmet and display sight system. The Longbow and Apache program managers were informed that the only way to develop an integrated mask was to redesign the helmet display unit and the integrated helmet and display sight systems. Therefore, the XM45 chemical/biological protective mask would replace the M43 in all aircraft except the AH-64 when crewmen were using the integrated helmet and display sighting system. The XM45 would provide aircrew members a chemical protective mask that did not require a motor blower. The mask also had increased optical correction capabilities and it was made from materials more compatible with facial tissue. The program was funded and on schedule. The first unit was scheduled to be equipped with the mask in 1998.¹¹⁶

Production of the five-lb. primary blower for the M43 protective mask was discontinued because of its size and weight. The M43A1 lightweight (three lb.) blower was developed as a replacement of the heavier blower on all M43 series masks. The lighter blower would provide at least two cubic feet of air flow per minute to the M43 or M43A1 aircrew protective masks. Several off-the-shelf motor blowers were tested and accepted for a qualified products list. The lightweight blowers were eligible for the competitive production procurement. Developmental testing and operational testing were combined and the technical manuals were being updated. Fielding of the lightweight blower was scheduled for late 1995.¹¹⁷

The aircrew microclimate conditioning system was a cooling system designed to reduce the debilitating effects of aircrew heat stress while wearing chemical protective clothing. The system consisted of a cooling vest worn under the individual's undergarment and a cooling pump mounted on the aircraft. The USAAVNC DCD revalidated the critical operational issues criteria for the system during 1993. The revalidation was to be used by the Operational Evaluation Command for the operational test of the system. There were to be four system configuration--for the UH-60, the AH-64, the CH-47, and the OH-58. The AH-64

¹¹⁵Historical report, ATTC, CY 93; Final report, "Pre-production Qualification Test of the Aircrew Integrated Helmet System," Mar 93, ATTC; Customer test report, "Pre-production Qualification Test of the Aircrew Microclimate Conditioning System [Sep 93], ATTC.

¹¹⁶Historical report, DCD, CY 93; Memo ATZN-CM-CS (70-li), Maj Gen Robert D Orton for cdr TRADOC, 8 Jul 93, sub: operational requirements document for the XM45 aircrew protective mask, DCD; Operational requirements document for the aircrew protective mask, [1993], DCD; Historical report, ATTC, CY 93.

¹¹⁷Historical report, DCD, CY 93; Draft letter requirement for the M43A1E1 aircraft chemical-biological protective mask, [1993], DCD; "Program and Project Summary Sheets," (May 93), p. A-3-30, DCD.

configuration was to utilize the on-board climate control system, and the other three systems were to use cooled water. At the end of the year, prototypes were undergoing testing, and initial operational test and evaluation was scheduled for 1994.¹¹⁸

The aviation tactical operations center was a standard integrated command post shelter mounted on a high mobility multi-purpose wheeled vehicle. The shelter contained the necessary computers, radios, and modems to control the battlefield. During 1993, a support contractor from Vitronics, Inc. completed worldwide staffing of the operational requirements document for the operations center. This document addressed a fully digitized aviation tactical operations center. The contractor also coordinated and finalized the USAAVNC position paper for the Army aviation command and control architecture. The position paper was awaiting the inclusion of aviation imagery requirements at the end of 1993.¹¹⁹

The U.S. Army Aviation Technical Test Center (ATTC) conducted the developmental test of the night pilotage systems at Fort Rucker between April and August 1993. Eight test subjects participated in a 150.2 flight-hour experiment to investigate the effects of hyperstereopsis (an incorrect perception of depth between objects) on pilot performance. Researchers also investigated pilot performance effects stemming from switching between a nose-mounted and a helmet-mounted sensor. All test subjects flew from the copilot/gunner station of an AH-64A Apache. Measured performance data were collected using an on-board instrumentation system, and subjective data were collected using workload and performance rating scales. Hyperstereopsis viewing effects on pilot performance and workload were minimal. Significant degradations in performance and large increases in workload resulted from switching between sensors that were not collocated. No benefit in improved pilot performance or significant reduction in workload was noted as a result of increasing the field-of-view by partially overlapping the field-of-view of the ten-inch system. Virtually all pilots preferred that the sensor system not be mounted on the head. Pilots reported minor perceptual difficulties during debriefings and on questionnaires; these were overcome through familiarization and training.¹²⁰

Radar warning receivers and jammers on Army aircraft in 1993 could not detect, identify, or defeat advanced radio frequency air defense weapons being marketed worldwide. A cost and operational effectiveness analysis was begun on a suite of integrated radio frequency countermeasures being developed to counter this

¹¹⁸Historical report, DCD, CY 93; "Program and Project Summary Sheets," May 1993, P. A-3-18.

¹¹⁹"Program and Project Summary Sheets," May 93, p. A-2-30, DCD; Historical report, DCD, CY 93. The operational requirements document and the USAAVNC position paper were submitted to the Aviation Branch History Office in digitized form, but could not be accessed at the time of the writing of the history because of technical difficulties; they remain on file in DCD section of ACH 1993 files.

¹²⁰Final report, "Developmental Test of the Night Vision Pilotage System," (Nov 93), ATTC; Historical report, ATTC, CY 93.

potential threat. The suite consisted of the following three subsystems: advanced threat radar jammer, advanced threat radar warning receiver, and advanced airborne radio frequency expendables. Army aviation proposed to use the system to protect Army aircraft in all types of missions. The USAAVNC DCD was developing an operational requirements document at the end of 1993. The cost and operational effectiveness study, being performed under contract, was designed to evaluate the effectiveness and determine the cost of such a system.¹²¹

The USAAVNC DCD also worked on an operational requirements document for a suite of integrated infrared countermeasures during 1993. Army aviation required such a system to passively or semi-actively counter infrared-guided weapon systems. Existing infrared jammers failed to provide adequate countermeasures against many modern infrared systems because they lacked range and effectiveness, were too big and bulky, or were not capable of integration into aircraft system. The proposed suite of infrared countermeasures would enhance survivability and provide freedom of operation for Army aviation systems and thus contribute to overall warfighting effectiveness.¹²²

Early in 1993, the U.S. Army Safety Center strongly recommended that a crash survivable flight data maintenance recorder be developed and placed on selected Army aircraft as an aid in determining causes of aviation accidents. An operational needs statement was prepared, and the USAAVNC DCD validated the requirement. However, the program, which would cost \$221 million was not funded, and going forward with it would be at the expense of other programs with higher priorities. The flight data recorder was 10th on the avionics systems improvement program priority list. The USAAVNC DCD and the USAAVNC commander recommended that the priority list not be modified and that the recorder not be placed on aircraft at the expense of systems with higher priorities.¹²³

The aviation mission planning system was a mission planning/battle synchronization tool designed to automate aviation mission planning tasks. The major functions of the system included tactical command and control, mission planning, mission management, and maintenance management. The system performed its first data transfer to an OH-58D in September 1993. During October, an early user test of the system was conducted during the Kiowa Warrior force development test and evaluation at Fort Hood, Texas. Also in October, the USAAVNC DCD approved the

¹²¹Operational requirements document for suite of integrated radio frequency countermeasures," 2 Mar 94, (SECRET, info used is UNCLASSIFIED), DCD; Historical report, DCD, CY 93.

¹²²Operational requirements document for suite of integrated infrared countermeasures, 8 Mar 94, (SECRET, info used is UNCLASSIFIED), DCD; Historical report, DCD, CY 93.

¹²³Memo DACS-SF Brig Gen R Dennis Kerr for cdr TRADOC, 23 Feb 93, sub: operational needs statement for flight data recorder system, also encl, Chapter III file; Memo ATZQ-CDM-S (70-1i), Maj Gen John D Robinson for Maj Gen Larry G Lehowicz, 20 Apr 93, sub: operational needs statement..., Chapter III file; Historical report, DCD, CY 93.

critical operational issues and criteria for the system. The mission planning and data transfer functions were tested in a side-by-side comparison of the system to the Honeywell mission planning station. At the end of the year, results of that test had not been published, but preparations were being made for the Apache Longbow initial operational test and evaluation to be conducted in 1994.¹²⁴

The improved data modem was a data communications modem designed to send formatted messages using existing radio systems. During 1993, the Army received six prototype data modems for use in integration development. The program team of the Naval Research Laboratory, Sechan Corporation, and the Air Force pushed back low rate initial production to October 1993 due to parts shortages. During 1993, Communications and Electronics Command performed a number of tests of the improved data modem using the MIL-STD 1553B data bus with good results. The first user test of the modem, during which the data transmission range was evaluated, was conducted in December. The improved data modem was considered a critical capability to permit data transfer among bused aircraft with C2 nodes.¹²⁵

Training Aids, Devices, Simulations, and Simulators

During 1993, the development and employment of simulators and simulations programs in Army aviation as well as in the Army as a whole continued to be given high priority. The Army began the development of distributed interactive simulation in 1992, with the Army Materiel Command serving as technical manager and TRADOC as functional manager. Distributed interactive simulation connected participants at various locations through communications networks for the purpose of collective training. The participants, operating from either actual equipment or computers could interact with each other. Distributed interactive simulation had the potential of revolutionizing collective training. It was extensively used in the Louisiana Maneuvers project during 1992 to examine issues important to the future force projection Army.¹²⁶ Furthermore, the Army's program was expanding the use of simulation from the traditional, but still very significant training domain, to a concept known as battlefield distributed simulation-developmental. During 1993, this

¹²⁴"Program and Project Summary Sheets," May 1993, DCD, p. A-2-28; Memo, ATZQ-CDM-A (70-1i), Col Robert M Stewart for distr, 25 Oct 93, sub: approved critical operational issues and criteria..., also encl, DCD; Historical report, DCD, CY 93.

¹²⁵Historical report, DCD, CY 93; "Program and Project Summary Sheets," May 1993, p. A-2-40., DCD.

¹²⁶E-mail note, Col Thomas W Garrett to cdrs/dirs, 29 Jul 93, sub: DIS educational workshop, Chapter III file; "U.S. Army Training and Doctrine Command Annual Command History...1992" (Oct 93), p. 135.

latter concept was quickly expanding the domain of simulation into combat, materiel, training development, and testing and evaluation.¹²⁷

The USAAVNC Directorate of Simulation (DOS) was tasked to develop Army aviation simulation strategy to complement the Army's distributed interactive simulation program.¹²⁸ The Aviation Center's simulation thrusts during 1993 dovetailed with the Army's efforts to provide leadership in the development of this concept. Seven basic tenets characterized the new Army aviation simulation strategy during 1993. These tenets were as follows:

(1) support aviation systems in the Army Aviation Modernization Plan, and the aviation restructuring initiative; and include training aids, devices, simulations and simulators in the combined arms training strategy;

(2) integrate programs into distributed interactive simulation so that the benefits of the combined arms tactical training program and the battlefield distributed simulation-developmental complement training, development, and testing;

(3) expand individual and crew training focus to include combined arms collective training and mission rehearsal;

(4) prepare the Aviation Test Bed for future advanced technology demonstrations, virtual prototyping, and warfighting simulations such as the Louisiana Maneuvers;

(5) consolidate resources and use reconfigurable cockpits, common semi-automated forces, computer software, and hardware;

(6) maintain the advanced rotary wing aircraft program as the priority research, development, and acquisition fast-track program leading to the aviation combined arms tactical trainer, Aviation Test Bed upgrades, and the family of aircrew sustainment trainers;

(7) be active players in the simulated battlefield.¹²⁹

The central theme of aviation's simulation strategy was warfighting, with priorities for training aids, devices, simulators, and simulations focusing on the aviation forces as outlined in the Army Aviation Modernization Plan. Specific requirements would be included in the aviation combined arms training strategy. Considerable effort was being made to ensure that collective and crew training had top priority. Aviation participation at the combat training centers was of utmost importance. The bottom line was to ensure that appropriate state-of-the-art training aids, devices, simulators, and simulations were available to support the training of aviation units as members of the combined arms team. Battlefield distributed

¹²⁷Information paper, Col P J Penny, 27 Sep 93, sub: Army aviation simulation strategy-advanced rotary wing aircraft program, DOS; "Army Aviation Warfighting Center Newsletter," May 93.

¹²⁸"Army Aviation Warfighting Center Newsletter," May 93.

¹²⁹Information paper, Col P J Penny, 27 Sep 93, sub: Army aviation simulation strategy-advanced rotary wing aircraft program, DOS; Memo AMSTI-CAAN, Lt Col Jan S Drabczuk for deputy director Army Acquisition Corps, 18 Oct 93, sub: Army aviation's simulation strategy and advanced rotary wing aircraft program, DOS; Briefing slides, "Army Aviation Simulation Strategy," 9 Nov 93, DOS.

simulation-developmental requirements were to be centered around preparation of the Aviation Test Bed to satisfy developmental and testing requirements for the modern aircraft weapons systems. Simulation of aircraft mission equipment packages (including weapons), sensors, navigational equipment, aircraft survivability equipment, and communication systems operating at night as well as during the day in a realistic environment to include adverse weather and obscurant was the goal. Verification, validation, and accreditation of these simulations were critical.¹³⁰

The Aviation Test Bed at Fort Rucker (formerly the Aviation Network) was owned by the U.S. Army Simulation Training Instrument Command. It was operated by a civilian contractor, Loral Aerospace Services, and the executive agency was the Directorate of Simulation (DOS). During 1993, the test bed conducted two high profile demonstrations of distributed interactive simulation technology. In May the test bed electronically provided a company of manned attack helicopter simulators, along with a tank simulator, to demonstrations conducted at the Association of the U.S. Army annual convention. The Aviation Test Bed simulators reacted perfectly with simulators from Moffet Field, California, Stratford, Connecticut, and Detroit, Michigan. The demonstration showed that, within the parameters of the test, interactions between simulation facilities were not significantly affected by distance. During December, DOS planned and rehearsed for a demonstration of distributed simulation to the secretary of the Army, the chief of staff of the Army and the commander of TRADOC. This demonstration was to be conducted at Fort Knox, Kentucky, in January 1994, and was to include the use of simultaneous simulation and video teleconferencing.¹³¹

The need to upgrade the test bed was one of the major topic of discussion at the first meeting of the process action team for training aids, devices, simulations and simulators in May 1993. Since the Aviation Test Bed was one of only two TRADOC distributed interactive simulation nodes, it was considered necessary that it meet verification, validation, and accreditation standards.¹³² Plans were developed during the year to embed (install) the aircraft survivability equipment/avionics control system into the test bed. The initial cost was estimated to be approximately \$.5 million.¹³³

¹³⁰"Army Aviation Warfighting Center Newsletter," May 93; Information paper, Col P J Penny, 27 Sep 93, sub: Army aviation simulation strategy-advanced rotary wing aircraft program, DOS; Briefing slides, "Army Aviation Simulation Strategy," 9 Nov 93, DOS.

¹³¹Historical report, DOS, CY 93; Army Flier, 4 Mar 94; Briefing slides, "Army Aviation Simulation Strategy," 9 Nov 93.

¹³²Memo ATZQ-DS, Col Palmer J Penny for distr, 19 May 93, sub: minutes of...process action team, CG file.

¹³³Memo ATZQ-DSA (70-17a), Col Palmer J Penny for proj mgr Aviation Electronic Combat, 26 May 93, sub: rough order of magnitude for installation..., DOS; Briefing slides, "Army Aviation Simulation Strategy," 9 Nov 93.

The advanced rotary wing aircraft program was an Aviation Center priority research, development, and acquisition fast-track program during 1993. It was an updated revival of the rotary wing aircraft program of the Simulation, Training, and Instrumentation Command (STRICOM) that was begun in March 1991 and terminated in March 1992 because of funding shortfalls. Prior to cancellation, \$9.2 million had been expended on the program; two rotary wing aircraft domes and two signal image generators had been produced.¹³⁴ Early in 1993 the USAAVNC developed and submitted to STRICOM an operational requirements document for an updated program. The document included specific requirements for Comanche, Apache Longbow, and Kiowa Warrior devices. It also addressed requirements for upgrades to the Aviation Test Bed, aircraft survivability equipment, and rotary wing aircraft software. With the \$3 million in funding available in early 1993, STRICOM implemented the program with an initial development of one armed reconnaissance and one attack advanced rotary wing aircraft cockpit. A joint working group was conducted on 29 April to task-organize the effort.¹³⁵

The advanced rotary wing program was designed to pull together the development of an aviation combined arms tactical trainer, Aviation Test Bed upgrades, the family of aircrew sustainment trainers, and other related simulation efforts. These programs had not been funded, or funding for them had been canceled or reduced at various times. Some of them conflicted with others at HQDA, STRICOM, TRADOC, and Program Executive Office (PEO) levels. The Aviation Center's efforts to consolidate and coordinate them therefore faced considerable opposition. The USAAVNC contended, however, that consolidation had many advantages. These advantages included the following: cheaper and/or quicker development of the aviation combined arms trainer; cheaper and/or quicker development of training systems/devices for any given aircraft or weapons system; better insights on acquisition decisions for modernized aircraft, aircraft survivability equipment, advanced avionics, and other systems; and more effective use of the Aviation Test Bed as the aviation centerpiece for the Louisiana Maneuvers, Battle Labs, warfighting exercises, the Army's distributed interactive simulation, and the determination of capabilities of modern Army aircraft.¹³⁶

During the latter part of 1993, the USAAVNC rejected proposals for the funding of programs to enhance aviation simulation capabilities as adjuncts to other

¹³⁴Fact sheet ATZQ-DST, Mr Jim Hawkins, 27 Sep 93, sub: advanced rotary wing aircraft program, DOS; Historical report, DOS, CY 93;

¹³⁵Memo ATZQ-DST (70-17d), Col Palmer J Penny for cdr STRICOM, [Apr 93?], sub: rotary wing aircraft requirements, also encls, DOS; Memo AMSTI-CAAN, Col John M Gravois for cdr USAAVNC & cdr PEO Aviation, 26 Apr 93, sub: advanced rotary wing aircraft program implementation, CG file.

¹³⁶Memo ATZQ-DS, Maj Gen DeWitt T Irby Jr and Maj Gen John D Robinson for HQDA, 5 Apr 93, sub: aviation test bed, DOS; Information paper, Col P J Penny, 27 Sep 93, sub: Army aviation simulation strategy-advanced rotary wing aircraft program, Memo ATZQ-DS (70-17d), Maj Gen John D Robinson for cdr TRADOC, 13 Dec 93, sub: advanced rotary wing aircraft need/requirements statement, DOS.

programs in lieu of full funding for the advanced rotary wing aircraft program. This program was made the "number one priority for the expansion of aviation virtual simulation capabilities" to support distributed interactive simulation and other simulation programs.¹³⁷ The Aviation Center consistently maintained that the whole program would provide more benefits to the Army and be more economical in the long-run than piecemeal projects. The advanced rotary wing aircraft program was a delivery order under the advanced distributed simulation technology contract with the Loral Corporation. It was a three-phase program. The STRICOM initiated phase I of the program in June 1993 with \$3 million provided from STRICOM funds. It was estimated in September that additional funding of \$40.8 million during fiscal years 1994-96 would be required to complete the program. As of October 1993, phase II had an unfunded requirement of \$11 million in fiscal year 1994 and a \$6 million shortfall in 1995. By November \$10 million in potential additional funds had been identified through coordination with other programs, leaving only \$7 million in unfunded requirements for phase II.¹³⁸ By the end of 1993, some funding issues were still unresolved, but the outlook was positive and the program was expected to be fully funded.¹³⁹

The USAAVNC continued developing the operational requirements document for the aviation combined arms tactical trainer throughout 1993. Because of rapidly changing technology and the expanding role of the trainer, both in combined arms training and in mission rehearsal, several updates to the requirements document were necessary. The aviation combined arms tactical trainer was the collective trainer for Army aviation. It was a networked simulation device that would allow aviation and reconnaissance units to conduct collective combined arms training in various warfighting profiles. Efforts were underway during 1993 to include utility units. The trainer would provide simulated company and battalion-level training and command post exercises. Each cockpit module would be interconnected via a local area network. The system was to be capable of operations with other combined arms tactical trainers, both locally and via long-haul network.¹⁴⁰

The primary simulation deficiency in the aviation combined arms strategy in 1993 was deemed to be the inability for aviation units to conduct collective training via simulation. Collective combined arms training could be accomplished only through costly field exercises. The aviation combined arms tactical trainer was

¹³⁷Memo ATZQ-DS, Maj Gen John D Robinson for Mr Wilbert J Brooks, 1 Oct 93, sub: anti armor advanced technology demonstration..., DOS.

¹³⁸Ibid; Ltr Maj Gen John D Robinson for Dr John J Hamre, 9 Nov 93, also encl, DOS; Memo AMSTI-CG, Brig Gen John F Michitsch for Maj Gen John D Robinson, 2 Nov 93, sub: advanced rotary wing aircraft, DOS; Fact sheet ATZQ-DST, Mr Jim Hawkins, 27 Sep 93, sub: advanced rotary wing aircraft program.

¹³⁹Historical report, DOS, CY 93.

¹⁴⁰Historical report, DOS, CY 93; Memo ATZQ-DST (70-17d), Col Palmer J Penny for distr, 28 Jun 93, sub: aviation combined arms tactical trainer, DOS.

intended to satisfy the need for collective training via simulation. Attack, armed reconnaissance, and utility aviation units were to be provided a virtual simulator set per company to accomplish the collective training. The aviation combined arms tactical trainer would provide cost and training effective simulation solution for combined arms level collective training.¹⁴¹

The aviation combined arms tactical trainer (formerly called aviation combat trainer) evolved from a training device needs statement developed in 1981, which culminated in a training device requirement in 1987. In 1991, the training device requirement was restructured to an operational requirements document that was subsequently approved by the Army Materiel Command and TRADOC. The requirements document was validated by DA in September 1992, thereby authorizing all actions short of release of a request for proposals. The revised operational requirements document was almost complete at the end of 1993. Final approval was expected upon completion of a joint review of the requirements document and the request for proposals. Depending on funding, it was estimated that the request for proposals would be released in June 1994.¹⁴²

Advanced rotary wing aircraft and aviation combined arms tactical trainer were two of the three programs in aviation simulation that were required to support Army aviation's training strategy in 1993. The third was the mobile aircrew sustainment trainer. The mobile aircrew sustainment trainer was an individual and crew skills sustainment trainer--quite distinct from the collective trainer, although the two have a common link through the advanced rotary wing program. The technologies developed through the rotary wing program, a research and development program, were to be transferred to both the combined and individual trainer programs. These two were to use common software and hardware items developed through the rotary wing program. Therefore, it was contended, it would be cost efficient and also save time to work on all three programs simultaneously.¹⁴³

During 1993 the USAAVNC DOS provided user requirements for computer based instruction in the AH-64 Aircraft Qualification Course. The purpose was to improve upon existing methods with state-of-the-art systems for efficient and effective training. The existing panel trainers were heavy or "fixed" training aids designed to teach maintenance courses. A computer-based training system would allow the instructor of an aircraft qualification course to present training in all AH-64 systems from the podium. With adequate hardware and easily modifiable course ware, the

¹⁴¹Revised operational requirements document, 20 Jan 1994; "Distributed Interactive Simulation Functional Requirement--Aviation Combined Arms Tactical Trainer," DOS.

¹⁴²Memo ATZQ-DST (70-17d), Col Palmer J Penny for distr, 28 Jun 93, sub: aviation combined arms tactical trainer, DOS; "Distributed Interactive Simulation Functional Requirement--Aviation Combined Arms Tactical Trainer," DOS.

¹⁴³Memo ATZQ-DST (70-17d), Col Palmer J Penny for cdr USACAC, 6 May 93, sub: operational requirements document for mobile sustainment trainer-Apache, DOS.

computer-based system would dramatically improve all aspects of aircraft qualification training while keeping costs low.¹⁴⁴

The final government inspection of the block update configuration II of the Apache combat mission simulator was conducted in February 1992.¹⁴⁵ A discrepancy recheck was conducted in November and December of 1992. Approximately 150 of 200 discrepancies had been cleared. Tests were conducted at Fort Campbell in June of 1993 and at Fort Bragg in July. Some deficiencies still existed, but they were gradually being worked out.¹⁴⁶

The USAAVNC DOS and the Directorate of Evaluation and Standardization worked with the U.S. Army Research Institute during 1993 to develop upgrades to all aircraft simulators to support crew coordination. The crew coordination upgrade involved mounting cameras in each simulator to record crew interaction and responses, both manual and verbal. Conclusions reached from a comparison test of camera systems were that the camera upgrade would have a positive impact on crew coordination.¹⁴⁷

The data automated tower simulator promised to be the key to future training of air traffic controllers. The visual based simulator captured the latest technology to provide realistic, comprehensive training. The same system was to be used to train Navy and Air Force controllers. Final testing was planned for the fall of 1993 and it was expected that training could begin shortly afterwards.¹⁴⁸

The U.S. Army Research Institute Aviation Research and Development Activity (ARIARDA) acquired and began conducting research with the Simulator Training Research Advanced Test Bed for Aviation (STRATA) during 1992. Also, construction began on a building to house the system.¹⁴⁹ During 1993, STRATA was employed in three experiments and in numerous demonstrations. In January, data were collected to determine the validity of STRATA's AH-64 simulation. During the months of March and April, further refinements were made to STRATA's tactical

¹⁴⁴Memo ATZQ-DST (70-17d), Col Palmer J Penny and Col Thomas M Roy for TSM Longbow, sub: user requirements for computer based instruction..., DOS.

¹⁴⁵"ACH 1992," p. 89.

¹⁴⁶Historical report, DOS, CY 93; E-mail note, CWO4 Keith S Broeme to Col P J Penny, 21 Dec 92, sub: AH-64 BUC II upgrade status, DOS; Memo ATZQ-DST (1hh), John E Rivenbark for dir DOS, 19 Jul 93, sub: trip report, Fort Bragg..., DOS

¹⁴⁷Historical report, DOS, CY 93; "Preliminary Estimates for the Army Research Institute's Air Crew Coordination Video Monitoring and Video Recording System Modification....," 26 May 1993, DOS.

¹⁴⁸"Army Aviation Warfighting Center Newsletter," May 93; Memo ATZQ-DST (1hh), Sfc Willard L Whitfield for dir DOS, 20 Jul 93, sub: trip report...data automated tower simulator..., DOS.

¹⁴⁹"ACH 1992," pp. 91-92.

simulation. An experiment which examined the scene content requirements for nap-of-the-earth flight simulators was conducted in STRATA during the summer of 1993. Following this experiment, STRATA was packed up and moved from its interim location to its new building. Afterwards, a third experiment was conducted in November. This experiment determined the degree of accuracy provided by virtual reality displays for pilots to estimate time to collision with computer generated targets. Late in 1993, a program was initiated with the TRADOC Systems Manager for Kiowa Warrior. In this experiment, STRATA was being used as a test bed to host the training system and a plan to conduct training research and proof of concept was developed.¹⁵⁰

During 1993, the Software Development and Management Division of the USAAVNC DOS participated in several simulator upgrades and networking projects. A contract was awarded on 20 August to develop a local area network consisting of two AH-64 combat mission simulators and two UH-60 flight simulators. The division also participated in requirements development and evaluations at the proof-of-concepts stage for the combat, weapons, and emergency procedure trainer upgrade, the development of an Apache crew trainer, and the analysis and development of a gunnery enhancement project to create a more user-friendly scoring matrix for the combat mission simulator. Additionally, the division participated in installation and networking of UH-60 flight simulators at Fort Lewis, Washington, and Fort Campbell, Kentucky.¹⁵¹

Aircraft Survivability Equipment Trainers (ASET)

The Aircraft Survivability Training Management Division of DOS acted as the USAAVNC representative for aircraft survivability training management and training development. The division managed embedded survivability equipment training programs for selected aircraft and provided life cycle updates for survivability equipment training systems. The division was the lead USAAVNC agency for combat training center instrumentation and the multiple integrated laser engagement system training devices. These devices included the air to ground engagement system/air defense, air to ground engagement simulation II and tactical engagement simulation systems. The division was also the proponent for the fielding of the aircraft survivability equipment trainer IV to the National Training Center (NTC) in 1993.¹⁵²

¹⁵⁰Historical report, ARIARDA, CY 93; Technical report, "Research Prospectus for the Simulator Training Research Advanced Testbed for Aviation," Jun 93, ARIARDA; Army Flier, 8 Oct 93.

¹⁵¹Historical report, DOS, CY 93; Memo ATZQ-DSS (70-17a), Randall Ramsey for dir DOS, 28 Dec 93, trip report—Apache crew training system..., DOS; "CWEPT Upgrade ECP Statement of Work," DOS; Memo ATZQ-DSS (70-17a), Randall S Ramsey for dir DOS, 21 Sep 93, trip report—UH-60...upgrade, Fort Lewis, WA, DOS.

¹⁵²Historical report, DOS, CY 93.

The aircraft survivability equipment trainer IV prototype operated against an attack helicopter battalion at the NTC during rotations 93-02 and 93-04. Although numerous problems were experienced, the testing validated the need for this force-on-force threat trainer. One of the new requirements was that it have night-fighting capability. The trainer was removed and underwent hardening and multiple integrated laser engagement system II applications before being returned to the NTC for further evaluations.¹⁵³ In September, the USAAVNC certified that the required corrections had been made to the aircraft survivability equipment trainer IV system and recommended that production of the trainer begin. The multiple integrated laser engagement system corrections, which were to ensure that the trainer replicated the threat systems that it simulated, was a separate contract and was continuing. The use of the prototype trainer added the dimension of electronic warfare and electronic protection to the commanders' and aviation crews participating in the exercises at the NTC.¹⁵⁴

The special electronic mission aircraft community determined the need for enhanced aircraft survivability equipment training due to the high threat mission profile and proliferation of electronic warfare countermeasures program for special electronic mission aircraft platforms. The embedded aircraft survivability equipment trainer was a low risk growth program from the canceled OV-1E cockpit upgrade product improvement program. The study began in 1987 and was redirected to the RC-12K Guardrail Common Sensor program in 1989. Software validation was completed in 1992, and the first units were installed. The RC-12K was redesignated the RC-12N. The evaluation plan for the trainer provided guidance for the operational user evaluation of the system. The plan was to be revised based on information gained as the evaluation progressed. The evaluation plan presented the objectives, issues, and criteria needed to assess the new technology of an embedded aircraft survivability equipment training system. The major goal of the evaluation was to determine the training effectiveness of the RC-12N embedded trainer with comments from the system users. The evaluation was to take place at Fort Huachuca, Arizona.¹⁵⁵

The EH-60A aircraft survivability equipment/avionic control system dovetailed with the RC-12N aircraft survivability equipment/avionics control system. Although

¹⁵³Memo ATZQ-DSA (1hh), Capt James A Bond for dir DOS, 4 Feb 93, sub: trip report--NTC, Fort Irwin, CA 6-27 Jan 93; Memo ATZQ-DSA (70-17a), Col Palmer J Penny for proj mgr, Aviation Electronic Combat, 10 Mar 93, sub: need for aircraft survivability equipment trainer IV to have night-fighting capability, DOS; "Army Aviation Warfighting Center Newsletter," Aug 93; Msg 171635Z May 93, cdr USAAVNC to cdr USACAC, sub: support of CTC aviation initiatives, CG file.

¹⁵⁴Memo ATZQ-DSA (70-17a), Col Palmer J Penny for CG, 28 Sep 93, sub: aircraft survivability equipment trainer IV production decision, also encls, DOS; 1st end ATZQ-TDS-O (ATZQ-MH/15 Jun 94 (1), Col Palmer J Penny for cmd hist, 3 Jun 94, sub: 1993 Annual Command History--staffing, DOS.

¹⁵⁵Memo ATZQ-DSA (70-17a), Col Palmer J Penny for distr, 26 Jan 93, sub: user evaluation plan..., also encl, DOS; Memo ATZQ-DSA (1hh), CWO4 Peter R Kalogris for dir DOS, sub: trip report..., DOS.

this technology had not been funded for production, it produced favorable results and enhancements for the RC-12N system. Representatives from the USAAVNC and other members of the user community met in January to discuss seventy-two proposed enhancements to the Honeywell aircraft survivability equipments/avionics control system installed on the RC-12N. Thirty-five of these enhancements were rated as "must have." The USAAVNC placed high priority on embedded training systems, and those enhancements were considered necessary to ensure that the system operated according to specifications. Various sources of funding were explored. By May 1993, the Guardrail project manager had provided \$1 million to fund mission related equipment change proposals for RC-12N. Honeywell submitted a bid of \$1.2 million to perform the required work. Various possibilities were being explored to bridge this gap.¹⁵⁶

During 1993, the USAAVNC DOS worked with the contractor, Flight Safety International, toward the development of the OH-58D Kiowa Warrior cockpit procedure trainer. Specifically, the DOS demonstrated the AN\APR-39A (V)1 suitcase trainer to Flight Safety International software engineers in order for these engineers to write the program to include aircraft survivability equipment threat training in the cockpit procedure trainer.¹⁵⁷

Multiple Integrated Laser Engagement System (MILES)/Air Ground Engagement Simulation (AGES) II

Prototype models of MILES AGES II continued to be used on a limited number of AH-64 rotations at the NTC. Although there was still a shortage of systems and some other problems, there was significant improvement over 1992 performance. The "probability of hits" was approaching the actual system capability by mid 1993. The key to success at the NTC was validating individual/crew gunnery skills during regularly scheduled collective training. Units with proper gunnery training programs were demonstrating that Army aviation could be a significant player on the NTC battlefield. There was a production contract for thirty more AH-64 MILES AGES II systems as well as UH-60, CH-47, and OH-58D air-to-ground engagement simulation devices. Delivery of these systems was expected to start in the summer of 1994. These systems were considered vital for aviation to be viewed as a part of the instrumented battlefield at the NTC. Toward this end, the

¹⁵⁶Memo ATZQ-DSA (1hh), CWO4 Peter R Kalogris for dir DOS, 17 Feb 93, sub: trip report...25-27 Jan 93, DOS; Memos ATZQ-DSA (70-17a), Col Palmer J Penny for proj mgr Aviation Electronic Combat, 28 Apr, 26 May 93, sub: RC-12N...enhancements, DOS.

¹⁵⁷Historical report, DOS, CY 93; Memo ATZQ-DSA (1hh), CWO3 Mark E Bass for dir DOS, 17 Sep 93, sub: trip report..., DOS.

USAAVNC was supporting every effort to properly integrate aviation into every rotation at the combat training centers.¹⁵⁸

During 1993, Aviation participation at the NTC was only partially automated, thereby requiring subjective analysis on most of the tactical engagements. The NTC concerns about the AGES II design were that it was not a 100 percent replication of the AH-64 aircraft. Some of the deficiencies were being resolved, but some others still defied a solution. With existing technical and fiscal constraints, however, the NTC recognized the design rationale and agreed that the devices should be fielded.¹⁵⁹

Air Traffic Control Equipment

Five air traffic control systems were under development during 1993. The tactical terminal control system and the air traffic control navigation, integration, and coordination system were being developed to replace the AN/TSQ-97 and the AN/TSQ71B. Other systems under development included a tactical airspace integration system, a forward area shelterized terminal, and a fixed-base precision approach radar. Another project, the mobile microwave landing system, was eliminated during 1993 because it was determined that it did not fulfill tactical requirements. The fixed-base precision approach radar system began an integration process during 1993 based on comments to a draft operational requirements document to integrate the requirement with the air traffic navigation integration and coordination system.¹⁶⁰

The operational requirements document for the new communications console system was approved by the TRADOC commanding general in July 1993. The acquisition decision was then approved in November, and the product manager for air traffic control was preparing to procure the system during fiscal year 1994. The USAAVNC recommended that 267 consoles be procured. The communications console system incorporated a radio/telephone switch in a cabinet that could be

¹⁵⁸"Army Aviation Warfighting Center Newsletter," May, Aug 93; Memo ATZQ-DSA (70-17a), Col Palmer J Penny for proj mgr for training devices, 16 Feb 93; sub: multiple integrated laser engagement system... DOS; Msg 141635Z May 93, Maj Gen John D Robinson for Brig Gen William L Nash, sub: support of CTC aviation initiatives; Memo ATZQ-DSA (70-17a), Col Palmer J Penny for proj mgr for training devices, 9 Jun 93, sub: AN/AVR-2A multiple integrated laser engagement system...test report, DOS.

¹⁵⁹Memo ATZQ-CG (95) Maj Gen John D Robinson for senior aviator trainer Fort Irwin, 5 May 93, sub: AH-64 air-ground engagement system II, CG file; Draft of fact sheet, "AGES II AH-64 NTC Efforts" 3 May 93, CG file; Memo ATZQ-DSA (1hh), Robert W Martin for dir DOS, 4 Oct 93, sub: trip report-NTC systems integration review..., DOS.

¹⁶⁰Memo AMSEL-RD-C2-CU-ATC, Merton S Dubois for distr, 19 Nov 93, sub: revised tactical terminal control system..., USAATCA; Army Aviation Warfighting Center Newsletter," Aug 93; Historical report, USAATCA, CY 93; Memo ATZQ-ATC-SP (70-1i), Maj Gen John D Robinson for Maj Gen Larry G Lehowicz, 26 Jul 93, sub: approval of the mission need statement..., CG file.

configured for various functions in an air traffic control facility. It was designed to replace the AN/FSW-8 communications control set and other consoles and controls at low to medium activity air traffic control facilities.¹⁶¹

The operational requirements document for the fixed-base air traffic control recorder/reproducer was approved by TRADOC in May 1993. The U.S. Army Air Traffic Control Activity (USAATCA) completed and staffed the critical operational issues and criteria for the system in June. At the end of the year, the USAATCA was coordinating with principal users of the system and the product manager to implement the materiel fielding plan for the recorder/reproducer. This system was to be used to record the telephone and radio communications within air traffic control facilities. It was to replace several older systems used in air traffic control facilities.¹⁶²

Aviation Logistics Equipment

It was impossible for forward aircraft maintenance capabilities to keep up with rapidly moving aviation units. The shop equipment contact maintenance was being developed to provide rapid transport and support of forward maintenance teams with associated maintenance, recovery, and battle damage assessment and repair equipment in a high mobility multiple use vehicle variant.¹⁶³

The USAALS DCD planned a pre-positioned sustainment maintenance facility in 1993 to replace the earlier Arapaho project. Since Arapaho was designed to provide only aviation intermediate maintenance, the logistics community would not support the concept. Therefore, based on TRADOC/CASCOM guidance, the USAALS expanded the Arapaho concept to include support for ground systems as well as aviation. The system was renamed pre-positioned sustainment maintenance facility to reflect its additional scope. The facility was a containerized maintenance facility that could be pre-positioned. It would provide seaborne maintenance capability to perform aviation intermediate maintenance, direct support, and selected depot-level logistics support during force projection or contingency operations in a developing theater. The facility could be removed from the host vehicle and employed on the ground. The requirement for such a facility had been demonstrated

¹⁶¹Memo ATCD-GI (70-1i), Bettie B Gonser for cdr USAAVNC, 19 Jul 93, sub: operational requirements document..., USAATCA; Memo AMSAT-I-Z (70-1), Daniel J Rubery for distr, [13 ?] Nov 93, sub: milestone I/II acquisition decision..., USAATCA; Historical report, CY 93.

¹⁶²Memo ATCD-GI (70-1i), Bettie B Gonser for cdr USAAVNC, 24 May 93, sub: operational requirements document for the Fixed-Base Traffic Control Recorder/Reproducer, USAATCA; Memo ATZQ-ATC-SR (95-2b), Francis N Anderson for distr, 7 Jun 93, sub: critical operational issues and criteria..., USAATCA; Memo ATZQ-ATC-SR (95-2b), Betty J Lewis for dir USAATCA, 1 Dec 93, sub: recorder/reproducer materiel fielding plan, USAATCA; Historical report, USAATCA, CY 93.

¹⁶³"Army Aviation Warfighting Center Newsletter," May 93.

in recent contingency operations. The operations requirements document for the facility was approved by TRADOC in November 1993.¹⁶⁴

During Operation Desert Storm, the desert environment eroded UH-1H metal main rotor blades and the nickel rain guard on the composite main rotor blades. As a quick solution to this problem, several materials, including a polyurethane tape, were applied to the leading edge of each blade. This worked well enough that a number of U.S. Army units wished to continue with the tape protection. However, some units reported that helicopter performance was degraded up to 10 percent with the taped metal rotor blades and expressed a concern with the taped composite rotor blades in autorotation. The U.S. Army Aviation Technical Test Center (ATTC) conducted a limited airworthiness and flight characteristics evaluation to obtain performance, handling qualities, vibration, and airspeed calibration information on a UH-1H helicopter to document the effect of taping the rotor blades. The performance of the UH-1H fitted with taped blades was decreased in all flight conditions for metal rotor blades and in all flight conditions except climb for composite rotor blades. The roof-mounted UH-1H airspeed system was unaffected by tape application to the main rotor blades, and the position errors were the same for both metal and composite blades. There were no deficiencies, shortcomings, or military specification noncompliances identified that were directly attributable to the taping of either type main rotor blades.¹⁶⁵

USAALS had a joint program with the Air Force to develop a generic aircraft nitrogen generator system, a self-generating nitrogen system that would extract nitrogen gas from the atmosphere and separate and store gas that was at least 95 percent pure. The Army planned to take advantage of the Air Force's non-developmental item contract and use the Air Force's requirements document.¹⁶⁶

During 1993 the USAALS DCD initiated a program to provide Army wide standardization of aviation maintenance automation hardware and software capabilities. The directorate also completed cost and operational effectiveness analyses for several aviation ground support equipment developmental items. Additionally, the new aircraft tool system program went into the final pre-procurement phase as contracts were awarded for prototype tool kit boxes for the aircraft general mechanic tool kit and the aviation foot locker set. These items were projected for deployment in 1994. Technical testing of the aircraft boresight

¹⁶⁴Operational requirements document for pre-positioned sustainment maintenance facility, USAALS-DCD; Memo ATCD-SL (70-1f), Bettie B Gonser for distr, 30 Nov 93, sub: operational requirements document..., USAALS-DCD; Notes on interview by author with Mr Rodney Schulz, 19 Jan 94, 1993 Historian note file; "Army Aviation Warfighting Bulletin," Dec 93.

¹⁶⁵Historical report, ATTC, CY 93. Final report was in progress.

¹⁶⁶"Army Aviation Warfighting Bulletin," Dec 93.

equipment permitted that program to progress into the engineering and manufacturing development phase during 1993.¹⁶⁷

Other Equipment Requirements

The distribution of the M43A1 aircrew protective mask was discontinued in 1993. Developmental work was needed to correct deficiencies in the light-weight motor blower. A 2.5-pound battery-powered motor was to replace the 5-pound motor in the M43A1. The M43A2 was scheduled to be available for fielding in fiscal year 1995.¹⁶⁸

On recommendation from TRADOC, the USAAVNC changed the name of the aircrew integrated equipment mission need statement to "air warrior" mission need statement, aligning the nomenclature with the Infantry Center's "land warrior" and the Armor Center's "mounted warrior" mission need statements. All three statements were derived from the soldier integrated protective ensemble demonstration. The air warrior mission need statement called for the development of all mission support and life support equipment for aviators as a combined package. When fielded, the air warrior would provide aviators the ability to fly with less fatigue resulting in improved mission capabilities.¹⁶⁹

During 1993, the U.S. Army Aviation Technical Test Center (ATTC) continued developing prototypes and conducting tests for the purpose of providing an evaluation of large-scale rotary wing aerial targets designed to emulate the Russian Mi-28 Havoc helicopter. The product effort was referred to as HAVOC-X. Three prototypes were to be built with a projected follow-on procurement of twenty-one additional units if testing confirmed target acceptability. The Sikorsky H-3 was to be used as the host airframe. Targets developed as a result of this project were to be used to stress anti-air weapon systems during developmental and acceptance testing. The baseline performance and handling qualities test had been completed, and fabrication of the composite appendages was beginning at the end of 1993. Completion of the first prototype was scheduled for the fourth quarter of fiscal year 1994.¹⁷⁰

The aviation battle dress uniform was a two-piece, camouflaged, woodland print design, fire resistant flight uniform. The uniform was considered to be more

¹⁶⁷Historical report, USAALS-DCD, CY 93.

¹⁶⁸Memo ATZQ-CDM-S (70-1i), Maj Gen John D Robinson for distr, 14 Jun 93, sub: M43A1 chemical protective mask fielding, CG file; "Army Aviation Warfighting Center Newsletter," Aug 93.

¹⁶⁹Historical report, DCD, CY 93; Mission need statement for the air warrior, [1993], DCD.

¹⁷⁰Historical report, ATTC, CY 93.

suited for field environment than the standard, sage green, one-piece flight uniform. Fielding of the uniform began in November 1992 and was scheduled to continue through 1995. Approximately 12,000 uniforms had been distributed before the Defense Personnel Support Center stopped production because of a shortage of the material used for the uniforms. Production began again in late November. The flight jacket to accompany the new uniform had not become available in 1993.¹⁷¹

¹⁷¹Historical report, DCD, CY 93; Memo AFZB-AO-AS (670-1), Col Charles S Hurt for CG USAAVNC, 21 Jun 93, sub: aircrew battle dress uniform, CG file.

CHAPTER IV

MISSION SUPPORT

A. Resource Management

According to budget guidance received from TRADOC in December 1992, total operations and maintenance Army funding for the USAAVNC for fiscal year 1993 was to be \$346.1 million, consisting of \$307.0 million direct funds and \$39.1 million automatic reimbursement funds. This constituted a decrease of \$15.8 million from the March 1992 TRADOC budget guidance. The decrease in funds resulted from a Congress-directed reduction in aviation training.¹

The total fiscal year 1993 USAAVNC expenditure of TRADOC operations and maintenance Army funds was \$364.7 million, of which \$314.3 million were direct funds and \$50.4 million were automatic reimbursement funds. For comparison, the USAAVNC's fiscal year 1992 expenditure of TRADOC operations and maintenance funds was \$362.2 million.²

The total USAALS obligations for fiscal year 1993 were \$9.0 million--approximately \$.2 million less than for 1992. Of the total obligations for fiscal year 1993, \$6.7 million was for civilian pay, \$.93 million for incentive awards, and \$.93 million for class IX supplies. Additionally, the USAALS funded 1,280 temporary duty orders during the fiscal year.³

The USAAVNC received TRADOC guidance for the fiscal year 1994 command operating budget in May 1993. According to this guidance, the USAAVNC would receive a total of \$341.2 million, of which \$304.5 million would be direct funds and \$36.7 million would be automatic reimbursable funds. The USAAVNC requirements for fiscal year 1994 to fund TRADOC mission essential task list and other funding imperatives totaled \$408.7 million, leaving an unfinanced requirement of \$67.5 million.⁴

According to USAAVNC analyses, the \$250 million originally allocated by HQDA for aviation flight training would fund only 90 percent of requirements. The shortage was exacerbated by TRADOC's withholding \$7 million and reprogramming

¹Memo ATRM-B, Maj Gen Henry M Hagwood Jr for distr, sub: FY 93 TRADOC budget guidance, DRM; Historical report, DRM CY 93; Memo ATRM-B (37-49a), Maj Gen Henry M Hagwood Jr for distr, 1 Dec 92, sub: FY 93 appropriation TRADOC budget guidance, also encl, DRM.

²Historical report, DRM, CY 93; "ACH 1992," pp. 103-104.

³Historical report, USAALS, CY 93.

⁴Historical report, DRM, CY 93; Memo ATRM-B, Maj Gen Henry M Hagwood Jr for distr, 14 May 93, sub: FY 94 TRADOC budget guidance, also encl, DRM.

for other purposes \$22 million of the \$250 million. Furthermore, in order to develop a balanced and executable installation program, it was necessary for the USAAVNC to redistribute \$10 million of the aviation training funds for base operations, training support, and environmental compliance programs. Consequently, only \$211 million of the original \$250 million were available to support the flight training mission. It was deemed essential for TRADOC to provide the USAAVNC with the \$7 million that it had withheld in order to accomplish the minimum training goal of 77 percent of initial entry training and 80 percent of graduate level training requirements.

Other particularly critical unfinanced requirements included additional funding of \$1.5 million to support the mission essential task list in the information mission area and an additional \$1.4 million for aviation logistics training. While recognizing that some requirements could not be funded in 1994, the USAAVNC listed and described other unfinanced requirements, for an overall total of \$67 million, in its analyses of the proposed 1994 budget prepared for TRADOC review. The USAAVNC also proposed that TRADOC provide direct funding to support the Warrant Officer Career Center at Fort Rucker and the air traffic control mission at other TRADOC installations, rather than depending on USAAVNC funds for these purposes.⁵ Headquarters, TRADOC, reviewed the USAAVNC's fiscal year 1994 unfinanced requirements and agreed to fund some of them and to continue to look for funds to support some others.⁶

During 1993, the USAAVNC Internal Review and Audit Compliance Office (IRAC) completed seventeen audits and made forty-three recommendations which would result in estimated potential monetary benefits totaling approximately \$8.4 million. Audit work was accomplished in most USAAVNC directorates and in the dependent school at Fort Rucker. The IRAC also provided command liaison for thirteen visits by external audit organizations, including the U.S. Army Audit Agency, the U.S. General Accounting Office, and the DOD Inspector General.⁷ Brief descriptions of some of the more significant audits conducted by IRAC during 1993 may be found in appropriate parts of this chapter.

The USAAVNC Inspector General Office conducted special inspections during 1993 in the areas of hazardous waste, crime prevention, personnel utilization, publications procedures, military pay operations, and officer evaluation report procedures. A follow-up inspection was conducted on noncommissioned officer evaluation report procedures. Visits from outside inspectors general included two

⁵Commander's statement, Maj Gen John D Robinson, 23 Jun 93, sub: FY 94 command operating budget, CG file; Memo ATRM-B, Maj Gen Henry M Hagwood for distr, 14 May 93, sub: FY 94 TRADOC budget guidance, DRM.

⁶Historical report, DRM, CY 93; E-mail note, 30 Nov 93, Fran Gast to Vernell Butts, sub: interim TBG file handling instructions, DRM.

⁷Historical report, IRAC, CY 93.

inspections by TRADOC and three by the DA. The Inspector General Office processed 454 action requests and informal inquiries and provided quarterly updates of these actions to the Command Group and brigade commanders.⁸

B. Personnel Management

During the latter part of 1992, the Directorate of Resource Management completed a comprehensive analysis of the USAAVNC mission, workload, and allocated manpower. This analysis presented workload and manpower trends for fiscal years 1991 to 1994. It was assumed that civilian manpower reductions would continue through fiscal year 1997 and that a portion of the reductions would be offset by workload adjustments. Other cuts, however would require that activities be curtailed or downgraded. The DRM study provided a framework to evaluate and execute reductions in manpower from a numerical or functional perspective. Among other accomplishments, the study identified the operating structure and mission essential task list for the USAAVNC and for each assigned operating activity; identified a notional 5 percent manpower reduction by activity; analyzed the mix of supervisors to workers, the need for deputy positions, and other operating structures; identified and initiated action to reduce management layering; and identified a total of fifty-one potential management improvements. Approximately 50 percent of the proposed management improvements were accepted and approved for implementation.⁹

On 1 October 1993, the Fort Rucker civilian work force consisted of 2,381 DA civilians, 348 AAFES employees, 359 non-appropriated fund employees, and 400 other federal civilians. There were also 2,780 contractor employees on Fort Rucker. The total military strength was 6,030, of which 3,825 were permanent party. Most of the remainder consisted of students.¹⁰

Between 1 January and 31 December 1993, the total civilian work force (appropriated and non-appropriated fund) of Fort Rucker declined from 2,926 to 2,515.¹¹ During fiscal year 1993, the USAAVNC alone (not including tenant agencies) lost authorizations for 32 officers, 43 warrant officers, 108 enlisted personnel, and 93 civilians. Additionally, one officer, forty-four enlisted, and seventy-one civilian authorizations were transferred from the USAAVNC to the

⁸Historical report, IG Office, CY 93.

⁹"Management/Resource Alignment Study," Col Steve Ivie and Mr Howell L Flowers, 5 Oct 92, DRM; Historical report, DRM, CY 93.

¹⁰Statistical data provided by Cost & Management Analysis Division, DRM, DRM.

¹¹Historical report, DCP, CY 93; RCS feeder reports for CSFOR-78, [Dec 92] and [Dec 93], incomplete documents provided, DCP.

Defense Finance and Accounting Service along with the finance and accounting functions. Although a reduction-in-force was executed in September 1993, no Fort Rucker employees were separated involuntarily from federal service.¹²

The avoidance of involuntary separations resulted in part from the freezing of all personnel actions at the USAAVNC (including new hires, transfers, reassignments, demotions, reclassifications, and promotions) effective 29 March 1993. This action was to prepare for the implementation of voluntary separation incentive pay and any subsequent reduction in force requirements resulting from the manpower reductions imposed on the USAAVNC for fiscal year 1994.¹³

Headquarters, TRADOC notified the USAAVNC, via a memorandum dated 31 March, that the DA had approved the use of civilian separation incentives as well as voluntary early retirement authority (VERA). The guidance to Fort Rucker was that employees who availed themselves of the VERA and the voluntary separation incentive pay (VSIP) must be off the payroll no later than 3 May 1993. The maximum amount of VSIP any individual was to receive was \$25,000. Eligibility for the VSIP depended on the abolishment of a position--either the position of the voluntary retiree or of another position from which the incumbent could move into the position of the voluntary retiree.¹⁴

By 3 May 1993, 102 Fort Rucker employees had either resigned or retired to take advantage of the VSIP. According to the Directorate of Civilian Personnel (DCP), the total cost of the VSIPs for these 102 persons was \$2.7 million. As a result of the use of civilian separation incentives, the estimated number of involuntary separations was reduced from ninety-two to seventeen. As of 10 May, DCP projected forty reassignments, forty-five change-to-lower-grades, and seventeen separations. The VERA remained in effect until 30 September.¹⁵ The USAAVNC was notified on 2 June that the VSIP had been extended through 30 September, but that TRADOC could not fund separations agreed to after 5 June; these would have to be funded by the installation.¹⁶

On 16 June, the USAAVNC DCP issued twenty-three reassignments and twenty-five change-to-lower-grade letters. There probably would have been around

¹²Historical report, DRM CY 93; "Budget Manpower Guidance," 15 Feb 94, DRM.

¹³Memo ATZQ-DCP (690-300), Col Robert N Seigle for distr, 26 Mar 93, sub: hiring and promotion freeze, Chapter IV file.

¹⁴Memo ATBO-CE (690-300, TRADOC Hdqts for distr, 31 Mar 93, incomplete document provided, DCP; Historical report, DCP, CY 93.

¹⁵E-mail note, Lynden H Rosenberry to cdrs/dirs, 10 May 93, sub: VSIP/VERA/RIF, Chapter IV file; E-mail note, Lynden H Rosenberry, [Jul 93], sub: major changes, Chapter IV file.

¹⁶E-Mail note, Alice K Ward to TRADOC CPOs, 2 Jun 93, VSIP extension, Chapter IV file.

twelve involuntary separations, but the authority of the post to conduct involuntary separations had been revoked by the DA and TRADOC. The USAAVNC's self-imposed freeze remained in effect.¹⁷ Although the number of involuntary separations had already been reduced to twelve by July, the lack of USAAVNC authority to execute these and other separations constituted a severe hardship. While the VSIP and VERA were excellent tools, they generated the need for involuntary separations in order to correct skill imbalances and consolidate the bump and retreat actions that had transpired.¹⁸

The USAAVNC was notified on 2 July that its authority to conduct involuntary separations of fewer than fifty persons had been restored; that TRADOC had funds to cover some additional VSIPs; and that the rules governing VSIP had been relaxed. It was no longer necessary to show that a specific position was being abolished or an involuntary separation saved. It was necessary only to demonstrate a general decline in manpower levels with corresponding reductions in funding levels over the next two years. This opened up possibilities for accepting some of the 200 applications for VSIP that had not been approved earlier. TRADOC would help to fund additional VSIPs providing they were identified by 23 July.¹⁹ From July through September, twelve additional persons were offered and accepted VSIPs. Of the 114 VSIPs for the year fiscal year, 49 were for VERAs, 52 for other retirement, and 13 for resignations. Additionally, two tenant agencies at Fort Rucker, U.S. Army Aviation Technical Test Center and U.S. Army Aeromedical Research Laboratory, lost a total of twenty-seven personnel through VSIPs--twenty-five retirements and two resignations.²⁰

The hiring and promotion freezes that helped to avert involuntary separations during reductions in force for 1991-1993 were reimposed for fiscal year 1994. Requests to fill new or vacant permanent positions and requests for permanent promotions were to be sent through DRM for review and evaluation. Actions would then be submitted to the chief of staff for approval or disapproval. If approved, the requests would be sent to DCP for action. To the maximum extent possible, selections of personnel to fill new or vacant positions would be limited to current employees.²¹

¹⁷E-mail note, Lynden H Rosenberry to cdrs/dirs, 25 Jun 93, sub: important stuff update, Chapter IV file.

¹⁸Msg 251330 May 93, Maj Gen John D Robinson to cdr TRADOC, sub: civilian personnel downsizing, CG file.

¹⁹E-mail note, Lynden H Rosenberry, sub: major changes, Chapter IV file.

²⁰List of FY 93 VSIPs by name date and type, DCP; Notes on tel conv by author with Margie Fields, 3 May 94, DCP.

²¹Memo ATZQ-RFM (570-4g), Col Thomas W Garrett for distr, sub: USAAVNC civilian hiring and promotion policy for FY 94, CG file.

The USAAVNC work force was scheduled to be reduced by 149 persons during fiscal year 1994. Before the end of calendar year 1993, ninety-four vacancies had already been created by the hiring freeze. Both VERA and VSIP were approved for use in fiscal 1994, but there was to be no TRADOC money to pay for the VSIP; the cost would have to come out of the installation's payroll dollars. The window for VSIP was to be open only from 13 December 1993 through 28 February 1994 so as to reduce payroll costs in order to be able to pay the VSIPs. As of the end of calendar year 1993, the USAAVNC did not have authority to conduct involuntary reductions-in-force for fiscal year 1994.²²

The Army cap on high grade civilian positions remained in place during 1993. The policy aimed at limiting high grade positions to the minimum necessary for mission accomplishment. TRADOC assigned the USAAVNC a high grade ceiling based on the number of high grade positions in existence on 30 September 1991. The USAAVNC's original high-grade ceiling was 5 GM-15s, 17 GM-14s, and 175 GM/GS-13s. As of January 1993, the USAAVNC was just below its ceiling, and it had not been necessary to request exceptions. Later in the year, however, an exception was requested in order to maintain positions that had been or were being filled out of necessity. The request for exception proposed to decrease the GM-15s by one, increase the GM-14s by two, and increase the GM/GS-13s by six. It was necessary to increase the number of 13s to permit the hiring of nine additional instructor pilots to provide transition training in the AH-1 and UH-60 aircraft. This requirement resulted from changes in initial entry rotary wing training, q.v., which generated an annual savings of \$12.1 million.²³

Fort Rucker successfully implemented the first two phases of the Total Army Performance Evaluation System (TAPES) during 1993. A TRADOC training team and subsequent sessions, conducted by the USAAVNC DCP, prepared supervisors and all civilian personnel for the transition to the new system. Because of opposition to the new system expressed by the American Federation of Government Employees, those Fort Rucker employees included in that union's bargaining unit were initially not to be included under the new evaluation system. This opposition was later withdrawn, however, and all civil service employees were scheduled to be phased into TAPES. The first group to be phased into the new system consisted of all employees of grade 13 or above; this occurred on 1 July. On 1 November, all employees in grades 9 through 12 were phased into the system. All remaining employees, grades 8

²²E-mail note, Lynden H Rosenberry to cdrs/dirs, 22 Dec 93, sub: FY95 bogey and other stuff, Chapter IV file.

²³Memo ATBO-CE (690-500), Maj Gen John P Herrling for distr, 3 Feb 93, sub: high grade management, CG file; Memo ATZQ-DCP-PM (690-500), Lynden H Rosenberry for distr, 9 Feb 93, sub: high grade management, Chapter IV file; Memo ATZQ-DCP (690), Col Thomas W Garrett for cdr TRADOC, 1 Oct 93, sub: corrected high-grade ceiling, CG file.

and below were scheduled to be phased into TAPES as their annual ratings were closed out under the birthday cycle.²⁴

The TAPES represented a major change in the philosophy and process of civilian performance management. There was widespread dissatisfaction with the old performance management system, which focused on negative aspects of job performance. Also, ratings under the old system were widely perceived as having become highly inflated. The mission of the TAPES was to integrate military and civilian systems into one, combining the strength of both. While the new system for rating civilians did not provide for a senior rater profile as the military system did, the plan at the USAAVNC was for the chief of staff to monitor the installation's overall senior rater profiles through the commanders and directors. Also, credible senior rater profiles would be included as a required objective on the commander's and director's performance support form.²⁵

A performance standards review board was established during the second quarter of 1993 to review performance standards and ratings of performance management and recognition system (general merit) employees and to assure equitable distribution of awards. The maximum award was not to exceed 1.5 percent of expected base salary and the minimum amount was not to be less than 1.15 percent of base salary. The requirement for mandatory awards for exceptional general merit employees was no longer in effect, but the requirement that employees with higher ratings should receive larger awards (when they did receive awards) than employees with lower ratings was still in effect. The garrison commander was appointed chairperson of the board.²⁶

Budget constraints in 1993 caused Fort Rucker to sharply curtail its civilian awards policies. In May 1993, the USAAVNC adopted a policy of allowing only 7 percent of eligible employees to receive quality step increases. The limit on quality step increases was continued for fiscal year 1994. Expenditures for other civilian awards were similarly reduced. The DRM programmed 0.95 percent of each organization's base payroll as a reserve fund to be used for performance awards, special act or service awards, and on-the-spot cash awards. Once an organization had used its funding reserve, no more awards could be given unless coordinated through DRM and DCP and approved by the USAAVNC chief of staff. The new policy on

²⁴E-mail notes, Lynden H Rosenberry to cdrs/dirs, 13 Jan, 27 Jan, 28 Jul 93, Chapter IV file; DA Pam 690-400, "Total Army Performance Evaluation System (TAPES)," 1 Jun 93, passim; Memo ATZQ-DCP-SP (690), Col Thomas W Garrett for distr, 18 Jun 93, sub: annual rating period for general merit employees, CG file.

²⁵ATZQ-DCP (690-400), Col Thomas W Garrett for distr, 17 Dec 93, sub: total army performance evaluation system, CG file.

²⁶Memo ATZQ-DCP-SP (690-400), Maj Gen John D Robinson for distr, 18 Mar 93, sub: performance management and recognition system guidance, CG file; Memo ATZQ-DCP-SP (690), Col Thomas W Garrett for distr, 18 Jun 93, sub: annual rating period for general merit employees, CG file.

civilian awards also prohibited giving any one person monetary performance awards of any kind for two consecutive years.²⁷

As a result of the adoption of restrictions on monetary awards for civilians, the monetary value/cost of awards was sharply decreased during the course of the fiscal year. The total monetary value of civilian awards dropped from \$141,446 during the first quarter to \$62,944 for the third quarter and \$104,510 the fourth quarter. The first year costs of quality step increases dropped from \$42,628 the first quarter to \$7,095 the third quarter and \$16,763 the fourth quarter.²⁸

On 31 October 1993, the Performance Management and Recognition System for general merit employees terminated. In accordance with section 4 of Public Law 103-89, The PMRS Termination Act of 1993, former general merit employees transitioned into the Performance Management System and the general schedule pay plan. To help ensure accurate pay administration, agencies continued to use the GM pay plan code for former general merit employees.²⁹

The Family and Medical Leave Act of 1993, Public Law 103-3, was enacted on 5 February and became effective on 5 August. Title II of the act, provided a total of up to twelve administrative work weeks of leave without pay during any twelve-month period to take care of specified family and medical needs for employees covered by the annual and sick leave system.³⁰

The USAAVNC IRAC Office reviewed the benefits Fort Rucker was paying under the Federal Employees Compensation Act during 1993. The law provided that compensation be paid to federal civilian employees for disability due to personal injury sustained while in the performance of duty or due to employment-related disease. The auditors discovered that several employees who had been awarded compensation for disabling injuries were still collecting benefits, although their disabling injuries no longer existed. Estimated annual savings resulting from discontinuing compensation to ineligible recipients amounted to \$140,000.³¹

²⁷Memo ATZQ-DCP-SP, Col Thomas W Garrett for distr, 17 May 93, sub: civilian incentive awards policy, CG file; Memo ATZQ-DCP-SP, Col Thomas W Garrett for distr, 30 Nov 93, sub: FY 94 civilian incentive awards policy, Chapter IV file; Army Flier, 17 Dec 93.

²⁸Memo ATZQ-DCP-SP, Thomas W Garrett for distr, 3 Dec 93, sub: civilian incentive awards, CG file.

²⁹Memo ATZQ-DCP-SP, Lynden H Rosenberry for distr, 22 Oct 93, Chapter IV file, also DCP.

³⁰Memo ATZQ-DCP-SP (690), Thomas W Garrett for distr, 19 Oct 93, sub: Family and Medical Leave Act of 1993, DCP.

³¹IRAC Office Report No. 93-47, Federal Employees Compensation Act, IRAC; Historical report, IRAC, CY 93.

On 1 December 1993, President Clinton approved a locality pay bill for federal civilian employees. Pay raises for general service employees ranged from 4.23 percent in Washington and some other high-salary areas to 3.09 percent in lower-salary areas, including Fort Rucker.³²

Permanent party officer promotions for Fort Rucker during 1993 were as follows: Seven considered for colonel with three selected; sixty-nine considered for lieutenant colonel with eighteen selected; fifty considered for major with thirty-seven selected; twenty-eight considered for captain with twenty selected; ten considered for first lieutenant with nine selected; seventy-eight considered for chief warrant officer five with twenty-six selected; fifty considered for chief warrant officer four with thirty-four selected; twenty-nine considered for chief warrant officer three with twenty-one selected; thirteen master warrant officers were designated.³³

Senior enlisted promotions for Fort Rucker in 1993 were as follows: 23 considered for sergeant major with 8 selected; 147 considered for master sergeant with 12 selected; and 390 considered for sergeant first class with 43 selected³⁴.

The USAAVNC equal employment opportunity and affirmative action programs remained vigorous and proactive during 1993. Equal Employment Opportunity (EEO) Office personnel participated in all new employee orientations, briefed all new directors, commanders, and agency heads, and coordinated quarterly EEO Committee meetings. The EEO Office also maintained a cordial relationship with the local chapters of Blacks in Government and Federally Employed Women and played a key role in Black History Month, the Dr. Martin Luther King, Jr., birthday celebration, Women's History Month activities and other events celebrating the cultural heritage of minorities represented on the Fort Rucker work force. In April, the EEO Office conducted its annual training of EEO counselors. From the twenty-two employees trained, eight of those who passed the examination given at the end of the training were appointed for two-year terms as EEO counselors. The EEO Office also conducted prevention of sexual harassment training throughout the year for civilian employees and supervisors of civilians.³⁵

³²Washington Post, 2 Dec 93.

³³Historical report, OMP/AG, CY 93; Fact sheet, ATZQ-AG, 28 Feb 94, sub: CY 93 permanent party officer promotions; E-mail note, Col Thomas W Garrett to cdrs/dirs, 30 Nov 93, sub: majors promotion list, Chapter IV file.

³⁴Memo ATZQ-AG (600-8-19), M J Wesley for distr, 1 Dec 93, sub: command sergeant major...selection lists, OMP/AG; Memo ATZQ-AG (600-8-19), M J Wesley for distr, 4 Aug 93, sub: master sergeant...selection list, OMP/AG; Memo ATZQ-AG (600-8-19), M J Wesley for distr, 21 Apr 93, sub: sergeant first class...selection lists, OMP/AG; Historical report, OMP/AG, CY 93.

³⁵Historical report, EEO, CY 93.

During 1993, the representation of minorities and women was generally comparable with the representation of the various categories in the local work force, although some groups were under represented in some job series and pay grades. Of the appropriated fund work force total of 2,521, 43.5 percent were females, 17.1 percent were blacks, and 1.7 percent were Hispanic. Asian American/Pacific Islanders and American Indian/Alaska Natives combined totaled 1.9 percent of the appropriated fund work force. Of the non-appropriated fund work force of 376, women constituted 64.4 percent, blacks, 43.6 percent, and Hispanics, 4.3 percent. Of the total of 1,447 professional, administrative, and technical employees, women constituted 44.4 percent, blacks, 20 percent, and Hispanics, 2.1 percent.³⁶ The more notable disparities were that women constituted only 6.3 percent and blacks only 5.5 percent of the labor force in pay grades 13 and above.³⁷ These percentages compared with DA figures of 16.3 percent for women and 5.3 percent for blacks.³⁸

Notwithstanding a proactive EEO program, relatively good minority representation in the work force, and the command group's repeated manifestations of commitment to equal employment opportunity and affirmative action, Fort Rucker experienced an increase in the number of complaints of discrimination in 1993, during which 108 informal complaints of discrimination were filed. The EEO Office successfully resolved 85 percent of the informal complaints, but forty formal complaints were filed.³⁹ For comparative purposes, 85 informal complaints were filed in 1991, and 101 in 1992. Of these, thirty-four formal complaints were filed in 1991 and twenty-eight in 1992.⁴⁰

Both national and local leaders of the Southern Christian Leadership Conference (SCLC) became involved in complaints of discrimination and reprisals by civilians and military personnel. The national director of the SCLC held public hearings at a location near the post, and Fort Rucker received unfavorable, and in some cases unfair, publicity in area newspapers.⁴¹

On 12 March the commanding general called a mandatory meeting of all commanders and directors regarding the SCLC actions and their effect on Fort

³⁶Work force profiles, 3 Jan 93, EEO.

³⁷"Affirmative Employment Program Report on Special Emphasis Program," 25 Oct 93, EEO.

³⁸"EEO Profile, GS/GM 13-15," EEO.

³⁹Historical report, EEO, CY 93.

⁴⁰"ACH 1991," p. 80; "ACH 1992," p. 114

⁴¹Montgomery Advertiser, 31 Jan, 2 May 93; Notes on oral interview by author with Maj Gen John D Robinson, 30 Jun 94, oral history file.

Rucker.⁴² The commanding general emphasized his personal and professional commitment to equal opportunity and his determination that discrimination should not take place on Fort Rucker. He called on everyone present to avoid any form of discrimination, to ensure that no discrimination occurred within their respective jurisdictions, and to prevent actions, activities, or words which might give rise to perceptions of discrimination. He added that he, the EEO officer, and other Fort Rucker officials were to meet with the SCLC leaders as well as with individuals who had made charges of discrimination and expressed the hope that the matter could be resolved quickly and amicably.⁴³ A meeting was held shortly afterwards to establish a dialogue between the local chapter of the SCLC and USAAVNC leadership. The meeting was attended by the local SCLC leader and his assistant and by several USAAVNC leaders. These included the commanding general, the chief of staff, the garrison commander, the staff judge advocate, the EEO officer, the inspector general, and several others. Processes for dealing with complaints, inspector general procedures, and DA grievance procedures were explained and discussed. It was decided that General Robinson and the SCLC leader would work together to resolve whatever problem might exist.⁴⁴ According to General Robinson, a much better and less emotionally charged relationship was eventually established.⁴⁵

Of the forty discrimination complaints that had not been resolved on the local level, only five discrimination lawsuits (and only two of those racially related) were pending against Fort Rucker in Federal District Court at the end of the year. Two were based on sex discrimination/harassment, two on age and race, and one on age and reprisal. One case had been tried, but the judge's ruling had not been released. Motions for dismissal had been filed by the government in the other cases.⁴⁶

The EEO Office attributed the increased number of civilian complaints during 1993 to turbulence in the work force caused by the continuing manpower reductions. While neither women nor minorities were adversely affected by the reductions-in-force out of proportion to their numbers, there was nevertheless a perception of discrimination, especially among blacks.⁴⁷

⁴²E-mail note, Barbara A Clark for cdrs/dirs, 12 Mar 93, sub: mandatory EEO meeting with CG, Chapter IV file.

⁴³Historian's notes, 12 Mar 93, Historian note file.

⁴⁴Historical report, EEO, CY 93.

⁴⁵Notes on oral interview by author with Maj Gen John D Robinson, 30 Jun 94, oral history file.

⁴⁶Memo ATZQ-CG (690-600), Maj Gen John D Robinson for chief of staff of the Army, 30 Dec 93, sub: status of EEO and other discrimination complaints at Fort Rucker Alabama, CG file.

⁴⁷Historical report, EEO, CY 93.

Several of the complaints of racial discrimination and of retaliation for having lodged complaints emanated from the U.S. Army Aeromedical Center at Fort Rucker and involved military personnel. The offices of both the DA and the DOD Inspector General eventually became involved in the investigations of these cases and ultimately substantiated some of the allegations of mistreatment. Other charges were not substantiated, and one case was undecided at the end of the year.⁴⁸

Mr. Oben B. Johnson, the TRADOC command EEO officer, conducted an equal employment opportunity, staff assistance visit to Fort Rucker on 24-26 August. The purpose of the visit was to evaluate the Fort Rucker EEO program effectiveness and assess the EEO climate. The command support of the program and the personal involvement by the commander, the chief of staff, and the garrison commander were found to be strong. The personnel staffing in the EEO Office was over 100 percent of recommended minimum staffing, and the EEO facility was excellent. Equal employment opportunity training was conducted in accordance with established guidance, counselors were adequate in number and appropriately trained, and the informal complaint resolution rate for the preceding three years exceeded the TRADOC goal of 85 percent. Representation of both minorities and women in the work force had increased over the years and exceeded their representation in the civilian labor force--23 percent vs. 22 percent for minorities, and 45.3 percent vs. 41.9 percent for women. Of the 198 new employees hired in fiscal year 1993, minorities constituted 42 percent, and women, 61 percent.

Although Fort Rucker received a satisfactory evaluation from the staff assistance visit, some concerns were expressed. Both the Black Employment Program and the Program for Individuals with Handicaps were judged to be "floundering"--the former because the position of manager was vacant, and the latter because it had not been activated since its creation in 1992 and because employment of individuals with handicaps was below the DA goal. Also, some Fort Rucker procedures in hiring and in reviewing informal complaints of discrimination were judged to be ineffective or inadequate, the promotions of minorities during fiscal year 1993 was considerably below their representation in the work force, and the number of disciplinary actions against blacks during fiscal year 1992 was above their representation in the work force. Finally, both minorities and white women were under represented in the work force in pay grades 13 and above, and both women and minorities continued to be under represented in the instructor pilot series. Of the total of 114 instructor pilots, 8.8 percent were minorities and 1.8 percent were women.⁴⁹

⁴⁸Memo ATZQ-CG (690-600), Maj Gen John D Robinson for chief of staff of the Army, 30 Dec 93, sub: status of EEO and other discrimination complaints at Fort Rucker Alabama, CG file.

⁴⁹Memo ATBO-E (690-700), Maj Gen John P Herring for cdr USAAVNC, 27 Oct 93, sub: EEO staff assistance visit, also encl, EEO. The former Black Employment Program manager retired in July, and his successor was not in place until November.

An Internal Review and Audit Compliance (IRAC) study also revealed low numbers of minorities among instructor pilot and air traffic control career series in the USAAVNC civilian work force. A plan was developed from IRAC recommendations that targeted minorities. The plan also encouraged minorities to join Army aviation and thereby receive training and experience needed to qualify for key civilian positions upon completion of military commitments. Plans were also developed to establish intern programs for the two career series.⁵⁰

In January 1993, the EEO Office was tasked to update the commanding general on complaints of sexual harassment. At that time, the last complaint of sexual harassment filed with the EEO Office was on 30 September 1992.⁵¹ There was a significant decrease in sexual harassment cases reported to the EEO Office in fiscal year 1993. That statistic was interpreted as an indication that Fort Rucker was making progress in that area.⁵²

Mr. Richard B. Noonan of the Defense Advisory Committee on Women in the Services visited Fort Rucker and reported that the Aviation Center had among the best equal employment opportunity/affirmative action program in the Army. He also reported, however, that there had been a charge of sexual harassment involving Fort Rucker soldiers and subsequent coverup by the chain-of-command. It was determined, however, that the incident referred to occurred at Fort Drum more than two years earlier. By 1993, the abusive soldier involved was both divorced from his soldier-wife, who reported the case, and was also out of the Army. There continued to be a perception among career officers that reporting cases of sexual harassment would be detrimental to one's career. There was a reported case of a female lieutenant who filed and then withdrew a complaint. Upon being questioned by another female officer, she replied that she "wanted her wings more than she wanted to do what was right." The Aviation Center continued to stress the need for individuals to come forward and report cases of sexual harassment without fear of retribution.⁵³

On 28 April 1993, the same date that Secretary of Defense Les Aspin directed the services to open combat aviation assignments to women, the chief of staff of the Army, General Gordon R. Sullivan, released a statement regarding the opening of new opportunities for women in Army aviation. The Army's new policy was the result of a seven-month study to review the role of women in Army aviation, directed by the chief of staff of the Army. The results of the study were acknowledged by the

⁵⁰Memo ATZQ-GC, Col Larry Turnage for cdr TRADOC, 15 Oct 93, sub: ACOE input, GSC.

⁵¹E-mail note, James W Harris to cdrs/dirs, 25 Jan 93, sub: allegations of sexual harassment, Chapter IV file.

⁵²ATZQ-EEO (15-1a), Maj Gen John D Robinson for distr, 4 Jan 94, sub: commanding general's policy on sexual harassment, Chapter IV file.

⁵³Ltr, Maj Gen John D Robinson for Gen Frederick M Franks Jr, 5 Feb 93, CG file.

leadership in the DOD, but the change in Army policy was not directly related to changes in other services. Women were already serving in combat positions in the Army and in Army aviation. The 1993 change in Army aviation policy was the opening of positions in attack and scout aircraft to women. Following implementation of the new policy, women would be excluded only from those special operations forces and cavalry aviation units which were associated with direct combat ground troops. Women who were already qualified in modernized systems would not be permitted to transition to attack/scout helicopters, just as male aviators qualified in a modernized system could not transition to another system. Also as was the case with men, women who did not wish to be considered for any aircraft, including scout/attack aircraft, would not be considered for flight training.⁵⁴

Following the change in policy concerning women's eligibility to be assigned to attack aviation units, the USAAVNC APO re-coded the formerly excluded positions so as to open them to women. During fiscal year 1993, five female aviators were selected for attack aircraft transition training--two for AH-64, two for AH-1, and one for OH-58D. As of 1 October 1993, 265 female commissioned officers and 89 warrant officers were serving on active duty as aviators.⁵⁵

The first three females selected for aircraft qualification training and assignment as attack helicopter pilots were CWO2 Cathey E. Jarrell, 1st Lt. Angie D. Norman, and 2nd Lt. Charlene P. Wagner. Wagner, who completed the AH-1 course on 17 June was the first to graduate and to be assigned as an attack pilot. Norman and Jarrell were the first two women to complete the AH-64 course. They graduated on 23 July. One of these female attack pilots was assigned to Korea, one to Fort Campbell, and one to the 2nd Battalion of the 229th Regiment at Fort Rucker.⁵⁶

In 1993, minorities accounted for about 39 percent of the Army's personnel strength, but for only about 20 percent of the Aviation Branch. Minority officers represented 9 percent of all aviation officers, and female officers accounted for 4.4 percent of all aviation officers. Female warrant officers constituted 1.3 percent of the Warrant Officer Corps and an even smaller proportion of warrant officer aviators. The USAAVNC Proponency Office had a goal of increasing female aviation warrant recruitment to about 15 percent within the next twenty-four months in order to approximate the overall female representation of the Army. The opening of attack and scout aviation positions to women in 1993 was expected to attract more women into Army aviation. Minorities were generally better represented in the enlisted ranks of Army aviation. While only 4.1 percent of career management fields 67 and 68 (crew chiefs and mechanics) were women, the total percentage of minorities excluding

⁵⁴E-mail note, Lt Col Gerard J Hart to cdrs/dirs, 28 Apr 93, sub: women in combat, Chapter IV file.

⁵⁵Historical report, APO, CY 93.

⁵⁶Army Flier, 14 May, 25 Jun, 30 Jul 93; E-mail note, Col Thomas W Garrett to cdrs/dirs, 10 May 93, sub: rumor control, Chapter III file.

women was 26.4 percent. In career management field 93 (flight operations) 15.6 percent were females, and 33.1 percent were other minorities.

According to the USAAVNC Aviation Proponency Office (APO), minority recruitment was essentially an advertising problem. The Proponency Office addressed this problem during 1993 by conducting face-to-face talks with future college graduates, by requesting assistance from professors of military science and aviation brigade commanders, by role model recruiting, and by disseminating recruiting films targeting minorities.⁵⁷

The Aviation Branch and the USAAVNC also worked with the U.S. Army Recruiting Command (USAREC) to develop target goals for minority recruitment. A joint goal of recruiting eighty-four females from outside the Army each year to become Army aviators was established. Also, the Recruiting Command established an advisory position at command level dedicated to recruiting issues for female warrant officers. The USAAVNC also requested Recruiting Command assistance in developing a program to attract more minorities and female soldiers from within the ranks of the Army. The Aviation Branch requested assistance from both USAREC and PERSCOM specifically in identifying female and minority soldiers with basic aviation qualifications and in targeting those individuals identified with information about aviation opportunities and the steps necessary to qualify for flight training.⁵⁸ The USAREC made female and minority recruitment for aviation a priority concern in 1993 and joined with the Aviation Branch in establishing a target goal of 410 females/minorities for the fiscal year, with 60 percent to come from in-service and 40 percent from outside the service.⁵⁹

Two 1993 initiatives aimed at increasing the numbers of minorities in Army aviation specifically targeted the ROTC. A decision was made to change the Army aviation policy of accepting only those ROTC graduates who selected aviation as their first choice and to begin considering those who listed aviation as their second and third choice also. Secondly, the cooperation of the Army ROTC Cadet Command and ROTC detachments was requested in informing cadets of opportunities in aviation and of branch requirements in a timely manner so as to permit students interested in aviation to complete requirements in time to be considered.⁶⁰ During 1993 also, the

⁵⁷Information paper ATZQ-AP, 15 July 93, sub: status on minority recruiting, CG file; Army Flier, 1993; Ltr, Maj Gen John D Robinson for Gen Frederick M Franks Jr, 20 Jul 93, CG file.

⁵⁸Memo ATZQ-IRO (11-7), Maj Gen John D Robinson for Maj Gen Jack C Wheeler, 5 Apr 93, sub: minority recruitment goals, CG file.

⁵⁹Information paper ATZQ-AP, 15 Jul 93, sub: status on minority recruiting, CG file.

⁶⁰Memo ATZQ-IRO (11-7), Maj Gen John D Robinson for Maj Gen Wallace C Arnold, 30 Mar 93, sub: minority recruitment goals, CG file.

USAAVNC APO continued sending minority and female aviators to ROTC summer camps as recruiters for the Aviation Branch.⁶¹

In November 1992, the USAAVNC APO completed and published a revised edition of the "Army Aviation Personnel Plan." Major changes included a redefinition of branch qualification standards for commissioned officers, prerequisites for warrant officer candidates, and career paths for all branch officers. The revised edition also addressed female and minority accessions and the impact of organizational structural changes on personnel and career plans. The revised edition was distributed in 1993.⁶²

On 20 July 1993, the General Officer Steering Committee for the Aviation Restructure Initiative (ARI) designated the USAAVNC as the executive agent to develop the implementation plan for ARI, and a team was established at Fort Rucker for that purpose. The Aviation Proponency Office (APO) played a major role in the analysis of ARI impact and the development of a personnel plan which would integrate active and reserve components in a "Total Army" concept. Aviation Proponency's role in the development of the ARI involved life cycle management functions, accessions into aviation, training authorizations, the personnel need of aviation units, career professional development of aviation personnel, and proper utilization of training resource funding. During 1993, the APO drafted a personnel implementation plan for ARI to accomplish these objectives.⁶³ Various aspects of the ARI are described more fully in Chapter III above.

The APO completed and published three guides in 1992 and distributed them in 1993. These consisted of the "Aviation Commissioned Officer Personnel Plan and Career Guide," the "Aviation Warrant Officer Personnel Plan and Career Guide," and the "Enlisted Personnel Plan." The guide for warrant officers addressed new concepts concerning the aviation warrant officer and new career paths that were not covered in earlier editions. Other major changes included the coding and establishment of the chief warrant officer five positions at brigade levels. The plan for enlisted personnel depicted restructuring in career management fields, merging of military occupational specialties, and other critical issues. In 1993 the Proponency Office completed and began distributing "Warrant Officer Flight Training Application and Program Guide," a single-source document providing the necessary information and guidance for aspiring aviation warrant officer candidates.⁶⁴

⁶¹Historical report, APO, CY 93.

⁶²Historical report, APO, CY 93; "Army Aviation Personnel Plan," (Fort Rucker, 1992), pp. i-iv, 1-3, *passim*.

⁶³Msg 08:418Z Sep 93, cdr USAAVNC to distr, sub: Aviation Branch personnel plan, CG file; 1st end ATZQ-AP ATZQ-MH/5 Apr 94) (911-1a), Lt Col Robert L Johnson Jr, sub: 1993 annual command history--staffing, APO; "Personnel Implementation Plan for ARI," APO.

⁶⁴Historical report, APO, CY 93; Also copies of the pamphlets mentioned, APO.

The USAAVNC reviewed the final coordinating draft of Army Regulation 5-22, "The Army Proponent System," and nonconcurred with the draft as written because it deleted branch proponents' responsibility as advisors on personnel policies to the Office of the Deputy Chief of Staff for Personnel. The USAAVNC proposed that, instead of decreasing branch proponents' responsibilities in this area, they be amplified and clarified. The USAAVNC suggested that branch proponents could have a coordinating function in the brigade and battalion command slates and in the selection of other key positions within the Army structure. Specific changes in wording were proposed to accomplish these ends.⁶⁵

During 1993, the USAAVNC Proponency Office contributed to the revision of Army Regulation 611-112, "Warrant Officer Leader Development Action Plan." Of particular interest to the Aviation Branch, major changes were planned in the aviation warrant officer standards of grade tables. Also, the career development structure for aviation warrant officer service incorporated the operations officer track. Among other changes affecting aviation warrant officers, ten outdated position codes were deleted, nine new positions were created, and the tactical operations officer career track was established.⁶⁶

In 1993 the attention of the Army aviation community was called to the shortage of qualified tactical intelligence officers in aviation brigades and attack battalions. Each attack battalion was deemed to merit a subject matter expert on intelligence preparation of the battlefield. The Aviation Branch developed a plan to increase the number of aviators that attended the Military Intelligence Officer Advanced Course so as to alleviate the shortage of intelligence officers in aviation. The 15C35 officers would not be exclusively fixed wing aviators as in the past. The increase would be in rotary wing aviators, who would be utilized both in tactical intelligence positions and in aviation leadership positions--thus creating a viable career track. Also, by using the 15C35 officers in aviation S-2 positions, a shortage would not be created in the already critical 35D field grade community.⁶⁷

The USAAVNC APO endeavored to keep critical skills in the Army during the downsizing by providing the DA management data on aviators by year group and aircraft qualification. These data were to be used as reference for both the voluntary release program and reduction-in-force boards to help maintain the critical skills.⁶⁸

⁶⁵Msg 141719Z Jul 93, cdr USAAVNC to Maj Gen Garner ODCSOPS, sub: final coordination draft of AR 5-22..., CG file; 1st end ATZQ-AP (DAMO-FDQ/12 May 93), sub: final coordination draft..., CG file.

⁶⁶Memo TAPC-PLC (611-1a), Col Leroy B Outlaw for distr, 30 Nov 93, sub: notification of future change to AR 611-112..., APO, Historical report, APO, CY 93.

⁶⁷Msg 142043Z Jul 93, Maj Gen John D Robinson to cdr USACAC et al, sub: 35D officers for Avn Bde/Bn S3 positions, CG file

⁶⁸Historical report, APO, CY 93.

During 1993, the USAALS developed a program for targeting and recruiting graduates from civilian airplane and powerplant vocational technical school for Army aviation maintenance technicians. TRADOC approved the concept and testing began during the summer of 1993.⁶⁹

On 2 November 1992, the Army deputy chief of staff for personnel approved implementation of a new career field (functional area 90) for combat service support officers. This change affected aviators with specialty 15D (aviation logistics) as well as quartermasters, transportation and ordnance officers, and others. The change aimed at creating multi-functional logistics officers to support the trend, begun during the early 1980s, toward using multi-functional support battalions to support Army divisions and corps. Following the implementation of the new functional area, aviation logisticians were able to compete for multi-functional command and staff positions, resulting in increased opportunity for promotion. Any Aviation Branch functional area 15 officer who had completed the Maintenance Management Course or who had attended the Combined Logistics Officer Advanced Course would be able to request functional area 90 designation.⁷⁰

During 1993, strengths of some enlisted aviation specialties (67H, 67S, 67Y, 68F, and 68H) in Europe and Korea fell below 80 percent of requirements. There were shortages in these and other specialties across the branch because of recruiting and training base resource problems, especially the shortage of noncommissioned officers to fill school vacancies. Rather than exacerbate the shortages in Europe by filling training base shortages with soldiers, contractor assistance was being arranged. Also class size was increased, and two training periods per day were held for training some specialties. Additionally, the USAAVNC DCD was in the process of correcting force structure problems. These efforts to address the problem were expected to alleviate it by early 1994.⁷¹

The 93B military occupational specialty was opened to females during 1993. PERSCOM returned the USAAVNC proposal to merge the 93C and 93P specialties to resolve two nonconcurrences. One was resolved satisfactorily, but the other had not been concluded by the end of the year. Work began during 1993 to incorporate the aviation life support equipment additional skill identifier into the 93P specialty. That additional skill identifier was scheduled to be deleted in three years.⁷²

⁶⁹"Army Aviation Warfighting Center Newsletter," May 93.

⁷⁰Army Flier, 29 Jan 93; Historical report, USAALS-LD/PPO, CY 93.

⁷¹Msg 020600Z Mar 93, cdr USAEight to cdr USAAVNC, sub: aviation maintenance shortages, CG file; Msg 051340Z Mar 93, cdr USAAVNC to cdr PERSCOM, sub: maintenance MOS shortages, CG file; Msg 261600Z Oct 93, Maj Gen John D Robinson to Lt Gen Rutherford, sub: aviation enlisted strengths, V Corps, CG file.

⁷²Historical report, APO, CY 93.

C. Information Management

At 1800 hours on 18 November 1993, Fort Rucker's 1940s vintage telephone system controller switch was replaced by a Meridian SL-100 Supernode integrated services digital network switching system made by Northern Telecom, Inc. In preparation for activating the new switch, all telephone relocations, installations, and renovations were discontinued from 1 June until after 18 November. Fort Rucker was one of thirty-nine DOD installations to benefit from the DOD project to update telephone system. The Army had awarded a contract for installing the thirty-nine switches at the various bases. Fort Rucker's new switching system provided rapid touch tone dialing, clear operation, and a wide array of theretofore unavailable features. Four node site switches, located at Lyster U.S. Army Hospital, Cairns Army Airfield, Lowe Army Heliport, and Hanchey Army Heliport, were connected with the main switch with fiber optic cables. The node site switches were activated simultaneously with the new main switch. At the time of the cutover, there were about 6,200 phone lines in use on Fort Rucker. The new system was expandable to 12,000 lines. The total cost of site preparation and installation of the new system was approximately \$11 million.⁷³

A 1993 IRAC audit of the Directorate of Information Management (DOIM) revealed that information management officers were spending substantially more time on information management duties than the 10 percent allowed by regulations. The auditors made recommendations to streamline procedures so that the information officers could perform their functions within the authorized time. Implementation of these recommendations should result in annual savings of about \$625,000.⁷⁴

D. Air Traffic Control

An Army airspace command and control/air traffic services conference was held at Fort Rucker in February 1993. The conference focused on the requirements to support the Army's warfighting airspace, appropriate control measures, connectivity to the theater airspace control systems, and a concept for future air traffic services. Following the conference, the USAAVNC commander recommended that the USAAVNC be designated the proponent for Army airspace command and control.⁷⁵ It was decided at that time, however, that the USACAC would continue to be the proponent for Army airspace command and control and air traffic services.

⁷³Memo ATZQ-I, Col Thomas W Garrett for distr, 28 Apr 93, sub: moratorium on telephone moves and relocations, Chapter IV file; Army Flier, 15 Oct, 12 Nov 93; Historical report, DOIM, CY 93.

⁷⁴IRAC Office Report No. 93-31, "Audit of Directorate of Information Management," IRAC; Historical report, IRAC, CY 93.

⁷⁵Msg 091554Z Feb 93, Maj Gen John D Robinson to distr, sub: follow-up information for...conference, CG file; Msg 041330Z Mar 93, Maj Gen John D Robinson for cdr USACAC, sub: Army airspace command and control proponent, CG file.

The USACAC would continue to provide coordination among the various users of airspace. The Aviation Center and Branch would focus on fixing the air traffic services structure and press on with an equipment modernization plan.⁷⁶ Later in the year, however, following the change of command at Fort Leavenworth, proponency for Army airspace command and control was transferred from the USACAC to the USAAVNC, effective no later than 1 December 1993. Aviation was to work with other branches on future doctrine, training, leadership, organization, and materiel changes.⁷⁷

The USAAVNC U.S. Army Air Traffic Control Activity (USAATCA) was involved in the Federal Aviation Administration (FAA) and DOD modernization of the national airspace system during 1993. The USAATCA and the Product Manager for Air Traffic Control worked together to install new air traffic control equipment at major instrumented Army airfields in the United States and overseas. All communication switches in operational air traffic control facilities, Army flight following facilities, and airfield base operations were replaced. Some of the facilities in Germany required a radar source from associated German airport surveillance radars. These air facilities required a radar display that was capable of processing digital radar data. A materiel solution to that problem was expected early in 1994.⁷⁸

The USAATCA conducted a survey of the air traffic control systems at Fort Polk, Louisiana, in April 1992. The survey determined and validated the requirement for additional air traffic control systems in support of the Joint Readiness Training Center (JRTC) at Fort Polk. Equipment priorities were to be established through coordination among the USAATCA, the Product Manager for Air Traffic Control, FORSCOM, and the JRTC. Funding was to be provided by the FORSCOM Base Realignment and Closure Committee. Initial operating capability was scheduled for 1 August 1993.⁷⁹

The USAATCA remained the Army's principal logistics base for fixed-base air traffic control ground navigational aids. During 1993, the USAATCA shipped over a thousand components, assemblies, and subassemblies to air traffic control facilities throughout its continental United States and overseas service area. The USAATCA also provided on-site technical maintenance assistance to thirty-five air traffic control facilities and repaired 996 air traffic control modules during the year.

⁷⁶Msg 131140Z Apr 93, cdr USACAC to cdr USAAVNC, sub: Army airspace command and control, Chapter IV file; "Army Aviation Warfighting Center Newsletter," May 93.

⁷⁷Msg 171836Z Nov 93, cdr TRADOC to cdr USAAVNC, sub: Army airspace command and control, Chapter IV file; "Army Aviation Warfighting Bulletin," Dec 93.

⁷⁸Memo ATZQ-ATC-SR (95-2b), Brig Gen John M Riggs for Lt Gen Daniel R Schroeder, 7 Sep 93, sub: Army air traffic control fixed-base modernization..., CG file.

⁷⁹Memo ATZQ-ATC-DR (95-9b), Brig Gen Robert A Goodbary for DAMO-FDV, 22 Jan 93, CG file.

During the transfer of the USAATCA from the U.S. Army Information Systems Command in 1986, maintenance of Army antennas came to be done exclusively by contract. During 1993, the USAATCA identified reserve component units with antenna maintenance missions and coordinated with the 205th Engineering and Installation Squadron of the Oklahoma Air National Guard to provide antenna maintenance for Army air traffic control facilities. Air National Guard units in the southeastern United States were to provide quick reaction service for the Fort Rucker training area. The estimated annual savings to the USAAVNC would be approximately \$95,000.⁸⁰

The 1-11th Aviation Regiment supported aviation training at the USAAVNC during 1993 by operating air traffic control facilities at five basefields and thirteen stagefields. Additionally, the battalion operated three ground control approach radars and a flight operational center. It conducted over 2.88 million aircraft movements during the year without an air traffic control-related accident. In January 1993, the 1-11th completed the closure of the Esto ground control approach facility. The radar, radio, and recorder were moved to the Andalusia/Opp Municipal Airport. On 8 October, the 1-11th opened operations of the tower and ground control approach radar at that airport to provide support to instrument and tactical training at Fort Rucker. The battalion also cooperated with the Troy Municipal Airport to enhance the training benefits of the tower and ground control approach radar at that airport. Tabernacle Stagefield was closed in March 1993. The Airport Radar Surveillance Series 9 at Cairns Army Airfield received certification from the FAA in July 1993. This was the culmination of a ten-year joint FAA-DOD project that had cost approximately \$7 million.⁸¹

E. Library, Museum, and Training Support

During 1993 the U.S. Army Aviation Museum added several significant aircraft to its collection. These included a Sikorsky R-5D, one of the first production helicopters manufactured for the military and the only R-5D in existence today; one of the first replicas of a 1909 Bleriot monoplane, produced in 1930 from the original drawing and using original hardware and fittings; and a Sopwith Camel, which had undergone a complete restoration in England. The museum also acquired examples of the T-42 and U-21 fixed-wing aircraft from excesses within the Army inventory. During the year, the museum installed and opened one major exhibit: viz., a Vietnam-era diorama depicting a downed UH-1 helicopter in a rice paddy, with an OH-6 circling overhead. The museum also expanded its interpretive exhibits by installing story line panels on the aviation involvement in Grenada, Panama, and Desert Shield/Desert Storm. Construction continued on the one-to-one scale replica

⁸⁰Historical report, USAATCA, CY 93.

⁸¹Historical report, ATB, CY 93.

of the Wright brothers' Military "B" Model. This project, begun in 1992, was scheduled for completion in 1994.⁸²

The Aviation Technical Library spearheaded an integrated library system project that became operational in 1993. The system provided on-line public access cataloging, circulation, serials control, report generation, and inventory support. The system connected the Aviation Technical Library with the Fort Rucker Center Library and the Aviation Museum. The collections of all three activities could be searched from any site. The same project also facilitated the on-line indexing of the U.S. Army Aviation Digest.

The Aviation Technical Library staff continued to index the Army Times and the Army Flier. The index of the Army Times was made available worldwide through the Defense Technical Information Center and the National Technical Information Service. The Technical Library served over 26,000 customers during 1993, not including those provided information by telephone and those who searched the collection from off-site. The Aviation Learning Center served over 44,000 customers during 1993.⁸³

Various types of training support were provided to the Aviation Center by the 1-10th Aviation Regiment during 1993. The field artillery company attached to the regiment conducted sixty-one live fire missions in support of training and for other purposes and over 300 other missions of various types. The 98th Army Band conducted 370 performances to audiences estimated to total over 200,000 people. Also, the infantry company attached to the 1-10th conducted 226 sling load operations and jumped 470 paratroopers during twenty-one parachute training exercises.⁸⁴

During 1993, the Multi Media Branch, Directorate of Aviation and Safety, National Guard Bureau completed nine major video productions and reproduced 1,386 hours of television programs. The branch also produced hundreds of thousands of brochures, posters, training schedule cards, and other types of printed material in support of aviation and general safety programs of ARNG units.⁸⁵

⁸²Historical report, DCA, CY 93.

⁸³Historical report, DOTD, CY 93.

⁸⁴Historical report, 1st Avn Bde, CY 93.

⁸⁵Visual information annual activity report, FY 93, Multi Media Br; Historical report, Multi Media Br., CY 93.

F. Logistics Support

As of 1 October 1993, the number of aircraft supported on Fort Rucker totaled 620. These consisted of 22 fixed-wing aircraft and 598 rotary-wing aircraft.⁸⁶

In May of 1993, the USAAVNC replaced sixteen OH-58A helicopters in the training fleet with an equal number of OH-58A+ helicopters brought from Europe. The OH-58A+ helicopters had higher-powered engines and more capabilities than the OH-58A aircraft they replaced.

The high operations tempo of the AH-64 training fleet at Fort Rucker and the extraordinarily large numbers of hours that the aircraft in the fleet had flown gave the perception of inadequate maintenance support in 1993. It came to be realized, however, that many of Fort Rucker's Apache helicopters needed replacing. The first of fifteen AH-64 helicopters from Europe began arriving in December; these were to be used to upgrade the older and more heavily used Apache training fleet at Fort Rucker. Some of Fort Rucker's older Apaches, after being replaced by the aircraft from Europe, were scheduled to be phased into the Apache Longbow modernization program. The aircraft from Europe, however, were insufficient in number to replace enough of the excessively worn AH-64s in the USAAVNC training fleet to solve the problem. The USAAVNC launched an effort during 1993 to obtain eighteen new production line Apaches to further improve the Apache training fleet so that more aviators could be trained for modernized aircraft in accordance with the requirements of the Aviation Restructure Initiative (q.v.).⁸⁷

The aircraft maintenance contract to provide maintenance on the approximately 500 helicopters at Fort Rucker for fiscal year 1994 was competitively awarded to DynCorp, Inc. DynCorp was first awarded the USAAVNC maintenance contract in 1988. The new contract (like the previous one) was for one year with four one-year options. The estimated amount of the contract was \$78.6 million for the first year, and \$406.9 million for the potential five-year period.⁸⁸

An unsuccessful bidder for the 1994 USAAVNC maintenance contract was UNC, Inc. The parent company of UNC Aviation Services, which had the contract for rotary wing flight training at Fort Rucker, filed a protest to the General Accounting Office on 1 October in response to the awarding of the contract to DynCorp. The filing of the protest triggered the statutory rule that performance of the protested contract could not proceed, thereby necessitating the immediate

⁸⁶Statistical data provided by Cost and Management Analysis Division, DRM, DRM.

⁸⁷Transcription of interview by author with Brig Gen John M Riggs, 23 May 1994, oral history file; Historical report, DOL, CY 93.

⁸⁸E-mail note, Peter C Polivka to cdrs/dirs, 24 Sep 93, sub: aircraft maintenance contract, Chapter IV file; Aircraft Maintenance Contract, DABT)-93-C-0123, DOC; Washington Times, 28 Sep 93.

negotiation with DynCorp, the incumbent contractor, of an interim contract, so that aircraft maintenance services could continue past 4 October, the expiration date of the previous contract.⁸⁹ The protest was dismissed by the General Accounting Office, and services under the protested contract with DynCorp began on 24 January 1994.⁹⁰

A contract was awarded in 1993 to ASRC Contracting Co., Inc. of Sacramento, California, for refueling and defueling services at the Aviation Center. The amount of the award was \$3.615 million for one year, with two, one-year options. The former contractor, Sikorsky Support Services, Inc. did not bid on the new refueling/defueling services contract. Performance under the new contract was to begin on 1 October 1993.⁹¹

The USAAVNC contract with Bendix Field Engineering Corp. was extended for the period of 1-31 October. This contract, originally awarded in October 1989, was for the operation, maintenance, and repair of the aerial gunnery range.⁹²

In 1993 the USAAVNC Directorate of Logistics (DOL) implemented a new procedure for the procurement of expendable office and industrial supplies. These supplies could be ordered directly from the General Services Administration (GSA) Customer Service Center in Palmetto, Georgia. The GSA offered over 2,000 lines of expendable office and industrial supplies with telephone ordering and direct delivery within three working days. Under the new procedure, all ordering was done by telephone from an illustrated catalog. The billing process was automated to reduce the workload for supply clerks.⁹³

The USAAVNC IRAC Office conducted an audit of excess equipment during 1993. The primary objectives of the audit were to determine whether responsible organizations were identifying excess property in a timely manner and whether they were initiating appropriate action to dispose of the excess. In reviewing the installation property book, the auditors discovered \$4 million worth of items excess to quantities authorized by the table of distribution and allowances. The auditors recommended redistribution of excess items.⁹⁴

⁸⁹Historical report, OSJA, CY 93.

⁹⁰Memo ATZQ-CC, Peter C Polivka for Avn Br Hist, 29 Apr 94, sub: 1993 Annual Command History--staffing, DOC.

⁹¹Aircraft Refuel/Defuel Services, Contract No. DABT01-93-C-0077, DOC; Memo ATZQ-CC, Peter C Polivka for Avn Br Hist, 29 Apr 94, sub: 1993 Annual Command History--staffing, DOC; E-mail note, Peter C Polivka, to cdrs/dirs, 13 May 93, sub: contract for refueling defueling service, Chapter IV file.

⁹²Amendment of Solicitation/Modification of Contract, B00015-9026-0001, 20 Sep 93, DOC.

⁹³E-mail note, G J Leavis to cdrs/dirs, 16 Nov 93, sub: closing of SSSC store, Chapter IV file.

⁹⁴"Audit of Excess Equipment," Report No. 93-37, 14 Oct 93, IRAC; Historical report, IRAC, CY 93.

The following list briefly describes the more significant logistics support accomplishments of the DOL during 1993. In November the directorate established an alternate procedure to purge air from the fuel system of the OH-58 A/C; this procedure was expected to dramatically reduce the number of engine failures. As a result of a significant reduction in the USAAVNC flying hour program, forty-six UH-1 aircraft were removed from the active fleet at Lowe Field and put in a "storage fleet." Needed parts were systematically removed from these aircraft to fill requirements of the active fleet, saving over \$3 million. Fort Rucker aggressively pursued repair work orders from other installations to fully utilize its industrial base during 1993.⁹⁵

G. Evaluation and Standardization

The USAAVNC projected a fiscal year 1993 funding requirement of \$767,000 for its mission of assessing standardization and proficiency of aviators and aircrews throughout the Total Army. The USAAVNC Directorate of Evaluation and Standardization (DES) was originally funded at only \$275,000, however, and later received a \$42,700 reduction as part of the Congressional-directed budget cuts. Although the DES rescheduled some visits to 1994, consolidated trips, used reserve component aircraft whenever possible, eliminated outdated paperwork requirements, and employed other economizing measures, it expended 80 percent of its budget during the first six months of the fiscal year. The USAAVNC appealed both to TRADOC headquarters and the DA for an unfinanced requirement of \$353,600 so as to perform the evaluation and standardization mission. One additional accident at an approximate cost of \$14 million, the USAAVNC pointed out, would be a high price to pay for an under financed standardization program.⁹⁶ On 30 June, the USAAVNC DES received additional funding of \$353,000, which enabled the organization to perform the balance of its visits for the fiscal year. Three major area visits to Hawaii, Japan, and Korea, however, had been canceled.⁹⁷

As it had been doing during recent years, the DES went to considerable efforts to dispel the formerly widespread threatening perceptions of evaluation and standardization visits. While the visits were inspections, their assistance aspects were emphasized. For example, visits were scheduled within approximately 120 days after a new commander assumed command, and the aviation unit commander worked with DES in determining which functional areas needed the most emphasis during a DES visit. During 1993, standardization visits were conducted by teams consisting of

⁹⁵Historical report, DOL, CY 93.

⁹⁶Msg 231524Z Feb 93, cdr USAAVNC to DA, sub: request for funds, DES; Msg 031430 Mar 93, cdr USAAVNC to cdr TRADOC, sub: funds for aviation standards evaluations, CG file; Historical report, DES, CY 93; "Army Aviation Warfighting Center Newsletter," May 93.

⁹⁷Historical report, DES, CY 93; Fund status for DES, 12 Jul 93, DES.

representatives from the USAAVNC DES, the USAALS Directorate of Evaluation and Standardization (DOES), the U.S. Army Air Traffic Control Activity (USAATCA), and the U.S. Army Aeromedical Center.

During 1993, the DES was instructed to give particular emphasis to risk management, crew coordination, and collective aviation tasks. The USAATCA was directed to focus on tactical and fixed-base air traffic service at the installation level so as to determine the systems' capability to provide safe and professional mission support to Army aviation.⁹⁸ The USAALS DOES was to emphasize assessment of maintenance test flight evaluators, maintenance test pilots, unit standing operating procedures, commanders' task lists, and individual aircrew training folders. It was to especially emphasize the maintenance test flight evaluators' ability to train and evaluate maintenance test pilots.⁹⁹

The USAAVNC DES, with one or more of the other organizations making up the standardization team, conducted 107 visits during fiscal year 1993. This number compares to 182 visits conducted during fiscal year 1992. Aviation units visited during 1993 included the 5th and 18th Aviation Brigades at Fort Bragg, the 11th Brigade and the 4-11th Air Cavalry Regiment in Germany, the 1st Cavalry Division and 6th Cavalry Brigade at Fort Hood, the 1st Infantry Division at Fort Riley, and the aviation brigades of the 5th Mechanized Infantry Division and the 2nd Armored Division at Fort Polk. All visits revealed outstanding performance in most areas, but some problems were also discovered--especially in the area of night vision goggle maintenance at both unit and intermediate maintenance levels. Other problems involved the annual proficiency readiness tests, readiness level progressions, distribution and filing of DA forms 4186, flight records, and maintenance test flight evaluations.¹⁰⁰

During 1993, the USAATCA's flight evaluation team conducted sixteen assistance visits and eighteen aviation resource management surveys. The activity also commissioned a precision-approach path indicator at Camp Guernsey, Wyoming, for the Wyoming Army National Guard. The activity additionally conducted self-deployment exercises to Germany and Panama and a pre-commissioning flight check

⁹⁸Memo ATZQ-ESF (95), for distr, sub: DA aviation standardization program and areas of interest for FY 93, DES; Historical report, DES, CY 93.

⁹⁹Memo ATZQ-ESF (95), for distr, sub: DA aviation standardization program and areas of interest for FY 93, DES.

¹⁰⁰Msg 211300Z Dec 93, cdr USAAVNC to AIG 898, sub: aviator's night vision imaging system maintenance qualification training guidance, CG file; "Army Aviation Warfighting Center Newsletter, May, Aug 93; "Army Aviation Warfighting Bulletin," Dec 93; Memos ATZQ-ESF, cdr USAAVNC for 11th Avn Bde, 4-11th Air Cav, 18th Avn Bde, 82nd Avn Bde, 12 Jul, 15 Jul, 13 Dec 93, subs: reports of DA...standardization...visits..., CG file; 1st end, ATZQ-ESO (ATZQ-MH/22 Apr 94) (870-5), Maj Mikkelsen, 29 Apr 94, sub: 1993 annual command history--staffing, DES.

of the ground-controlled approach at the JRTC forward support base at Alexandria, Louisiana.¹⁰¹

A new agreement was negotiated and implemented between the USAAVNC and the ARNG for the National Guard Bureau to provide force structure spaces and personnel dedicated to the USAAVNC's total Army standardization mission.¹⁰² Also in 1993, the DES conducted five aircraft workshops covering scout, attack, utility, cargo, and fixed wing aircraft at the request of the U.S. Army Reserve Command.¹⁰³

During 1993, the USAAVNC developed a strategy to streamline the standardization program by eliminating duplication. The overall objective was to conserve personnel funds and other resources. Some of the work of the USAAVNC DES was being duplicated by FORSCOM Aviation Resource Management Survey teams. A process action team from the DES studied the problem and made recommendations for eliminating the duplications. These recommendations were forwarded to FORSCOM in September. The matter was under review at FORSCOM at the end of the year.¹⁰⁴

The USAALS Directorate of Evaluation and Standardization was discontinued in July 1993, and aviation logistics evaluation and standardization functions were assumed by the Department of Aviation Systems Training. Subject matter experts from the USAALS supported the USAAVNC DES on sixty-three evaluation visits, the most notable of which included those to Europe, Korea, Hawaii, Fort Bragg, Fort Hood, Fort Carson, Fort Rucker, and Fort Polk.¹⁰⁵

The DES developed a fiscal year 1994 master evaluation plan consisting of 118 assessment/assistance visits to selected U.S. Army units, reserve component schools, and military academies. The directorate also scheduled six ARNG conferences and seven USAR workshops. Standardization evaluation visits were to be conducted generally within 90 to 120 days after a commander assumed command, following a change in a unit's mission or aircraft, within eighteen to twenty-four

¹⁰¹Historical report, USAATCA, CY 93.

¹⁰²Memo of understanding, Maj Gen John D Robinson and Brig Gen John R D'Araujo Jr, 19 Mar and 25 Feb 93, CG file.

¹⁰³Historical report, DES, CY 93.

¹⁰⁴Memo ATZQ-ES (95), Col Russell E Adams for distr, 18 Aug 93, sub: Army aviation standardization program process action team, Chapter IV file; Memo ATZQ-CG, Maj Gen John D Robinson for Gen Dennis J Reimer, sub: Army aviation standardization program, CG file; Memo ATZQ-CG (95), 20 Sept 93, sub: streamlining of Army aviation standardization and training, CG file; 1st end ATZQ-ESO (ATZQ-MH/22 Apr 94) (870-5) Maj Middelsen, 29 Apr 94, sub: 1993 annual command history--staffing, DES.

¹⁰⁵Historical report, USAALS-DAST, CY 93.

months of the last evaluation, and following aircraft accidents.¹⁰⁶ For fiscal year 1994, the standardization team would be headed by the DES and augmented by the USAALS, the ABSO, the USAATCA, and the U.S. Army School of Aviation Medicine. The worldwide mission remained unchanged; the team continued to assess traditional functional areas with particular attention to issues that surfaced as trends during fiscal year 1993. Particular emphasis during fiscal year 1994 was to be placed on risk management at all levels, crew coordination exportable training implementation and program assessment, and night vision goggle maintenance and operations.¹⁰⁷

H. Commercial Activities and Contracting

The USAAVNC conducted no commercial activities studies during calendar year 1993. Section 312 of the fiscal year 1993 DOD Authorization Act placed a one-year moratorium on the award of new contracts resulting from commercial activities competition.¹⁰⁸

The total fiscal year 1993 business dollars contracted by the Directorate of Contracting (DOC) amounted to approximately \$160 million, compared to approximately \$168 million in fiscal year 1992. During 1993, 96 percent of these funds were awarded competitively, compared to 92 percent during fiscal year 1992. The USAAVNC awarded two new mission support contracts in 1993 and accepted available options on four others.¹⁰⁹ Descriptions of these contracts and options may be found herein--some under training and others under logistics support.

The Fort Rucker job-order-contracting contract was awarded to Herbert-Yeargin Corporation on 27 July 1993. There were eighty pending fiscal year 1993 contracts in the amount of \$2.136 million that were negotiated after the contract was awarded to Herbert-Yeargin. During fiscal year 1992, job-order-contracting was responsible for \$350,000 in contracts.¹¹⁰

The TRADOC Contracting Activity at Fort Eustis, the centralized contracting office for the acquisition of mission type requirements (including training devices,

¹⁰⁶Historical report, DES, CY 93; Msg 091354Z Dec 93, Col Russell E Adams to distr, DES; FY94 evaluation schedule, 6 Feb 94, DES.

¹⁰⁷Memo ATZQ-ESF (95), Maj Gen John D Robinson for distr, 24 Sep 93, sub: DA aviation standardization program and areas of interest for FY 94, CG file, also DES.

¹⁰⁸Historical report, DRM, CY 93; Msg 162025Z Nov 92, HQDA to AIG 12330, sub: one year moratorium on commercial activities contracting, DRM.

¹⁰⁹Historical report, DOC, CY 93.

¹¹⁰Historical report, DPW, CY 93.

studies, motion pictures, and other training and doctrine requirements) established guidelines for the submission of year-end purchase requests. All requirement packages and contractual actions had to reach the Fort Eustis office prior to established dates for each step in the process. The Fort Rucker DOC was responsible for awarding all contracts for automatic data processing equipment hardware maintenance and one-time repair regardless of dollar value and for procurement of hardware and software items valued at \$2,500 or less.¹¹¹

An acquisition plan for multi-engine qualification training services was developed in 1993 and sent to TRADOC for approval. The contract was to be for fiscal year 1996 with four one-year options. To promote maximum competition, the acquisition plan allowed for a twelve to eighteen month lead time prior to contract performance.¹¹²

The 256 Signal Company completed 466 work orders for repair of air traffic control equipment during 1993. Company personnel also made sixteen mobile maintenance contact team trips, five of which were in support of ARNG units.¹¹³

I. Physical Plant, Construction, and Environmental Protection

At the end of 1993, Fort Rucker consisted of 63,572 acres of land and 2,140 buildings. As a result of the cancellation of several leased landing sites, the acreage decreased by 105 acres during the year. Nine World War II-era buildings, consisting of 40,612 square feet were demolished during 1993 for a cost of approximately \$200,000.¹¹⁴

The continuing goal at Fort Rucker was to eliminate all World War II temporary buildings and replace them with permanent facilities. It was necessary, however, to continue using the existing temporary buildings during the interim. Therefore, in order to reduce maintenance expenditures, activities were consolidated so as to utilize the better facilities more efficiently as the facilities in the worst were demolished. During the decade between 1983 and 1993, Fort Rucker demolished approximately one million square feet of temporary buildings.¹¹⁵

¹¹¹ATZQ-CC (715k), Peter C Polivka for distr, 18 Mar 93, sub: fiscal year 1993 procurement cut-off dates, Chapter IV files.

¹¹²Memo ATZQ-CG (715k), Maj Gen John D Robinson for Col O Wayne Downhour, 4 Jun 93, sub: acquisition plan for...FWMEQC flight training services, CG file.

¹¹³Historical report, 256th Signal Co, CY 93.

¹¹⁴Historical report, DPW, CY 93; Notes on tel conv by author with Ms Marlene Resecker, 12 Apr 94, DPW.

¹¹⁵Memo ATZQ-GC, Col Robert B Gatlin for cdr TRADOC, 26 May 93, sub: TCOE input, GSC.

On 1 October 1993, Fort Rucker's aviation training and testing facilities included four basefields and nineteen stagefields. There were also 130 tactical training sites and one testing site.¹¹⁶

During fiscal year 1993, the Directorate of Public Works (DPW), formerly the Directorate of Engineering and Housing, submitted orders for 155 individual projects with a total estimated cost of \$28.212 million to either the Mobile District Engineers or the Directorate of Contracting for bid advertisement. These figures compared to 226 individual projects totaling \$11.583 million during 1992. The following major construction projects were contracted by the Mobile District Engineers and implemented in 1993: (1) maintenance hanger combination at Knox Army Heliport--\$11,398,168 (29 percent completed); (2) railroad repairs and improvements--\$1,740,375 (19 percent completed); (3) repairs and improvements to building 6901--\$449,421; (4) erosion control--\$371,967; (5) asbestos removal and insulation--\$448,934; (6) repairs and improvements to buildings 6101-6106--\$869,988; (7) repairs to Lake Tholocco dam--\$302,542; (8) sewer repair and water line replacement at Lake Tholocco--\$84,224; and (9) repair and improvements in family housing areas--\$1,144,800. During fiscal year 1993, the USAAVNC DPW received 2,445 and completed 1,119 job orders, and received 33,677 and completed 29,143 service orders. Actual obligations for all accounts totaled \$53.6 million.¹¹⁷

Between June and December 1993, Fort Rucker's 46th Engineer Battalion constructed 300 meters of new access road linking the town of Newton with the post road system. The project required 624 man-hours and saved Fort Rucker an estimated \$7,500. The battalion also renovated two buildings on post, renovated day rooms in others, and executed several other projects in support of the USAAVNC mission during the year.¹¹⁸

Construction was completed during 1993 of a 2,400 square foot television studio for the Multi Media Branch, Directorate of Army Aviation and Safety, National Guard Bureau. The studio was an addition to the primary facility of the branch. The cost of the addition was approximately \$234,000.¹¹⁹

The Fort Rucker facility energy performance for fiscal year 1993 was met by a 2 percent margin below target goal. An Army program to improve energy efficiency awarded Fort Rucker over \$1.5 million for the first phase of a total steam system replacement. Cost analyses of the central boiler plants and the steam distribution system were scheduled to be conducted by the Mobile Corps of Engineers. The fiscal

¹¹⁶Statistical data provided by Cost & Management Analysis Division of DRM, DRM.

¹¹⁷Historical report, DPW, CY 93.

¹¹⁸Historical report, 1st Avn Bde, CY 93; FRAGO 93-40, 46th Eng Bn, 21600 May 93.

¹¹⁹Historical report, Multi Media Br, CY 93.

year 1993 utilization rates for family housing was 98.25 percent; distinguished visitor quarters, 52 percent; visiting officer/enlisted quarters, 63 percent; and guest house, 94 percent. Estimated savings from the Self-Help/U-Do-It Program during fiscal year 1993 amounted to \$350,000 in labor cost.¹²⁰

The Fort Rucker Installation Design Guide was completed in 1987 and continued to be an important document for the design and siting of future facilities. In 1993, two major construction, Army, projects were approved for completion before the end of the century. The first of these was a soldier support center, a one-stop in/out processing center, programmed for fiscal year 1995. The other was a training center programmed for fiscal year 1997. The completion of these projects would permit the elimination of seventy to eighty temporary facilities and the relocation of approximately 1,400 civilians and soldiers into permanent facilities.¹²¹

A major construction, Army, project began in 1993 to install two above-ground fuel tanks and ten hot refuel points at Molinelli Aerial Gunnery Range Complex. When the system became operational, the complex would have the capability to rearm and refuel six aircraft simultaneously without repositioning the aircraft. The project was estimated to have a potential cost avoidance of approximately \$6 million per year.¹²²

A \$300,000 renovation of the Lyster Army Hospital outpatient clinic and emergency room began on 1 December 1993. Deployable medical systems were used to continue providing services while construction was underway. The renovation would create a much better facility for both outpatient and emergency treatments. The project was scheduled to be completed in March 1994.¹²³

In April, the IRAC Office completed an audit to evaluate the adequacy of the energy management procedures and controls. The auditors found that DPW personnel did not fully utilize available energy cycling capabilities. As a result, the installation used excessive kilowatt hours, and its peak energy demand levels may have been higher than necessary. The auditors made recommendations to repair inoperable sensors and expand cycling to all administrative buildings. Reduced energy usage would result in annual savings of about \$262,000.¹²⁴

¹²⁰Historical report, DPW, CY 93; DPW, Supply and Equipment Division, "FY 93 Annual Stockholders Report," DPW.

¹²¹Memo ATZQ-GC, Col Robert B Gatlin for cdr TRADOC, 26 May 93, sub: TCOE input, GSC.

¹²²Historical report, DOL, CY 93.

¹²³Army Flier, 12 Nov 93; Historical report, USAAMC, CY 93.

¹²⁴IRAC Office Audit of Energy Management, report number 92-51, 14 Apr 93, IRAC; Historical report, IRAC, CY 93.

During 1993 the USAAVNC Environmental Quality Control Committee met quarterly. The mission of Fort Rucker's environmental program was to protect and enhance the environment, correct past environmental damage, comply with environmental policy, and plan for the future. It was reported at the 20 April meeting of the committee that \$4.5 million had been spent to clean up forty solid waste sites. Work was continuing on several sites. Seventy-seven buildings had been abated of asbestos, and 185 buildings still contained the substance; twenty-eight of these had been designated for asbestos abatement. Twenty-eight buildings were identified with contaminated water; bottled water was furnished to those locations until the problem was corrected. The radiator shop on post was closed in April because of environmental violations.¹²⁵

Effective 9 October 1993, new Environmental Protection Agency (EPA) standards required that all landfills accepting municipal solid waste meet more stringent standards. The USAAVNC IRAC Office conducted an audit in 1993 to determine the most cost effective method of disposing of Fort Rucker's solid waste. The auditors performed a detailed analysis of all available alternatives and recommended the utilization of a local EPA approved commercial incinerator to dispose of solid waste. According to the IRAC estimate, implementation of this recommendation would save approximately \$262,000 as compared to disposal at a commercial landfill operated by a neighboring city.¹²⁶

Fort Rucker discontinued use of landfills in 1993. A contract for waste disposal services went into effect on 1 May 1993. The Environmental Protection Agency approved the draft of the Fort Rucker corrective measures plan for cleanup of several sites on post.¹²⁷

Eighty-seven underground storage tanks on Fort Rucker had been removed by the end of 1993, and ninety-nine others were scheduled for removal. All known JP4 fuel tanks had been removed, but there were still some areas where tank locations had not been identified. Thirty-one of the underground tanks were replaced by above-the-ground tanks, but these were scheduled to be replaced as soon as possible because of structural defects.¹²⁸

¹²⁵Memo ATZQ-DEH, Col Robert B Gatlin for distr, 29 Apr 93, Sub: minutes of Environmental Quality Control Committee meeting of 20 April 1993, CG file.

¹²⁶IRAC Office Report No. 93-20, "Analysis of Alternatives for Disposal of Solid Waste," IRAC; Historical Report, IRAC, CY 93.

¹²⁷Memo ATZQ-DEH, Col Robert B Gatlin for distr, 29 Apr 93, Sub: minutes of Environmental Quality Control Committee meeting of 20 April 1993, CG file; Historical report, DPW, CY 93.

¹²⁸Memo ATZQ-DEH, Col Robert B Gatlin for distr, 29 Apr 93, Sub: minutes of Environmental Quality Control Committee meeting of 20 April 1993, CG file; Historical report, DPW, CY 93.

An environmental compliance assessment survey was completed at Fort Rucker in July 1992; it was reviewed and finalized in September 1993. The report determined that Fort Rucker was successfully addressing most environmental requirements as indicated by the relatively low number of findings (157) with only three of these requiring immediate attention. An internal survey was scheduled for fiscal year 1994.¹²⁹

The Fort Rucker environmental compliance assessment system semi-annual report listed several findings that resulted mostly from carelessness. Fifty-five gallon drums were mentioned twenty times in the report. Fort Rucker was cited for improper labels, unknown contents, absence of accumulation dates, improper storage, leaking drums, and abandoned rusty drums. Guidelines were developed immediately to help achieve and maintain full compliance. The Environmental Management Branch of the DPW was tasked to conduct more frequent post-wide inspections and all personnel were instructed to cooperate fully with the inspectors and to correct all instances of noncompliance as they were found. The next environmental compliance study was scheduled for the summer of 1994.¹³⁰

The Army Environmental Center had funds for the fiscal year 1994 purchase of hazardous waste reducing equipment. Allowable purchases under the program included jet washers, oil filter crushers, oil recyclers, and antifreeze recyclers. No economic analysis was required for purchases costing under \$15,000. Planning began during the latter part of 1993 to take advantage of the opportunity to decrease the generation of hazardous waste, cut the cost of disposal, and lessen Fort Rucker's legal liability as a hazardous waste generator. Fort Rucker's requirements were to be forwarded to TRADOC by January 1994.¹³¹

In 1993, the Alabama Department of Environmental Management (ADEM) determined that Fort Rucker had satisfied the conditions of an administrative order imposed by the state of Alabama against the installation in 1991. The administrative order was issued as a result of testimony from an employee of a contractor that water containing certain metals had been drained into the sanitary sewer system and treated at the sewage treatment plant. The state determined the resulting sludge from the drying beds at the sewage treatment plant to be hazardous waste. As a result of the passage of the Federal Facilities Compliance Act and of tests demonstrating that the sludge did not contain significant quantities of metals and was not hazardous, the Fort Rucker staff judge advocate was able to persuade ADEM that the administrative order had, in essence, been satisfied. The Army was thus saved hundreds of thousands of

¹²⁹Historical report, DPW, CY 93.

¹³⁰Memo ATZQ-DPW-EN (200), Maj Gen John D Robinson for distr, 1 Dec 93, sub: environmental compliance assessment system, Chapter IV file.

¹³¹E-mail note, Col Robert B Gatlin to cdrs/dirs, 1 Dec 93, sub: purchase of hazardous waste minimization equipment, Chapter IV file.

dollars, which would have been required to complete a full-blown cleanup of the sludge.¹³²

There were 342 area civilian complaints of noise or damage caused by Army aircraft in 1993; this compared to 422 complaints during 1992. The USAAVNC adopted a proactive approach to dealing with the concerns of the area population about aircraft noise. Speeches were made to local civic organizations, articles were published in the newspapers, and various efforts were made to reduce the noise levels. The efforts were generally successful. Approximately 34 percent of the complaints in 1993 came from six families.¹³³

In compliance with Environmental Protection Agency guidance, Headquarters TRADOC ordered a complete installation environmental impact statement of Fort Rucker. This action was completed at the end of the year.¹³⁴

The USAAVNC Resource Recovery and Recycling Program removed over 1,000 tons of recyclables from Fort Rucker's waste system in 1993. After the program manager retired in June 1993, the chief of Services Division of the Directorate of Community Activities assumed management responsibilities for the recycling program.¹³⁵

J. Safety, Security, and Legal Services

Although fiscal year 1992 (with an accident rate of 1.57 per 100,000 hours of flying) was the best year ever in aviation safety, the Army aviation accident rate during the first part of fiscal 1993 was very high. During all of 1992, there were only twenty-two class A accidents. Approximately seven months into fiscal year 1993, twenty-three class A accidents had occurred, with 80 percent of them resulting from human error. If that trend had continued for the remainder of the fiscal year, there would have been forty-two class A accidents--very near the Desert Shield/Storm rate of 3.77 per 100,000 flying hours.¹³⁶ During the period from May through September, however, there were only four class A accidents in Army aviation. This somewhat compensated for the high accident rate during the early part of the year so that the overall class A accident rate for fiscal year 1993 was only slightly higher than

¹³²Historical report, OSJA, CY 93.

¹³³Historical report, DPTMSEC, FY 93.

¹³⁴Historical report, DPW, CY 93.

¹³⁵Historical report, DCA, CY 93.

¹³⁶E-mail note, Maj Gen Dave Robinson for cdrs/dirs, 20 Apr 93, sub: aviation safety, Chapter IV file; "Army Aviation Warfighting Center Newsletter," May 93; Msg 211700Z Apr 93, Maj Gen John D Robinson to AIG 898, CG file.

the 1992 rate. The class A accident rate for the last nine months of fiscal year 1993 was better than the 1992 rate. The dramatic improvement in the class A accident rate was attributed to the increased emphasis given to the risk management process and the focused attention of Army leadership on the integration of safety programs into operations and training.¹³⁷

Several of the aviation accidents that occurred during the early part of fiscal year 1993 were downgraded from class A to class B following more complete analysis. Consequently, the final 1993 figure was twenty-three class A accidents army-wide with 1,299,337 flying hours, for an accident rate of 1.77 per 100,000 flying hours--very close to the record class A accident rate of 1.57 for 1992. In fiscal year 1993, there were twenty-five fatalities, including twenty-two military. Approximately \$97 million worth of equipment was lost in these class A accidents. The twenty-four aircraft lost consisted of six UH-1s, one UH-60, six OH-58A/Cs, one OH-58D, five AH-64s, three H-6s, and one CH-47.¹³⁸

There was a total of 126 classes A, B, and C aviation accidents during fiscal year 1993, compared to 110 in 1992. The class B rate was 1.15 per 100,000 hours, and the class C rate was 6.70. The leading accident producer was the OH-58 with twenty-six accidents; the OH-58 was followed closely by the H-60 series, with twenty-four, and the UH-1 with twenty-one. The OH-58 also had the most class A accidents (seven), followed by the AH-64 and UH-1 (five each). The total Army costs of aviation accidents in 1993 was \$115 million compared to a cost of \$102 million in 1992. In 1993, there were twenty-three military fatalities and twenty non-fatal injuries, compared to twelve and seventeen respectively in 1992. The rate per 100,000 hours of all classes of accidents in fiscal year 1993 was 9.70, compared to 7.86 in 1992 and a three-year average of 8.60 for 1991-1993. While class A accidents generally declined from 1988 through 1993, the total number of classes A-C accidents increased. This was, in part because the Army's lower limit for classifying an accident as class C remained at \$10,000 since 1983, and the cost of repair of almost any accident involving a modernized aircraft exceeded that amount. Approximately 67 percent of all classes of accidents in 1993 were caused by human error, followed by materiel failure (25 percent) and environmental factors (7 percent).¹³⁹

The Aviation Branch chief expressed particular concern in March of 1993 about the alarming AH-64A accident rate--nine during the past fourteen months for a

¹³⁷Memo ATZQ-CG, Maj Gen John D Robinson, 4 Nov 93, sub: aviation safety in FY 94, also encl, Chapter IV file; "Safety Report, FY 93 and 1st Quarter FY 94," USASC, 2 Feb 94, USASC.

¹³⁸"Safety Report, FY 93 and 1st Quarter FY 94," USASC, 2 Feb 94, USASC; Graph, "Class A Aircraft Accident Rates," 31 Dec 93, ABSO; Historical report, USASC, CY 93.

¹³⁹"Safety Report, FY 93 and 1st Quarter FY 94," USASC, 2 Feb 94, USASC; Report ATZQ-S, 25 Oct 93, sub: FY 93 aviation flight accident summary, ABSO.

rate slightly over twelve per 100,000 hours. The principal cause of these, as of all accidents, was human error. More specifically, the causes included violations of standards, training deficiencies, inadequate leader awareness, and poor individual and crew decisions.¹⁴⁰

At Fort Rucker, two accidents and four fatalities occurred in one week in early February 1993. A UH-1 crashed on 8 February, causing the death of a student pilot and a civilian instructor pilot during a routine training mission at Allen Stagefield. In a separate unrelated accident, two soldiers were killed when their OH-58A went down on 9 February during a routine training mission twenty miles east of Troy, Alabama.¹⁴¹ The OH-58A accident occurred while the crew was conducting night-vision-goggle aerial observer training. While returning to Shell Army Heliport the aircraft crashed in a sparsely wooded area. The impact fatally injured the instructor pilot and the student aerial observer. The impact and the post-crash fire destroyed the aircraft.¹⁴² Later in the year, one Army aviator was killed and another injured in an AH-64 Apache crash near Ech Stagefield on Fort Rucker on 19 May.¹⁴³

Of the three class A accidents at Fort Rucker during fiscal year 1993, only the one involving the OH-58 was attributed to human error. As a result of a remarkable safety record during the latter part of the fiscal year and of a system by which a command is charged only with those accidents caused by human error, the post ended the year with only one chargeable class A accident for a near-record .4 class A accidents per 100,000 hours.¹⁴⁴ One of the three class A accidents at Fort Rucker during fiscal year 1993 resulted from materiel failure and another from environmental conditions. There was also one class B accident at Fort Rucker resulting from environmental conditions. Three class C accidents occurred in 1993: one resulting from materiel failure and two from crew error.¹⁴⁵

All installations with TRADOC aviation assets were instructed to hold a safety stand-down no later than 9 July 1993. The USAAVNC conducted a safety stand-down on 21 June in accordance with instructions from HQDA and TRADOC. All flying and aircraft flight training at Fort Rucker were canceled on the safety stand-

¹⁴⁰Msg 291623Z Mar 93, Maj Gen John D Robinson to distr, sub: AH-64 safety concerns, CG file; Msg 211700Z Apr 93, Maj Gen John D Robinson to AIG 898, CG file.

¹⁴¹E-mail note, Maj Gen Dave Robinson to cdrs/dirs, 11 Feb 93, sub: safety update, Chapter IV file; Army Flier, 12 Feb 93.

¹⁴²Memo ATZQ-S (385-95c), Col Thomas W Garrett for cdr ATB, 10 May 93, sub: class A aircraft accident,...., CG file.

¹⁴³Army Flier, 12 May 93.

¹⁴⁴Graph, "Class A Aircraft Accident Rates," 31 Dec 93, ABSO; Historical report, ABSO, CY 93.

¹⁴⁵Historical report, ATB, CY 93.

down day, but synthetic flight training continued. The safety activities were conducted in two sessions--morning and afternoon; both sessions began in the post theater. The activities included analyses of recent aircraft accidents, discussions on identification of high-risk individuals and enforcement of accountability, viewing videos produced by the USASC and the USAAVNC, and the administering of the USASC-developed "Next Accident Test."¹⁴⁶

During early 1993, even while Army aviation was experiencing an unusually high class A accident rate, the USAAVNC, in conjunction with the U.S. Army Research Institute Aviation Research and Development Activity (ARIARDA) was completing the development of a training program that would enhance the safety of aviation crews and increase their mission proficiency through better crew coordination. According to a study conducted by the Army Safety Center, the major key to reducing human-error accidents was to improve crew coordination. The program being developed was designed to accomplish that objective. Although the crew coordination program was initiated to reduce aviation accidents resulting from crew error, the basic concept was not limited to aviation; the same procedures would be useable in any vehicle with a crew.

The ARIARDA developed a prototype version of a field-exportable training package for aviation crew coordination training and evaluation during 1992. The training and evaluation package was validated in a field study with the 101st Aviation Brigade at Fort Campbell, Kentucky. The test demonstrated a reduction of air crew coordination errors by 43 to 100 percent. The training could potentially reduce accident costs by \$25 million and save twelve or more lives per year. The test also demonstrated a significant impact on aviation mission performance by improving mission accomplishment by 78 percent.

In early 1993, ARIARDA incorporated the lessons learned from the Fort Campbell study into a final version for use by the USAAVNC. The USAAVNC director of Evaluation and Standardization briefed the package to the chief of staff of the Army on 5 February 1993; General Sullivan approved the training and evaluation package for immediate use on an Army-wide basis and also approved funding for this purpose. At General Sullivan's direction, the USASC and ARIARDA were also tasked to determine the benefits of the training over time and to expand training to non-aviation crew-served systems. The Aviation Center required five instructors to teach USAAVNC students and selected trainers at eight active duty and two national guard locations. A crew coordination training cadre team was formed within the Aviation Training Brigade and trained by ARIARDA personnel. The ARIARDA also assisted the USAAVNC in designing and installing video recording equipment for all Army visual flight simulators. The video recording equipment was an integral part of

¹⁴⁶Msg 242012Z May 93, HQDA, sub: aircraft accidents; Msg 282259Z May 93, sub: force protection, both documents cited and forwarded in E-mail note, John T Persch to cdrs/dirs, 10 Jun 93, sub: MOI for USAAVNC aviation safety day, 21 June 1993, Chapter IV file; Memo ATZQ-S (385), Col David W Swank for distr, 10 Jun 93, sub: MOI for safety stand-down day..., Chapter IV.

the crew coordination training and evaluation systems. During the latter part of the year, ARIARDA identified other Army systems/crews for which crew coordination training would be beneficial. Army Research Institute field units at Fort Knox, Fort Benning, and Fort Bliss began pursuing these efforts.¹⁴⁷

In August of 1993, the first cadre of the Army Aviation Crew Coordination Course graduated. These highly experienced standardization instructor pilots were prepared to travel to the eight selected locations to train on-site trainers in the utilization of the exportable training package, the first program designed specifically for Army aviation and based on performance of flight crews in the cockpit. The Aircrew Coordination Trainer Course was a fifty-one-hour course conducted over a ten day period. It incorporated academics, air crew mission planning, flight simulator/aircraft time, and after action reviews. Once training by the team was completed, the on-site trainers were to continue the training until aviation units could support individual air crew coordination qualification training. Air crew coordination training was also incorporated into all courses of instruction at the USAAVNC.¹⁴⁸

During 1993, the ABSO in concert with USASC personnel began providing an eight-hour class on the Army safety program and a four-hour class on risk management for the Aviation Officer Advanced Course. This training was expected to provide the field with company-level commanders who had a clear understanding of the techniques of risk management. Branch Safety Office personnel also conducted an eight-hour class in the Aviation Safety Officer Course at the USASC. The Branch Safety Office also developed a program in 1993 to ensure that aviators who had demonstrated high-risk behavior were not selected as trainers or mentors for aviation training.¹⁴⁹ This program included a change in the requirements for the selection of instructor pilot candidates stipulated in Army Regulation 95-1 which would involve giving greater consideration to candidates' accident experience.¹⁵⁰

¹⁴⁷Msg 191204Z Feb 93, cdr USAAVNC to DA, sub: request for out-of-cycle funding and manpower allocation for directed military overstrength, CG file; Memo ATZQ-ATB-NS, Col Edward H Littlejohn III for DCG, 12 Aug 93, sub: read ahead packet for presentation of air crew coordination certificates of training, also encl, CG file; Historical report, ARIARDA, CY 93; Briefing slides [for briefing to chief of staff of the Army, 1993], ARIARDA, CY 93; "Validation of Crew Coordination Training and Evaluation Methods for Army Aviation," Fort Rucker, Aug 93, ARIARDA.

¹⁴⁸Msg 201630Z Jul 93, cdr USAAVNC to distr, sub: aircrew coordination training program, CG file; Memo ATZQ-ATB-NS, Col Edward H Littlejohn III for DCG, 12 Aug 93, sub: read ahead packet for presentation of aircrew coordination certificates of training, also encl, CG file; Memo ATZQ-S, Maj Gen John D Robinson for HQ U S Forces Korea, 13 Aug 93, sub: aircraft accidents, CG file; Historical report, ATB, CY 93.

¹⁴⁹Memo ATZQ-S, Maj Gen John D Robinson for HQ U S Forces Korea, 13 Aug 93, sub: aircraft accidents, CG file; Historical report, ABSO, CY 93.

¹⁵⁰1st end ATZQ-CG, Maj Gen John D Robinson for cdr USASC (ATCG/8 Mar 93) (385), sub: command safety office visit, CG file.

In December 1993, the USAAVNC proposed the revision of Army Regulation 385-95, "Army Aviation Accident Prevention," to incorporate the latest risk management doctrine and to clarify several vague policies. The USAAVNC proposed that proponentcy for AR 385-95 remain with the director of the Army Staff with administration by the director of the Army Safety Center. The Aviation Center commander proposed, however, that the USAAVNC be designated as the field operating agent with the intent of giving the Aviation Branch chief the responsibility for reviewing and changing the regulation.¹⁵¹

The manager of the ABSO expressed confidence that the proactive safety programs adopted by the branch and center in 1993 were paying dividends. The crew coordination train-the-trainer program seemed particularly promising. Also, risk management instruction in the Aviation Officer Advanced Course was expected to have a multiplier effect on the promotion of aviation safety in the force.¹⁵² The USASC was equally optimistic; the positive trend during the latter part of fiscal year 1993 was viewed as an indication that the incorporation of "force protection" into Army doctrine and the teaching of risk management to leaders at all levels and its application to operations, training, and daily activities were already influencing the accident rate. Optimism about aviation safety was encouraged by the following three Army Aviation safety performance records set during calendar year 1993: longest period between class A flight accidents--87 days (19 May to 14 August); longest period between class A flight accidents involving human error--116 days (20 April to 14 August); the longest period without a flight accident involving a fatality--210 days (19 May to 16 December).¹⁵³

During 1993, the USAAVNC required all soldiers to submit to urinalysis testing at least two times annually for the identification of illegal drug use. This policy was in accordance with Army Regulation 600-85, which included soldiers working in aviation and other stipulated fields to be tested at least one time annually. The USAAVNC considered all soldiers at the USAAVNC to be either directly or indirectly involved with the aviation mission. The compulsory testing was justified as a means to avoid placing aviation personnel and property in dangerous situations.¹⁵⁴

During 1993, the USAAVNC Alcohol/Drug Abuse Prevention and Control Office provided rehabilitative/counseling services for 101 personnel and alcohol/drug abuse prevention training for 64 personnel with at least one incident of alcohol/drug

¹⁵¹Memo ATZQ-S, Maj Gen John D Robinson for cdr USASC, 10 Dec 93, sub: establishment of a joint operating agreement for AR 385-95..., CG file.

¹⁵²Historical report, ABSO, CY 93.

¹⁵³"Safety Report, FY 93 and 1st Quarter FY 94," U.S. Army Safety Center, 2 Feb 94, USASC; Historical report, USASC, CY 93.

¹⁵⁴Memo ATZQ-PAC-AD (600-85), Col Robert N Seigle for distr, 4 Jan 93, Chapter IV file.

abuse. The office also presented awareness/prevention classes for over 2,500 personnel and tested all military personnel a minimum of twice during the year. With over 13,600 tests performed, there was only a .001 percent positive rate--a negligible rate in comparison to the Army-wide rate. In 1993 the USAAVNC launched a highly successful driving-while-intoxicated deterrence campaign which consisted of a ride home program, newspaper articles, designated driver program, static displays, and unit briefings.¹⁵⁵

The number of vehicle accidents on Fort Rucker increased significantly during the latter part of 1993. From 1 October to 31 December, twenty-three accidents occurred, compared to thirteen for the last quarter of 1992. During the same time periods, however, the number of injury-producing accidents decreased from 16.6 percent to 5.8 percent. The decline in injuries was attributed in part to increasing use of safety belts. During 1993, the military police periodically set up seat belt checkpoints to promote wider seat belt use.¹⁵⁶

During 1993 the USAAVNC Military Police Activity (MPA) was authorized to conduct scheduled searches of vehicles entering and leaving the post for the purposes of preventing the unauthorized introduction of weapons and contraband and the illegal egress of government property. The inspection procedure was designed so to have a low potential of frightening or offending motorists or with unnecessarily interfering with the normal flow of traffic. Also, vehicles to be searched were systematically selected without discretion on the part of the military police. Any unlawful weapons, contraband, or other evidence of crime were to be seized.¹⁵⁷

The Fire Prevention and Protection Division of the Directorate of Public Works responded to 3,339 aircraft emergencies and 24 fires during 1994. The corresponding figures for 1992 were 3,264 and 21. Total reportable fires were down in 1993 due to there being fewer forest fires, but two lives were lost on Fort Rucker resulting for fires involving vehicle accidents. An average of thirty-seven fire crews daily provided fire protection support for student flight training at twenty-one different Fort Rucker sites during 1993. Fire fighters also trained approximately 3,000 children in fire safety. In compliance with Occupational Safety and Health Administration regulations, Fort Rucker fire fighters provided training for a hazardous material response team and implemented a confined space training program in 1993.¹⁵⁸

¹⁵⁵Historical report, DCA, CY 93.

¹⁵⁶Army Flier, 11 Feb 94.

¹⁵⁷Memo ATZQ-MPA (190), Maj Gen John D Robinson for provost marshal, 3 Dec 93, sub: Fort Rucker vehicle inspection operations, CG file.

¹⁵⁸Historical report, DPW, CY 93.

The Investigation Section of the USAAVNC MPA investigated 412 incidents of non-felonious crimes on Fort Rucker during 1993. All except one of these case were closed during the year. Twelve personnel who were absent without leave were returned to military control during the year.

Industrial Maintenance Services, from Dothan, Alabama, was awarded the contract for providing security for Fort Rucker's airfields in 1993. The company assumed that responsibility on 1 October.¹⁵⁹

During 1993, the Office of the Staff Judge Advocate (OSJA) provided opinions regarding interpretation and application of laws, statutes, regulations, and other directives affecting the administration of personnel and the operation of the installation; adjudicated cases involving juvenile misconduct on post; defended the USAAVNC in hearings, grievance proceedings, and investigations; tried courts-martial, prosecuted traffic offenses and misdemeanors committed on post, and provided various types of legal assistance to soldiers and their families. Legal services activities of the OSJA relating to environmental protection, contracts, and training are described herein under those headings.¹⁶⁰

K. Medical and Dental Support

An early intervention program began at Fort Rucker's Lyster Army Hospital in 1993. The purpose of the program was to assist families with young children who had developmental delays to obtain services that would alleviate or reduce the need for special education when they began school. Some children, e.g., those with Down Syndrome, would automatically qualify for the program; others would need a developmental evaluation to determine eligibility. The program was open to dependents under the age of three of all active and retired military.¹⁶¹

The civilian partnership physicians providing obstetric/gynecological services did not renew their agreement with Lyster Army Hospital in 1993. Obstetric/gynecological services were sharply reduced while efforts were underway to recruit a physician for the position. By the end of October, the recruitment effort had not succeeded, however, and the obstetric clinic was closed.¹⁶²

It was announced early in 1993 that 160 military and 112 civilian positions would be removed from the Army dental care system beginning in fiscal year 1994.

¹⁵⁹Historical report, MPA, CY 93.

¹⁶⁰Historical report, OSJA, CY 93.

¹⁶¹Historical report, USAAMC, CY 93; Army Flier, 4 Jun 93.

¹⁶²Army Flier, 16 Apr, 29 Oct 93; Historical report, USAAMC, CY 93.

These decrements were in addition to the already programmed reductions, which totaled 24 percent of Dental Corps officers from fiscal year 1992 to fiscal year 1995. The rapidly decreasing numbers of dentists in the Army Health Services Command required a reaffirmation of the dental care system's primary mission of dental service to the active force. Consequently, the Health Services Command at Fort Rucker, as elsewhere, had to curtail dental care for other than active duty personnel. Generally, only emergency care, space available, and standby basis care would be provided for dependents of military personnel.¹⁶³ During 1993, the Fort Rucker Dental Activity (DENTAC) had over 38,000 visits and provided over 183,000 dental procedures. The DENTAC also participated in two exercises at Camp Shelby, Mississippi, in September 1993--one was a USAR mobilization exercise and the other was a retiree recall mobilization exercise.¹⁶⁴

L. Religion, Welfare, and Morale

Chaplains and chaplains assistants at the USAAVNC were realigned and organized into unit ministry teams in 1993. A unit ministry team consisted of at least one chaplain and one chaplain assistant. The purpose of the realignment was to permit a better response, continuity, and coordination in the execution of the religious program. Four teams were assigned to the 1st Aviation Brigade, three to the Aviation Training Brigade, one to the Family Life Center, one to the 46th Engineers, one to the 1-145th Aviation Regiment, and two to the Installation Chaplain Office. One team was assigned to Lyster Army Hospital with the additional responsibility of supporting the U.S. Army Aviation Research Laboratory and the U.S. Army Aviation School of Medicine. This team was to work closely with the Medical Command chaplain at the Eisenhower Medical Center, Augusta, Georgia, in order to strengthen pastoral clinical services.¹⁶⁵

The Fort Rucker Chaplain's Fund total operating income in fiscal year 1993 was \$158,395; all except \$5,950 of this fund was from offerings and donations. The total operating expenses were \$141,365.¹⁶⁶ During calendar year 1993, USAAVNC Chaplain Office personnel conducted 183 Protestant and Gospel worship services, 52 Lutheran worship services, 563 Catholic masses and special services, and 2,331 counseling sessions.¹⁶⁷

¹⁶³Information paper, Col Patrick D Sculley, 18 Feb 93, sub: other than active duty dental care policy, Chapter IV file.

¹⁶⁴Historical report, DENTAC, CY 93.

¹⁶⁵Historical report, Chaplain, CY 93.

¹⁶⁶Annual summary financial data report, FY 93, Chaplain.

¹⁶⁷Historical report, Chaplain, CY 93.

The Army Career and Alumni Program (ACAP) Transition Office was established at Fort Rucker in 1991 to coordinate and oversee transition services offered to military and civilian personnel as they left military service or DOD employment. During 1993 two very effective marketing tools were designed to entice personnel leaving the military service into the program. The Adjutant General (AG) provided the ACAP with lists of soldiers leaving the service upon which the ACAP sent personal invitations to each soldier on the list to take advantage of the services available. Secondly, the ACAP notified commanders of soldiers who were not using the program services; commanders then encouraged individual soldiers to do so. Consequently, 92 percent of the separating soldiers used the ACAP services during 1993.¹⁶⁸

The Fort Rucker ACAP Office began a public service veterans' outreach program in April 1993. This entailed the training of local homeless and/or jobless veterans in job search skills and resume writing. During 1993, twenty-five veterans completed the training program and all but one were gainfully employed by the end of the year.¹⁶⁹ In its continuing efforts to track soldiers who had left the Army, ACAP sent postage-paid cards to soldiers who did not have a job in hand or school plans at the time of separation. Of the cards sent, 60 percent were being returned by the end of the year. Information gained from the returned cards indicated how well ACAP was servicing separating soldiers and how procedures might be improved. During 1993, the ACAP counseled and prepared individual transition plans for 2,682 individuals. Of these, 2,646 referrals were provided for Job Assistance Center services.¹⁷⁰

Requests for stress management training increased during 1993. An employee or soldier had to attend this training for a minimum of eight hours for it to be deemed to be effective and for it to be documented in the employee's official personnel folder. Since some supervisors could not release their employees for eight consecutive hours, a training schedule was devised to provide the eight hours of stress management training in two hour increments, twice weekly for two weeks.¹⁷¹

Fort Rucker's barracks revitalization program adopted a new living concept for single soldiers in 1993. The standards for the new concept provided for privates and specialists to be housed two to a room with a total of 220 square feet of living space plus two closets and a bath. Sergeants through staff sergeants were to have private rooms. There were to be common areas in all barracks to serve as laundry rooms, kitchens, and day rooms. A prototype day room was completed in 1992, and

¹⁶⁸Memo ATZQ-GC, Col Larry Turnage for cdr TRADOC, 15 Oct 93, sub: ACOE input, GSC.

¹⁶⁹Ibid; Historical report, ACAP, CY 93.

¹⁷⁰Historical report, ACAP, CY 93.

¹⁷¹Memo ATZQ-GC, Col Larry Turnage for cdr TRADOC, 15 Oct 93, sub: ACOE input, GSC.

nineteen others were under construction by the 46th Engineer Battalion during 1993. Climate control systems and furniture were also upgraded in Fort Rucker barracks during 1993 with a total expenditure of \$5,294,000¹⁷²

The fiscal year 1994 barracks revitalization project originally programmed the renovation of the interior and exterior of five "rolling pin" barracks, two battalion headquarters buildings, and two company operations buildings. The programmed cost was \$19 million. During the design phase, it was discovered that renovation cost exceeded 80 percent of new construction cost. Consequently, the USAAVNC planned the concept design and siting for the construction of new barracks, community buildings, battalion headquarters, and company operations building. The Installation Steering Committee unanimously approved the concept. Cost estimates provided by the Corps of Engineers for new construction indicated that these facilities, along with amenities such as parking, landscaping, and recreational areas, could be built within the current programmed amount.¹⁷³ The new construction proposed by the USAAVNC was approved by higher headquarters, and plans were proceeding.¹⁷⁴

During 1993, the Army Continuing Education System through the Army Education Center at Fort Rucker provided 75 percent tuition assistance to 1,105 soldiers for off-duty college courses, for a total of \$317,214. Remedial education was provided to 161 soldiers. Counseling concerning veterans' benefits increased significantly during 1993 as a result of the downsizing of the Army. Over 13,000 soldiers and civilians received counseling during 1993.¹⁷⁵

Several other developments helped to promote the morale of both soldiers and civilians during 1993. In May, the 660-acre Lake Tholocco reopened for fishing for the first time since the dam was damaged during the flood of 1990. A new pole barn was constructed for the Equestrian Center, and Fort Rucker's first sanctioned quarter horse show was held there. New facilities became available for servicing recreational vehicles. The golf course was expanded to twenty-seven holes, and the new club house opened, with an expanded pro shop and full service inside and outside lounge. Major renovation of the Officers Club began in the spring of 1993 causing the club to offer limited service for the remainder of the year. The Auto Craft Center upgraded its services with the installation of new lifts and other improvements. New equipment was installed in the Physical Fitness Center. Considerable emphasis was placed on the improvement of the single soldier community program with the formation of

¹⁷²Ltr, Maj Gen John D Robinson to Gen Frederick M Franks Jr, 20 Jul 93, also encl C, CG file; Army Flier, 26 Mar 93.

¹⁷³Memo ATZQ-DEH-PS, Maj Gen John D Robinson for Maj Gen John P Herrling, 7 May 93, sub: barracks revitalization project, CG file.

¹⁷⁴Staffing response from DEH to ABHO, DEH, CY 93.

¹⁷⁵Historical report, DPTMSEC, CY 93.

teams and action committees and with surveys to get feedback on the program. Also, teen and preteen councils were established to increase the involvement of Army family members in the youth development program. A recently vacated building was remodeled with volunteer labor and made into a teen center.¹⁷⁶ Notwithstanding these morale-boosting accomplishments, there was retrenchment in some areas as a result of the Army drawdown, the reductions-in-force, and shortages of funds. The nine-hole golf course attached to the Officers Club was closed in 1993, and consideration was being given to closing the Lake Lodge at Lake Tholocco as well as Fort Rucker's recreational camp sites at Lake Eufaula and in Florida.¹⁷⁷

The USAAVNC IRAC Office conducted two audits during 1993 relating to welfare and morale. A detailed market and cost analysis revealed that there was not sufficient demand to justify cash outlays of \$1.9 million for construction plus \$32,000 annually in operating costs for an outdoor recreation complex proposed by the Installation Morale, Welfare, and Recreation Fund. The IRAC report recommended that the project be terminated with a savings of \$1.9 million plus the annual operating costs of \$32,000.¹⁷⁸

In another audit relating to morale, welfare, and recreation, IRAC auditors reviewed the proposed contingency plans developed to reduce costs during the last half of fiscal year 1993. The auditors found that the reported potential cost savings were overstated for all proposals. In addition, IRAC determined that several proposals were unrealistic and could not be accomplished. The auditors recommended alternatives to the Installation Morale, Welfare, and Recreation Fund proposals which had the potential to reduce overhead costs by more than \$220,000 during the last half of fiscal year 1993.¹⁷⁹

The Wiregrass Combined Federal Campaign ended on 10 December 1993 after a very successful season. The theme for the year was "The Power of Caring-- Together We can Make a Difference." The 1993 poster child was Donnie Duvall. Contributions during Fort Rucker's Army Emergency Relief fund campaign totaled almost \$99,000.¹⁸⁰

¹⁷⁶Memo ATZQ-GC, Col Larry Turnage for cdr TRADOC, 15 Oct 93, sub: ACOE input, GSC; Memo ATZQ-PA (870-5), Lt Col Errol C Pratt for cmd hist, 1 Mar 94, sub: DCA historical report, DCA.

¹⁷⁷Memo ATZQ-PAC, Lt Col Errol C Pratt for chief of staff, 24 Feb 93, sub: response to CofS inquiry..., CG file.

¹⁷⁸IRAC Office Report No. 93-24, "Review of Outdoor Recreation Complex," IRAC; Historical report, IRAC, CY 93.

¹⁷⁹IRAC Office Report No. 93-21, "IMWRF Contingency Plans," IRAC; Historical report, IRAC, CY 93.

¹⁸⁰Army Flier, 10 Dec 93; Historical report, DCA, CY 93.

M. Army Aviation Related Research

In 1991, the Army Aviation Center adopted a policy of battle rostering aviation crews for peacetime training and wartime deployment. It was believed then that battle rostering provided an effective means for improving crew coordination training. During 1992, however, it became apparent that battle rostering created some problems, including administrative burdens and a tendency towards overconfidence and complacency. The Army Research Institute Aviation Research and Development Activity (ARIARDA) was accordingly asked to conduct a field study to determine the benefits and drawbacks of battle rostering. A technical study of AH-64 crews that had undergone crew coordination training, conducted during the latter part of 1993, determined no statistically significant difference between battle rostered crews and randomly selected crews except in the area of autonomous missile engagements. This small potential advantage of battle rostering was offset, however, because the study found battle rostered crews to exhibit more overconfidence than randomly mixed crews. Accordingly, the chief of Army aviation approved an action to immediately rescind the Army's policy of battle rostering.¹⁸¹

Other ARIARDA research projects during 1993 included the evaluation of innovative training for the improvement of team coordination in emergency department patient care; joint research with the Navy and Air Force on air crew selection methodology; evaluation of the effectiveness of high fidelity in helicopter simulators; and the development and evaluation of a helicopter intelligent flight trainer.¹⁸²

Scientists of the Aircrew Health and Performance Division of the U.S. Army Aviation Research Laboratory (USAARL) conducted basic and applied research in visual psychophysiology, optometry, physics, and physical optics. Their work areas included existing and anticipated problems relevant to preserving and enhancing operational effectiveness as well as preventing health hazards of military systems in operations. Research projects pursued during 1993 included the following: investigation of coping strategies designed to help soldiers overcome the detrimental effects of shift work on sleep, cognitive performance, and health; investigation and development of countermeasures for sleep reduction during training with night vision goggles; development of methods to defeat the stress and fatigue suffered by aviators; optical evaluations of a nuclear flashblindness protective device, night vision goggle compatible cockpit lighting schemes, and laser/ballistic protection devices for the M-40 protective mask; evaluation of visual performance with helmet mounted displays, night vision devices, and other electro-optical systems used by Army aviation.

¹⁸¹Historical report, ARIARDA, CY 93; Briefing slides, "The Evaluation of Battle-Rostering Effects on Mission Performance and Flight Safety," 21 Jan 94, ARIARDA.

¹⁸²Historical report, ARIARDA, CY 93; Briefing slides, "The Reduction of Team Coordination Errors in Emergency Room Patient Care," 27 Aug 93, ARIARDA; Technical report, "Research Prospectus for the Simulator Training Research Advanced Testbed for Aviation," Jun 93, ARIARDA.

Research projects conducted by engineers and scientists of the Aircrew Protection Division of USAARL during 1993 included the following: helmet evaluations and biomedical effects of wearing helmets; fatigue reactions associated with operation of vehicle controls, video displays, and other aviation-related phenomena; methodologies to characterize repeated impact signatures of Army ground combat vehicles; seating and restraint limitations restricting total body weight for air crew and passengers on Army helicopters; crashworthiness, health hazards and helmet issues relating to the Apache and Comanche; determination of valid noise exposure limits to ensure adequate hearing protection of Army personnel exposed to continuous and impulse noise; the effects of chin straps and eyeglasses on attenuation as part of ongoing evaluation of hearing protective devices; the auditory effects of blast over-pressure generated by Army weapon systems; and evaluations of the effectiveness of active noise reduction systems.¹⁸³

N. Contingency Operations

Operations Restore/Continue Hope

The USAAVNC was alerted in January 1993 that it would probably receive several Somalia taskings.¹⁸⁴ As events unfolded, however, the involvement of the USAAVNC and Fort Rucker in Operations Restore/Continue Hope was relatively limited.

In December 1992 Fort Rucker's 256th Signal Support Maintenance Company (Air Traffic Control) was alerted for possible deployment to Somalia. Soldiers of the company prepared for overseas movement in case the order for deployment arrived.¹⁸⁵ Also, equipment was shipped ahead in preparation for the deployment. When the unit's mission was canceled, one noncommissioned officer of the company was sent to Somalia to retrieve the equipment.¹⁸⁶

Eight soldiers of the 1st Aviation Brigade deployed to Somalia to execute a variety of missions. Five of these eight were firefighters attached to the 46th Engineer battalion; they provided fire and rescue support to United Nations forces from early September through mid December. Additionally, five soldiers of the 2-229th Attack

¹⁸³"U.S. Army Aeromedical Research Laboratory Annual Progress Report, Calendar Year 1993," (Fort Rucker, Mar 94) pp. 12-21.

¹⁸⁴E-mail note, Charles A Welch to cdrs/dirs, 14 Jan 93, sub: new Somalia taskings, Chapter IV file.

¹⁸⁵Dothan Eagle, 10 Dec 92.

¹⁸⁶Historical report, 256th Signal Co, CY 93.

Helicopter Regiment served in Somalia during the early part of 1993. One returned to the Fort Rucker in March, and four returned in May.¹⁸⁷

One Aviation and Troop Command (ATCOM) logistic assistance representative from Fort Rucker deployed to Somalia from February through June 1993. He deployed in support of the 10th Mountain Division's aircraft systems.¹⁸⁸ Also, Capt. Jeffery L. Mowery of the USAAVNC DOTD deployed to Somalia in October to gather Army aviation lessons learned information from the operation.¹⁸⁹

The involvement of Army aviation in Operation Restore Hope was considerably more extensive than was that of the USAAVNC and Fort Rucker. Approximately sixty-five Army aircraft and 1000 aviation personnel of the 10th Aviation Brigade of the 10th Mountain Division arrived in Somalia on 20 December 1992. Standards and safety staff were also deployed and day and night training was conducted. It was a good area for training as hazards to flight were minimal. Attack helicopters had a psychological impact critical to the operations. The OH-58D with "night sun" spotlight was being used, sometimes with infrared filters, and was very effective. The AIM1 laser was installed on AH-1s and was judged to be working well. Aviation had a ground sector in the humanitarian effort much like the pacification mission in Vietnam. Observations of Army aviators in Somalia were deemed essential in shaping Army aviation doctrine for low intensity conflict.¹⁹⁰

With the shift in mission of United Nations forces in Somalia in mid 1993 from humanitarian relief to nation building, Operation Restore Hope was succeeded by Operation Continue Hope. Operation Continue Hope was the longest sustained military operation in urban terrain in which Army aviation forces had participated. Three separate aviation task forces operated during Continue Hope. Initially, the task force was built around an assault helicopter battalion, which changed in August to an attack helicopter battalion, and finally in January 1994 to a command aviation battalion. The attachments to the task force were from different Army posts throughout the United States. The parent brigade headquarters was initially a light infantry brigade and later changed to an aviation brigade.

The aviation task forces were all located at Mogadishu International Airport and conducted missions throughout the city from this location. Each task force maintained a continuous aircraft presence over the city as a deterrent measure. Army

¹⁸⁷Historical report, 1st Avn Bde., CY 93; Army Flier, 14 May 93, 14 Jan, 11 Feb 94; Travel orders 348-004, 507th Corps Support Group, Somalia, 14 Dec 93, 1st Avn Bde; Memo ATZQ-BDE-P, Capt Jan T Swicord for cmd hist, 6 Jun 94, sub: 1993 annual command history—staffing, 1st Avn Bde.

¹⁸⁸Historical report, AMC-LAO, CY 93.

¹⁸⁹Historical report, DOTD, CY 93.

¹⁹⁰E-mail note, Maj Gen Dave Robinson to cdrs/dirs, 21 Jan 93, sub: call from Col Dallas—Somalia, Chapter IV file.

aviation elements additionally executed or supported cordon and search, reconnaissance, and air assault missions. Force protection was especially challenging during these operations since the aviation task force was surrounded by noncomplying factions occupying the high ground overlooking the airfield. Combat search and rescue was also extremely difficult to accomplish in the urban environment with a generally hostile population. The low density of aircraft in Somalia caused sustainment problems--especially in October and November. Maintenance capabilities were not sufficient to keep up with the increased mission load; this caused the wholesale replacement of some parts of utility and attack aircraft. Corrosion was also a major problem, causing an estimated 50 percent increase in the maintenance work load.¹⁹¹

Two Army aviation lessons from the Somalia mission were very clear even before the operations ended. One was that modernized, night-fighting weapons systems should always be sent on any mission in which there was a high potential of being fired upon. The second was that during the training process, Army aviators had to learn how to operate more effectively in an urban environment, with friendly personnel in the immediate vicinity. These operations-other-than-war often required a close fight, so Army aviation had to give more emphasis to training for such contingencies.¹⁹²

¹⁹¹"Aviation Operations," draft manuscript prepared by Capt Jeffrey Mowery for Center for Army Lessons Learned, Chapter IV file; "Somalia Trip Report," 1 Sep 93, CG file.

¹⁹²Transcript of oral interview by author with Brig Gen (P) John M Riggs, 23 May 94, oral history file.

APPENDIX I

USAAVNC ORGANIZATIONS AT FORT RUCKER¹

A. Command Group

In addition to the senior leaders mentioned in Chapter I, the Command Group included several offices the heads of which were directly subordinate to the chief of staff. The deputy chief of staff during the early part of 1993 was Maj. Danny L. Ball and, during the latter part, Maj. Bradley N. Rounding. The secretary general staff was Capt. D. Lee Hackle, the chief of protocol was Capt. James M. Reed, and the chief of the Aviation Planning Group was Maj. (P) William P. Gerhardt. Dr. John W. Kitchens was command historian, and Dr. Burton Wright III was the staff historian.

B. Directorate of Combat Developments (DCD)

Col. Stephen S. MacWillie served as director of DCD from January through June, and Col. Robert M. Stewart, for the remainder of the year. Col. Albert L. Patterson III was deputy director from January through June, and Lt. Col Keith E. Gay, during July and August. Mr. Richard S. Maccabe served as technical advisor for the entire year. The divisions of DCD with their respective chiefs during 1993 were as follows: Concepts and Studies--Mr. Richard S. Maccabe; Material and Logistics Systems--Lt. Col. Harold J. Brecher; Organization and Force Development--Lt. Col. John R. Buchanan from 1 January until 3 March and Lt. Col. Jesse M. Danielson for the remainder of the year; Systems Integration and Prioritization--Mr. Albert E. Easterling from 1 January until that division merged with Aviation Battle Lab Support Team in February; Aviation Battle Lab Support--Col Robert M. Stewart from January through June and Lt. Col. Keith E. Gay from August through December; and Threat Office--Lt. Col. Delma C. Hendricks from 1 January through 22 March and Mr. Edward J. Bavaro for the remainder of the year. The Aviation Restructure Initiative Team was established in July with Lt. Col. Richard A. Scales as chief. Ms. Maxine Dowling headed the Program Management Office for the entire year. The directorate strength at the beginning of the year was fifty-three civilians and forty-nine military; at the end of the year, the strength was forty-nine civilians and forty-six military.²

¹ Unless otherwise indicated, the 1993 missions and functions of the following USAAVNC organizations remained essentially the same as in 1992.

² Historical report, DCD, CY 93; Organization charts, 1 Jan 93 and 31 Dec 93, DCD.

C. Directorate of Evaluation and Standardization (DES)

The director of DES from January to June was Col. Edward H. Littlejohn. Col. Russell E. Adams became director on 9 June and served for the remainder of the year. The deputy directors were Lt. Col. Patrick A. Schado during January, Lt. Col. Alfred F. Livaudais from January to July, and Maj. Jose R. Arroyo-Nieves for the remainder of the year. The three divisions of DES and their respective heads were as follows: Operations and Administration--Lt. Col. Immanuel C. Sieving from January to May, Maj. Jose R. Arroyo-Nieves from May to July, and Maj. Howard P. Mikkelsen from November through December; Flight Standardization--Maj. Mark V. Evetts; and Evaluation--Maj. Craig L. Smith. The USANG advisors attached to DES were Maj. Eric C. Peck from January to September and Maj. Thomas W. Shea for the remainder of the year. The Medical Service Corps advisor was Capt. Leonard W. Bowley. At the beginning of 1993, 58 military and 17 civilians were assigned to DES; at the end of the year, there were 63 military and 13 civilians.³

D. Directorate of Training and Doctrine (DOTD)

USAAVNC organizational changes, both prior to and during 1993, affecting the DOTD are described in appropriate parts of Chapter I above. Col. Charles M. Burke, served as director of DOTD from January through August, and Lt. Col. Robert L. Thomson served for the remainder of the year. From April through August, Colonel Burke served as both director of DOTD and deputy assistant commandant. The seven divisions of DOTD with their respective chiefs at the beginning of 1993 were as follows: Program Management--Ms. Barbara Harper; Total Force Integration--Lt. Col. Kenneth D. Paulson; Advanced Tactics--Lt. Col. Parker R. Bunch; Individual and Unit Training--Maj. Carl T. Brooks; Combat Support/Combat Service Support--Lt. Col. Bradford Bock; Maneuver and Fires--Lt. Col. William Bryan; and Staff and Faculty Development--Mr. Charles A Thomley. The personnel strength at the beginning of the year was 215, consisting of 110 military and 95 civilians. As a result of reorganization during 1993, q.v. in Chapter I above, the DOTD consisted of only three divisions (Advanced Tactics, Staff and Faculty Development, and Non-Resident Training) at the end of the year. The personnel strength of the directorate at the end of the year was forty-six military and forty-eight civilians.⁴

³Historical report, DES, CY 93.

⁴Historical report, DOTD, CY 93.

E. Directorate of Simulation (DOS)/Directorate of Training, Doctrine, and Simulation (DOTDS)

Col. Palmer J. Penny continued as director of DOS during 1993. The four subordinate divisions and their respective heads were as follows: Training Devices -- Mr. Hubert Pate followed by Mr. Robert Wolfington; Aircraft Survivability Training Management--Mr. John Hogan; Software Development and Management--Mr. Thomas K. Flohr; Warfighting Simulation--Lt. Col. George Welch. The Operations and Plans Branch was headed by Maj. Debbie Ridout followed by Maj. David F. Hoffman. Effective 14 December 1993, the USAAVNC commander directed the director of DOS to fold the Directorate of Training and Doctrine (DOTD) into the DOS, creating the new Directorate of Training, Doctrine, and Simulation--very similar in mission to the Department of Tactics and Simulation that had existed between 1990 and 1992. The intent of the 1993 merger was to establish one organization, the divisions and personnel of which had logical daily interrelationships, under one director. Many of DOTD's training development functions, as well as the personnel responsible for those functions, had already been transferred to the training brigades prior 14 December. The merging of the two directorates in December did not modify the roles, functions, and missions that remained with the two directorates after the transfer of training development functions. The personnel strength of DOS at the beginning of the year consisted of twenty-eight military and thirty-two civilians. At the end of the year, DOS (not including DOTD) comprised twenty-eight military and twenty-eight civilian employees.⁵

F. 1st Aviation Brigade (Air Assault) (1st Brigade)

The commander of the 1st Brigade was Col. Robert B. Bailey from January through June and Col Albert L. Patterson III for the remainder of the year. The deputy commander was Lt. Col. Charles H. Dove from January through June and Lt. Col. Terry M. Peck from September through December. The brigade sergeant major was Cmd. Sgt. Maj. Gary L. Wright. The 1st Aviation Brigade consisted of three training battalions and two U.S. Army Forces Command battalions. The permanent party brigade strength at the beginning of the year was 293 military and 105 civilians. At the end of the year, the strength was 408 military and 113 civilians. The total permanent party and students assigned to the brigade was 2,739 at the beginning of the year and 2,400 at the end of the year. The operating budget of the 1st Brigade was \$14.7 million--\$3.9 million from TRADOC and \$10.7 million from FORSCOM. The total brigade budget was approximately 10 percent less in fiscal year 1993 than in 1992. During calendar year 1993, the brigade assumed additional training development responsibilities resulting from the reorganization of DOTD (see Chapter I, above). Under the leadership of Colonel Patterson, the 1st Brigade adopted several

⁵ Historical report, DOS, CY 93. See also DOTD in Appendix I and "Organizational Changes during 1993," in Chapter I.

initiatives aimed at improved effectiveness of communication in the chain of command, proactivity in proponency and doctrinal issues, increased use of automation and simulation in training, and improved efficiency. During 1993, the 1st Brigade hosted the Alabama Special Olympics state games, organized the Cadet Troop Leader Training Program, and sponsored the Bogardus S. Cairns Chapter of the Association of U.S. Army.⁶

The training battalions of the 1st Brigade and their respective commanders during 1993 were as follows: 1st Battalion, 10th Aviation Regiment--Lt. Col. Charles F. Doroski; 1st Battalion, 13th Aviation Regiment--Lt. Col. Kerry M. Brown; and 1st Battalion, 145th Aviation Regiment--Lt. Col. Mark S. Wentlent from January through June and Lt. Col. Dennis J. Wilkinson for the remainder of the year. During 1993, the 1-10th had 1,060 personnel assigned and 85 attached at the end of the year; the 1-13th had an average permanent party strength of 202 and an average student strength of 892; and the 1-145th had an average permanent party strength of 150 and an average student strength of 1,050. Company C, 509th Infantry Regiment (attached to the 1-145th Aviation) was discontinued on 31 May and replaced on 1 June by Company A, 511th Infantry Regiment, with personnel from the discontinued company.⁷

The two FORSCOM battalions attached to the 1st Brigade were the 2-229th Attack Helicopter Regiment and the 46th Engineer Battalion. The 2-229 was commanded by Lt. Col. Kenneth L. Travis, and the 46th Engineers were commanded by Lt. Col. Sean M. Wachutka. The average strength of the 2-229th was 283, and, of the 46th Engineers, 446. On 20 August 1993, 1st Lt. Angie D. Norman, the first female AH-64 pilot, was assigned to the 2-229th on 20 August 1993.⁸

G. Aviation Training Brigade (ATB)

Col. Thomas M. Roy served as the ATB commander from January until August, and Col. Edward H. Littlejohn III, for the remainder of the year. The command sergeant major was Cmd. Sgt. Maj. Ronald W. Alexander from January until his retirement in November, and Cmd. Sgt. Maj. John M. Morrison for the remainder of the year. The four training battalions of the ATB during 1993 and their respective commanders were as follows: 1st Battalion, 11th Aviation--Lt. Col. Richard L. Gill; 1st Battalion, 14th Aviation--Lt. Col. Steven T. Cronin from January to June and Lt. Col. Sam S. Walker for the remainder of the year; 1st Battalion, 212th Aviation--Lt. Col. Steven R. Accinelli; 1st Battalion, 223d Aviation--Lt. Col.

⁶Memo ATZQ-BDE (870-5), Col Albert L. Patterson III for cmd hist, 19 Mar 94, sub: 1st Avn Bde historical report, 1st Bde; Fund status for 1st Avn Bde, DRM, 31 Jul 93, 1st Bde.

⁷Historical report, 1st Avn Bde, CY 93; Permanent orders, 33-5 and 33-6, TRADOC, 2 Apr 93.

⁸Historical report, 1st Avn Bde, CY 93.

Julius G. Scott from January to July and Lt. Col John F. Bithos for the remainder of the year. Personnel strength of the ATB consisted of 1,042 military and 313 civilians for a total of 1,329 at the beginning of the year and 1,091 military and 312 civilians for a total of 1,403 at the end of the year. During 1993, the 1-11th was awarded the Army Superior Unit Award and the AAAA Unit of the Year Award. The 1-212th was awarded the first Lt. Gen. Ellis D. Parker Outstanding Aviation Unit Award in the table of distribution and allowances category and also a bronze plaque for safety as a result of logging over 230,000 accident-free flight hours from October 1989 to July 1993. Company D of the 1-223rd and Companies A and F of the 1-14th also received flight safety awards.

During 1993, several realignments occurred within ATB. Headquarters and Headquarters Detachment, 1-11th was activated in February to provide a headquarters for command and control of the Simulated Flight Training System and battalion staff sections. In December 1993, Company B, 1-212th and all OH-58 aircraft were moved from Shell Army Heliport to Lowe Army Airfield and consolidated with the rest of the battalion. Also, Company A and Headquarters and Headquarters Detachment of the 1-223rd were combined in April to form the Headquarters and Headquarters Company. Notwithstanding budget cuts, frequent fluctuations in student loads, the assumption of additional training development responsibilities during the year, the ATB accomplished its mission and maintained an exceptional safety record. The ATB budget decreased from \$50.7 million in fiscal year 1992 to \$47.8 million in fiscal year 1993 to \$46.9 million in fiscal year 1994. Although the training load decreased slightly during those years, the budget decreased considerably more.⁹

H. U.S. Army Air Traffic Control Activity (USAATCA)

The reorganization of the USAATCA, which began in 1992, was completed in 1993 resulting the abolishment of the Management and Development offices and the consolidation of other offices. The Standardization Division was formed by combining the Operations and Procedures and the Systems Evaluation divisions with Mr. Curtis E. Carter serving as the chief. The Requirements and the Systems and Plans divisions, former elements of the defunct Development Office, were reorganized as the Fixed-Base Requirements Division under the leadership of Mr. Dave Fonda, and the Tactical Requirements Division under Mr. Bruce Peterson. The Area Maintenance and Supply Facility remained unchanged during 1993 with Mr. Neal Johnson serving as chief. The Programs Management Office evolved from the Information Management Branch during the reorganization with Mr. Fred Helton serving as chief. Mr. Francis N. Anderson continued as director of the USAATCA during the entire year. The USAATCA strength at beginning of 1993 was twenty-one

⁹Historical report, ATB, CY 93; Memo ATZQ-ATB-A, Col Edward H Littlejohn III, for cmd hist, 8 Mar 94, sub: CY 1993 historical report.

military and thirty-two civilians. At the end of the year, the strength was twenty military and twenty-nine civilians.¹⁰

I. Aviation Training Brigade (ATB) (Augmentation)

The ATB Aug. was a 545-person USAAVNC mobilization table of distribution and allowances organization comprised of 62 USAR individual mobilization augmentees during peacetime. Its mission was to prepare for the installation's emergency surge training function in the event of a national emergency. The commander of ATB Aug. during 1993 was Col. Christopher P. Gershel.¹¹

J. Aviation Branch Safety Office (ABSO)

Mr. John T. Persch continued as safety manager during 1993, and Mr. Ronald Cox, as president of the Aircraft Accident Investigation Board. At the end of 1993, the strength of the ABSO was thirteen civilians and two military.¹²

K. Office of the Inspector General (IG)

Maj. William S. Ewell served as inspector general and Mr. Keith A. Jack as chief of the Inspection Branch for all of 1993. The position of chief of Assistance and Investigations remained vacant throughout the year, but M Sgt. Deborah L. Seimer, the NCOIC, carried out the responsibilities of the position. The strength figures for the IG Office were six military and four civilians at the beginning of the year and five military and four civilians at the end of the year.¹³

L. Internal Review and Audit Compliance Office (IRAC)

The internal review officer during 1993 was Mr. Woodrow J. Farrington. Mr. H. Vance Haney served as chief of the Internal Review Branch, and Mr. Don W. Phillips, as chief of the Audit Compliance Branch. The office was staffed with eight civilians throughout the year.¹⁴

¹⁰ Historical report, USAATCA, CY 93.

¹¹ Historical report, ATB Aug., CY 93.

¹² Historical report, ABSO, CY 93.

¹³ Historical report, IG, CY 93.

¹⁴ Historical report, IRAC, CY 93.

M. Staff Chaplain Office

The installation staff chaplain during 1993 was Chaplain (Col.) Marvin K. Vickers, Jr. Chaplain (Maj.) Henry B. Moreau served as chief of Operations and Support until September, when he was replaced by Chaplain (Lt. Col.) Kenneth J Knutson. Sister Mary C. Kavanaugh served as the Catholic religious education director, and Mr. Louie Reynolds was the Protestant religious education director until his retirement and replacement by Ms. Julia K. Casey. Sfc. Terry Floyd was the NCOIC until his retirement in June; he was replaced by Sfc. Roger T. Allison. Chaplain (Maj.) James E. Schorrenberg served as family life chaplain during 1993. The Chaplain Office was staffed with twelve chaplains and eleven assistants at the beginning of the year and fourteen chaplains and thirteen assistants at the end of the year. In the fall of 1993, the Chaplain Office table of distribution and allowances was filled at 100 percent for the first time in several years.¹⁵

N. Office of the Staff Judge Advocate (OSJA)

Lt. Col. Phillip L. Kennerly was the staff judge advocate until July 1993, when he was succeeded by Lt. Col. John T. Phelps, II. The deputy staff judge advocate for the entire year was Maj. Milton C. Spaulding. The five divisions of the OSJA and their respective heads during 1993 were as follows: Administrative--CWO2 Michael P. Doheny; Military Justice--Capt. Lisa Schenck; Legal Assistance--Capt. Brian T. Mosholder; Claims--Ms. Eva C. Matthews; and Administrative Law--Capt. Michael D. Brock. The office personnel strength was thirty at the beginning and thirty-one at the end of the year.¹⁶

O. Public Affairs Office (PAO)

Lt. Col. Gerard J. Hart served as the public affairs officer until replaced in August by Maj. Steven Eisenhart. Ms. Patricia S. Kitchell remained as the editor of the U.S. Army Aviation Digest. The divisions of the PAO consisted of Public Information, Command Information, and Community Relations. The PAO staffing ranged from a high of eleven civilians and ten military personnel to eight civilians and five military personnel at the end of the year. Spc. Nancy Adams earned a second-place finish in the DA Keith L. Ware military journalism competition in the picture stories category.¹⁷

¹⁵ Historical report, Chaplain, CY 93.

¹⁶ Historical report, SJA, CY 93.

¹⁷ Historical report, PAO, CY 93.

P. Directorate of Resource Management (DRM)

Lt. Col. Stephen D. Milburn served as director and Mr. Hugh M. Weeks, as deputy director of the DRM throughout 1993. The accounting and disbursing functions of the Finance and Accounting Division were transferred to the Defense Finance and Accounting Service in December 1992. Early in 1993, three other functions (military pay, civilian pay, and travel) were transferred to the Defense Finance Accounting Service, and the Finance and Accounting Division of DRM was abolished. The two remaining function of that division became separate divisions of the directorate. The six divisions of DRM at the end of the year and their respective chiefs were as follows: Cost and Management Analysis--Mr. James H. Woodard; Force Management--Mr. Howell L. Flowers; Program and Budget--Mr. Floyd Rogers; Total Quality Management Resource(established 1 November 1994)--Mrs. Hazel Odom; Nonappropriated Fund Central Accounting Office--Ms Johnnie Eubanks; Installation Management Accounting Office--Ms. Julia Craddock. The last two had formerly been under the Finance and Accounting Division. The directorate's work force consisted of 144 appropriated fund and 10 nonappropriated fund employees at the beginning of the year and 70 appropriated fund and 10 nonappropriated fund employees at the end of the year. The decrease resulted from the absorption of DRM's pay and travel operations by the Defense Finance and Accounting Service. At a ceremony on 17 November 1993, Mr Howell L. Flowers, chief of the Force Management Section, was presented the Superior Civilian Service Award for outstanding individual performance in the field of manpower management.¹⁸

Q. Directorate of Plans, Training, Mobilization, and Security (DPTMSEC)

Col. David W. Swank served as director of DPTMSEC throughout the year. Mr. Clyde Tullos served as deputy director until his retirement on 3 May, and Maj. Ronald V. Flick, for the remainder of the year. Eight of the divisions of DPTMSEC with their respective chiefs during 1993 were as follows: Resident Training Management--Ms. Mary Brown-Barefoot; Aviation--Maj. David L. Rotolo; Plans, Operations, and Mobilization--Maj. Ronald V. Flick; Range--Mr. Ronnie D. Matthews; Security--Mr. Rodney D. Logan; Training Service Center--Mr. Clarence N. O'Rear; Education--Mr. John W. Bush; and Detachment 9, 1st Weather Group--Maj. Peter A. Morse from January to August and Capt. Mark D. Zettlemoyer from October through December. Reserve Component Support functioned as a division of DPTMSEC since 1991 without a division chief. The total strength of the directorate was forty-six military and eighty-five civilian personnel at the beginning of the year and forty-four military personnel and seventy-eight civilians at the end. In February

¹⁸ Historical report, DRM, CY 93.

1993, the Army Education Center was awarded TRADOC's Communities of Excellence Special Recognition Award.¹⁹

R. Liaison Officers

During 1993 the chief of Air Combat Command Joint Program Office and the senior U.S. Air Force representative on Fort Rucker was Col. William D. Patton. The U.S. Marine Corps liaison officer was Lt. Col. Gerald S. Coulson. Allied nations and their respective liaison officers at the USAAVNC during 1993 were as follows: France--Lt. Col. Patrice Cottebrune followed by Lt. Col. Daniel Cottard; Australia--Lt. Col. John P. Coulthard; German Federal Republic--Lt. Col. Reiner Lemmerman; United Kingdom--Lt. Col. Ian P. White; Italy--Maj. Raffaele Caputo followed by Maj. Francesco Garretto; Canada--Maj. Terry L. Newman; Netherlands--Maj. Ronald E.P. Hagmeyer followed by Maj. Ferdinand Schuering.

S. Aviation Proponency Office (APO)

The chief of Aviation Proponency throughout 1993 was Lt. Col. Robert L. Johnson. The strength of the office at the beginning of the year was ten military and two civilians, and at the end of the year, fourteen military and one civilian.²⁰

T. Equal Employment Opportunity Office (EEO)

Mr. James W. Harris was the equal employment opportunity officer throughout 1993. Other key EEO Office personnel included the following: Affirmative Employment Program and Black Employment Program manager--Mr. Lawrence DeRamus from January to July and Mr. Timothy Knighton from November through December; Federal Women's Program manager--Ms. Johnnie Early; and Hispanic Employment Program manager (collateral duty)--Ms. Miriam Ray. The work force consisted of five permanent civilian employees and one Department of the Army intern at the beginning of the year and six permanent and three temporary employees at the end of the year.²¹

¹⁹ Historical report, DPTMSEC, CY 93; 1st end ATZQ-DPT-P (ATZQ-MH/1 Apr 94) (870-5), Capt Robert G Shirley for cmd hist, DPTMSEC.

²⁰ Historical report, APO, CY 93.

²¹ Historical report, EEO, CY 93.

U. Directorate of Civilian Personnel (DCP)

Mr. Lynden H. Rosenberry continued as the director of Civilian Personnel during 1993. The divisions of the directorate and their respective chiefs during the year were as follows: NAF Personnel--Mr. John Arnold; Position Management and Classification--Mr. Wayne Griffin; Management and Employee Relations--Mrs. Dorothy Parrish; Employee Services/Recruitment and Placement--Ms. J. Faye Duncan; Training and Development--Mr. Fred Smith; Special Programs--Mr. Archie Roberts. The personnel strength of the DCP was forty-one, both at the beginning and end of the year.²²

V. Military Police Activity (MPA)

Lt Col. Lance J. Luftman served as provost marshal throughout 1993, and Mr. Allison Hutcheson served as chief of the Law Enforcement Branch. Capt. Jan T. Swicord commanded A Company, Military Police Activity, from January until 15 December and Capt. Deanne M. Bellotti, for the remainder of the year. First Sgt. Mark A. Connor began the year as first sergeant, and 1st Sgt. Lanice A. Bonds assumed the position on 13 July. The work force of the MPA consisted of eighty-seven military and fourteen civilians at the beginning of the year and of ninety-seven military and eleven civilians at the end.²³

W. Directorate of Information Management (DOIM)

Mr. Floyd O. Leighton II served as director of DOIM throughout the year. The three divisions of DOIM and their respective chiefs during 1993 were as follows: Operations--Mr. Louis E. Boothe; Support--Mr. John G. Dyess; Information Center--Mr. Harold E. Helms. The DOIM began the year with an assigned strength of twenty-four military personnel and eighty-five civilians. The strength of the directorate at the end of the year was twenty-six military personnel and seventy-six civilians.²⁴

X. Directorate of Public Works (DPW)

On 1 October 1993, the USAAVNC Director of Engineering and Housing (DEH) was reorganized into the Directorate of Public Works. Engineering and Housing Directorates throughout the Army and other services were being reorganized

²² Historical report, DCP, CY 93.

²³ Historical report, MPA, CY 93.

²⁴ Historical report, DOIM, CY 93.

in accordance with DOD study conducted in 1990. The reorganizations used the Navy's public works centers as a basic model and aimed at achieving improved efficiencies of operation for base engineering services. The former DEH missions and functions continued to be performed during 1993, but organizational and operational changes began to be made during 1993 and were scheduled to continue during 1994.²⁵

Col. Robert B. Gatlin served as director of DEH/DPW throughout the year. Mr. Julian F. Botts served as deputy director until his retirement on 3 May, after which the position was eliminated. The seven divisions of the directorate and their respective heads during 1993 were as follows: Engineering Plans and Services--Mr. Delmer O. Owens; Business Management (changed from Engineer Resources Management on 1 October)--Mr. Charles A. Spencer; Operations and Maintenance--Mr. Ronald E. Leatherwood; Fire Prevention and Protection--Mr. Jerry B. Grammont; Housing--Ms. Patricia A. Sales; and Supply and Storage--Mr. Paul C. Wheeler; and Environmental and Natural Resources (elevated to division status on 18 April)--Mr. Kenneth Eisele. The work force of the directorate consisted of 478 personnel on 1 January and 540 personnel on 31 December. At the end of the year, there were 84 military and 456 civilians.²⁶

Y. Directorate of Logistics (DOL)

The director of DOL in 1993 was Mr. G. J. Leavis from January until his departure in November. Lt. Col. Carson R. Francis served as acting director until the arrival of the new director, Ms. Jane L. Gillis, on 26 December. The deputy directors were Mr. Richard E. Spriggs, Sr., from January to July and Mr. Carl E. Swanstrom, Jr., from July through December. The noncommissioned officer in charge was M. Sgt. James E. Long. The five divisions of DOL and their respective chiefs during 1993 were as follows: Plans, Operations, and Resource Management--CWO4 Jerry L. Lawhorn from January through March, Ms. Malinda E. Morris (acting) from April through July, and Mr. Charles R. Heller from August through December; Aircraft Logistics Management--Lt. Col. Carson R. Francis from January to November, and Maj. Frederick O. Campbell (acting) during November and December; Maintenance--Mr. Carl E. Swanstrom, Jr., from January to June and Mr. Robert F. Dyson (acting) from June through December; Supply and Services--Mr. William P. Treadaway from January to June, Ms. Sheila Azar (acting) from June to October, and Mr. Herbert A. Horner (acting) from October through December; and Transportation--Mr. Benjamin C. Peoples. The DOL began the year with 297

²⁵Historical Report, DPW, CY 93; "Defense Management Report Decision, No. 967," 30 Dec 90, DPW.

²⁶ Historical report, DEH, CY 93.

civilians and 79 military personnel and ended the year with 278 civilians and 94 military.²⁷

Z. Directorate of Contracting (DOC)

The director of Contracting in 1993 was Mr. Peter C. Polivka. The three divisions of DOC with their respective chiefs during 1993 were as follows: Contracting--Mrs. Gloria G. Wheeler; DPW Support--Mr. Allen Wagstaff; and Purchasing/Support--Mrs. Nelda B. Livesay. The DPW Support Division was called Contract Administration until October 1992, and the Purchasing and Support divisions were separate until that date. The USAAVNC DOC began 1993 with a total personnel strength of forty-three civilians and ended the year with a strength of forty. The directorate was nominated for the Barbara L. Jones Memorial Award for fiscal year 1993; final selection was to be made in 1994. The directorate won this prestigious award in 1992 for fiscal year 1991 by being selected as the best contracting directorate in TRADOC.²⁸

AA. Army Career and Alumni Program (ACAP)

The director of ACAP during 1993 was Mrs. J. E. Escalfullery. The office work force during 1993 consisted of four civilian personnel. The Job Assistance Center (contracted services) occupied adjacent space and supported ACAP personnel with employment assistance. The USAAVNC ACAP office received a TRADOC Communities of Excellence Special Recognition Award in 1993 for its performance during 1992.²⁹

BB. Directorate of Community Activities (DCA)

The director of DCA during 1993 was Lt. Col. Errol C. Pratt. Subordinate offices and divisions of DCA and their respective heads during 1993 were as follows: Equal Opportunity Office--Sfc. John A. Holeva at the beginning of the year and M.Sgt. Paul Braxton at the end of the year; Army Aviation Museum--Mr. R. S. Maxham; Community Recreation--Mr. J. Wade Henderson; Alcohol/Drug Abuse Prevention and Control--Mr. Ronald R. Sorrells; Services--Ms. Jane W. Andrews; Fort Rucker Dependent Schools--Dr. Linda Stewart; Family Support--Ms. JoAnne Blanks; and Financial Management--Ms. June Johnson. Mr. Evan E. Smith, Jr., served as assistant director from January until the position was abolished in June, and

²⁷ Historical report, DOL, CY 93.

²⁸ Historical report, DOC, CY 93; Nomination for the FY 93 Barbara L Jones Memorial Award, DOC.

²⁹ Historical report, ACAP, CY 93.

Mr. Robert Duff headed the Community Operations Division until that position was abolished in October. Marketing and Publicity, previously a division level office, was realigned under Services Division in September 1993. At the beginning of the year, the directorate had 338 civilians and 7 military assigned. At the end of the year, there were 344 civilians and 7 military. The family of Sfc John A. Holeva of DCA was selected as the Fort Rucker 1993 Great American Family.³⁰

CC. Office of Military Personnel/Adjutant General (OMP/AG)

The OMP/AG was restructured in March 1993 with the establishment of three primary branches. These branches, with their respective chiefs during 1993 were as follows: Personnel Services--Mr. Fernando Garcia; Personnel Management Branch--Ms. Barbara Shirah; and Officer Management--Capt. Jeffery Brown. The reorganization permitted the consolidation of similar management functions common to both students and permanent party soldiers. Similarly, officer and enlisted records functions were combined, and records clerks were cross-trained to maintain both sets of records. Mr. M. J. Wesley served as the adjutant general during 1993. At the beginning of 1993, the personnel strength of OMP/AG was twenty-seven military and sixty-five civilians. At the end of the year, there were thirty-three military personnel and sixty-one civilians.³¹

DD. Noncommissioned Officer (NCO) Academy

The commandant of the NCO Academy throughout 1993 was Cmd. Sgt. Maj. Ronald L. Moore. The assistant commandant from January through September was M. Sgt. Robert L. Prueter and from October through December, M. Sgt. Robert E. Rink. served in that position. The Advanced Noncommissioned Officer Course chief was Sfc. John R. Aguon. The Basic Noncommissioned Officer course chief was Sfc. Raymond Lopez from January through March, Sfc. Robert L. Williams from April through August, and Sfc. Joseph P. Moodt for the remainder of the year. The development cell chief was M. Sgt. Ronnie L. Williamson. At the beginning of the year there were forty-one military and four civilian personnel assigned. At the end of the year there were forty-one military and three civilian personnel. During 1993, the NCO Academy gave increased emphasis to equal opportunity/prevention of sexual harassment, family team-building training, and community service. Its community

³⁰ Historical report, DCA, CY 93; Memo ATZQ-PA (870-5), Lt. Col. Errol C. Pratt for cmd hist, 1 Mar 94, sub: DCA historical report, DCA; Army Flier, 10 Dec 93.

³¹ Historical report, OMP/AG, CY 93; ATZQ-GC, Larry Turnage for cdr TRADOC, 15 Oct 93, sub: ACOE input, GSC.

service activities included serving as sponsor for a Cub Scout pack and for the Fort Rucker community theater.³²

EE. TRADOC Systems Manager (TSM) Longbow

On 1 June 1993, TSM Airborne Target Acquisition and Weapons Systems (ATAWS), was redesignated TSM Longbow, but there was no change in mission. Col. David F. Sale directed the TSM ATAWS/Longbow from January to August, and Col. Robert V. Mitchell, for the remainder of the year. The senior assistants consisted of Mr. Paul Revels, Lt. Col. Howard Bramblett, Maj. Alvin Abejon, Capt. Gregory Lund and CWO3 Joffery Vandewart. The TRADOC Project Office (TPO) Apache continued under the supervision of the TSM Longbow during 1993. Maj. Mike Hassel served as director of the TPO Apache from January to August, and Capt. Michael Williams served as assistant director from August through December. Combined personnel strength of TSM Longbow and TPO Apache consisted of six military and two civilians.³³

FF. TSM, OH-58D Kiowa Warrior

The Kiowa Warrior managers during 1993 were Col. Ted D. Cordrey from January to June and Col. David L. Ahearn, Jr., for the remainder of the year. Principal assistants were Lt. Col. Donald K. Saxon, CWO4 Donald A. Price, Capt. Robert M. Cumbie, and CWO3 J. M. Hardwick, Jr. The personnel strength of the organization throughout the year was five military.³⁴

GG. TSM, Comanche

The TSM Comanche from January through November 1993 was Col. Theodore A. Duck, and for the remainder of the year, Col. Charles L. Gant, Jr. Senior assistants were Mr. Glenn Harrison, Lt. Col. George Quinn, and Maj. Steven L. Ochsner. The TSM Comanche personnel strength at Fort Rucker during 1993 consisted of seven military personnel and two civilians. Four additional military

³² Historical report, NCO Academy, CY 93; Ltr, Ronald L Moore, for cdr USAAVNC, 12 Oct 93, NCO Academy; Memo ATZQ-1DO (351), Lt Col Robert L Thompson for distr, 7 Oct 93, sub: Army family team-building training, NCO Academy.

³³ Historical report, TSM Longbow, CY 93; Appointment ltrs, Gen Frederick M Franks Jr, 1 Jun, 17 Aug 93, TSM Longbow.

³⁴ Historical report, TSM Kiowa Warrior, CY 93.

served as "operational personnel" under TSM Comanche direction, but assigned to the manufacturing contractor's facility at Trumbull, Connecticut.³⁵

³⁵ Historical report, TSM Comanche, CY 93.

APPENDIX II

USAAVNC ORGANIZATIONS AT FORT EUSTIS¹

A. U.S. Army Aviation Logistics School (USAALS)²

During 1993, the USAALS was organized into a headquarters element, two administrative offices and two directorates. One of the directorates, Training and Doctrine, included three teaching departments. The USAALS began the year with a total personnel strength of 765, consisting of 629 military and 136 civilians. The school ended the year with a total of 802, consisting of 665 military and 137 civilians. The functions of a third directorate, Evaluation and Standardization, was merged into the USAALS DOTD and the DES at Fort Rucker during 1993.³

B. Directorate of Combat Developments (DCD)

Col. Robert B. Kean served as director of DCD until he became assistant commandant in mid January. Mr. Robert E. Howard, the deputy director of DCD served as acting director from mid January until the arrival of the new director, Lt. Col. Mark Jones, in May. Jones and Howard served as director and deputy director respectively for the remainder of the year. The directorate's four subordinate divisions with their respective chiefs during 1993 were as follows: Concepts and Studies--Maj. John Kane from January through July and Capt. (P) Clark Mabrey from August through December; Organization and Personnel Services--Mr. Tom Reichert; Materiel Logistics Systems--Maj. William Gavora from January through June; and Test and Evaluation--Maj. Al Yeske from January through June. Materiel Logistics Systems and Test and Evaluation were combined in July to form the Materiel Requirements Division with Maj. Herb Mark as chief for the remainder of the year. The USAALS-DCD began the year with a personnel strength of twelve military personnel and twenty-three civilians. The directorate ended the year with twelve military and twenty-one civilians.⁴

C. Directorate of Training and Doctrine (DOTD)

During 1993, Col. Dennis W. Healy continued to serve as the director, and Mr. David M. Lamb, as deputy director of DOTD. Sgt. Maj. Willie E. Robertson was the DOTD sergeant major from January through February, and Sgt. Maj. Rufis

¹ Unless otherwise indicated the missions of USAALS directorates/departments did not change during 1992.

²See Chapter I, "Command and Control," for names of key USAALS headquarters personnel.

³Historical report, USAALS, CY 93.

⁴ Historical report, USAALS DCD, CY 93.

L. Stills served in that position for the remainder of the year. The DOTD consisted of two divisions and three training departments. The two divisions and their respective chiefs were as follows: Training Plans--Mr. William H. Zinn; Distributive Training--Mr. Matthew S. Maney.⁵ The director of the Department of Aviation Trades Training during 1993 was Lt. Col. Richard T. Caniglia. The deputy was Mr. Richard Jackson, and the sergeant major was Sgt. Maj. James W. Carroll.⁶ The Department of Attack Helicopter Training was headed by Lt. Col. John E. Decker, with Sgt. Maj. Edward A Wall and Mr. Tom P. Hall as his chief assistants.⁷ The Department of Aviation Systems Training (DAST) was headed by Lt. Col. William C. Townsend from January to May and by Lt. Col. Clinton E. Palmer from July through December. Mr. Kenny Deskins was deputy director and Sgt. Maj. Eugene R. Rossner was the department sergeant major. The DAST assumed responsibility for aviation logistics standardization and evaluation following the dissolution of the USAALS Directorate of Evaluation and Standardization in July 1993.⁸ The personnel strength of DOTD (including the three training departments) at the beginning of the year consisted of 654 military and 111 civilians. At the end of the year, the strength was 647 military and 105 civilians.

D. Leader Development/Personnel Proponency Office (LD/PPO)

Maj. William M. Gavora served as office chief from January through May and Maj. Robert W. Haynie, for the remainder of the year. Other key personnel included CWO4 Milton L. Ford, Mr. James N. McFadden, and Sgt. Maj. Rufus Stills during the early part of the year and MWO4 Marion L. Krauss and Sgt. Maj. Esquire McCoy during the latter part of the year. The civilian career management field 93 (aircraft maintenance) proponent officer position was abolished in 1993.⁹

E. Program Management Office (PMO)

Maj. Frank J. Stashak served as chief of the PMO from January until June, and Maj. William M. Gavora for the remainder of the year. Other key personnel included Ms. Billie Summerford, Capt. Neal O. Freeman, and M. Sgt. Bobby

⁵ Historical report, USAALS-DOTD, CY 93.

⁶ Historical report, DATT, CY 93.

⁷ Historical report, DAHT, CY 93.

⁸ Historical report, USAALS-DAST, CY 93.

⁹ Historical Report, USAALS LD/PPO, CY 93

Warren. The total personal strength of the office was sixteen at the beginning of the year and 15 at the end of the year.¹⁰

¹⁰ Historical report, USAALS PMO, CY 93

APPENDIX III

TENANT ORGANIZATIONS AT FORT RUCKER¹

A. U. S. Army Aviation Technical Test Center (ATTC)

The commander of ATTC during 1993 was Col. Joseph L. Bergantz; the technical director was Mr. Jim McCrory; and the adjutant/commander of headquarters company was Maj. Patrick N. Forrester from January through April and Maj. Roger A. Arnzen for the remainder of the year. The three directorates and their respective heads during 1993 were as follows: Airworthiness Qualification--Lt. Col. Marvin L. Hanks from January to August and Lt. Col. Gary A. Sharon for the remainder of the year; Flight Systems Test--Lt. Col. Randall W. Cason; Test Support--Lt. Col. John V. R. Redington. The manpower authorizations at the beginning and at the end of fiscal year 1993 were 40 officers, 12 warrant officers, 71 enlisted personnel, and 179 civilians. The work force of the ATTC was augmented by 220+ contractor personnel during fiscal year 1993. The annual operating budget for the fiscal year was \$41 million. This was an increase of \$5 million over the fiscal year 1992 budget. The increase represented a growth in workload. Approximately 5,653 flight hours were flown in the accomplishment of ATTC's test mission during fiscal year 1993. CWO4 Mark Metzger of the ATTC received the American Defense Preparedness Award in the military category for 1993; three ATTC civilians received the Superior Civilian Service Award; and the ATTC won the Fort Rucker Black History Month display contest for the second successive year. Finally, the ATTC won the Harry T. James Award, given annually by the American Helicopter Society to the Army unit that made the greatest contributions to Army aviation safety, reliability, and maintainability.²

B. U.S. Army Research Institute Aviation Research and Development Activity (ARIARDA)

Mr. Charles A. Gainer continued as the chief of ARIARDA during 1993. Other key personnel included Maj. William C. Barker, Dr. Dennis K. Leedom, Dr. Dennis C. Wightman, Dr. Robert H. Wright, Dr. John A. Dohme, Dr. John E. Stewart, Dr. William R. Howse and Dr. David M Johnson. At the beginning of the year, ARIARDA's personnel strength was sixteen, consisting of one military and fifteen civilians. At the end of the year, the strength was one military and sixteen civilians. In July ARIARDA occupied its new simulator training research advanced test bed for aviation facility (Bldg. 5100). The facility was in research-ready status by 27 August, and the formal dedication ceremonies occurred on 28 September. An

¹ Unless otherwise stated, the 1993 missions of the following Fort Rucker tenant organizations remained essentially the same as in 1992.

² Historical report, ATTC, CY 93.

ARIARDA research advisory council was established in October 1993 to provide insight into operational aviation problems and establish priorities for Army aviation training, operational, and crew-station design problems. The USAAVNC assistant commandant served as president of the council, and the chief of ARIARDA, as executive secretary. The council was composed of senior representatives of USAAVNC directorates and TRADOC System Managers.³

C. U.S. Army Aeromedical Research Laboratory (USAARL)

The commander of the USAARL during 1993 was Col. David H. Karney. The deputy commander was Col D. Shanahan, and Lt. Col. C. Collins served as both executive officer and chief of the Resource Management Branch. The three divisions of USAARL and their respective chiefs during 1993 were as follows: Aircrew Health and Performance--Lt. Col. R. Levine; Aircrew Protection--Lt. Col. K. Mason; Research Support--Maj. J. Burke. The average personnel strength of USAARL during 1993 was 67 military and 69 civilians. During 1993, USAARL programs were funded in the amount of \$7.705 million of which \$6.380 million were for exploratory development. Corresponding amounts for the previous calendar year were \$7.576 million and \$6.527 million.⁴

D. U.S. Army Aeromedical Center (USAAMC)

Col. Robert J. Kreutzmann was the Aeromedical Center commander throughout the year. The deputy commander for clinical services was Lt. Col. Warren S. Silberman, and the deputy commander for administration was Lt. Col. Tommy W. Mayes. Col. James Zarinczuk was the director of the U.S. Army Aeromedical Activity, and Maj. Lynele Rockwell served as chief of preventive medicine. The deputy commander for veterinary services was Lt. Col. Ray Mobley. Early in 1993, the Department of Plans, Education, and Training was created by the merger of the former Nursing Education and Staff Development Section and the Plans, Training, Mobilization and Security Division. Also in 1993, the Coordinated Care Division and Clinical Support Division were combined to form the new Managed Care Division. The USAAMC staff consisted of 331 military personnel and 246 civilians at the beginning of the year, and 347 military and 37 civilians at the end of the year.⁵

³ Historical report, ARIARDA, CY 93; Rotor & Wing, (Nov 93) p. 10.

⁴ "U.S. Army Aeromedical Research Laboratory Annual Progress Report, Calendar Year 1993," (Fort Rucker, Mar 93), pp. 2-10.

⁵ Historical report, USAAMC, CY 93; Army Flier, 5 Mar 93.

E. Helicopter School Battalion (HSB) U.S. Army School of the Americas (SOA)

The mission of the HSB/SOA was to train South and Central American students to fly and maintain helicopters. These military and para-military personnel were usually expected to be used by their respective governments in counter-drug and counter-insurgency operations. The commander of the HSB from January to July was Lt. Col. Jose L. Hinojosa; Lt. Col. Joseph E. Peraza commanded the battalion for the remainder of the year. Maj. Jacob Sweezy served as the battalion executive officer throughout the year. The first female pilot, a Panamanian Air Service captain, completed the HSB training course in 1993. Also, the first Spanish language UH-1H repairer course was conducted during 1993. The battalion strength at the end of the year was thirty-six military and fourteen civilians.⁶

F. Total Army Warrant Officer Career Center (WOCC)

CWO5 David E. Helton continued as director and CWO5 James R. Damron, as commandant of the WOCC during 1993. The branches of the center and their respective heads during the year were as follows: General Studies--MWO4 H.L. Marion from January to October and CWO4 Leslie Rayburn for the remainder of the year; Aviation Studies--CWO4 Dennis Houston; Distributive Studies--Ms Argusta Bell from October to December; Advanced Studies--CWO5 Max Owens from January to November and CWO5 John Martin for the remainder of the year; and 1st Warrant Officer Company--CWO4 George K. Gonsalves. All branches were directly subordinate to the commandant, who was directly under the director. The personnel strength of the WOCC at the beginning of the year was forty-four military and four civilians. At the end of the year, the strength was forty-four military and ten civilians. Distinguished visitors to the WOCC during 1993 included the chief of staff of the Army, the commander of TRADOC, the Army deputy chief of staff for personnel, and two successive commanders of the USACAC.⁷

G. U.S. Army School of Aviation Medicine (USASAM)

The dean of the USASAM during 1993 was Lt. Col. (P) Jerry W. Hope. The assistant dean was Lt. Col. Alfred W. Rogers from January to October and Lt. Col. David T. Sutton for the remainder of the year. Maj. Leo A. Conger, Jr. was chief of the Aeromedical Education Division from January through May, and Maj. Wallace J. Seay served in that position for the remainder of the year. The strength of the

⁶Historical report, HSB, CY 93.

⁷ Historical report, WOCC, CY 93.

USASAM was twenty-six military and four civilians at the beginning of the year and twenty-eight military and four civilians at the end of the year.⁸

H. U.S. Army Dental Activity (DENTAC)

Col. Joseph L. Perry was commander of DENTAC during 1993. Lt. Col. Joe Osmond was deputy commander and chief of Brown Dental Clinic from January to August, and Lt. Col. Jay M. Walters for the remainder of the year. Maj. Ray Nykaza was chief of Dental Clinic number two at the beginning of the year, and Lt. Col. Kelly Kofford, at the end of the year. Capt. Charles Tanner served as executive officer/detachment commander from January to August, and Capt. Jessie L. Tucker III, for the remainder of the year. At the beginning of 1993, the DENTAC staff consisted of twenty-seven military and twenty-four civilians. At the end of the year, there were twenty-eight military and twenty-four civilians.⁹

I. U.S. Army Safety Center (USASC)

Brig. Gen. R. Dennis Kerr continued as commander of the USASC throughout 1993. The deputy commander was Col. Herman S. Heath, and Cmd. Sgt. Maj. designate Samuel Reynolds served as the center sergeant major. The major subordinate elements of the Safety Center with the respective directors were as follows: Programs Directorate--Col. Kenneth B. Wells; Information and Systems Technology Directorate--Dr. James E. Hicks and Management Office--Mr. R. L. Williamson, Jr. The assigned military strength of the Safety Center was reduced from sixty-four at the beginning of the year to fifty-nine at the end of the year. The civilian strength for the year remained eighty-eight. The annual operating budget of the Safety Center for fiscal year 1993 was \$7.1 million.¹⁰

J. Detachment 1, 14th Flying Training Wing (FTW), U.S. Air Force

Capt. Joseph Torsani III was the detachment commander from January until April, and Capt. Charles M. Ennis, Jr., for the remainder of the year. The strength of the detachment at the beginning and at the end of 1993 was one officer and one enlisted person.¹¹

⁸Historical report, USASAM, CY 93

⁹Historical report, DENTAC, CY 93.

¹⁰ Historical report, USASC, CY 93.

¹¹ Historical report, Det 1/14th FTW, CY 93.

K. Multi-Media Branch, Directorate of Army Aviation and Safety, National Guard Bureau

Lt. Col. William W. Shawn continued as chief of the Multi-Media Branch during 1993. The assigned strength of the branch, in addition to the chief, was five ARNG military technicians and one civilian employee. During 1993 the branch procured two state-of-the-art studio cameras and pneumatic pedestals. The cost of the cameras and other equipment was approximately \$200,000.¹²

L. Army Material Command Logistic Assistance Office (AMC LAO)

The AMC LAO chief from January until July 1993 was Mr. Bernard James. Following Mr. James's transfer to Korea in July, Mr. Michael Mager served as acting chief for the remainder of the year. However, the senior command representative of Aviation Troop Support Command (ATCOM) in St. Louis assumed responsibilities of chief of the Fort Rucker LAO as a result of AMC reorganization. During 1993, the Fort Rucker LAO was relieved of responsibility for providing logistic support to the Mississippi ARNG and USAR units in Mississippi. At the same time, however, the Fort Rucker office, with subordinate field offices at Fort McClellan and at Florence, Alabama, was given responsibility for logistical assistance to all Army units in Alabama. The Fort Rucker LAO began the year with an assigned personnel strength of eight civilians and ended the year with seven.¹³

M. 256th Signal Support Company

The commander of the 256th was Capt. Kyle W. Ray from January to October and Capt. Daniel D. Cockerham for the remainder of the year. The unit strength at the beginning of the year was one officer, one warrant officer, and twenty-four enlisted personnel. At the end of the year, there was one additional enlisted soldier.¹⁴

¹² Historical report, Multi-Media Branch, CY 93.

¹³ Historical report, AMC-LAO, CY 93.

¹⁴ Historical report, 256th Signal Company, CY 93.

APPENDIX IV

USAAVNC ORGANIZATION CHART

APPENDIX V

LIST OF APPENDED DOCUMENTS

The following list comprises most of the documents collected by the Aviation Branch historians relative to calendar year 1993. The documents are located in the archives of the Branch History office (building 5306). The documents in the archives are organized, for the most part, according to provenance, i.e., the directorate/office from which the documents were obtained; this list is similarly organized. Some documents were collected by the historians individually and from various sources. These are organized by the chapter of the 1993 history to which they relate. Some of the documents in this list are not cited in the 1993 annual history. Documents that are enclosures of other documents are filed together with the cover document and are generally not listed separately in this appendix.

A. COMMANDING GENERAL CORRESPONDENCE FILE

1. Memo, Cdr USAAVNC to Commander TRADOC (ATCG), 12 Apr 93, subj: Implementation of BASOPS Partnership/Regionalization Initiative (15 pgs).
2. Memo, Col. Thomas W. Garrett to Col. Gatlin, Lt. Col. Milburn, Mr. Rosenberry, 27 Oct 93, subj: BASOPS Reorganization (2 pgs).
3. Msg, CG USAAVNC to Cdr USACAC (ATZL-CG), 3 Mar 93, subj: Warrant Officer Career Center (2 pgs).
4. Memo, Cdr USAAVNC to Cdr TRADOC (ATDO-YL), 10 Mar 93, subj: Topics for United Kingdom/United States Army Staff Talks XXV (2 pgs).
5. Memo, Cdr USAAVNC to Cdr TRADOC (ATDO-YN), 25 Jan 93, subj: Italy/United States Army Staff Talks VIII (4 pgs).
6. Memo, Lt. Col. Stephen Milburn to CG USAAVNC, 6 Aug 93, subj: DOTD Reorganization – ACTION MEMO (32 pgs).
7. Msg, Cdr USAAVNC to Cdr TRADOC, 261115Z Oct 93, subj: MTOE Stationing Review (3 pgs).
8. Ltr, Cdr USAAVNC to Maj. Gen. Kenneth R. Wyke, subj: Army Aviation Maintenance Training Activity (2 pgs).
9. Ltr, Cdr USAAVNC to Maj. Gen. David A. Whaley, subj: Army Aviation Maintenance Training Activity (1 pg).
10. Memorandum of Agreement, U.S. Army Aviation Center and United States Army Transportation Center, 6 Dec 93 (5 pgs).
11. Memo, Cdr USAAVNC to Cdr U.S. Army Combined Arms Support Command, 5 Apr 93, subj: Recommendation for Award of the Legion of Merit (Col. Kean) (6 pgs).
12. Memo, M. J. Wesley to Board Members, 17 Sep 93, subj: Appointment Memorandum - Lt. Gen. Ellis D. Parker Aviation Unit Awards Board (3 pgs).
13. Msg, Cdr USAAVNC to AIG 8846, 161932Z Jun 93, subj: Annual Air Traffic Control (ATC) Awards (2 pgs).
14. Memo, CW4 Roy E. Daughtry to CG USAAVNC, 13 Aug 93, subj: Read Ahead Packet for Presentation of the USAAVNC Bronze Plaque for Safety to the 1-212th Aviation Regiment (2 pgs).

15. Memo, Col. William E. Miller to CG USAAVNC, 19 Jul 93, subj: Read Ahead Packet for Presentation of Safety Awards, 31 Jul 93 (3 pgs).
16. Ltr, Terrence M. Coakley to Cdr USAAVNC, 29 Nov 93, subj: Order of St. Michael Award (4 pgs).
17. Ltr, Army Aviation Association of America to Maj. Gen. John D. Robinson, 9 Feb 93, subj: Order of St. Michael Nomination (4 pgs).
18. Memo, Maj. Gen. James W. Van Loben Sels to Cdr USAAVNC, 11 Dec 89, subj: Support Brigade Commander's Office for USAAVNC (2 pgs).
19. Memo, Cdr USAAVNC to Cdr TRADOC (ATOS-A), 13 Dec 93, subj: Order of Daedalians, Lt. Gen. Allen M. Burdett, Jr., Army Aviation Flight Safety Award (1 pg).
20. Msg, USAAVNC to Cdr 24th ID, 051200Z May 93, subj: Utilization of Enlisted Aerial Observers (MOS 93B) During Night and Night Vision Goggle (NVG) Flight (3 pgs).
21. Memo, Col. Daniel S. Williams to distr, 26 Jan 93, subj: Notes from Commander's Review Update, 26 Jan 93 (2 pgs).
22. "Charter of the Total Army Quality Executive Steering Committee", USAAVNC, 10 Jul 92 (3 pgs).
23. Memorandum of Agreement between Cdr U.S. Army Medical Department and Cdr USAAVNC, and Cdr U.S. Army Aeromedical Center, 8 Jan 93 (7 pgs).
24. Aviation Officer Basic Course Data (1 pg).
25. Memo, Col. Robert N. Seigle to distr, 10 Mar 93, subj: Budgetary Procedures for the Flight Training Accounts (814741 and 814743) (4 pgs).
26. Msg, Cdr USAAVNC to Cdr 101st Abn Div (AFZB-GA), 031030Z May 93, subj: Reply to Previous Message on Flight Training Budget (4 pgs).
27. Msg, Cdr USAAVNC to Cdr TRADOC (ATZQ-CG), 160900Z Feb 93, subj: Impact of Reduced Flight Training Funding (3 pgs).
28. Msg, Cdr USAAVNC to AIG 898, 211300Z Dec 93, subj: Aviator's Night Vision Imaging System (ANVIS) Maintenance Qualification Training Guidance (4 pgs).
29. Commander's Statement, 101st Airborne Division (Air Assault), 16 Feb 93 through 15 Mar 93 (11 pgs).
30. Commander's Statement, 101st Airborne Division (Air Assault), 16 Oct 92 thru 15 Nov 92 (12 pgs).
31. Memo, Maj. Gen. John P. Herrling to distr, 31 Mar 93, subj: Ethics Training (3 pgs).
32. Ltr, Cdr USAAVNC to Brig. Gen. Benjamin Zin, 31 Aug 93, subj: Use of Combat Mission Simulator (CMS) (1 pg).
33. Commander's Statement, 101st Airborne Division (Air Assault), 16 Apr 93 thru 15 May 93 (10 pgs).
34. Memo, Col. David W. Swank to CG USAAVNC, 15 Sep 93, subj: Movement of Pre-Command Course (PCC) – ACTION MEMORANDUM (3 pgs).
35. Memo, CW5 David E. Helton to Dir DPTMSEC (ATZQ-DPT), 18 May 93, subj: Building 5302 Classrooms (2 pgs).
36. Memo, Cdr USAAVNC to Aviation Commanders, 24 Mar 93, subj: Joint Readiness Training Center Seminar (1 pg).
37. Memo, Cdr USAAVNC to Lt. Gen. Wilson A. Shoffner, 25 Feb 93, subj: Implementation of the Warrant Officer Leader Development Plan (WOLDAP) (2 pgs).

38. Msg, Col. David W. Swank to Cdr TRADOC (ATZQ-CG), 160900Z Feb 93, subj: Impact of Reduced Flight Training Funding (4 pgs).
39. Ltr, Cdr USAAVNC to Brig. Gen. William L. Nash, 25 May 93, subj: TDA Increases at the NTC (1 pg).
40. Memorandum for Record, Cdr USAAVNC, 21 Apr 93, subj: Waiver of AR 385-63, Requirements for OH-58D Arming at Molinelli FARP (1 pg).
41. Memo, Cdr USAAVNC to Vice Chief of Staff, Army, 20 Sep 93, subj: Army National Guard (ARNG) Roles and Missions (2 pgs).
42. Memo, Cdr USAAVNC to Cdr U.S. Army Aviation and Troop Command, 3 Jan 94, subj: Apache Fiscal Responsibilities (2 pgs).
43. Memo, Lt. Col. Dennis W. Wilkinson to Chief, Officer Education and Training Process Action Team Re-Engineering, TRADOC Task Force, HQ, TRADOC, 8 Dec 93, subj: Review of Officer Education and Training Process Action Team (2 pgs).
44. Memo, Cdr USAAVNC to Gen. David M. Maddox, USAREUR, 15 Nov 93, subj: STOW-E (1 pg).
45. Memorandum for Record, Brig. Gen. Robert A. Goodbarry, 18 Jun 93, subj: Elimination Process for Warrant Officer Students (1 pg).
46. Ltr (1st End), Col. Robert N. Seigle to Regional Auditor General, Central Region, U.S. Army Audit Agency, subj: Draft Report on the Audit of Flight Training Contracts (3 pgs).
47. Memo, Col. Robert N. Seigle to HQDA (DAMO-TR), 16 Feb 93, subj: Resource Bill for FY 94 MEGA Training Resource Arbitration Panel (MEGA TRAP) Training Requirements (3 pgs).
48. Memo, Col. Robert N. Seigle to distr, 23 Feb 93, subj: Aircraft Survivability Equipment/Electronic Warfare Officers Course (ASE/EWOC) (3 pgs).
49. Memo, Col. Thomas W. Garrett to Apache PMO, (SFAE-AV-AAH-LR), 5 Nov 93, subj: Relocation of AH-64 Classroom Systems Trainers (1 pg).
50. Msg, Cdr USAAVNC to Cdr TRADOC (ATCS), 081418Z Sep 93, subj: Aviation Branch Personnel Plan (2 pgs).
51. Msg, Col. David F. Sale to Cdr USAAVNC, 291623Z Mar 93, subj: AH-64 Safety Concerns (4 pgs).
52. Msg, Cdr USAAVNC to Cdr USACAC (ATZL-CT), 171635Z May 93, subj: Support of CTC Aviation Initiatives (2 pgs).
53. Memo, Brig. Gen. John M. Riggs to Cdr U.S. Army Simulation, Training and Instrumentation Command, 18 Nov 93, subj: Statement of Urgency for the Area Weapons Scoring System (2 pgs).
54. Memo, Cdr USAAVNC to Cdr National Training Center, 5 May 93, subj: AH-64 Air-Ground Engagement System II (AGES II) (2 pgs).
55. Charter of the Training Aids, Devices, Simulators, and Simulations (TADSS) Process Action Team (2 pgs).
56. Report, AGES II AH-64 NTC Efforts (DRAFT) (2 pgs).
57. Memo, Col. Palmer J. Penny to distr, 19 May 93, subj: Minutes of Training Aids, Devices, Simulators, and Simulators (TADSS) Process Action Team (PAT) Meeting (5 pgs).
58. Memo, Capt. George M. Kyle to DCG, 30 Mar 93, subj: Read Ahead Packet for E Troop 2/229th Aircraft Acceptance Ceremony (3 pgs).

59. Memo, Cdr USAAVNC to Maj. Gen. John R. D'Araujo, 22 Oct 93, subj: Selection of Army National Guard (ANG) Aviators for Instructor Pilot Training (1 pg).
60. Msg, Cdr USAAVNC to CINCUSAREUR (AEACC), 271623Z Oct 93, subj: Helicopter Gunnery Program (2 pgs).
61. Memo, Col. Robert M. Stewart to CG USAAVNC, 29 Sep 93, subj: Read Ahead Package, FY 94 Studies Program – ACTION MEMO (4 pgs).
62. Memo, Col. Robert M. Stewart to CG USAAVNC, 5 Oct 93, subj: Read-Ahead for Mr. Tom House's Visit, 8 Oct 93 (5 pgs).
63. Memo, Col. Robert M. Stewart to CG USAAVNC, 4 Jun 93, subj: Read Ahead Packet for Rapid Strike II Demonstration (60 pgs).
64. Memo, Col. Mario Meola to CG, 21 May 93, subj: Read Ahead Packet for NGB AATS Briefing, 26 May 93 (14 pgs).
65. Information Paper, NGB-ARO-RI (PSB), 25 Feb 93, subj: Project Standard Bearer (2 pgs).
66. Memo, Col. Thomas W. Garrett to distr, 28 Jul 93, subj: Aviation Restructure Initiative (ARI) Implementation Team (3 pgs).
67. Memo, Maj. Gen. Dewitt T. Irby to Cdr USAAVNC, 11 Aug 93, subj: Update to the Charter for Team Special Operations Aircraft (SOA) (9 pgs).
68. Memo, Cdr USAAVNC to distr, 29 Nov 93, subj: Draft FM 1-140, Helicopter Gunnery (5 pgs).
69. Msg, Cdr USAAVNC to Cdr USACASCOM (ATCL-CG), 171500Z Jun 93, subj: UH-60Q Medical Evacuation Helicopters (2 pgs).
70. Msg, Cdr USAAVNC to DA WASHDC (DAAR-OP-FD/DAMO-FDF), 301500Z Mar 93, subj: USAR Aviation Long Range Planning Conference (2 pgs).
71. Msg, Cdr USAAVNC to DA WASHDC (DAMO-ZA), 180900Z Aug 93, subj: Test Unit for Longbow (LB) for Force Development Test and Experimentation (FDTE) and Initial Operational Test and Evaluation (IOTE) (2 pgs).
72. Msg, Cdr USAAVNC to Cdr USAFAC (ATZR-C), 131200Z Aug 93, subj: Depth and Simultaneous Attack Battle Lab Seminar (3 pgs).
73. Memo, Gen. Frederick M. Franks to distr, 3 Feb 93, subj: Combat Service Support Battle Laboratory Senior Officer Review, 26 Jan 93 (2 pgs).
74. Memo, Cdr USAAVNC to Gen. Frederick M. Franks, 5 May 93, subj: FY 94 TRADOC AR 5-5 Study Program Resource Requirements (3 pgs).
75. Memo, Cdr USAAVNC to Maj. Gen. Larry G. Lehowicz, 22 Apr 93, subj: Aerial Cargo Transport (ACT) Mission Need Statement (MNS) (1 pg).
76. Memo, Cdr USAAVNC to Cdr TRADOC (ATCD-SE), 31 Aug 93, subj: Enhanced Aircrew Uniform-Integrated Battlefield (EAUIB) (1 pg).
77. Memo, Cdr USAAVNC to Maj. Gen. Larry G. Lehowicz, 26 Jul 93, subj: Approval of the Mission Need Statement (MNS) for the Tactical Airspace Integration System (TAIS) (1 pg).
78. Memo, Cdr USAAVNC to Maj. Gen. Dewitt T. Irby, 30 Dec 93, subj: Activation of Aircraft Turbine Engine Management Working Group (1 pg).
79. Memo, Cdr USAAVNC to Chief of Staff, U.S. Army, 30 Dec 93, subj: Status of EEO and Other Discrimination Complaints at Fort Rucker, Alabama (3 pgs).

- :
80. Memo, Cdr USAAVNC to Maj. Gen. Larry G. Lehowicz, 22 Dec 93, subj: Mission Need Statement (MNS) for Advanced Integrated Electronic Combat and Survivability Capabilities (1 pg).
 81. Memo, Cdr USAAVNC to Maj. Gen. Larry G. Lehowicz, 15 Nov 93, subj: Operational Requirement Document (ORD) for Nap-of-the-Earth Communications (NOE COMM) System (2 pgs).
 82. Memo, Cdr USAAVNC to Lt. Gen. Jerry R. Rutherford, 5 Nov 93, subj: AH-64 Apache Gunnery (2 pgs).
 83. Memo, Cdr USAAVNC to Maj. Gen. James J. Cravens, 28 Oct 93, subj: Air-to-Air Stinger (ATAS) (1 pg).
 84. Memo, Cdr USAAVNC to Maj. Gen. Gerald H. Putman, 18 Oct 93, subj: Aviation Restructure Initiative/Stripes on the Flight Line (2 pgs).
 85. Memo, Col. John M. Gravois to Cdr USAAVNC, 26 Apr 93, subj: Advanced Rotary Wing Aircraft (ARWA) Program Implementation (4 pgs).
 86. Memo, Col. Ted D. Cordrey to Division Manager DynCorp, 14 May 93, subj: Expression of Appreciation (1 pg).
 87. Memo, Col. Charles S. Hurt to CG USAAVNC, 21 Jun 94, subj: Aircrew Battle Dress Uniform (ABDU) (3 pgs).
 88. Memo, Maj. Gen. Dewitt T. Irby to Deputy for Program Evaluation, 15 Jul 94, subj: Program Executive Officer's (PEO) Monthly Assessment of Aviation Programs as of 30 June 1993 (23 pgs).
 89. Memo, Gen. Frederick M. Franks to distr, 19 Jul 93, subj: TSLC Fort Monroe, Virginia, 29-30 Jun 93 (5 pgs).
 90. Executive Summary, AH-64C/D Organizational Analysis, USAAVNC, Aug 93 (3 pgs).
 91. Memo, Col. David W. Swank to Program Executive Office-Aviation, Project Manager Kiowa Warrior, subj: New Training Helicopter Requirement (2 pgs).
 92. Memo, Thomas L. House to distr, 16 Nov 93, subj: Science and Technology (S&T) Support for the RAH-66 Comanche Program Meeting Minutes (20 pgs).
 93. Memo, Cdr USAAVNC to Cdr TRADOC (ATCD-YN), 19 Mar 93, subj: Action Plan for German/United States Army Staff Talks XXII (GE/US ST XXII) (1 pg).
 94. Memo, Cdr USAAVNC to Gen. Frederick M. Franks, 25 Feb 93, subj: Final Draft to FM 100-5 (3 pgs).
 95. Ltr, Cdr USAAVNC to Mr. William I. Jones, 25 Feb 93, subj: Dynamic Airspace Management System (DAMS) (1 pg).
 96. Memo, Cdr USAAVNC to distr, 17 Jun 93, subj: United States Army Aviation Center Directorate of Combat Developments (DCD) Program and Project Summary Sheets (2 pgs).
 97. Memo, Maj. Gen. Robert A. Goodbarry to Cdr U.S. Army Chemical Biological Defense Command, 14 Jun 93, subj: M43A1 Chemical Protective Mask Fielding (2 pgs).
 98. Memo, Paul L. Hendrickson to Cdr USAAVNC, subj: Signature on Multi-Command Memorandum of Agreement (MOA) (8 pgs).
 99. Charter for Team Apache Modernization (4 pgs).
 100. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC (ATCD-ET), 20 Apr 93, subj: High Capacity Air Ambulance (HCCA) Mission Need Statement (MNS) (1 pg).
 101. Memo, Cdr USAAVNC to Mr. John F. Morelli, 17 Aug 93, subj: Aerial Gunner Scanner Simulator (AGSS) (1 pg).

102. Ltr (1st End), DAMO-FDQ, Cdr USAAVNC to DA, Office of the Deputy Chief of Staff for Operations and Plans, subj: Final Coordinating Draft of Army Regulation 5-22, The Army Proponent System (5 pgs).
103. Memo, Cdr USAAVNC to Mr. Leslie C. Mingus, 12 Jul 93, subj: Stripes on the Flightline (12 pgs).
104. Memo, Cdr USAAVNC to distr, 21 Dec 93, subj: Stockholders Update (1 pg).
105. Memo, Cdr USAAVNC to Cdr TRADOC, 13 Dec 93, subj: Advanced Rotary Wing Aircraft (ARWA) Need/Requirements Statement (4 pgs).
106. Memorandum of Agreement, U.S. Army Aviation Center and U.S. Army Research Institute, subj: Research and Advisory Council (3 pgs).
107. Memorandum of Agreement, Project Manager, Joint Computer-Aided Acquisition and Logistic Support (JCALS) and U.S. Army Aviation Center, Revision 1 (6 pgs).
108. Memo, Brig. Gen. John M. Riggs to Project Manager-Soldiers (AMCPM-SDR), 12 Nov 93, subj: Aircrew Cold Weather Clothing System (ACWCS) (1 pg).
109. Memo, Brig. Gen. John M. Riggs to Cdr Operations Group, Joint Readiness Training Center, 23 September 93, subj: AH-1 Night Warfare Capability (2 pgs).
110. Memo, Brig. Gen. John M. Riggs to Office of the Assistant Deputy Chief of Staff for Operations and Plans, Force Development (DAMO-FD), 26 Aug 93, subj: Army Participation in the Navy Advanced Rocket System (ARS) (1 pg).
111. Memo, Cdr USAAVNC to Mr. Frank N. Piasecki, 19 Aug 93, subj: Office Meeting (1 pg).
112. Memo, Col. Thomas W. Garrett to Cdr TRADOC (ATBO-HSM), 10 Jun 93, subj: Notification Statement, Conditional Release and Fielding of the AN/AYD-1 Personnel Locator System (PLS) (1 pg).
113. Memo, Col. Thomas W. Garrett to distr, 6 May 94, subj: SPH-4 Problem Fit Program (PFP) (1 pg).
114. Memo, Col. Thomas W. Garrett to Col. Patrick W. Button, subj: Ordnance Vision 2020 (4 pgs).
115. Memo, Col. Thomas W. Garrett to distr, 28 Jul 93, subj: Aviation Restructure Initiative (ARI) Implementation Team (1 pg).
116. Memo, Col. Thomas W. Garrett to distr, 18 Aug 93, subj: Aviation Restructure Initiative (ARI) Implementation Team - CHANGE 1 (1 pg).
117. Memo, Francis N. Anderson to Cdr USAAVNC, 11 Jan 93, subj: Validation of the Fort Polk Joint Readiness Training Center (JRTC) Air Traffic Control (ATC) Requirements Survey--ACTION MEMORANDUM (25 pgs).
118. Memo, Brig. Gen. John M. Riggs to Cdr Vth Corps, 7 Sep 93, subj: Army Air Traffic Control (ATC) Fixed-Base Modernization Effort, United States Army-Europe (USAREUR) (2 pgs).
119. Msg, Cdr USAAVNC to Cdr ATCOM, 211600Z Jan 93, subj: Army Airspace Command and Control/Air Traffic Services (A2C2/ATS) Conference (3 pgs).
110. Memo, Francis N. Anderson to DCG USAAVNC, 20 Sep 93, subj: Read-Ahead Packet for the National Airspace System Plan Briefing (17 pgs).
111. Msg, Cdr USAAVNC to Cdr ATCOM, 091554Z Feb 93, subj: Follow-Up Information for Army Airspace Command and Control/Air Traffic Services (A2C2/ATS) Conference (4 pgs).
112. Msg, Cdr USAAVNC to Cdr USACAC, 041330Z Mar 93, subj: Army Airspace Command and Control (A2C2) Proponent (2 pgs).

- :
113. Memo, Cdr USAAVNC to distr, 24 Sep 93, subj: Department of the Army Aviation Standardization Program and Areas of Interest for FY 94 (4 pgs).
 114. Memo, Cdr USAAVNC to distr, 20 Sep 93, subj: Streamlining of Army Aviation Standardization and Training (2 pgs).
 115. Memo, Cdr USAAVNC to Cdr FORSCOM, 8 Sep 93, subj: Army Aviation Standardization Program (1 pg).
 116. Memorandum of Understanding, Dir ARNG and Cdr USAAVNC, 19 Mar 93, subj: Utilization of Army National Guard (ARNG) Personnel to Augment the Directorate of Evaluation and Standardization (DES), U.S. Army Aviation Center (USAAVNC) (5 pgs).
 117. Memo, Cdr USAAVNC to Cdr Aviation Bde, 2d Armored Division, 12 Jul 93, subj: Report of Department of the Army Flight Standardization Evaluation/Assistance Visit – Aviation Bde, 2d AD (3 pgs).
 118. Memo, Cdr USAAVNC to Cdr 11th Aviation Bde, 12 Jul 93, subj: Report of Department of the Army Flight Standardization Assistance Visit – 11th Bde (3 pgs).
 119. Memo, Cdr USAAVNC to Cdr 4/11th Armd Cav Regt, 15 Jul 93, subj: Report of Department of the Army Flight Standardization Assistant Visit – 4/11th ACR (3 pgs).
 120. Memo, Cdr USAAVNC to Cdr 18th Avn Bde, 13 Dec 93, subj: Report of Department of the Army Flight Standardization Assessment and Assistance Visit – 18th Avn Bde (2 pgs).
 121. Memo, Cdr USAAVNC to Cdr 82d Avn Bde, 13 Dec 93, subj: Report of Department of the Army Flight Standardization Assessment and Assistance Visit – 82d Avn Bde (3 pgs).
 122. Ltr, Cdr USAAVNC to Cdr 5th Avn Bde, 19 Mar 93 (2 pgs).
 123. Ltr, Cdr USAAVNC to Cdr 18th Avn Bde, 12 Jul 93 (1 pg).
 124. Msg, Cdr USAAVNC to Cdr TRADOC, 031430Z Mar 93, subj: Funds for Aviation Standards Evaluations (1 pg).
 125. Note, Peter C. Polivka to Cdr USAAVNC, 3 Feb 93, subj: DOC Second Annual Customer Service Report (4 pgs).
 126. Ltr, Cdr USAAVNC to Cdr TRADOC, 20 Jul 94, subj: Ft. Rucker Visit (10 pgs).
 127. Memo, Cdr USAAVNC to Chief of Staff, TRADOC, 7 May 94, subj: Barracks Revitalization Project (2 pgs).
 128. Ltr (1st End), Cdr USAAVNC to Cdr TRADOC (ATBO-L), 5 Mar 93, subj: Spring 93 RCS 1383 Data Call (3 pgs).
 129. Memo, Cdr USAAVNC to Cdr TRADOC, 11 May 93, subj: Soldier Service Center and the Army Aviation Training Center (2 pgs).
 130. Memo, DCP to Chief of Staff USAAVNC, 21 Apr 93, subj: Critical Dates for VSIP/VERA/RIF (2 pgs).
 131. Msg, Cdr USAAVNC to Cdr TRADOC, 251330Z May 93, subj: Civilian Personnel Downsizing (3 pgs).
 132. Memo, Edison Taylor to Cdr USAAVNC, 15 Sep 93, subj: Black Employment Program Committee (BEPC) Input to the CG (11 pgs).
 133. Memo, Cdr USAAVNC to distr, 30 Nov 93, subj: Equal Employment-Affirmative Employment (1 pg).
 134. Ltr, Cdr USAAVNC to Mr. Edward M. Brown, 5 May 93 (3 pgs).
 135. Ltr, Cdr USAAVNC to Reverend Eugene Leonard, 4 Feb 93 (1 pg).

136. Memo, Cdr USAAVNC to Mr. Edison Taylor, subj: Black Employment Program Committee (BEPC) Input to CG (1 pg).
137. Msg, Cdr USAAVNC to DA WASHDC, 141719Z Jul 93, subj: Final Coordinating Draft of Army Regulation 5-22, The Army Proponent System (4 pgs).
138. Commander's Statement, FY 93 Appropriation Budget Update, Ft. Rucker (2 pgs).
139. Memo, Col. Thomas W. Garrett to Avn Tng Bde, 15 Oct 93, subj: Class C Accident Report, U21-A, 12 Aug 93 (2 pgs).
140. Msg, Cdr USAAVNC to AIG 898, 211700Z Apr 93, subj: Accidents (3 pgs).
141. Msg, Cdr USAAVNC to Cdr TRADOC, 201630Z Jul 93, subj: Aircrew Coordination Training Program (4 pgs).
142. Memo, Col. Edward H. Littlejohn to DCG, 12 Aug 93, subj: Read Ahead Packet for Presentation of Aircrew Coordination Certificate of Training (5 pgs).
143. Memo, Cdr USAAVNC to distr, subj: Commander's Aviation Accident Prevention Plan (19 pgs).
144. Memo, Cdr USAAVNC to Cdr Avn Bde, 1st Cav Div, 4 Nov 93, subj: Aviation Safety in FY 94 (1 pg).
145. Memo, Cdr USAAVNC to CJG3 HQ, USAF Korea, 8th Army, 13 Aug 93, subj: Aircraft Accidents (2 pgs).
146. Memo, Cdr USAAVNC to Cdr USASC, 10 Dec 93, subj: Establishment of a Joint Operating Agreement for Army Regulation 385-95, Army Aviation Accident Prevention (1 pg).
147. Ltr (1st End), Cdr USAAVNC to Cdr TRADOC, subj: Command Safety Office Visit (1 pg).
148. Memo, Col. Thomas W. Garrett to Cdr Avn Tng Bde, 10 May 93, subj: Class A Aircraft Accident, OH-58A, 9 Feb 93 (2 pgs).
149. Memo, Cdr USAAVNC to distr, 1 Nov 93, subj: FY 94 Safety Goals and Objectives (2 pgs).
150. Executive Summary (ATZQ-S), 17 Dec 1992, subj: FY 92 Aviation Flight Accident Summary (19 pgs).
151. Msg, Cdr USAAVNC to DA WASHDC (DAMO-TR), 191204Z Feb 93, subj: Request for Out-of-Cycle (OOC) Funding and Manpower Allocation for Directed Military Overstrength (2 pgs).
152. Memo, Cdr USAAVNC to distr, 25 Jan 93, subj: Commander's Aviation Accident Prevention Plan (18 pgs).
153. Memo, Lt. Col. Errol C. Pratt to CG USAAVNC, 24 Feb 93, subj: Response to CofS Inquiry – Army Simplified Dividend (4 pgs).
154. Memo, Cdr USAAVNC to Cdr TRADOC (ATBO-A), 4 Jun 93, subj: Acquisition Plan for Fixed Wing Multi-Engine Qualification Course (FWMEQC) Flight Training Services (1 pg).
155. Memo, Cdr USAAVNC to Cdr USACMPC, 8 Apr 93, subj: Implementation of BASOPS Partnership/Regionalization Initiative (190) Consolidate Provost Marshal (PM) Operations-Southeast (2 pgs).
156. Memo, Dir DPW to Cdr USAAVNC, 12 Apr 93, subj: Environmental Assessment - Proposed Land Transfer U.S. Army Reserve Center, Abbeville, Alabama – ACTION MEMO (11 pgs).
157. Memo, Cdr USAAVNC to distr, 18 Mar 93, subj: Performance Management and Recognition System (PMRS) Guidance (2 pgs).
158. Memo, Col. Thomas W. Garrett to Cdr TRADOC (ATTE), 28 Jun 93, subj: Terrain Slope Reporting (1 pg).

159. Memo, Cdr USAAVNC to HDQ USMA, 7 Jun 93, subj: Statistics on Graduates of the United States Military Academy (1 pg).
160. Msg, Cdr 8th PERSCOM to Cdr USAAVNC, 020600Z Mar 93, subj: Aviation Maintenance Shortages (2 pgs).
161. Msg, Cdr USAAVNC to Cdr Vth Corps, 261600Z Oct 93, subj: Aviation Enlisted Strengths, V Corps (1 pg).
162. Msg, HQDA to AIG 7406, 110830Z Jan 93, subj: Use of Soldiers in Accomplishing the IDA Mission (2 pgs).
163. Memo, Maj. Gen. John P. Herrling to distr, 3 Feb 93, subj: High Grade Management (5 pgs).
164. Memo, Cdr USAAVNC to Cdr USARC, 5 Apr 93, subj: Minority Recruitment Goals (1 pg).
165. Ltr, Cdr USAAVNC to Cmt USMA, 8 Apr 93 (2 pgs).
166. Ltr, Cdr USAAVNC to Cdr 17th Avn Bde, 25 Jun 93 (5 pgs).
167. Memo, Col. Robert B. Gatlin to distr, 29 Apr 93, subj: Minutes of the Environmental Quality Control Committee Meeting, 20 Apr 93 (3 pgs).
168. E-Mail, ATZQDCS to RILEYK, 19 Aug 93, subj: FY 93 FORSCOM Execution (1 pg).
169. Memo, Col. M. K. Vickers to distr, 23 Sep 93, subj: Chapel of Flags/Wings Engineer Projects and Reschedule of Religious Services (2 pgs).
170. Memo, Cdr USAAVNC to Cdr Cadet Command, 30 Mar 93, subj: Minority Recruitment Goals (1 pg).
171. Ltr, Cdr USAAVNC to Cdr TRADOC, 5 Feb 93 (1 pg).
172. Msg, Cdr USAAVNC to Cdr USACAC, 142043Z Jul 93, subj: 35D Officers for Avn Bde/Bn D3 Positions (3 pgs).
173. Memo, Cdr USAAVNC to Provost Marshal, 3 Dec 93, subj: Fort Rucker Vehicle Inspection Operations (2 pgs).
174. Memo, Col. Thomas W. Garrett to distr, 18 Jun 93, subj: Annual Rating Period for General Merit (GM) Employees (2 pgs).
175. Memo, Col. Thomas W. Garrett to distr, 2 June 93, subj: Computer Network Connection (1 pg).
176. Memo, Col. Thomas W. Garrett to distr, 17 Mar 93, subj: Civilian Inventive Awards Policy (5 pgs).
177. Memo, Col. Thomas W. Garrett to distr, 11 May 93, subj: Appointment of Performance Standards Review Board (PSRB) Members (2 pgs).
178. Memo, Col. Thomas W. Garrett to distr, 27 Apr 93, subj: Moratorium on Telephone Moves and Relocations (1 pg).
179. Memo, Col. Thomas W. Garrett to distr, 17 Dec 93, subj: Total Army Performance Evaluation System (TAPES) (2 pgs).
180. Memo, Col. Thomas W. Garrett to distr, 3 Dec 93, subj: Civilian Incentive Awards (2 pgs).
181. Environmental Assessment, Proposed Barracks Construction, Ft. Rucker (2 pgs).
182. Memo, Col. Thomas W. Garrett to Cdr TRADOC, 1 Oct 93, subj: Corrected High-Grade Ceiling (2 pgs).
183. Memo, Col. Thomas W. Garrett to Cdr TRADOC (ATBO-L), 24 Sep 93, subj: TRADOC BASOPS Environmental Regionalization Initiative (4 pgs).
184. Memo, Col. Thomas W. Garrett to distr, subj: USAAVNC Civilian Hiring and Promotion Policy for FY 94 (2 pgs).

185. Somalia Trip Report, 1 Sep 91 (For Official Use Only) (3 pgs).

B. DEPUTY ASSISTANT COMMANDANT - NG/USAR

1. Memo, Col. Gregory D. Parrish to Command Historian, 28 Feb 94, subj: 1993 Command History Important Developments, DAC-N, DAC-R (2 pgs).

C. PROTOCOL

1. Working Papers, Historical Report for 1993, Protocol (6 pgs).

D. AVIATION PLANNING GROUP

1. Memo, Lt. Col. William P. Gerhardt to USAAVNC Historian, 2 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (2 pgs).

E. GARRISON SUPPORT COMMAND

1. Annual Historical Report, GSC, CY 92 (1 pg).

2. Garrison Support Command, 1993 Historical Update Narrative Report.

3. Memo, M. J. Wesley to distr, 27 Oct 93, subj: Appointment Memorandum - LTG Ellis D. Parker Aviation Unit Awards Board Members (1 pg).

4. E-Mail, WESSER to ORRS, 6 Oct 93, subj: FY 93-94 TRADOC Communities of Excellent Competition (1 pg).

5. Memo, Col. Larry Turnage to Cdr, TRADOC (ATBO-KM), 15 Oct 93, subj: ACOE Input (12 pgs).

6. Memo, Col. Robert B. Gatlin to Cdr, TRADOC (ATBO-KM), 26 May 93, subj: TCOE Input (25 pgs).

F. COMMAND SERGEANT MAJOR

1. E-Mail, LEVIAP to KITCHENJ, 30 Mar 94, subj: Input for 1993 Annual Command History (1 pg).

G. NEWSLETTERS/BULLETINS

1. Army Aviation Warfighting Center - Newsletter, May 93 (6 pgs).

2. Army Aviation Warfighting Center - Newsletter, Aug 93 (7 pgs).

3. Army Aviation Warfighting Center - Bulletin, Dec 93 (4 pgs).

4. Army Aviation Warfighting Center - Newsletter, Dec 92 (5 pgs).

5. United States Army Warrant Officers Association - Newsliner, Feb 94 (27 pgs).

H. DIRECTORATE OF COMBAT DEVELOPMENTS

1. Memo, Col. Robert L. Stewart to Branch Historian, 10 May 94, subj: 1993 Annual Historical Review (27 pgs).

2. "US Army Aviation Warfighting Center. Branch Assessment", (May 93) (100 pgs).
3. "Program and Project Summary Sheets" (May 93), DCD, USAANVC (FOR OFFICIAL USE ONLY) (186 pgs).

DCD-MLSD Classified File (Stored in Documents Safe)

1. Memo, Maj. Gen. Larry G. Lehowicz to Cdr USAAVNC (ATZQ-CD), subj: Operational Requirements Document (ORD) for Suite of Integrated Radio Frequency Countermeasures (SIRFC) (SECRET-NOFORN) (62 pgs).
2. "Operational Requirements Document for Suite of Integrated Infrared Countermeasures", USAAVNC, 8 Mar 94 (SECRET-NOFORN) (44 pgs).
3. Memo, Bettie B. Gonser to Cdr USAAVNC (ATZQ-CDM-ES), 15 Jun 93, subj: AN/APR-48 Radar Frequency Interferometer (RFI) (SECRET-NOFORN) (34 pgs).
4. "Operational Requirement Document for the Longbow Weapons System", USAAVNC, 20 Dec 93 (SECRET-NOFORN) (32 pgs).
5. Memo, Maj. Gen. Larry G. Lehowicz to distr, 13 Jul 93, subj: Operational Requirements Document (ORD) for Improved Forward Looking Infrared Radar (FLIR) Capability (SECRET-NOFORN) (13 pgs).
6. "Comanche, RAH-66, Operation Requirements Document (ORD)", 19 Jan 93 (SECRET-NOFORN) (196 pgs).
7. Memo, Maj. Gen. Larry G. Lehowicz to HQDA (DAMO-FDR), 14 Oct 93, subj: Draft Army Annex to Navy Operation Requirements Document (ORD) for the Advanced Rocket System (ARS) (CONFIDENTIAL) (21 pgs).

DCD-MLSD File

1. Memo, Col. Albert L. Patterson III to DCG USAAVNC, 11 Jun 93, subj: Installation of AN/ASN-149 (V) Global Positioning Receivers in CH-47 Aircraft – ACTION MEMO (2 pgs).
2. Memo, Maj. Gen. Robert A. Goodbarry to Maj. Gen. Dewitt T. Irby, PEO-AVIATION, subj: Installation of AN/ASN-149 (V) Global Positioning Receivers in CH-47D Aircraft (1 pg).
3. Memo, Col. Robert M. Stewart to distr, 25 Oct 93, subj: Approved Critical Operational Issues and Criteria (COIC) for the Aviation Mission Planning System (AMPS) to Support Milestone Decision Review I/II (1 pg).
4. "Critical Operational Issues and Criteria (COIC) for the Aviation Mission Planning System (AMPS) for Milestone Decision Review I/II" (6 pgs).
5. Memo, Maj. Gen. Larry G. Lehowicz to HQDA (DAMO-FDR), 27 Dec 93, subj: Mission Need Statement (MNS) for the Rapid Reprogramming Capability (RRC) (1 pg).
6. "Mission Need Statement (MNS) for Rapid Reprogramming Capability (RRC)" (3 pgs).
7. "Mission Need Statement for an Obstacle Avoidance Capability (OAC)" (Aug 93) (4 pgs).
8. Memo, Maj. Gen. John D. Robinson to Gen. Frederick M. Franks, 29 Sep 92, subj: Mission Needs Statement for Aviation Electro-Optical Countermeasures (AEOCM) (1 pg).
9. "Mission Need Statement for Aviation Electro-Optical Countermeasures (AEOCM)" (7 pgs).
10. Memo, Col. Robert M. Stewart to PM-Aviation Electronic Combat (SFAE-AV-AEC), 30 Sep 93, subj: AN/APR-39A2 Radar Warning Receiver (2 pgs).

11. Memo, Col. Robert M. Stewart to Cdr TRADOC (ATCD-EP), 6 Dec 93, subj: Material Change to the Airborne SINCARS Radio (4 pgs).
12. Memo, Col. Ronald L. Stewart to Cdr USAAVNC (ATZQ-CDM-ES), 4 Mar 94, subj: Operational Requirement Document (ORD) for the Nap-of-the-Earth Communications (NOE COMM) System (1 pg).
13. "Operational Requirements Document for Nap-of-The Earth Communications System" (Feb 94) (9 pgs).
14. Memo, Maj. Gen. Larry G. Lehowicz to HQDA (DAMO-FDR), 27 Feb 94, subj: Operational Requirement Document (ORD) for the AH-64A+ Apache (1 pg).
15. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC (ATCD-MV), 21 Dec 93, subj: Operational Requirements Document (ORD) for the AH-64A+ Apache (1 pg).
16. "Operational Requirements Document (ORD) for the AH-64A+ Apache" (Dec 93) (55 pgs).
17. Briefing Slides, "Team Blackhawk Requirements Review, Joint LDCSOPS/SARD", 6 Jul 93 (37 pgs).
18. Memo, Jay M. Garner to Cdr TRADOC (ATCD-MV), 24 Mar 94, subj: Mission Need Statement (MNS) for the Aerial Cargo Transport (ACT) Capability (1 pg).
19. "Mission Needs Statement for Aerial Cargo Transport (ACT) Capability" (4 pgs).
20. Memo, Col. Robert M. Stewart to distr, subj: Coordination of Critical Operational Issues and Criteria (COIC) for the UH-60Q MEDEVAC Mission Equipment Package (MLEP) for Support of the In Process Review Production Decision (7 pgs).
21. Memo, Maj. Gen. Jay M. Garner to Asst. Secretary of the Army (Research, Development and Acquisition) (SARD-RP), 9 Dec 93, subj: Mission Need Statement (MNS) for C-XX Medium Range (MR) Utility Aircraft (1 pg).
22. "Mission Needs Statement (MNS) for the Utility Airplane (C-XX Medium Range)" (4 pgs).
23. "Mission Need Statement for the Air Warrior" (6 pgs).
24. "System Safety Risk Assessment for Life Raft and Container Assembly: Inflatable, One Man, Vee Bottom (ISRU-37/P)" (9 pgs).
25. Memo, Maj. Gen. Robert D. Orton to Cdr TRADOC (ATCB-GB), 8 Jul 93, subj: The Operational Requirements Document (ORD) for the XM45 Aircrew Protective Mask (ACPM) (2 pgs).
26. "Operational Requirements Document for the Aircrew Protective Mask (ACPM)" (46 pgs).
27. Memo, Col. Robert M. Stewart to Cdr U.S. Army Edgewood Research, Development and Engineering Center (SCBRD-ENP-C), 27 Aug 93, subj: User Requirements for the Lightweight Motor Blower (11 pgs).
28. 1993 Historical Report for Material and Logistics Systems Division (14 pgs).

DCD-C&S File

1. "U.S. Army Operational Concept for Aviation" (Sep 93) (66 pgs)
2. "AH-64 C/D Organizational Analysis Executive Summary" (Aug 93) (38 pgs).
3. Briefing Slides, "Force Design Update, Winter 1992" (70 pgs)
4. Msg, HQDA (DAMO-FDZ) to Cdr TRADOC (ATCD/ATTG), subj: Winter 1992 Force Design Update (FDU) Briefing to CSA (1 pg).

5. "Aviation Restructure Initiative" (May 93) (62 pgs).
6. "Aviation Functional Area Assessment" (98 pgs)
7. SRC Structure, Aviation A-Edition TOEs, Division Aviation Brigade, Airborne Division (4 pgs).
8. Fact Sheet, ATZQ-CDO, 11 Jan 94, subj: Functional Area Assessment (4 pgs).
9. "Aviation Force Structure" (Dec 93) (75 pgs).

DCD-Aviation Tactical Operations Center

1. Aviation Tactical Operations Center, Operational Requirements Documents – Aviation Command and Control Architecture (5 computer disks).

I. DIRECTORATE OF EVALUATION AND STANDARDIZATION

1. Ltr (1st End), Maj. Howard P. Mikkelsen to Command Historian, 29 Apr 94, subj: 1993 Annual Command History – Staffing (7 pgs).
2. Mission Support, DES (1 pg).
3. Memo, Col. Russell E. Adams to Command Historian, 22 Feb 94, subj: 1993 Command History Report (1 pg).
4. Mission - Directorate of Evaluation and Standardization (1 pg).
5. DES, USAAVNC Organizations at Fort Rucker (1 pg).
6. Memo, Dennis R. Horner to distr, 20 Oct 93, subj: Officer Duty Assignment/Rating Chain (DES) (30 pgs).
7. Memo, Dennis R. Horner to distr, 21 Oct 93, subj: Officer Duty Assignment/Rating Chain (DES) (7 pgs).
8. Orders 121-1, DA Army National Guard, 16 Jul 93, Maj. Eric C. Peck (3 pgs).
9. Memo, Dennis R. Horner to distr, 29 Dec 93, subj: Officer Duty Assignment/Rating Chain (DES) (2 pgs).
10. Msg, Cdr USAAVNC to DA WASHDC (DAMO-ZA), 231542Z Feb 93, subj: Request for Funds (3 pgs).
11. Memo, Cdr USAAVNC to distr, subj: Department of the Army Aviation Standardization Program and Areas of Interest for FY 93 (5 pgs).
12. Memo, Cdr USAAVNC to distr, 24 Sep 93, subj: Department of the Army Aviation Standardization Program and Areas of Interest for FY 94 (3 pgs).
13. Msg, Col. Russell E. Adams to TAG AZ (WAATS-DES), 091356Z Dec 93, subj: FY 95 Evaluation Schedule (4 pgs).
14. FY 94 Evaluation Schedule (Oct 93-Oct 94), Travel Section, Operations Branch, DES, 6 Feb 94 (48 pgs).
15. Acronyms, DES (1 pg).

J. DIRECTORATE OF TRAINING AND DOCTRINE

1. "Employment of Aviation into the 21st Century" (Dec 93) (29 pgs).
2. Annual Historical Report, DOTD, CY 92 (2 pgs).

K. DIRECTORATE OF TRAINING, DOCTRINE, AND SIMULATION

1. Ltr (1st End), Col. Palmer J. Penny to Command Historian, 13 Jul 94, subj: 1993 Annual Command History Staffing (12 pgs).
2. E-Mail, ATZQDCS to RILEYK, 19 Nov 93, subj: #1 (1 pg).
3. Briefing Slides, "Air To Air Combat Test II (ATAC II)" (25 pgs).
4. Briefing Slides, "Air Combat, Attack Branch, Confirmation Study" (14 pgs)
5. Memo, Col. Palmer J. Penny to Command Historian, 3 Mar 94, subj: Staff Historical Reports for 1993 Annual Command History (6 pgs).
6. Memo, Maj. Gen. John D. Robinson to Chairman, Distributed Interactive General Officer Steering Committee, Deputy Under Secretary of the Army (Operations Research), 5 Apr 93, subj: Aviation Test Bed (AVTB) (2 pgs)
7. Memo, Ben L. Harrison to Col. Palmer J. Penny, 4 Aug 93, subj: Sustainment and Collective Training (8 pgs).
8. Information Paper, ATZQ-DS, 27 Sep 93, subj: Army Aviation Simulation Strategy-Advanced Rotary Wing Aircraft (ARWA) Program (3 pgs).
9. Memo, Maj. Gen. John D. Robinson to Mr. Wilbert J. Brooks, A2 ATD Program Manager, U.S. Army Material Systems Analysis Activity, 1 Oct 93, subj: Anti-Armor Advanced Technology Demonstration (A2 ATD) Aviation Simulator Requirements and Program Plan (3 pgs).
10. Memo, Lt. Col. Jan S. Drabczuk to Lt. Gen. William H. Forster, Deputy Director Army Acquisition Corps, subj: Army Aviation's Simulation Strategy and the Advanced Rotary Wing Aircraft Program (ARWA) (4 pgs).
11. Ltr, Maj. Gen. John D. Robinson to John J. Hamre, Department of Defense Comptroller, 9 Nov 93, subj: Simulation Devices Development (3 pgs)
12. Ltr (1st End), Maj. Gen. John D. Robinson to distr, 4 Nov 93, subj: Advanced Rotary Wing Aircraft (ARWA) (1 pg).
13. Memo, Brig. Gen. John F. Michitsch to distr, 2 Nov 93, subj: Advanced Rotary Wing Aircraft (ARWA) (3 pgs).
14. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC, 24 Nov 93, subj: Advanced Rotary Wing Aircraft (ARWA) Need/Requirements Statement (4 pgs).
15. "Army Aviation Simulation Strategy" (9 Nov 93) (40 pgs).
16. Aircraft Survivability Training Management Division (ASTMD), Directorate of Simulation (DOS) (14 pgs).
17. Memo, Col. Palmer J. Penny to DOTD, 26 Jan 93, subj: U.S. Army Audit Agency (USAAA) Report SR 93-302 on Air Ground Engagement System (AGES) – ACTION MEMO (11 pgs).
18. Memo, Col. Palmer J. Penny to Project Manager for Aviation Electronic Combat, ATTN: SFAE-AV-AEC-TM (John Kamadulski), 26 Jun 93, subj: User Evaluation Plan (UEP) for the Embedded Aircraft Survivability Equipment (ASE) Training Module of the Aircraft Survivability Equipment/Avionics Control System (ASE/ACS) for the RC-12N (14 pgs).
19. Memo, Col. Palmer J. Penny to CofS USAAVNC, 4 Feb 93, subj: Aircraft Survivability Equipment/Electronic Warfare Officer Course (ASE/EWOC) Additional Skill Identifier (ASI) H3 – ACTION MEMO (8 pgs).
20. Memo, Capt. James A. Bond to Dir DOS, 4 Feb 93, subj: Trip Report – NTC, Fort Irwin, CA, 6-27 Jan 93 (2 pgs).

21. Memo, Col. Palmer J. Penny to Project Manager for Training Devices, ATTN: AMSTI-ACTS (Mr. William Blanding), 16 Feb 93, subj: Multiple Integrated Laser Engagement System (MILES) Air-to-Ground Engagement Simulation (AGES) II Equipment Configuration for the UH-60 (2 pgs).
22. Memo, CW4 Peter R. Kalogris to Dir DOS, 17 Feb 93, subj: Trip Report – Honeywell, Inc., Albuquerque, NM, 25-27 Jan 93 (3 pgs).
23. Memo, Robert W. Martin to Dir DOS, 22 Feb 93, subj: Trip Report – Combat Training Center (CTC) Vertical Integration Meeting at PM TRADE, Orlando, FL, 16-17 Feb 93 (13 pgs).
24. Memo, Col. Palmer J. Penny to Project Manager, Aviation Electronic Combat (SFAE-AV-AEC-LM), 10 Mar 93, subj: Need for Aircraft Survivability Equipment Trainer (ASET) IV to Have Night-Fighting Capability (1 pg).
25. Memo, S. Sgt. Douglas R. Cooke to Dir DOS, 12 Mar 93, subj: Trip Report – M-130 General Purpose Dispenser Manual Revision, Fort Gordon, GA, 1-4 Mar 93 (3 pgs).
26. Memo, Col. Palmer J. Penny to Aviation Proponency (MW4 Brown), 21 Apr 93, subj: Aircraft Survivability Equipment/Electronic Warfare Officer Course (ASE/EWOC) Additional Skill Identifier (ASI) H3, Class 93-01 (1 pg).
27. Memo, Sfc. Peyton D. Abrams to Dir DOS, 27 Apr 93, subj: Trip Report – Bell Helicopter Textron, Inc. (BHTI), Fort Worth, TX, 19-23 (4 pgs).
28. Memo, John F. Hogan to DOTD, ATTN: ATZQ-TDI (Danny Flowers), 27 Apr 93, subj: Validation of ICW, "Maintain Aircraft Survivability Equipment (ASE) at Unit Level" (2 pgs).
29. Memo, Col. Palmer J. Penny to Project Manager for Aviation Electronic Combat, 28 Apr 93, subj: Funding Request for RC-12N Aircraft Survivability Equipment/Avionics Control System (ASE/ACS) Enhancements (1 pg).
30. Memo, Col. Palmer J. Penny to CG USAAVNC, 14 May 93, subj: Aviation Initiatives at the Combat Training Centers – ACTION MEMO (6 pgs).
31. Memo, Col. Palmer J. Penny to Project Manager, Aviation Electronic Combat, ATTN: SFAE-AV-AEC-PA&T (Mr. Tom Atchley), 14 May 93, subj: Advanced Threat Radar Jammer (ATRJ) Test and Evaluation Master Plan (TEMP) (2 pgs).
32. Memo, Sfc. Peyton D. Abrams to Dir DOS, 25 May 93, subj: Trip Report – Test Integration Working Group (TIWG) for the Advanced Threat Radar Jammer (ATRJ) and AN/APR-39A (XE-2) Radar Signal Detecting Set (RSDS) (7 pgs).
33. Memo, Col. Palmer J. Penny to Project Manager for Aviation Electronic Combat, 26 May 93, subj: Rough Order of Magnitude (ROM) for Installation of Aircraft Survivability Equipment/Avionics Control System (ASE/ACS) into the Aviation Test Bed, U.S. Army Aviation Center (USAAVNC, Fort Rucker, Alabama (1 pg).
34. Memo, Col. Palmer J. Penny to Project Manager for Aviation Electronic Combat, 26 May 93, subj: RC-12N Aircraft Survivability Equipment/Avionics Control System (ASE/ACS) Enhancements (1 pg).
35. Memo, CW4 Peter R. Kalogris to Dir DOS, 27 May 93, subj: Trip Report–Statement of Work (SOW) for Adapting Multiple Integrated Laser Engagement System (MILES) II Simulation of Area Weapons Effects (SAWE) for Use with Aircraft Survivability Equipment Trainer (ASET) IV–Orlando, FL, 20 May 93 (3 pgs).
36. Memo, Col. Palmer J. Penny to Project Manager for Training Devices (AMCPM-ACTS), 9 Jun 93, subj: AN/AVR-2A Multiple Integrated Laser Engagement System (MILES) Detection Hit Profile for AH-64 Test Report (2 pgs).
37. Memo, Col. Palmer J. Penny to Aviation Proponency, Academic Records, 10 Jun 93, subj: Aircraft Survivability Equipment/Electronic Warfare Officer Course (ASE/EWOC) Additional Skill Identifier (ASI) H3, Class 93-02 (1 pg).

38. Memo, Col. Palmer J. Penny to Aviation Proponency, Academic Records, 10 Jun 93, subj: Aircraft Survivability Equipment/Electronic Warfare Officer Course (ASE/EWOC) Additional Skill Identifier (ASI) H3, Class 93-03 (1 pg).
39. Memo for Record, 23 Aug 93, subj: Trip to Grumman Joint STARS Facilities and STRICOM HQ, 17-18 Aug 93 (2 pgs).
40. Memo, Col. Palmer J. Penny to Aviation Proponency, ATTN: CW5 Brown, 1 Sep 93, subj: Graduates of Aircraft Survivability Equipment/Electronic Warfare Officer Course (ASE/EWOC) Additional Skill Identifier (ASI) H3 (2 pgs).
41. Memo, CW3 Mark E. Bass to Dir DOS, 17 Sep 93, subj: Trip Report – Flight Safety International (FSI) (4 pgs).
42. Memo, Robert W. Martin to Dir DOS, 21 Sep 93, subj: Trip Report – Combat Maneuver Training Center (CMTTC) Vertical Tactical Engagement Simulation (VTES) Meeting (7 pgs).
43. Memo, Col. Palmer J. Penny to Cdr TRADOC (ATTN: ATTG-CS), 23 Sep 93, subj: Approval of System Training Plan (STRAP) for the AN/AVR-2A Laser Detecting Set (1 pg).
44. Memo, Col. Palmer J. Penny to CG USAAVNC, 28 Sep 93, subj: Aircraft Survivability Equipment Trainer IV (ASET IV) Production Decision – ACTION MEMO (3 pgs).
45. Memo, Robert W. Martin to Dir, DOS, 4 Oct 93, subj: Trip Report – National Training Center (NTC) Systems Integration Review (SIR) Meeting (6 pgs).
46. Memo, Col. Palmer J. Penny to Cdr TRADOC (ATTG-CS), 8 Oct 93, subj: Approval of System Training Plan (STRAP) for the AN/ALQ-136(V)2 Countermeasures Set (CMS) (6 pgs).
47. Memo, Col. Palmer J. Penny to Cdr USAMC (AMXLS-LM), 14 Oct 93, subj: Approval of Article for PS Magazine (4 pgs).
48. Memo, Col. Palmer J. Penny to Cdr TRADOC (ATTG-CS), 10 Nov 93, subj: Approval of System Training Plan (STRAP) for the Advanced Threat Radar Jammer (6 pgs).
49. Memo, Col. Palmer J. Penny to Project Manager for Aviation Electronic Combat (SFAE-AV-AEC-T), 23 Nov 93, subj: Threat and Aircraft Survivability Equipment (ASE) Simulation for Advanced Rotary Wing Aircraft (ARWA) Simulation (2 pgs).
50. Memo, Col. Palmer J. Penny to Cdr CAC-Training (ATZL-CTE), 30 Nov 93, subj: Multiple Laser Engagement System (MILES) Combat Visual Kill Indicator (CVKI) in the Infrared (IR) Spectrum (1 pg).
51. Memo, Col. Palmer J. Penny to Directorate of Combat Developments, 30 Nov 93, subj: Test and Evaluation Master Plan (TEMP) for the AN/ARC-220 High Frequency Radio (2 pgs).
52. Memo, Col. Palmer J. Penny to Cdr TRADOC (ATTG-CS), 15 Dec 93, subj: Army Modernization Training Automation System (AMTAS) Conversion (4 pgs).
53. Software Development and Management Division (SDMD), Directorate of Simulation (DOS), Significant Events (2 pgs).
54. Memo, John F. Donohue to Chief PA&T Division, 21 Nov 93, subj: Trip Report on Visit to Ft. Lewis, UH-60 IOS Modification (2 pgs).
55. Memo, Randall S. Ramsey to Dir DOS, 15 Jul 93, subj: Trip Report – UH-60 Networking Upgrade, CAE-Link (3 pgs).
56. CWEPT Upgrade ECP Statement of Work (9 pgs).

57. Memo, Randall Ramsey to Dir DOS, 28 Dec 93, subj: Trip Report – Apache Crew Training System (ACTS) Proof of Concept (POC) #2, McDonnell Douglas Training System (MDTS) (4 pgs).
58. McDonnell Douglas Training Systems, Schedule and Agenda for CDD/ACT Subject Matter Experts, Working Group Meeting, 17-19 May 93 (5 pgs).
59. Memo, Col. David F. Sale to CG USAAVNC, 27 May 93, subj: Reply to DOS Director's PROFFS Message (4 pgs).
60. Memo, Randall Ramsey to Dir DOS, 21 Sep 93, subj: Trip Report – UH-60 IOS/APR-39A (V) 1 Upgrade (2 pgs).
61. Report, Training Devices Division (TDD), Directorate of Simulation (DOS) (5 pgs).
62. Memo, Col. Palmer J. Penny to Cdr Simulation, Training and Instrumentation Command (PO-CAAN), subj: Rotary Wing Aircraft Requirements (19 pgs).
63. E-Mail, LANDRYL to PENNYP, 4 Mar 93, subj: RWA Update (2 pgs).
64. Memo, Col. Palmer J. Penny to Cdr U.S. Army Operational Evaluation Command (CSTE-EAV), subj: Response to Comments on Draft Minutes of Advanced RWA Joint Working Group (JWG) (2 pgs).
65. Memo, Capt. Leonard Landry to Dir DOS, 18 Mar 93, subj: Trip Report – Rotary Wing Aircraft (RWA)/Aviation Combined Arms Tactical Trainer (AVCATT)/Future Aircrew Sustainment Trainer (FAST) Meeting at STRICOM (3 pgs).
66. Memo, James M. Hawkins to Dir DOS, 22 Apr 93, subj: Trip Report – Rotary Wing Aircraft (RWA) Joint Working Group (JWG) at STRICOM (4 pgs).
67. Memo, James M. Hawkins to Dir DOS, 7 May 93, subj: Trip Report – Meeting to Refine, Integrate, and Prioritized Advanced Rotary Wing (ARWA) Requirements at STRICOM (3 pgs).
68. Memo, James M. Hawkins to Dir DOS 22 Jul 93, subj: Trip Report – Advanced Rotary Wing Aircraft (ARWA) Meeting (3 pgs).
69. Memo, Col. Palmer J. Penny to Cdr U.S. Army Simulation, Training, and Instrumentation Command (PO-CAAN), subj: Advanced Rotary Wing Aircraft (ARWA) Program (1 pg).
70. Fact Sheet, ATZQ-DST, 27 Sep 93, subj: Advanced Rotary Wing Aircraft (ARWA) Program (1 pg).
71. Operational Requirements Document, "Aviation Combined Arms Tactical Trainer (AVCATT)", 20 Jan 94 (RESTRICTED DISTRIBUTION) (58 pgs).
72. Memo, Col. Palmer J. Penny to distr, 28 Jun 93, subj: Aviation Combined Arms Tactical Trainer (AVCATT) (1 pg).
73. Fact Sheet, ATZQ-DST, 1 Sep 93, subj: Aviation Combined Arms Tactical Trainer (AVCATT) (1 pg).
74. Memo, Col. Palmer J. Penny to distr, 26 Oct 93, subj: Operational Requirements Document (ORD) for the Aviation Combined Arms Tactical Trainer (AVCATT) (2 pgs).
75. Distributed Interactive Simulation (DIS) Functional Requirement for AVCATT (4 pgs).
76. Memo, Col. Palmer J. Penny to distr, subj: Aviation Combined Arms Tactical Trainer (AVCATT) (2 pgs).
77. Memo, Col. Palmer J. Penny to distr, subj: Distribution Plan for the Aviation Combined Arms Tactical Trainer (AVCATT) – ACTION MEMO (1 pg).
78. Army OH-58D/AH-64 Familiarization Course for the Close Combat Tactical Trainer (CCTT) Contractor Personnel (1 pg).

79. Memo, Col. Palmer J. Penny to PM, Combined Arms Tactical Trainers, subj: Aviation Combined Arms Tactical Trainer (AVCATT) Gunnery (1 pg).
80. Memo, Col. Palmer J. Penny to Cdr U.S. Army Simulation, Training, and Instrumentation Command, subj: Capabilities of the Aviation Combined Arms Tactical Trainer (AVCATT) Versus Future Aviation Sustainment Trainer (FAST) (2 pgs).
81. Memo for Record, 25 Feb 92, subj: Apache CMS BUC II Load 4.18 Limitations to Training (2 pgs).
82. Memo, Col. Palmer J. Penny to Cdr CAC (ATZL-CTT), subj: Operational Requirements Document (ORD) for Mobile Aircrew Sustainment Trainer-Apache (MAST-A) (2 pgs).
83. Memo, Col. Palmer J. Penny to TSM Longbow (ATZQ-TSM-W), subj: User Requirements for Computer Based Instruction (CBI) in the AH-64 Aircraft Qualification Course (2 pgs).
84. Memo, John E. Rivenbark to Dir DOS, 19 Jul 93, subj: Trip Report, Fort Bragg Combat Mission Simulator (CMS) BUC 11 Load 4.19 Field Site Upgrade (3 pgs).
85. Msg, Cdr USAAVNC to DA WASHDC (DAMO-FDV), 061900Z Mar 92, subj: USAAVNC Position on AH-64 Training Devices (2 pgs).
86. E-Mail, BROEMEK to PENNYP, 21 Dec 92, subj: AH-64 CMS BUC II Upgrade Status (1 pg).
87. Memo, James M. Hawkins to Dir DOS, 27 Aug 93, subj: Trip Report – OH-58D Kiowa Warrior (KW) Training Aids, Devices, Simulators, and Simulation (TADSS) Program (3 pgs).
88. Aviation Simulation Process Action Team, UH-60 Flight Simulator (FS) (2 pgs).
89. Memo, Gerald LaCross to Dir DOS, 3 Aug 93, subj: Trip Report – Instructor Operator Station (IOS) Upgrade Subject Matter Expert (SME) Review (2 pgs).
90. Memo, Gerald LaCross to Dir DOS, 3 Aug 93, subj: Desert Hawk Flight Simulator Defense Mapping Agency (DMA) Data Base Review (2 pgs).
91. Memo, Col. Palmer J. Penny to DOES (ATZQ-ESF), subj: User's Needs and Software's Capabilities for ESSS Simulation Modification (3 pgs).
92. Memo, Gerald LaCross to Dir DOS, 1 Nov 93, subj: Trip Report – UH-60 Program Progress Review (PPR) and Family of Aviation Sustainment Trainer (FAST) Coordination Meeting (4 pgs).
93. Memo, Col. Palmer J. Penny to distr, subj: USAAVNC Position on the UH-1 Flight Simulator (FS) Upgrade – ACTION MEMORANDUM (1 pg).
94. Memo, Col. Palmer J. Penny to distr, subj: Proposed Change to the UH-1 Flight Simulator (FS) Upgrade (3 pgs).
95. "Preliminary Estimates for the Army Research Institute's Air Crew Coordination Video Monitoring and Video Recording System Modification to the U.S. Army Synthetic Flight Training System Visual Devices", Contract Number N61339-93-D-004, Hughes Technical Services Company, 26 May 93 (RESTRICTED DISTRIBUTION) (8 pgs).
96. Memo, Paul L. Hendrickson to distr, 12 May 93, subj: Coordination of Addendum 1 to the Basic Memorandum of Agreement for the New Training Helicopter (NTH) and the Related Cockpit Procedure Trainer (CPT) (6 pgs).
97. Memo, Col. Palmer J. Penny to Cdr Simulation, Training, and Instrumentation Command (AMSTI-SPD), subj: Data Automated Tower Simulator (DATS) Program, Contract N61339-91-0082, Training of ILS Critical Area Hold Position (2 pgs).

- :
98. Memo, Sfc. Willard L. Whitfield to Dir DOS, 20 Jul 93, subj: Trip Report -- Visual Scenes and Models Working Group for Data Automated Tower Simulator (DATS), SSI (4 pgs).
 99. Memo, Col. Palmer J. Penny to TSM-Comanche, subj: Comanche Training Development and Training Devices System (TDS) (2 pgs).
 100. Memo, Col. Palmer J. Penny to CG USAAVNC, subj: Charter of the Training Aids, Devices, Simulators, and Simulations (TADSS) Process Action Team -- ACTION MEMORANDUM (3 pgs).
 101. Memo for Record, 24 Jan 93, subj: Review of Apache Probability of Kill (PK) at the National Training Center (NTC) (2 pgs).
 102. Memo, CW4 Larry K. Thompson, 19 Oct 93, subj: Evaluation of AH-64 Battalion Live Fire, 1-17 Oct 93 (4 pgs).
 103. Memo, William C. Carn to Dir DOS 26 Oct 93, subj: Trip Report -- Reflections, Inc., and RCI, Inc. Familiarization Visits (2 pgs).
 104. Memo, William C. Carn to Dir DOS 28 Oct 93, subj: Evaluation of BAA NTSC 93-02 Proposal (1 pg).
 105. Memo, Capt. Leonard A. Landry to Dir DOS, 9 Aug 93, subj: Trip Report -- Loral Advanced Distributed Simulations (LADS) (2 pgs).
 106. Memo, Sfc. Willard Whitfield to Dir DOS, 20 Aug 93, subj: Trip Report -- Keesler Air Force Base (AFB) (4 pgs).
 107. Training Device Division, Directorate of Simulation, Flight Simulator Location and RFT Dates, 8 Jun 93 (1 pg).
 108. Briefing Slides, "Simulation Issues" (7 pgs).
 109. Command History Input, Aviation Test Bed, CY 93 (2 pgs).

L. 1ST AVIATION BRIGADE

1. Memo, Capt. Jan T. Swicord to Command Historian, 6 Jun 94, subj: 1993 Annual Command History - Staffing (19 pgs).
2. Memo, Col. Albert L. Patterson III to Installation Historian (ATZQ-MH), 19 Mar 94, subj: 1st Aviation Brigade Historical Report (4 pgs).
3. Memo, Maj. Roland E. Strickland to Cdr, 1st Aviation Brigade, 6 Jun 93, subj: After Action Review, 1993 Special Olympics (10 pgs).
4. Memo, Maj. Roland E. Strickland to POM Div, DPTMSEC, 16 Nov 92, subj: ROTC Cadet Troop Leader Training (CTLT) FY 93 (2 pgs).
5. Memo, Maj. Roland E. Strickland to USMA Department of Military Instruction (MACC-Q-T), 27 Sep 93, subj: FY 93 Cadet Troop Leadership Training (CTLT) After Action Report (AAR) (2 pgs).
6. Ltr, Lt. Gen. Howard D. Graves to Maj. Gen. John D. Robinson, 19 Oct 92 (1 pg).
7. Memo, Capt. Walter P. Rainey to Cdr 1st Avn Bde (S-3), 23 Oct 92, subj: ROTC CTLT Positions for FY 93 (1 pg).
8. Chapter Activity Report, Association of the U.S. Army, Bogardus S. Cairns Chapter, CY 1993 (18 pgs).
9. Fund Status, 1st Aviation Brigade, DRM, 10 Aug 93 (2 pgs).
10. Memo, Lt. Col. Stephen D. Milburn to distr, 12 Oct 93, subj: Memorandum of Instruction for Implementation of the DOTD Reorganization (40 pgs).

11. Briefing Slides, "School Reorganization" (Aug 93) (13 pgs).

1-10th Aviation Regiment File

1. Memo, 1-10th Aviation Regiment, 1993 Year in Review (1 pg).
2. Memo, Lt. Col. Terry M. Peck to Cdr USAAVNC (Historical Officer), 9 Feb 94, subj: 1-10th Aviation Regiment 1993 Historical Report (2 pgs).
3. Table of Distribution and Allowances, 1-10th Aviation Regiment, 5 Dec 92 (4 pgs).
4. Permanent Orders 33-6, 2 Apr 93, Company A, 511th Infantry (1 pg).
5. Permanent Orders 33-5, 2 Apr 93. Company C, 509th Infantry (1 pg).
6. Program, "Change of Command Ceremony for 260th Field Artillery Detachment, USAAVNC, 17 Dec 93 (1 pg).
7. Memo, 1st Lt. Norman D. Young to Cdr 1-10th Avn Regt, 10 Jan 94, subj: Somalia Veterans Within Battalion (1 pg).
8. Program, "Change of Command Ceremony" 1-10th Avn Regt (2 pgs).
9. Program, "Change of Command Ceremony", Company A, 1-10th Avn Regt, 8 Dec 93 (2 pgs).
10. Program, "Change of Command Ceremony", Company B, 1-10th Avn Regt, 9 Sep 93 (2 pgs).
11. Briefing Slide, "Training Accomplishments, 2nd Qtr, FY 93", 1-10th Avn Regt (1 pg).
12. Briefing Slides, "Delta Company, 1-10th Avn Regt, the Air Assault School", FY 93 (by Quarter) (6 pgs).
13. Program, "Change of Command, Company D, the Air Assault School", 1-10th Avn Regt (4 pgs).
14. Memo, Capt. Vincent J. Carlisle to 1-10th Avn Regt, 14 Feb 94, subj: Training Accomplishments (1 pg)
15. Briefing Slides, "C Company, 509th Infantry", 2nd Qtr, FY 93, Accomplishments (2 pgs).
16. Briefing Slides, "A Company, 511th Infantry-Accomplishments", 3rd Qtr, FY 93, (2 pgs).
17. Briefing Slides, "A Company, 511th Infantry", 1st, 2nd, and 4th Qtr, FY 93, Accomplishments (8 pgs).
18. Unit Training Schedule, C Company, 509th Infantry, Apr-Nov 93 (6 pgs).
19. Briefing Slides, "260th FA Detachment", 1-10th Aviation Regiment (8 pgs)
20. Program, "Change of Command Ceremony, 260th Field Artillery Detachment", USAAVNC, 17 Dec 93 (2 pgs).
21. Commitment Data, 98th Army Band, Jan-Dec 93 (4 pgs).
22. Briefing Slides, "A Company, Military Police Activity", 1st-4th Qtr (6 pgs).
23. Program, "Change of Command A Company, Military Police Activity", 15 Dec 93 (2 pgs).

1-13th Aviation Regiment File

1. Memo, Lt. Col. Kerry M. Brown to S-1 1st Avn Bde, 15 Feb 94, subj: Unit History Personal Perspective (2 pgs).
2. History Input, 1st Quarter CY 93, 1-13th Avn Regt (4 pgs).

:

3. History Input, 2nd Quarter CY 93, 1-13th Avn Regt (6 pgs).
4. Article, "Women Aviators Respond", Army Flier, 14 May 93.
5. Article, "Woman Qualified for Combat Battalion", Army Flier, 25 Jun 93.
6. History Input, 3rd Quarter CY 93, 1-13th Avn Regt (3 pgs).
7. Article, "Fort Rucker Athletes of the Year", Army Flier, 6 Aug 93.
8. Article, "Soldiers Turn Out for Block Party Bash", Army Flier, 30 Jul 93.
9. Article, "Women Aviators Graduate Apache Course", Army Flier, 30 Jul 93.
10. "Miss Mary Fund Information" (12 pgs).
11. History Input, 4th Quarter CY 93, 1-13 Avn Regt (4 pgs).
12. Permanent Orders 315-03, 256th Signal Company, 21 Dec 93. (1 pg).
13. Article, "FTC Trains Soldiers for Future Assignment", Army Flier, 10 Dec 93.

1-145th Aviation Regiment File

1. Unit History, 1 Jan 93 - 31 Dec 93, 1-145th Aviation Regiment, Ft. Rucker (8 pgs).

46th Engineer Battalion File

1. Memo, Lt. Col. Sean M. Wachutka to Fort Rucker Command Historian, 22 Feb 94, subj: 46th Engineer Battalion History, CY 93 (5 pgs).
2. DD Form 1610, 21 Apr 93, A Co. 46th Engineer Battalion, subj: NTC Rotation 93-08 (1 pg).
3. DD Form 1610, 14 Sep 93, A Co. 46th Engineer Battalion, subj: Construct Recreation Centers (1 pg).
4. FRAGO 93-40, 46th Engineer Battalion, 211600 May 93, subj: Construct 300 meters of Road at Newton Gate (2 pgs).
5. FRAGO 92-130, 46th Engineer Battalion, 101300 Dec 92, subj: Construct Perimeter Road at Hartford Retirement Center (1 pg).
6. FRAGO 93-31, 46th Engineer Battalion, 041300 May 93, subj: Repair Facilities at Camp Alaflo (3 pgs).
7. FRAGO 93-38, 46th Engineer Battalion, 201600 May 93, subj: Build a Road for School Busses at Elba, Alabama (3 pgs).
8. FRAGO 93-52, 46th Engineer Battalion, 160830 Jun 93, subj: Repair Humming Hills Girl Scout Camp (3 pgs).

2-229th Attack Helicopter Regiment File

1. Memo, Lt. Col. Kenneth L. Travis to Chief of Staff, USAAVNC (ATTN: Dr. Kitchens), 17 Feb 94, subj: 2/229th AHR Historical Report (4 pgs).
2. Memorandum for Record, 17 Feb 94, subj: Unit History (2 pgs).
3. Briefing Slides, "Air Combat Confirmation Study," (10 pgs).

4. Information Paper, ATZQ-TDM-A, 28 Mar 93, subj: ATAC II Confirmation Study in Conjunction with 2-229th Gunnery Exercise, Yuma Proving Ground, May-Jun 93 (2 pgs).
5. Memo, Col. David W. Swank to Cdr TRADOC (FCJ3-FC), 9 Oct 93, subj: FORSCOM Support of DA Five Year Test Program (FYTP) (2 pgs).
6. Briefing Slides, "Exeval Outbrief of E/2-229th", Combat Aviation Training Brigade (18 pgs).
7. Memo, Col. Charles W. Greer to Cdr, U.S. Army Operational Evaluation Command (CSTE-EAV), 5 Feb 93, subj: HELLFIRE II Limited User Test (LUT) (4 pgs).
8. Article, "Flying Tigers Win Honors at Fort Bragg", Army Flier, 3 Sep 93.
9. Article, "Women Aviators Graduate Apache Course", Army Flier, 30 Jul 93.
10. Article, "Women Aviators Respond", Army Flier, 14 May 93.
11. Article, "HHC/2-229th Wins Protected Tiger Streamer", Army Flier, 29 Oct 93.
12. Memo, Capt. Michael Senters to Cdr E/2-229th Avn Regt, 28 Nov 93, subj: After Action Review (AAR) for E/2-229th Phase II/III Training (3 pgs).
13. Permanent Orders 011-07, 13 Jan 94, E Troop (Comanche), 1st Battalion, 10th Aviation Regiment attached to 2-229th Aviation Regiment (1 pg).
14. Memo, Lt. Col. Kenneth L. Travis to Adjutant General (Personnel Operations Branch), 1 Dec 93, subj: General Douglas MacArthur Award Nomination (Capt. Blackburn) (6 pgs).
15. Memo, Lt. Col. Kenneth L. Travis to Adjutant General (Personnel Operations Branch), 1 Dec 93, subj: General Douglas MacArthur Award Nomination (Capt. Kools) (8 pgs).
16. Article, "Soldier Recounts Restore Hope", Army Flier, 14 May 93.

M. AVIATION TRAINING BRIGADE

1. Ltr (1st End), ATZQ-ATB-A, Capt. John T. Vogel to Command Historian, 7 Jun 94, subj: 1993 Annual Command History-Staffing (20 pgs).
2. Aviation Training Brigade Historical Report 1993 (11 pgs).
3. Assumption of Command orders, ATB, CY 1993 (5 pgs).
4. Article, "1-212th Receives Bronze Safety Award," Army Flier.
5. Article, "Aviation Battalion Receives Parker Award," Army Flier.
6. Article, "1-212 Earns TDA Honors," Army Flier.
7. Certificate of Achievement, D Company, 1-223rd Avn Regt (1 pg).
8. Memo, Kathleen D. Holland to Cdr, 1-11th Avn Regt, 19 Jan 93, subj: Army Superior Unit Award (4 pgs).

1-11th Aviation Regiment File

1. Memo, Lt. Col. Richard L. Gill to Fort Rucker Post Historian, 18 Feb 94, subj: 1-11th Aviation Regiment Annual Historical Report (31 pgs).

1-14th Aviation Regiment File

1. Memo, Capt. John A. Klosky to Command Historian, 22 Feb 94, subj: 1993 1-14th Historical Report (9 pgs).

1-212th Aviation Regiment File

1. Memo, CW3 Wayne A. Denmark to Aviation Training Brigade Historian, 15 Feb 94, subj: 1-212th Avn Historical Report for CY 93 (6 pgs).

1-223rd Aviation Regiment File

1. 1st Battalion, 223rd Aviation Regiment, 1993 Historical Report (11 pgs).

M. U.S. ARMY AIR TRAFFIC CONTROL ACTIVITY

1. Ltr (1st End), Curtis E. Carter to Command Historian, 9 May 1993, subj: 1993 Annual Command History - Staffing (9 pgs).
2. Memo, Curtis E. Carter to Command Historian, 1 Mar 94, subj: Staff Historical Reports for 1993 Annual Command History (19 pgs).
3. Msg, Cdr, USAAVNC to AIG 8846, 161932Z Jun 93, subj: Annual Air Traffic Control (ATC) Awards (2 pgs).
4. FM 1-303, Air Traffic Control Facility Operations and Training, HDQ, Department of the Army, 5 Apr 93 (260 pgs).
5. Memo, Cdr USAAVNC to Cdr USACAC, 26 Oct 93, subj: U.S. Army Operational Concept for Air Traffic Services (ATS) (1 pg).
6. "U.S. Army Operational Concept for Air Traffic Control Services (ATS)" (Jun 93) (37 pgs)
7. Memo, Merton S. Dubois to distr, 19 Nov 93, subj: Revised Tactical Terminal Control System (TTCS) Source Selection Evaluation Board (SSEB) Schedule (2 pgs).
8. Msg, HQDA WASHDC, (DAMO-MDZ) to Cdr USAAVNC, 161255Z Jul 93, subj: Air Operations Data Modeling (3 pgs).
9. Memo, Bettie B. Gonser to Cdr USAAVNC, 19 Jul 93, subj: Operational Requirements Document (ORD) for the Fixed-base Air Traffic Control Communications Console System (CCS) (1 pg).
10. Memo, Francis N. Anderson to Cdr USAAVNC, 27 Apr 93, subj: Fixed-Base Air Traffic Communications Console (CCS) Life Cycle Replacement Program, System MANPRINT Management Plan (SMMP), Joint Approval (1 pg).
11. Memo, Francis N. Anderson to distr, 4 Aug 93, subj: Critical Operational Issues and Criteria (COIC) for the Communications Console System (CCS) (2 pgs).
12. Memo, Francis N. Anderson to Cdr U.S. Army Aviation Troop Command (AMCPM-ATC-D), subj: Independent Cost Study for Development, Production, Fielding, and Sustainment of the Communications Console System (CCS) (1 pg).
13. Ltr (1st End), Francis N. Anderson to HDQ USACASC (ATCL-MES-S3), 23 Feb 93, subj: Reliability, Availability, and Maintainability (RAM) Rationale Report for the Fixed-Base Air Traffic Control (ATC) Communications Console System (CCS) (1 pg).

14. Memo, David M. Fonda to Dir USAATCA, 26 Oct 93, subj: Communications Console System (CCS) Test and Evaluation Master Plan (TEMP) (1 pg).
15. Memo, Francis N. Anderson to Cdr TRADOC (ATCD-GI), 8 September 93, subj: Milestone I/III In-Process Review for the Air Traffic Control, Communication Console System (CCS) Recommendation (1 pg).
16. Memo, Daniel J. Rubery to distr, 18 Nov 93, subj: Milestone I/III Acquisition Decision Memorandum for the Air Traffic Control, Communication Console System (1 pg).
17. Memo, Bettie B. Gonser to Cdr USAAVNC (ATZQA-CDM-ES), 24 May 93, subj: Operational Requirements Document (ORD) for the Fixed-Base Air Traffic Control (ATC) Recorder/Reproducer (R/R) (1 pg).
18. Memo, Francis N. Anderson to distr, 5 Feb 93, subj: Approval of the System MANPRINT Management Plan (SMMP) for the Fixed-Base Air Traffic Control (ATC) Recorder/Reproducer Life-Cycle Replacement Program (1 pg).
19. Memo, Francis N. Anderson to distr, 9 Jun 93, subj: Federal Aviation Administration (FAA) 60-Channel Recorder/Reproducer System (3 pgs).
20. Memorandum for the Record, ATZQ-ATC-DR, 2 Mar 93, subj: Review of Training Requirements in the CCS and R/R ORD (2 pgs).
21. Memo, Francis N. Anderson to Dir U.S. Army Information Systems Management Activity, Logistics Directorate (ASQM-LGF-F), 31 Aug 93, subj: Recorder/Reproducer Integrated Logistics Support Plan (ILSP) (1 pg).
22. Memo, Francis N. Anderson to Hdq U.S. Army Aviation Troop Command (AMCPM-ATC-D), subj: Air Traffic Control Recorder/Reproducer TEMP, Working Copy (1 pg).
23. Bettie J. Lewis to Dir USAATCA, 1 Dec 93, subj: Recorder/Reproducer (R/R Material Fielding Plan (MFP) (4 pgs).
24. Memo, Maj. Gen. Jay M. Garner to Assistant Secretary of the Army (Research, Development, and Acquisition), 10 Nov 93, subj: Mission Need Statement (MNS) for the Fixed-Base Air Traffic Control Precision Approach Radar System Life-Cycle Replacement Program (1 pg).
25. Department of Defense National Airspace System (NAS) Modernization Site Survey Workbook, DOD NAS Joint Program Office (FOR OFFICIAL USE ONLY) (1 pg).
26. Msg, HQDA WASHDC to Cdr USAAVNC, 041450Z Aug 88, subj: Development of Air Traffic Control (ATC) Transfer Plan (1 pg).
27. Peak Field Intensity Measurement Data Sheet, Fort Rucker, 22 Nov 93 (2 pgs).
28. Airfield IOC Worksheet (1 pg).
29. Memo, Herbert R. Preston to Dir USAATCA, 31 Aug 93, subj: Trip Report (1 pg).
30. Memo, Herbert R. Preston to Dir USAATCA, 27 Jan 94, subj: Trip Report (1 pg).
31. Ltr (1st End), Francis N. Anderson to Dir USAATCA, 23 Nov 93, subj: TRADOC Initiatives (4 pgs).

N. AVIATION TRAINING BRIGADE (AUGMENTATION)

1. Memo, Col. Christopher P. Gershel to Command Historian, 28 Feb 94, subj: 1993 Annual Historical Remarks (3 pgs).

O. ASSISTANT COMMANDANT, U.S. ARMY AVIATION LOGISTICS SCHOOL

1. Memorandum of Agreement Between United States Army Aviation Center and United States Army Combined Arms Command, subj: Organization and Operation of the United States Army Aviation Maintenance Training Activity (USAAMTA) (7 pgs).
2. Ltr, Maj. Gen. John D. Robinson to Maj. Gen. David A. Whaley, 6 Dec 93, subj: United States Army Aviation Maintenance Training Activity (USAAMTA) Command and Control (C2) Issue (1 pg).
3. Memorandum of Agreement Between United States Army Aviation Center and United States Army Transportation Center, subj: Operating Procedures for United States Army Aviation Maintenance Activity (USAAMTA) (20 pgs).
4. Memo, Col. Thomas E. Johnson to Cdr USAAVNC (ATZQ-MH), 29 Mar 94, subj: USAALS CY 93 Historical Report (3 pgs).

P. DIRECTORATE OF COMBAT DEVELOPMENTS--USAALS

1. Lt. Col. Marks S. Jones, Lt. Col. to PMO USAALS, 21 Jan 94, subj: 1993 Historical Report (5 pgs).
2. Memo, Bettie B. Gonser to distr, 30 Nov 93, subj: Operational Requirements Document (ORD) for Prepositioned Sustainment Maintenance Facility (PSMF) (2 pgs).
3. Operational Requirements Document (ORD) for the Prepositioned Sustainment Maintenance Facility (PSMF) (28 pgs).

Q. DEPARTMENT OF TRAINING AND DOCTRINE-USAALS

1. Memo, Col. Dennis W. Healy to Chief PMO, 25 Feb 94, subj: USAALS Annual Historical Report (AHR) For Calendar Year 1993 (CY 93) 1 Jan 93 - 31 Dec 93 (6 pgs).
2. Ltr (1st End), Col. William B. Snow to Cdr USAALS (ATSQ-LTD-M), 23 Jul 93, subj: Course Administrative Data (CAD) for 602-ASIX1 (5 pgs).
3. Ltr (1st End), Col. William B. Snow to Cdr USAALS (ATSQ-LTD-M), 23 Jul 93, subj: Course Administrative Data (CAD) for 602-68D10, Aircraft Powertrain Repairer Course (6 pgs).
4. Ltr (1st End), Col. William B. Snow to Cdr USAALS (ATSQ-LTD-M), 25 Mar 93, subj: Course Administrative Data (CAD) for 600-ASIB7 (67H), Ejection Seat Repairer Course (9 pgs).
5. Ltr (1st End), Col. William B. Snow to Cdr USAALS (ATSQ-LTD-M), 25 Mar 93, subj: Course Administrative Data (CAD) for 600-67A10, Apprentice Mechanic AIT (5 pgs).
6. Memo, Col. Dennis W. Healy to Cdr TRADOC (ATOM-P), 12 Nov 93, subj: Individual Training Plan for Military Occupational Specialty 68X, AH-64 Armament/Missile Systems Repairer (18 pgs).
7. Training Mission Assessment, 1st QTR, FY 94, USAALS (7 pgs).
8. Training Capability Report, Asst Cmdt USAALS for Cdr TRADOC (ODCST), 30 Sep 93 (18 pgs).

R. LEADER DEVELOPMENT/PERSONNEL PROPONENCY OFFICE--USAALS

1. Memo, Maj. Robert W. Haynie to Chief PMO USAALS, 14 Feb 94, sub: Staff Historical Reports for 1993 Annual Command (4 pgs).

S. DEPARTMENT OF AVIATION TRADES TRAINING--USAALS

1. Department of Aviation Trades Training History - 1993 (3 pgs).

T. DEPARTMENT OF AVIATION SYSTEMS TRAINING-USAALS

1. Department of Aviation Systems Training, Historical Report, CY 93 (4 pgs).

U. PROGRAM MANAGEMENT OFFICE-USAALS

1. Program Management Office (MPO) CY 93 Annual History (1 pg).

V. DEPARTMENT OF ATTACK HELICOPTER TRAINING-USAALS

1. Memo, Lt. Col. John E. Decker for PMO USAALS, subj: Staff Historical Report for CY 1993 (27 pgs).
2. Memo, Col. Dennis W. Healy to DAHT, 12 Jan 93, subj: AH-64 Engine Interactive Videodisc (IVD) Lesson Review (1 pg).
3. Memo, Col. Dennis W. Healy to DAHT, 12 Jan 93, subj: AH-64 AWS Interactive Videodisc (IVD) Lesson Review (1 pg).
4. Memo, Col. Dennis W. Healy to DAHT, 25 Jan 93, subj: AH-64 AWS Interactive Videodisc (IVD) Lesson Review (1 pg).
5. Memo, Col. Dennis W. Healy to DAHT, 25 Jan 93, subj: AH-64 Engine Interactive Videodisc (IVD) Lesson Review (1 pg).
6. Memo, Col. Dennis W. Healy to DAHT, 3 Feb 93, subj: AH-64 Engine Interactive Videodisc (IVD) Lesson Review (1 pg).
7. Memo, Col. Dennis W. Healy to DAHT, 3 Feb 93, subj: AH-64 AWS Interactive Videodisc (IVD) Lesson Review (1 pg).
8. Memo, Col. Dennis W. Healy to DAHT, 6 Feb 93, subj: AH-64 AWS Interactive Videodisc (IVD) Lesson Review (1 pg).
9. Memo, Col. Dennis W. Healy to DAHT, 11 Feb 93, subj: AH-64 AWS Interactive Videodisc (IVD) Lesson Review (1 pg).
10. Memo, CW4 Graham T. Stevens for Chief, Operations, USAALS, 16 Feb 93, subj: Development of Interactive Courseware (ICW) Stage II Video Production (5 pgs).
11. Memo, Col. Dennis W. Healy to DAHT, subj: Support for Interactive Courseware State II Video Production (7 pgs).
12. Ltr (1st End), Maj. John E. Decker to DOTD-USAALS, 19 Mar 93, subj: Subject Matter Expert Assistance and Equipment Support for Video Production and Editing of the Training Tapes Titled "Precision Measuring Tools" and "Aircraft Hardware" (4 pgs).
13. Memo, Maj. John E. Decker to Chief AHD-USAALS, 27 Apr 93, subj: AH-1 Hydraulic System Interactive Videodisc (IVD) Lesson Review (3 pgs).
14. Memo, Col. Dennis W. Healy to DAHT-USAALS, 18 May 93, subj: AH-1 Hydraulic System Interactive Videodisc (IVD) Lesson Review (1 pg).
15. Ltr (1st End), Tom P. Hall to DOTD-USAALS, 15 Jun 92, subj: Request Support for Interactive Courseware (ICW) Stage II Video Production (2 pgs).

16. Memo, Col. Dennis W. Healy to DAHT-USAALS, 6 Aug 93, subj: AH-64 Chaff System Stage 3 Interactive Videodisc (IVD) Lesson/Test Review (1 pg).
17. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 20 Sep 93, subj: AH-64 Rotor System Stage 3 Interactive Videodisc (IVD) Lesson/Test Review (1 pg).
18. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 20 Sep 93, subj: AH-64 Electrical System Stage 3 Interactive Videodisc (IVD) Lesson/Test Review (2 pgs).
19. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 27 Oct 93, subj: AH-64 Point Target Weapons System (PTWS) Stage 3 Interactive Videodisc (IVD) Lessons/Tests Review (2 pgs).
20. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 27 Oct 93, subj: AH-64 Weapons System Boresighting Stage 3 Interactive Videodisc (IVD) Lesson/Test Review (2 pgs).
21. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 28 Oct 93, subj: AH-1 Powerplant Stage 3 Interactive Videodisc (IVD) Lesson/Test Review (1 pg).
22. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 3 Nov 93, subj: AH-1 Main Rotor System Stage 3 Interactive Videodisc Lessons/Tests Review (2 pgs).
23. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 30 Nov 93, subj: AH-64 Engine System Stage 3 Interactive Videodisc (IVD) Lessons/Tests Review (1 pg).
24. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 6 Dec 93, subj: AH-64 Target Acquisition Designation Sight/Pilot Night Sensor Systems (TADS/PNVS) Stage 3 Interactive Videodisc (IVD) Lessons/Tests Review (2 pgs).
25. Memo, Col. Dennis W. Healy to Dir DAHT-USAALS, 17 Dec 93, subj: AH-1 Flight Control System Stage 3 Interactive Videodisc (IVD) Lessons/Tests Review (2 pgs).
26. Product Systems Support Contract, Courseware Developmental Support for USAALS, 1 Feb 93/4 Feb 93, Ft. Eustis, VA (18 pgs).
27. Memo, Maj. John E. Decker to DOTD-USAALS, 16 Mar 93, subj: TDY Trip Report (3 pgs).
28. Ltr, Erich D. Pokorny to Serv-Air Incorporated, SOFSA Procurement, Blue Grass Army Depot, 15 Apr 93, subj: AH-64A Apache Armament-Electrical Trainer (AET-A7), Phase II Procurement (8 pgs).
29. Memo, Diana Francis to A. Lang, AEPCO, Apache PMO, 29 Apr 93, subj: Technical Working Group No. 2 Meeting Draft Minutes (10 pgs).
30. Interservice Training Review Organization. Phase I Study, Attack Helicopter Maintenance and General Support Helicopter Maintenance Training, Ft. Eustis, VA (18 pgs).
31. Memo, Col. Dennis W. Healy to distr, 1 Jun 93, subj: UH-60/UH-1/AH-1 Maintenance Training Interservice Training Review Organization (ITRO) Study (15 pgs).
32. Memo, Sfc. Daniel Hernandez to Dir DAHT, 10 Aug 93, subj: TDY Trip Report (14 pgs).
33. Memo, Tom P. Hall to McDonald Douglas Training Systems, 25 Aug 93, subj: Changes to the Minutes of Technical Working Group #3 (15 pgs).
34. Memo, Maj. John E. Decker to Dir DOTD, 16 Sep 93, subj: TDY Trip Report (2 pgs).
35. Memo, Maj. John E. Decker to DOTD, DTD (Mr. Zinn), 16 Sep 93, subj: Initial Analysis of Computer Base Training (CBT) AH-64 Multiplex Subsystem Created by McDonnell Training Systems (2 pgs).

36. Memo, Maj. John E. Decker to DOTD, DTD (Mr. Zinn), 20 Sep 93, subj: Final Analysis of Computer Base Training (CBT), AH-64 Multiplex Subsystem Control by McDonnell Douglas Training Systems (3 pgs).
37. Memo, Sfc. Daniel Hernandez to Dir DAHT, 15 Nov 93, subj: TDY Trip Report (2 pgs).
38. Memo, McDonnell Aircraft Company, 30 Sep 93, subj: IOS SME Review (21 pgs).
39. Memo, CW3 Gordon B. Williams to DOTD USAALS (ATSQ-LTD), 21 Dec 93, subj: TDY Trip Report (2 pgs).
40. Memo, S. Sgt. Marcos A. Rios to Dir DAHT, 8 Feb 93, subj: TDY Trip Report (1 pg).
41. Memo, S. Sgt. Richard D. Thornton to Dir DAHT, 17 Mar 93, subj: TDY Trip Report (4 pgs).
42. Memo, S. Sgt. Robert W. Castleberry to Dir DAHT, subj: TDY Trip Report (2 pgs).
43. Memo, S. Sgt. Robert W. Castleberry to Dir DAHT, subj: TDY Trip Report (3 pgs).
44. Minutes of the AEDST-A6, Article #1 Government Verification Out-Brief Meeting at Serv-Air, Inc. RBAD, 22 Feb 93 (8 pgs).
45. Memo, S. Sgt. Darrell Riddell to Dir DAHT (Col. Healy), 13 Jan 94, subj: TDY Trip Report (1 pg).
46. Memo, Sfc. Lorenzo Valerio to Cdr U.S. Army Aviation Troop Command (SPAE-AV-AAH-LR), 16 May 93, subj: Apache AEDST-A6 Trainer Article #2 TDY Trip Report (2 pgs).
47. Memo, Sfc. Lorenzo Valerio to Cdr U.S. Army Aviation Troop Command (SPAE-AV-AAH-LR), 22 Jun 93, subj: Apache AEDST-A6 Trainer Article #3 TDY Trip Report (2 pgs).
48. Memo, Sfc. Daniel Hernandez to Dir DAHT, 25 Jun 93, subj: TDY Trip Report (6 pgs).
49. Memo, Sfc. James A. Walker to Dir DOTD, 10 Aug 93, subj: Utilization of the TADS/PNVS Diagnostic troubleshooting Aid (DTA) versus Current TADS/PNVS Troubleshooting Manuals (7 pgs).
50. Memo, S. Sgt. Robert Burton to Dir DAHT, 14 Jan 94, subj: TDY Trip Report (2 pgs).
51. Memo, Sfc. James A. Walker to Dir DOTD, 24 Aug 93, subj: Advanced Boresight Equipment (ABE) (4 pgs).
52. Memo, Sfc. James A. Walker to Dir DOTD, 22 Sep 93, subj: Advanced Boresight Equipment (ABE) (1 pg).
53. Memo, Sfc. David Ware and Sfc. Daniel Hernandez to Dir DAHT, 10 Aug 93, subj: TDY Trip Report (2 pgs).
54. Memo, Sfc. Lorenzo Valerio to Cdr U.S. Army Aviation and Troop Command (SFAE-AV-AAH-LR), 28 Sep 93, subj: Apache AEDST-A6 Trainer Article #4 TDY Trip Report (3 pgs).
55. Memo, Maj. John Decker to Dir DOTD, 16 Sep 93, subj: TDY Trip Report (2 pgs).
56. Memo, Sgt. J. T. Kelley to Dir DOTD, 31 Jan 94, subj: TDY Trip Report (1 pg).
57. Memo, Sfc. James D. Chester to Dir DOTD, 31 Jan 93, subj: TDY Trip Report (1 pg).
58. Memo, S. Sgt. Chris A. Gaylord to Dir DOTD, 28 Oct 93, subj: Report on the Apache Modernization (Longbow) In-Progress Review (IPR) (2 pgs).
59. Memo, S. Sgt. Chris A. Gaylord to Dir DOTD, 9 Nov 93, subj: Report on the Apache Modernization (Longbow) Logistics Demonstration (L/D) 100% Review of Courseware Material (2 pgs).
60. Memo, S. Sgt. Robert Burton to Dir DAHT, 11 Jan 94, subj: TDY Trip Report (3 pgs).

61. Memo, Sfc. James A. Walker to Dir DOTD, 28 Oct 93, subj: Report on the Pre-Production Prototype Technical Interchange Meeting for the Advanced Boresight Equipment (ABE) (1 pg).
62. Memo, Sfc. Lorenzo Valerio to Cdr U.S. Army Aviation and Troop Command (SFAE-AV-AAH-LR), subj: Apache AEDST-A6 Trainer Article #5 TDY Trip Report (3 pgs).
63. Memo, Sfc. Nathaniel Scott to Dir DAHT, 10 Feb 93, subj: TDY Trip Report (2 pgs).
64. Memo, S. Sgt. Albert Dutton to Dir DAHT, 25 Jan 93, subj: TDY Trip Report (2 pgs).
65. Memo, S. Sgt. Randy Andricks to Dir DAHT, 9 Feb 93, subj: TDY Trip Report (2 pgs).
66. Memo, S. Sgt. James K. Raymond to Dir DAHT, 9 Mar 93, subj: TDY Trip Report (2 pgs).
67. Memo, S. Sgt. Jeffrey M. Davis to Dir DAHT, 10 Dec 92, subj: TDY Trip Report (2 pgs).
68. Memo, S. Sgt. Thomas E. Cross to Dir DAHT, 27 Mar 93, subj: TDY Trip Report, OH-58D Users Conference (22-25 Mar 93) (5 pgs).
69. Memo, S. Sgt. Heriberto A. Soto to Dir DAHT, 20 Apr 93, subj: TDY Trip Report (2 pgs).
70. Memo, Sfc. Heriberto A. Soto to Dir DAHT, 4 May 93, subj: TDY Trip Report (2 pgs).
71. Memo, S. Sgt. Thomas E. Cross to Dir DAHT, 3 May 93, subj: TDY Trip Report (1 pg).
72. Memo, S. Sgt. Albert A. Dutton to Dir DAHT, 11 May 93, subj: TDY Trip Report (1 pg).
73. Memo, Sfc. Wilbert Purcell, subj: 67S NETT Training at Ft. Bragg (1 pg).
74. Memo, S. Sgt. James K. Raymond to Dir DAHT, 23 Jun 93, subj: TDY Trip Report (1 pg).
75. Memo, S. Sgt. Albert Dutton to Dir DAHT, 6 Jul 93, subj: TDY Trip Report (2 pgs).
76. Memo, Sfc. Robert L. Melchor to Dir DAHT, 18 Aug 93, subj: Classroom System Trainer (CST) PM TDY Trip Report (8 pgs).
77. Memo, Sfc. David R. Jordan to Dir DAHT, 6 Dec 93, subj: TDY Trip Report (1 pg).
78. Memo, CW3 John M. Zimmerman to ATCOM, New Equipment Training Division, 28 Dec 93, subj: TDY Trip Report, OH-58D Progressive Phase Maintenance (PPM) Manual, New Equipment Training (4 pgs).
79. Memo, Sfc. Ralph D. Zimmerman to Dir DAHT, 13 Dec 93, subj: TDY Trip Report (1 pg).

W. AVIATION BRANCH SAFETY OFFICE

1. Ltr (1st End), John T. Persch to Aviation Branch Historian, 1 Feb 94, subj: Staff Historical Report for 1993 Annual Historical Review (5 pgs).
2. Briefing Slides, "Aircraft Accident Rates, 31 Oct 93" (4 pgs).
3. Executive Summary, ATZQ-S, 25 Oct 93, subj: FY 93 Aviation Flight Accident Summary (10 pgs).
4. Memo, Cdr USAAVNC to distr, 1 Nov 93, subj: Commander's Aviation Accident Prevention Plan (19 pgs).
5. Memo, Cdr USAAVNC to distr, 1 Oct 93, subj: Accident Prevention Policy (1 pg).
6. E-Mail, SAFETY to XO/Ops Personnel, 3 Nov 93, subj: Commander's Aviation Accident Prevention Plan (1 pg).

X. INSPECTOR GENERAL

1. Memo, Maj. William S. Ewell to Command Historian, 30 Mar 94, subj: 1993 Annual Command History – Staffing (7 pgs).
2. Ltr (1st End), Maj. William S. Ewell to Command Historian, 20 Jan 94, subj: Staff Historical Reports of 1993 Annual Command History (3 pgs).

Y. INTERNAL REVIEW AND AUDIT COMPLIANCE OFFICE

1. Memo, Roy Ward to Command Historian, subj: 1993 Annual Command History – Staffing (11 pgs).
2. Ltr (1st End), Woodrow J. Farrington to Command Historian, 6 Apr 94, subj: Staff Historical Reports for 1993 Annual Command History (2 pgs).
3. IRAC Office Report No. 93-31, Audit of Directorate of Information Management (DOIM) Survey (20 pgs).
4. IRAC Office Audit of Energy Management, Report No. 92-51, 14 Apr 93 (10 pgs).
5. IRAC Office Report No. 93-20, "Analysis of Alternatives for Disposal of Solid Waste" (7 pgs).
6. IRAC Office Report No. 93-24, "Review of Outdoor Recreation Complex" (4 pgs).
7. IRAC Office Report No. 93-21, "IMWRF Contingency Plans" (25 pgs).
8. IRAC Office Report No. 93-37, 14 Oct 93 (5 pgs).
9. IRAC Office Report No. 93-47, "Federal Employees Compensation Act" (FECA) (7 pgs).

Z. CHAPLAIN ACTIVITY OFFICE

1. Annual Historical Report, Chaplain Activity Office, CY 92 (3 pgs).
2. Chaplain's Office Response to Staffing (3 pgs).
3. Memo, Col. Marvin K. Vickers to Center Historian, 2 Mar 94, subj: Staff Historical Reports for 1993 Annual Command History (4 pgs).
4. Ltr (1st End), ATZQ-CH to Center Historian, 1 Mar 93, subj: Staff Historical Reports for 1993 Annual Command History (2 pgs).
5. DA Form 4926-R-E, Chaplain's Fund, Annual Summary Financial Data Reporting, FY 1993 (1 pg).
6. Fund Status Report, DRM, 10 Jan 94, Chaplain's Office (1 pg).
7. Chaplain Activity Office, Fort Rucker, Church Service Statistics (2 pgs).
8. "Command Master Religious Plan, Chaplain Activities Office", CY 93 (77 pgs).
9. Program, "Chapel of Flags Decommissioning Service, 26 Sep 93" (1 pg).

AA. STAFF JUDGE ADVOCATE

1. Ltr (1st End), CW2 Michael P. Doheny to Aviation Branch History Office, 1 Apr 94, subj: 1993 Annual Command History – Staffing (7 pgs).
2. Ltr (1st End), Maj. Milton C. Spaulding to Command Historian, 28 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (10 pgs).

BB. PUBLIC AFFAIRS OFFICE

1. Annual Historical Report, PAO, CY 92 (15 pgs).
2. Ltr (1st End), Maj. Steven R. Eisenhart to Post Historian, 28 Feb 93, subj: Staff Historical Reports for 1993 Annual Command History (3 pgs).
3. Ltr (1st End), Maj. Steven R. Eisenhart to Post Historian, 6 Apr 93, subj: 1993 Annual Command History – Staffing (1 pg).

CC. DIRECTORATE OF RESOURCE MANAGEMENT

1. Annual Historical Report, DRM, CY 92 (7 pgs).
2. Memo, Dir DRM to Aviation Branch Historian, 28 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (14 pgs).
3. Memo, James H. Woodard to Aviation Branch Historian, 14 Apr 94, subj: 1993 Annual Command History-Staffing (20 pgs).
4. Memo, Maj. Gen. Henry M. Hagwood to distr, 21 May 94, subj: FY 93 TRADOC Budget Guidance (TBG) (1 pg).
5. "TRADOC Budget Guidance - FY 93" (May 93) (18 pgs).
6. E-Mail, BASTF to BUTTV, 30 Nov 93, subj: Interim TBG File Handling Instructions (7 pgs).
7. Memo, Maj. Gen. Henry M. Hagwood to distr, 1 Dec 92, subj: FY 93 Appropriation TRADOC Budget Guidance (TBG) (1 pg).
8. TRADOC Appropriation Budget Guidance (TBG) – FY 93" (19 pgs)
9. Memo, Maj. Gen. Henry M. Hagwood to distr, 14 May 93, subj: FY 94 TRADOC Budget Guidance (TBG) DRAFT (60 pgs).
- 10: Budget Manpower Guidance, subj: Listing of FY 94 Allocations as of 30 Sep 94 (8 pgs).
11. E-Mail, ROBINSON to RIGGS, 9 Nov 93, subj: Spanish Speaking Helicopter Training (3 pgs).
12. Memo, Dir DRM to Cdr TRADOC (ATRM-M), 20 Jul 93, subj: Concept for Warrant Officer Career Center (8 pgs).
13. Memo, Col. Michael E. Velten to distr, 13 Sep 93, subj: U.S. Army Combined Arms Support Command (CASCOM) Reorganization AR 5-10 Documentation (FOR OFFICIAL USE ONLY) (10 pgs).
14. Ltr, Cdr USAAVNC to Cdr U.S. Army Transportation Center, 6 Dec 93, subj: United States Army Aviation Maintenance Training Activity (USAAMTA) (9 pgs).
15. Memo, Dir DRM to Cdr U.S. Army Combined Arms Support Command (ATCL-F), subj: Memorandum of Agreement - USACASCOM/USAAVNC (8 pgs).

16. Memo, Dir DRM to DCG USAAVNC, 23 Sep 93, subj: Update of USAALS Relocation Plan (28 pgs).
17. "Realignment Implementation Plan, United States Army Combined Arms Support Command (USACASCOM)", (2 Nov 93), (58 pgs).
18. Ltr (1st End), Howell L. Flowers to DPTMSEC (ATZQ-DPT-P), 19 Nov 93, subj: Administrative/Logistics Plan for the MM/MTP Realignment (11 pgs).
19. Memo, Dir DRM to distr, 12 Oct 94, subj: Memorandum of Instruction for Implementation of the DOTD Reorganization (1 pg).
20. "Memorandum of Instruction for Implementation of DOTD Reorganization" (Oct 94) (43 pgs).
21. Msg, HQDA WASHDC (CSCM-ZA) to AIG 12330, 162025Z Nov 92, subj: One Year Moratorium on Commercial Activities (CA) Contracting (2 pgs).
22. Briefing Slides, "USAAVNC/USAALS Realignment Plan", 15 Apr 93 (28 pgs).
23. Army Regulation 5-1, Army Management Philosophy, HQDA WASHDC, 12 Jun 92 (3 pgs).
24. Memo, Cdr USAAVNC to distr, 4 Jan 93, subj: Total Army Quality (2 pgs).
25. "Total Army Quality, Process Improvement Guide", DRM, USAAVNC (21 pgs).
26. Msg, Cdr TRADOC (ATRM-FO) to AIG 7432, 300845Z Jul 91, subj: Manpower and DOIM Offices (1 pg).
27. Memo, Maj. Gen. Henry M. Hagwood to Commandants, TRADOC Service Schools, 1 Oct 92, subj: TRADOC Management Engineering Activity (TRAMEA) Reorganization (5 pgs).
28. Memo, Brig. Gen. William J. Bolt to distr, 1 Feb 94, subj: Reorganization of U.S. Army Combined Arms Support Command (CASCOM) (2 pgs).
29. Briefing Slides, "Management/Resource Alignment Study", DRM 5 Oct 92 (68 pgs).

CC. DIRECTORATE OF PLANS, TRAINING, MOBILIZATION AND SECURITY

1. Annual Historical Report, DPTMSEC (12 pgs).
2. USAAVNC CY 93 Graduates (by course) (2 pgs).
3. Ltr (1st End), Capt. Robert G. Shirley to Command Historian, subj: 1993 Annual Command History – Staffing (9 pgs).
4. Memo, Maj. Ronald V. Flick to Aviation Branch Historian, 28 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (11 pgs).
5. DPTMSEC, subj: Range/Training Area Usage Report, FY 93 (19 pgs).
6. Memo, Col. David W. Swank to distr, 10 Jun 93, subj: MM/MTP Implementation Plan Briefing (15 pgs).
7. Memo, Maj. Gen. John P. Herrling to distr, 12 Feb 94, subj: Relocation of Maintenance Manager/Maintenance Test Pilot Course (MM/MTPC) (3 pgs).
8. Memo, Maj. Gen. Henry M. Hagwood to Cdr USAAVNC, 1 Apr 93, subj: Aviation Center Initiative to Realign Aviation Training (1 pg).

9. Memo, Col. David W. Swank to distr, 23 Nov 93, subj: Memorandum of Instruction (MOI) for Consolidation of 1-212th Avn Regt from Shell Army Heliport to Lowe Army Heliport (5 pgs).
10. Briefing Slides, "Training Realignments USAAVNC", 1 Nov 93 (19 pgs).

DD. AVIATION PROPONENCY

1. Annual Historical Report, AP, CY 92 (8 pgs).
2. Ltr (1st End), Dir AP to Command Historian, 5 May 94, subj: 1993 Annual Command History --Staffing (12 pgs).
3. Ltr (1st End), Dir AP to Historians, 11 Mar 94, subj: Staff Historical Reports for 1993 Annual Command History (15 pgs).
4. Memo, Cdr USAAVNC to Deputy Chief of Staff for Personnel, 8 Jun 92, subj: Waiver to Aviation Career Incentive Act of 1989 (3 pgs).
5. Memo, Dir AP to Cdr USAAVNC, 25 Feb 94, subj: Memorandum of Understanding (MOU) for Change of Proponency of Military Occupational Specialties (MOS) 68L, 68Q, 68R, and 93D (15 pgs).
6. Memo, Cdr USAAVNC to Avn Bde Cdrs, 12 Dec 91, subj: Minorities and Females (3 pgs).
7. Memo, Dir AP to Cdr TAPA (TAPC-PI-MO), 4 Dec 91, subj: Recommended Change to Army Regulation 611-101, Commissioned Officer Classification System, Aviation Officer Area of Concentration (AOC) 15E (11 pgs).
8. Briefing Slides, "Aviation Forces Structure, Aviation Restructure Initiative", USAAVNC, Feb 94 (73 pgs).
9. "Army Aviation Personnel Plan (A2P2)" (Fall, 92) (146 pgs).
10. Memo, Col. Leroy B. Outlaw to distr, 30 Nov 93, subj: Notification of Future Change to AR 611-112, W-9404-2, Warrant Officer Leader Development Action Plan (WOLDAP) Revision (1 pg).
11. "Notification of Future Change to AR 611-112, W9404-2, Warrant Officer Leader Development Action Plan (WOLDAP) Revision" (356 pgs).
12. "Aviation Commissioned Officer, Personnel Plan and Career Guide", Fall 1992, USAAVNC (41 pgs).
13. "Enlisted Personnel Plan, 67/93" (Fall 92) (26 pgs).
14. "Aviation Warrant Officer, Personnel Plan and Career Guide" (Fall 92) (56 pgs).
15. "Warrant Officer Flight Training, Application and Program Guide" (Fall 93), USAAVNC (30 pgs).

EE. EQUAL EMPLOYMENT OPPORTUNITY OFFICE

1. Annual Historical Report, EEOO, CY 92 (11 pgs).
2. Ltr (1st End), James W. Harris to Historian, 23 Feb 93, subj: Staff Historical Reports for 1993 Annual Command History (10 pgs).
3. Work Force Profile by Grade/Pay Level, 3 Jan 94 (2 pgs).
4. Work Force Profile by PATCOB, 3 Jan 94 (1 pg).
5. TRADOC Form 392-R, Affirmative Employment Program Report on Special Emphasis Program, Jan 93, USAAVNC and Ft. Rucker (7 pgs).

6. TRADOC Form 392-R, Affirmative Employment Program Report on Special Emphasis Program, 16 Apr 93, USAAVNC and Ft. Rucker (7 pgs).
7. TRADOC Form 392-R, Affirmative Employment Program Report on Special Emphasis Program, 12 Jul 93, USAAVNC and Ft. Rucker (7 pgs).
8. TRADOC Form 392-R, Affirmative Employment Program Report on Special Emphasis Program, 25 Oct 93, USAAVNC and Ft. Rucker (7 pgs).
9. Memo, Cdr USAAVNC to distr, 4 Jan 93, subj: Commanding General's Policy on Sexual Harassment (2 pgs).
10. Memo, Maj. Gen. John P. Herrling to Cdr USAAVNC, 27 Oct 93, subj: Equal Employment Opportunity (EEO) Staff Assistance Visit (SAV) (4 pgs).

FF. DIRECTORATE OF CIVILIAN PERSONNEL

1. Annual Historical Report, DCP, CY 92 (1 pg).
2. Memo, Dir DCP to Office of the Historian, 14 Mar 94, subj: Historical Report 1994 (5 pgs).
3. Weekly Civilian Separation Report VSIP Snapshot Summary, 31 Dec 93 (1 pg).
4. List of Optional, MRA + 10, Resignation and VERA (No Date) (2 pgs).
5. Memo, William D. Clark to distr, 10 May 93, subj: Use of Voluntary Separations Incentive Pay (VSIP) (1 pg).
6. Memo, Cdr TRADOC to Cdrs TRADOC Installations, subj: Voluntary Early Retirement Authority (VERA) and Civilian Voluntary Separation Incentive Pay (VSIP) (1 pg).
7. RCS Feeder Report for CSFOR-78, Primary Spreadsheet, Dec 92 (1 pg).
8. RCS Feeder Report for CSFOR-78, Primary Spreadsheet, Dec 93 (1 pg).
9. "The Total Army Performance Evaluation System - An Issues Paper" (Nov 92) (12 pgs).
10. Memo, Dir DCP to Performance Management and Recognition System Employees, 22 Oct 93, subj: Termination of the Performance Management and Recognition System (PMRS) (1 pg).
11. Memo, CofS USAAVNC to distr, 19 Oct 93, subj: Family and Medical Leave Act of 1993 (18 pgs).
12. Labor/Management Employee Relations, 1 Oct 92-30 Sep 93, USAAVNC (1 pg).
13. Memo, Command Historian to DCP, 17 Feb 93, subj: Staff Historical Reports of 1993 Annual Command History (3 pgs).
14. DA Pamphlet 690-400, "Total Army Performance Evaluation System" (TAPES) (59 pgs).

GG. MILITARY POLICE ACTIVITY

1. Annual Historical Report, MPA, CY 92 (3 pgs).
2. Ltr (1st End), Allison Hutcheson to CofS USAAVNC (ATZQ-MH), 11 Apr 94, subj: 1993 Annual Command History -- Staffing (5 pgs).

HH. DIRECTORATE OF INFORMATION MANAGEMENT

1. Annual Historical Report, DOIM, CY 92 (9 pgs).
2. Ltr (1st End), Floyd O. Leighton to Command Historian, 17 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (8 pgs).
3. E-Mail, ADKISON to KITCHENJ, 11 May 94, subj: 1993 Annual Command History – Staffing (3 pgs).

II. DIRECTORATE OF ENGINEERING AND HOUSING

1. Annual Historical Report, DEH, CY 92 (9 pgs).
2. Memo, Col. Robert B. Gatlin to Aviation Branch Historian, 28 Feb 94, subj: 1993 Historical Report (1 pg).
3. Historical Report, Chapters I-VI, Directorate of Public Works, 28 Feb 94 (16 pgs).
4. Defense Management Report Decision, No. 967, 30 Dec 90, subj: Base Engineering Services (FOR OFFICIAL USE ONLY) (14 pgs).
5. Basic Statistics, 1993 (1 pg).
6. Memo, Alejandro A. Garcia to Dir DEH, 15 Sep 93, subj: Contract No. DACA01-91-C-0166 (1 pg).
7. Memo, Gerald R. McDonald to Dir DEH, 24 Aug 93, subj: Transfer of Construction - Contract DACA 38-91-C-0103, U.S. Army Reserve Center, Vicksburg, Mississippi, Warren County (1 pg).
8. List of Contracts, DEH (1 pg).
9. Engineer Resources Management Division (ERMD), subj: Job Orders, DEH (3 pgs).
10. Projects to Procurement, FY 93, DEH (4 pgs).
11. DEH, Job Branch, Monthly Status Report (Sep 93) (3 pgs).
12. Memo, Ronald E. Leatherwood to Dir DEH, 31 Jan 94, subj: Annual Historical Report (5 pgs).
13. DEH, Supply and Equipment Div, FY 93 Annual Stockholders Report (7 pgs).
14. DEH, List of Personnel Providing Information, 1993 ACH (1 pg).
15. Memo, Dir DEH to distr, subj: Minutes of the Environmental Quality Control Committee Meeting (4 pgs).

JJ. DIRECTORATE OF LOGISTICS

1. Annual Historical Report, DOL, CY 92 (5 pgs).
2. Ltr (1st End), Dir DOL to Command Historian, 23 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (9 pgs).
3. Memo, Joel White to ALMD DEH, 19 Apr 93, subj: 1993 ACH (1 pg).
4. Memo, Joel White to Maintenance Div DOL, 19 Apr 94, subj: 1993 ACH (11 pgs).
5. Memo, Joel White to Supply and Services Div DOL, 19 Apr 94, subj: 1993 ACH (8 pgs).

KK. DIRECTORATE OF CONTRACTING

1. Annual Historical Report 1992, DOC, 8 Mar 93 (5 pgs).
2. Memo, Peter C. Polivka to Aviation Branch Historian, 29 Apr 94, subj: 1993 Annual Command History - Staffing (6 pgs).
3. Memo, Peter C. Polivka to Aviation Branch Historian, 1 Mar 94, subj: Staff Historical Reports for 1993 Annual Command History (5 pgs).
4. Aircraft Maintenance Contract, DABT01-93-C-0123, U.S. Army Aviation Center, DOC (508 pgs).
5. Aircraft Refuel/Defuel Services, Contract No. DABT01-93-C-0077, ASRC Contracting Company, U.S. Army Aviation Center (294 pgs).
6. SF 30, Amendment of Solicitation/Modification of Contract, DOC, UNC Aviation Services, DABT01-92-C-0054, 1 Oct 93 (2 pgs).
7. SF 30, Amendment of Solicitation/Modification of Contract, DOC, Bendix Field Engineering Group, DABT01-90-C-0003, 20 Sep 93 (7 pgs).
8. SF 30, Amendment of Solicitation/Modification of Contract, DOC, Flight Safety International, Inc, DABT01-90-C-0031, 1 Oct 94 (2 pgs).
9. SF 30, Amendment of Solicitation/Modification of Contract, DOC, Flight Safety International, Inc, DABT01-90-C-0034 (2 pgs).
10. Directorate of Contracting, Nomination for the FY 93 Barbara L. Jones Memorial Award (18 pgs).

LL. ARMY CAREER AND ALUMNI PROGRAM

1. Information Paper, ATZQ-ACA, 10 Feb 93, subj: Army Career and Alumni Program at Fort Rucker (2 pgs).
2. Ltr (1st End), J. E. Escalfullery to Command Historian, 18 Jan 94, subj: Staff Historical Reports for 1993 Annual Command History (4 pgs).
3. Ltr (1st End), J. E. Escalfullery to Command Historian, 20 Apr 94, subj: 1993 Annual Command History – Staffing (4 pgs).

MM. DIRECTORATE OF COMMUNITY ACTIVITIES

1. Annual Historical Report, DCA, CY 92 (3 pgs).
2. Ltr (1st End), Lt. Col. Errol C. Pratt to Command Historian, 6 May 94, subj: 1993 Annual Command History – Staffing (7 pgs).
3. Memo, Lt. Col. Errol C. Pratt to Command Historian, 1 Mar 94, subj: Directorate of Community Activities 1993 Historical Report (9 pgs).

NN. ADJUTANT GENERAL

1. Annual Historical Report, AG, CY 92 (1 pg).
2. Memo, M. J. Wesley to DPTMSEC, 1 Mar 94, subj: Office of Military Personnel/Adjutant General (OMP/AG) CY 93 Historical Report (3 pgs).
3. Fact Sheet, ATZQ-AG, 28 Feb 94, subj: CY 93 Permanent Party Officer Promotions (1 pg).

4. Memo, M. J. Wesley to distr, 1 Dec 93, subj: Command Sergeant Major (CSM), Sergeant: Major (SGM), and USA Sergeant Major course (USASMC) Selection Lists – INFORMATION MEMORANDUM (2 pgs).
5. Memo, M. J. Wesley to distr, 4 Aug 94, subj: Master Sergeant (MSG) Selection List – INFORMATION MEMORANDUM (2 pgs).
6. Memo, M. J. Wesley to distr, 21 Apr 93, subj: Sergeant First Class (SFC) and Advanced Noncommissioned Officer Course (ANCOC) Selection Lists – INFORMATION MEMORANDUM (2 pgs).
7. Evaluation Report, Summary for Jan through Dec 1993 by Unit, USAAVNC (24 pgs).

OO. NONCOMMISSIONED OFFICERS ACADEMY

1. Annual Historical Report, NCOA, CY 92 (6 pgs).
2. Memo, Sfc. Marion J. Alcantara to Aviation Branch Historian, 24 Feb 94, subj: Report of NCO Academy Significant Activities for CY 1993 (6 pgs).
3. Ltr, Sgt. Maj. Ronald L. Moore to Boy Scouts of America, 12 Oct 93 (11 pgs).
4. Memo, Sfc. John E. Rhodes to distr, 23 Sep 93, subj: Request for NCO Academy Support for Pack 49 Fall Activities (2 pgs).
5. Memo, Sfc. John E. Rhodes to distr, 24 Sep 93, subj: Tentative Plan for Cub Scout Pack 49/NCO Academy Volksmarch (2 pgs).
6. Memo, Sfc. John E. Rhodes to distr, 24 Sep 93, subj: Tentative Plan for Cub Scout Pack 49 Safety Day, 30 Oct 93 (2 pgs).
7. Memo, Sgt. Maj. Ronald L. Moore To Whom It May Concern, 6 Dec 93, subj: Memorandum of Understanding for Unit Sponsorship (1 pg).
8. Memo, Lt. Col. Robert L. Thomson to distr, 30 Nov 93, subj: Army Family Team Building (AFTB) Training (1 pg).
9. Training Support Package, U.S. Army Sergeants Major Academy (ANCOC), P405, Army Family Team Building, Common Leader Training (48 pgs).
10. Memo, Maj. Carl T. Brooks to Dir DOTD, 26 Jul 93, subj: MOS 93C, Air Traffic Control Operator Advanced Noncommissioned Officer Course (ANCOC) Program of Instruction – ACTION MEMO (1 pg).
11. Program of Instruction, "MOS 93C, Air Traffic Control Operator Advanced Noncommissioned Officer Course (ANCOC)" (Jul 93) (59 pgs).
12. Program of Instruction, "Air Traffic Control Equip RPR Supervisor" (ANCOC), 16 Nov 93, USAANVC (51 pgs).
13. Program of Instruction, "Aviation Operations Specialist Course" (ANCOC), 11 May 93, USAAVNC (52 pgs).
14. Program of Instruction, "Avionic Communications Equipment Repair" (BNCOC), 7 Jun 93, USAAVNC (42 pgs).
15. Memo, Maj. Carl T. Brooks to Dir DOTD, 25 Feb 93, subj: MOS 68R30, Avionic Radar Repairer Basic Noncommissioned Officer Course (BNCOC) Program of Instruction (POI) – ACTION MEMORANDUM (30 pgs).
16. Program of Instruction, "MOS 68R30, Avionic Radar Repairer Basic Noncommissioned Officer (BNCOC)" (29 pgs).
17. Memo, Col. Albert L. Patterson III to distr, subj: MOS 93P30, Aviation Operations Specialist Basic Noncommissioned Officer Course (BNCOC) Program of Instruction (POI) – ACTION MEMO (1 pg).

18. Program of Instruction, "MOS 93P30, Aviation Operations Specialist Basic Noncommissioned Officer Course (BNCO)" (53 pgs).

PP. TRADOC SYSTEM MANAGER LONGBOW

1. Annual Historical Report, TSM LONGBOW, CY 92 (7 pgs).
2. Memo, Col. Robert V. Mitchell to ATZQ-MH, 1 Mar 94, subj: Staff History Report for 1993 Annual Command History (4 pgs).
3. "Apache. America's Army Longbow Apache" (Oct 1993) (11 pgs).
4. Briefing Slide, "Longbow 'C' & 'D' Series Flight Test Schedule" (1 pg).
5. E-Mail, HDTT to CMSNAMES, 4 Feb 94, subj: Retransmitted Longbow Flash Report (1 pg).
6. E-Mail, Edward M. Perkins to SAFE-MSL-HD, subj: Flash Report Longbow Hellfire Missile Flight Test (1 pg).
7. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC (ATCD-MV), 21 Dec 93, subj: Operational Requirements Document (ORD) for the Longbow Weapon System (1 pg).
8. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC (ATCD-MV), 21 Dec 93, subj: Operational Requirements Document (ORD) for the Modernized Apache (1 pg).
9. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC (ATCD-MV), 21 Dec 93, subj: Operational Requirements Document (ORD) for the AH-64A+ Apache (1 pg).
10. Agreement of Solicitation/Modification of Contract, 26 May 93, subj: To Exercise Production Option 1 (FY 93) for HELLFIRE II Missiles (1 pg).
11. Memo, Brig. Gen. John M. Riggs to Mr. Larry D. Holcomb, subj: System Improvement Plan (SIP) Review (2 pgs).
12. Memo, Stanley P. Gorski to Cdr USAAVNC (ATZW-TSM-W), 29 Oct 93, subj: TRADOC System Manager (TSM) Charter (2 pgs).

QQ. TRADOC SYSTEMS MANAGER OH-58

1. Annual Historical Report, TSM OH-58, CY 92 (4 pgs).
2. Memo, Col. David L. Ahern to Chief of Staff, (ATZQ-MH), 8 Apr 93, subj: Staff Historical Report for 1993 Annual Command History (5 pgs).
3. Schedule, Program Progress Review #30, 8-10 Mar 93 (2 pgs).
4. Data Collection Effort, Aviation Mission Planning Station/Kiowa Warrior Force Development Test, TECO, Dec 93 (2 pgs).
5. Memo, Maj. Gen. Robert B. Rosenkranz to Cdr USAAVNC, 6 Dec 93, subj: Appreciation (5 pgs).
6. Memo, Lt. Col. Keith E. Gay to distr, 11 Jan 94, subj: Measures of Performance for NTC 94-07 (7 pgs).
7. Memo, Lt. Col. Laurence E. Thomas to Project Manager, Kiowa Warrior, 1 Mar 93, subj: Trip Report on Visit to General Dynamics Land System on 27/28 Mar 93 (2 pgs).

8. Ltr (1st End), Alan L. Yaknolonis to Cdr U.S. Army Electronic Proving Ground (STEEP-MT-I), 24 Feb 94, subj: Draft Test Report, PPQT of the Radar Frequency Interferometer (RFI) AN/APR-48A, OH-58D Kiowa Warrior Application, TECOM Project No. 4-ES-945-RFI-005 (2 pgs).

RR. TRADOC SYSTEMS MANAGER COMANCHE

1. Annual Historical Report, TSM COMANCHE, CY 92 (4 pgs).
2. Memo, Col. Charles L. Gant to USAAVNC Command Historian, 10 Mar 94, subj: TRADOC System Manager – Comanche 1993 Historical Report (6 pgs).
3. Briefing Slides, "Army System Acquisition Review Council Briefing" (17 pgs).
4. Briefing Slides, "Comanche Streamline Program Briefing" (7 pgs).
5. The Comanche Courier, Issue 1, Feb 93 (1 pg).
6. The Comanche Courier, Issue 2, Mar 93 (3 pgs).
7. The Comanche Courier, Issue 3, May 93 (2 pgs).
8. The Comanche Courier, Issue 4, Jun 93 (2 pgs).
9. The Comanche Courier, Issue 5, Jul 93 (3 pgs).
10. Briefing Slides, "The Comanche Maintenance Briefing" (21 pgs).
11. T800 Newsletter, LHTEC, Apr 93 (1 pg).
12. T800 Newsletter, LHTEC, Aug 93 (1 pg).
13. T800 Newsletter, LHTEC, Sep 93 (1 pg).
14. Information Paper, ATZQ-TSM-C, 19 Nov 93, subj: Comanche Restructure (3 pgs).
15. Kiowa Warrior Newsletter, Nov/Dec 93 (3 pgs).
16. Memo, Capt. Michael Senters to Cdr E/2-229th, subj: After Action Review (AAR) for E/2-229th Phase II/III Training (3 pgs).

SS. U.S. ARMY SAFETY CENTER

1. Annual Historical Report, USASC, CY 92 (1 pg).
2. Memo, R. L. Williamson to Aviation Branch History Office, 5 Apr 94, subj: 1993 Annual Command History – Staffing (1 pg).
3. Memo, R. L. Williamson to Cdr USAAVNC (ATZQ-MH), 9 Mar 94, subj: USASC Input for USAAVNC Annual Command History (1 pg).
4. Paper, Col. Thomas W. Garrett. "The Bank of Excellence" (1 pg).
5. Safety Center Mission, USASC (1 pg).
6. Briefing Slides, "U.S. Army Safety Center" (40 pgs).

7. Briefing Slides, "U.S. Army Safety Center FY 93, 1st Quarter FY 94 Safety Report", 2 Feb 94 (44 pgs).
8. "Army Aircraft Safety Performance Review -- FY 89 through FY 93 (Dec 93)" (44 pgs).

TT. U.S. ARMY OPERATIONAL TEST AND EVALUATION COMMAND

1. Annual Historical Report, TECO, CY 92 (1 pg).

UU. U.S. ARMY AVIATION TECHNICAL TEST CENTER

1. Annual Historical Report, 2USAATTC, CY 92 (17 pgs).
2. Memo, Col. Joseph L. Bergantz to Cdr USAAVNC (ATZQ-MH), 20 Jun 94, subj: 1993 Annual Command History-Staffing (24 pgs).

VV. U.S. ARMY AEROMEDICAL CENTER

1. Annual Historical Report, USAAMC, CY 92 (2 pgs).
2. Memo, Gloria Webb to Aviation Branch History Office, USAAVNC, 2 Mar 94, subj: 1993 Annual Command History -- Staffing (5 pgs).
3. Article, "Rucker's 256th Gears Up for Somalia Mission", Dothan Eagle, 10 Dec 93.
4. Article, "Lyster Creates New Department", Army Flier, 5 Mar 93.
5. Report, "Organizational Issues Affecting GTC Operations", (2 pgs).
6. Article, "Obstetric, Gynecological Services Reduced at Lyster Army Hospital", Army Flier, 26 Mar 93.
7. Article, "Mayor Explains Lyster Changes", Army Flier, 16 Apr 93.
8. Article, "Early Intervention Program Helps Kids", Army Flier, 4 Jun 93.
9. Article, "Shampoo Service Pampers Patients", Army Flier, 25 Jun 93.
10. Article, "Lyster Responds to Industrial Accident", Army Flier, 9 Jul 94.
11. Article, "Aladan Workers Treated Via Hyperbaric Medicine", Dothan Eagle, 9 Jul, 1993.
12. Article, "Lyster to Begin Renovations", Army Flier, 12 Nov 93.
13. Article, "Looks Can Be Deceiving", Army Flier, No date.
14. Article, "Lyster Responds to Various Issues", Army Flier, 29 Oct 93.

WW. 256TH SIGNAL SUPPORT COMPANY

1. Memo, Capt. Daniel D. Cockerham to Ft. Rucker Command Historian, 17 Mar 94, subj: Unit History Report (2 pgs).

XX. U.S. ARMY RESEARCH INSTITUTE AVIATION RESEARCH AND DEVELOPMENT ACTIVITY

1. Annual Historical Report, ARIARADA, CY 92 (9 pgs).

YY. U.S. ARMY AEROMEDICAL RESEARCH LABORATORY

1. Col. David H. Karney, Annual Progress Report, CY 93, U.S. Army Aeromedical Research Laboratory (55 pgs).

ZZ. SCHOOL OF AVIATION MEDICINE

1. Memo, Lt. Col. David T. Sutton to Office of the Branch Historian (ATZQ-MH), 10 Feb 94, subj: Annual Command History – CY 93 (4 pgs).
2. Memorandum of Agreement, DES USAAVNC and DOES, U.S. Army Medical Department Center and School, 19 Jan 93, subj: Providing Evaluation Support to the US Army School of Aviation Medicine (USASAM) (2 pgs).
3. Memorandum of Agreement between USASAM and DOTD USAAVNC, subj: Delineation of Responsibilities Between the U.S. Army School of Aviation Medicine (USASAM) and Directorate of Training and Doctrine (DOTD) (1 pg).
4. Memo, Lt. Col. Alfred W. Rogers to Commandant, Academy of Health Sciences (HSHA-ZA), 14 Jun 93, subj: Annual Report on AMEDD Activities – CY92 (4 pgs).

AAA. MULTI-MEDIA BRANCH

1. Annual Historical Report, Multi-Media Branch (4 pgs).
2. Ltr (1st End), Lt. Col. William W. Shawn to Cdr USAAVNC (ATZQ-MH), 28 Feb 94, subj: Staff Historical Reports for 1993 Annual Command History (2 pgs).
3. DD Form 2054/1, Visual Information (VI) Annual Activity Report, 1993 (1 pg).
4. DD Form 2054/2, Audiovisual (AV) Annual Production and Library Report, 1993 (1 pg).

BBB. AMC LOGISTICS ASSISTANCE OFFICE

1. Annual Historical Report, AMC LAO, CY 92 (6 pgs).

CCC. DETACHMENT 1, 14TH FLYING TRAINING WING (ATC)

1. Annual Historical Report, Det. 1, 14th Flying Training Wing, 8 Feb 93 (6 pgs).
2. ATC Form 45, Unit Historical Data Report, 1 Jul to 31 Dec 93, Det. 1, 14th Flying Training Wing, Ft. Rucker (15 pgs).
3. ATC Form 45, Unit Historical Data Report, 1 Jan to 30 Jun 93, Det. 1, 14th Flying Training Wing, Ft. Rucker (25 pgs).

DDD. U.S. ARMY DENTAL ACTIVITY

1. Memo, Capt. Jesse L. Tucker to Aviation Branch Historian, (1 Mar 93), subj: Staff Historical Reports for FY 1993 Annual Command History (2 pgs).
2. Memo, Capt. Jesse L. Tucker to Command Historian, 25 Apr 94, subj: 1993 Annual Command History – Staffing (3 pgs).

EEE. WARRANT OFFICER CAREER COLLEGE

1. Annual Historical Report, WOCC, CY 92 (5 pgs).
2. Memo, CW5 David E. Helton to Cdr USAAVNC (ATZQ-MH), 22 Feb 94, subj: Historical Report (5 pgs).
3. Memo, Gen. Gordon R. Sullivan to distr, 27 Feb 92, subj: Warrant Officer Leader Development Action Plan (WOLDAP) (52 pgs).
4. "Warrant Officer Leader Development Action Plan (WOLDAP) (Feb 92)", (50 pgs).
5. "Application and Program Guide, Warrant Officer Flight Training", Fall 1993 (60 pgs).
6. "Personnel Plan and Career Guide, Aviation Warrant Officer", (Fall 1992) (56 pgs).
7. Memo, WOCC Historical Officer to USAAVNC Historian, subj: Request for Additional Historical Information (9 pgs).
8. Permanent Orders 168-01, 1st Warrant Officer Company Warrant Officer Career Center (Provisional) (QOU934), 27 Aug 92 (1 pg).
9. Permanent Orders 152-05, B Company, 1st Battalion, 145th Aviation Regiment, 12 Jul 92 (1 pg).
10. Memo, Maj. Gen. John D. Robinson to Lt. Gen. Wilson A. Shoffner, 25 Feb 94, subj: Implementation of the Warrant Officer Leader Development Plan (WOLDAP) (2 pgs).
11. Memo, Brig. Gen. William J. Bolt to Cdr USAAVNC (ATZQ-RFM), 28 Feb 94, subj: Abbreviated Concept Plan -- Warrant Officer Career Center (WOCC) (1 pg).
12. Roster of Positions by Grade and MOS, Warrant Officer Career Center, 1 Oct 95 (2 pgs).
13. Memo, CW5 David E. Helton to distr, 1 Jan 93, subj: Assumption of Command, 1 Jan 93 (2 pgs).
14. Memo, Col. Robert N. Seigle to distr, 31 Aug 92, subj: Memorandum of Instruction for Establishment of the Warrant Officer Career Center (6 pgs).
15. Memo, CW5 David E. Helton to DRM (FMD), 15 Jan 93, subj: 0294 TDA (2 pgs).
16. Fact Sheet, ATZQ-WCC, 20 Jan 93, subj: Implementation of the Warrant Officer Leader Development Action Plan (WOLDAP) (3 pgs).
17. Memorandum of Understanding Total Officer Warrant Officer Career Center and Directorate of Training and Doctrine, 12 Jan 93, subj: Delineation of Responsibilities Between the Warrant Officer Career Center and Directorate of Training and Doctrine (7 pgs).
18. Executive Summary, subj: Concept Plan to Organize the Warrant Officer Career Center (WOCC) as a Stand-Alone Tenant Unit at Fort Rucker (13 pgs).

FFF. CHAPTER I FILE

1. Article, "Goodbary Pins on Second Star", Army Flier, 4 Jun 93.
2. Article, "Fort Rucker Honors Deputy Commander", Army Flier, 9 Jul 93.
3. Article, "Riggs Named New Post DCG", Army Flier, 4 May 93.
4. News Release, USAAVNC, No. 93/84, 3 May 93, "BG Riggs to be Rucker DCG".

5. E-Mail, HACKLEL to XO/Ops Personnel, 27 May 93, subj: BG Goodbary's Signature Block (1 pg).
6. E-Mail, HACKELL to All Cdrs/Dirs, 21 Jun 93, subj: MG Goodbary and OER's (1 pg).
7. E-Mail, HACKLEL to XO/Ops Personnel, 2 Jun 93, subj: In Briefs for the new DCG (1 pg).
8. E-Mail, HACKLEL to XO/Ops Personnel, 12 Apr 93, subj: Signature Block for USAAVNC Chief of Staff (1 pg).
9. E-Mail, GARRETTT to All CDRS/DIRS, 6 Apr 93, subj: Honoring the Chief of Staff (1 pg).
10. Program, "Honor Eagle Ceremony", 23 Apr 93.
11. E-Mail, GARRETTT to All Cdrs/Dirs, 9 Apr 93, subj: DAC Absence (1 pg).
12. Command Group Personnel Roster, 19 Aug 93 (5 pgs).
13. E-Mail, DAWKINSL to All Cdrs/Dirs, 13 Apr 93, subj: Assumption of Deputy Assistant Commandant (DAC) Duties (1 pg).
14. Program, "Farewell Luncheon in Honor of Colonel and Mrs. Charles Burke", 3 Dec 93.
15. E-Mail, MASSENGC to All Cdrs/Dirs, 2 Mar 93, subj: Assignment of Col. William E. Miller, Jr., as DAC-R (1 pg).
13. Command Group Personnel Roster, 6 May 93 (5 pgs).
14. Program, Monthly Review for May, 26 May 93 (19 pgs).
15. E-Mail, CLARKB to all CDRS/DIRS, 27 May 93, subj: Garrison Commander Responsibilities (1 pg).
16. E-Mail, HACKLEL to XO/Ops Personnel, 10 Jun 93, subj: Military Awards Board (1 pg).
17. E-Mail, HACKLEL to All Cdrs/Dirs, 14 Sep 93, subj: New USAALS CDR/AC (1 pg).
18. 1993 Draft, Organization and Function Manual, USAAVNC (15 pgs).
19. E-Mail, MEOLAM to All Cdrs/Dirs, 21 Oct 93, subj: Farewell (1 pg).
20. E-Mail, GARRETTT to All Cdrs/Dirs, 14 Dec 93, subj: Formation of the DOTDS (1 pgs).
21. E-Mail, SMITHA to XO/Ops Personnel to 16 Nov 93, subj: Defense Civilian Pay System (1 pg).
22. Article, "Rucker: New Home for All Rotary Wing Students", Army Flier, 30 Apr 93.
23. Memo, Maj. Gen. John P. Herrling to distr, 30 Mar 93, subj: Memorandum of Instruction (MOI) for Developing Base Realignment and Closure (BRAC-93) Plans (10 pgs).
24. Article, "Aviation Brigade Commanders Attend Rucker Conference", Army Flier, 10 Dec 93.
25. E-Mail, THOMSONR to All Cdrs/Dirs, 7 Oct 93, subj: 1993 Aviation Trainers' Conference (1 pg).
26. Program, "Fighting Army Aviation Across the Continuum", AAAA Convention, 31 Mar 93.
27. E-Mail, GERHARDW to XO/Ops Personnel, 10 Sep 93, subj: HELMOT VI Conference (1 pg).
28. Program, "Aviation Branch Ball", 27 Mar 93.
29. Program, "Hispanic American Heritage Month Luncheon", 28 Sep 93.

30. E-Mail, AHEARDN to All Cdrs/Dirs, 28 Oct 93, subj: Col. Cordrey Order of St. Michael Award (1 pg).
31. Program, "TH-67 Arrival Ceremony", USAAVNC, 15 Oct 93.
32. Article, "Post Plans TH-67 Arrival Ceremony", Army Flier, 8 Oct 93.
33. Program, "Building Dedication Ceremony, Conrad Safety Complex", 3 Jun 93.
34. Article, "Building Memorializes Safety Pioneer", Army Flier, 11 Jun 93.
35. Article, "Safety Center Plans Renaming Dedication", Army Flier, 12 May 93.
36. Memo, Maj. Gen. John D. Robinson to distr, 22 Apr 93, subj: Asian/Pacific American Heritage Month (1 pg).
37. Memo, Maj. Gen. John D. Robinson to distr, 19 Feb 93, subj: Women's History Month – March 1993.
38. E-Mail, ACCINELS to All Cdrs/Dirs, 15 Jan 93, subj: 1993 Aviation Branch Anniversary Ball, Change 2 (1 pg).
39. Memo, Maj. Gen. John D. Robinson to distr, 11 Jan 93, subj: Black History Month – February 1993 (1 pg).
40. E-Mail, PERRYJ to All Cdrs/Dirs, 19 Jan 93, subj: Black History Month, Feb 93, Activities (2 pgs).
41. Memo, Lt. Col. Errol C. Pratt to distr, 6 Jan 93, subj: Black History Month Training/Education (1 pg).
42. Article, "Chief of Staff Retires with Honor", Army Flier, 30 Apr 93.
43. E-Mail, SWANKD to All Cdrs/Dirs, 1 Jul 93, subj: Honor Eagle for BG Riggs (1 pg).
44. Program, "511th Infantry Regiment Activation Ceremony", 4 Jun 93.
45. Article, "Infantry Unit Reactivates", Army Flier, 11 Jan 93.
46. E-Mail, VICKERSM to All Cdrs/Dirs, 8 Feb 93, subj: 1993 National Prayer Breakfast Observance (1 pg).
47. E-Mail, SEIGLER to All Cdrs/Dirs, 26 Jan 93, subj: AUSA Luncheon/Membership Drive Kickoff, 5 Feb 93.
48. Article, "Army Chief of Staff Visits Fort Rucker", Army Flier, 3 Dec 93.
49. Article, "Sullivan Praises Soldiers for Dedication", Army Flier, 12 Feb 93.
50. E-Mail, GERHARDW to All Cdrs/Dirs, 19 Jan 93, subj: Upcoming VIP Visits to Ft Rucker (CAS) (1 pg).
51. Article, "Army Chief of Staff to Speak", Army Flier, 5 Feb 93.
52. E-Mail, "GERHARDW to All Cdrs/Dirs, 20 Jan 93, subj: CAS Itinerary (3 pgs).
53. Article, "Sergeant Major of the Army Visits Rucker", 5 Nov 93.
54. E-Mail, GARRETTT to All Cdrs/Dirs, 24 Apr 93, subj: F4 Visit Postponed (1 pg).
55. E-Mail, MACKC to All Cdrs/Dirs, 7 Apr 93, subj: Gen. Franks' Visit 26-27 Apr (1 pg).
56. Article, "Gen. Franks Visits Rucker", Army Flier, 7 May 93.
57. E-Mail, GARRETTT to All Cdrs/Dirs, 7 Oct 93, subj: Visit by LTG Miller (1 pg).
58. E-Mail, HACKLEL to All Cdrs/Dirs, 13 Sep 93, subj: Chance of Command at CAC (1 pg).

59. E-Mail, CLARKB to All Cdrs/Dirs, 3 Mar 93, subj: Multinational European Division Briefing (1 pg).
60. E-Mail, PATTONW to All Cdrs/Dirs, 20 Jan 93, subj: Visit of MG Hurley (Hq ACC/XP) (1 pg).
61. Article, "Rucker Wins Most Improved Installation", Army Flier, 8 Oct 93.
62. Article, "TRADOC Nominates Rucker for Award", Army Flier.
63. E-Mail, ROBINSON to All Cdrs/Dirs, 30 Jun 93, subj: Rucker Competition (1 pg).
64. E-Mail, GARRETTT to All Cdrs/Dirs, 29 Nov 93, subj: CAS Luncheon/Parker Award Ceremony (1 pg).
65. Article, "Aviation Battalion Receives Parker Award", Army Flier, 3 Dec 93.
66. Article, "Aviation's Best Accept AAAA/ATC Awards", Army Flier, 10 Dec 93.
67. E-Mail, LEVIAP to All Cdrs/Dirs, 7 Feb 93, subj: 1993 NCO and Soldier of the Year (1 pg).
68. Article, "Fort Rucker Transition NCO Wins Recruiter of the Year", Army Flier, 14 Jan 93.
69. Draft (2 disks), Organization and Functions Manual.

GGG. CHAPTER II FILE

1. CY 93 Graduates (2 pgs).
2. Article, "New Training Introduces WOCs to Warfare", Army Flier, 5 Feb 93.
3. Article, "Outgoing Commander Meets Press", Army Flier, 23 Jul 93.
4. Article, "Warrant Officer Career Center Introduces New Staff Course", Army Flier, 5 Oct 93.
5. Article, "Army Combat Engineer Unit To Leave on Colombia Mission", Washington Post, 19 Dec 93.
6. Article, "Air Traffic Controllers to Receive New Simulators", Army Flier, 23 Apr 93.
7. E-Mail, CLARKB to XO/Ops Personnel, 6 Jan 93, subj: CS Sends: FY 93 Reductions to Flight Training (2 pgs).
8. Memorandum for Record, 16 Feb 93, subj: School Board Meeting (5 pgs).
9. E-Mail, PENNYP to All Cdrs/Dirs, 9 Apr 93, subj: Possible Tests in AVTB (3 pgs).
10. Memo, Col. Robert N. Seigle to distr, 4 Jan 93, subj: Command Aviation Officer (CAO) Policy, Aircrew Training Program Requirements for Aircrew Training Manual (ATM) Staff Aviators (2 pgs).
11. E-Mail, WACHUTKS to All Cdrs/Dirs, 26 Jan 93, subj: 46th Engineer's External Evaluation (1 pg).
12. E-Mail, ROBINSON to All Cdrs/Dirs, 30 Jan 93, subj: Avn Logistics Conference (2 pgs).
13. E-Mail, SEIGLER to All Cdrs/Dirs, 25 Feb 93, subj: TRADOC Chief of Staff Conference Notes (2 pgs).
14. E-Mail, CLARKB to All Cdrs/Dirs, 3 Mar 93, subj: CAS Trip Report - Fort Rucker, Alabama (4 pgs).

HHH. CHAPTER III FILE

1. Article, "Defense Bill Raises Future Force Concerns", Aviation Week and Space Technology, 15 Nov 93.

2. Article, "Production of Apache Line To Be Cut Back 40% by 1995", Wall Street Journal, 9 Sep 93.
3. Article, "Apache Crew Fires Milestone Hellfire Missile", Army Flier, 15 Oct, 93.
4. Article, "Future Attack Helicopter Makes Debut", Army Flier, 29 Oct 93.
5. "Apache Newsletter Issue #13" (Mar 93) (30 pgs).
6. Article, "E Troop Prepares for Deployment", Army Flier, 27 Aug 93.
7. Article, "E Troop Finishes Kiowa Training", Army Flier, 19 Nov 93.
8. Article, "2-229th Receives Two Improved Kiowas", Army Flier, 26 Mar 93.
9. The Comanche Courier, Issue 3, May 93 (2 pgs).
10. The Comanche Courier, Issue 4, Jun 93 (2 pgs).
11. The Comanche Courier, Volume 1, Number 5 (2 pgs).
12. Article, "The Choppy World of Army Aviation", Air Force Magazine, Jan 94 (5 pgs).
13. Note, Col. Bud Droke to Cdr, USAAVNC, 28 Mar 94, subj: Directorate Command History Report Input (19 pgs).
14. Article, "Woman Qualified for Combat Battalion", Army Flier, 25 Jun 93.
15. E-Mail, GARRETTT to All CDRS/DIRS, 10 May 93, subj: Rumor Control (1 pg).
16. Article, "Pentagon To Strip State of Helicopters", Orange Country Register, 25 Jan 94.
17. Article, "U.S. Will Cut Guard and Reserves by 127,300", New York Times, 12 Dec 93.
18. Article, "Pentagon Plan Would Cut Reserve", Washington Post, 11 Dec 93.
19. Article, "Senators Champion Black Hawk Program", Hartford Courant, 14 Dec 93.
20. Article, "Army Buys Planes Purchasing Aide Refused to Sign For", Washington Times, 5 Dec 93.
21. E-Mail, ROBINSON to All Cdrs/Dirs, 25 Nov 93, subj: PM, ALSE (1 pg).
22. E-Mail, DUCKT to All Cdrs/Dirs, 27 Jan 93, subj: Refitting UH-1 Helicopters with T800 Engines (1 pg).
23. E-Mail, MARQUETR to XO/Ops Personnel, 6 May 93, subj: Operation Restore Hope Lessons Learned OPD (1 pg).
24. Memo, Col. Thomas W. Garrett to distr, 6 May 93, subj: SPH-4 Problem Fit Program (PFP) (1 pg).
25. E-MAIL, HOLLANDK to XO/Ops Personnel, 2 Jun 03, subj: Award of the Armed Forces Expeditionary Medal - Somalia (1 pg).
26. Memo, Maj. Gen. John D. Robinson to Cdr TRADOC (ATTN: ATCD-ET), 20 Apr 93, subj: High Capacity Air Ambulance (HCAA) Mission Need Statement (MNS) (10 pgs).
27. Memo, Maj. Gen. John D. Robinson to Maj. Gen. Larry G. Lehowicz, Deputy Chief of Staff for Combat Developments, TRADOC, 20 Apr 93, subj: Operational Needs Statement (ONS) for the Flight Data Recorder (FDR) (7 pgs).
28. Memo, Lt. Col. Jesse M. Danielson to PMO, DCD, 28 Jun 93, subj: Annual Historical Report (3 pgs).

29. Briefing, "Army Aviation in the Combined Arms Team: Army Aviation Modernization Plan Briefing" (Jan 93) (52 pgs).
30. E-Mail, HARTG to All Cdrs/Dirs, 12 Jul 93, subj: Public Affairs Guidance -- Response to Queries on NTH Program (1 pg).
31. Article, "Army Aviation's Role in the Future Defined Through Battle Labs", Army Flier, 8 Jan 93.
32. E-Mail, ROBINSON to All Cdrs/Dirs, 23 Jul 93, subj: VTC with Dr. Perry and Gen. Franks (1 pg).
33. Memo, Col. Thomas W. Garrett to distr, 28 Jul 93, subj: Aviation Restructure Initiative (ARI) Implementation Team (1 pg).
34. E-Mail, GARRETTT to All Cdrs/Dirs, 29 Jul 93, subj: DIS Educational Workshop Attendees (2 pgs).
35. "Aviation Restructure Initiative" (May 93) (63 pgs).
36. Article, "TH-67 Creek to Become Fort Rucker Core Trainer", Army Flier, 1 Oct 93.
37. Article, "Joint Effort Makes Apache Simulator A Virtual Reality", Army Flier, 8 Oct 93.
38. Article, "New Training Helicopter, TH-67 Creek Arrives", Army Flier, 22 Oct 93.
39. Article, "Shali Voices Concerns on Separate Commands", Army Times, 4 Oct 93.
40. Article, "Firefighters Return Early from Mogadishu to Enjoy Holidays", Army Flier, 14 Jan 94.
41. Report, "State of America's Army on its 218th Birthday" (14 pgs).

III. CHAPTER IV FILE

1. Memo, Col. Russell E. Adams to distr, 18 Aug 93, subj: Army Aviation Standardization Program Process Action Team (PAT) (1 pg).
2. Memo, Col. Robert B. Gatlin to distr, 10 Feb 93, subj: Minutes of the Environmental Quality Control Committee Meeting (14 pgs).
3. E-Mail, ROSENBEL to All Cdrs/Dirs, 2 Mar 93, subj: Milestone Schedule as of 2/26/93 (2 pgs).
4. E-Mail, ROSENBEL to All Cdrs/Dirs, 22 Apr 93, subj: VSIP Update (1 pg).
5. E-Mail, ROSENBEL to All Cdrs/Dirs, 10 May 93, subj: VSIP/VERA/RIF (1 pg).
6. E-Mail, ROSENBEL to All Cdrs/Dirs, 17 May 93, subj: Civilian Reduction in Force Notices (3 pgs).
7. E-Mail, ROSENBEL to All Cdrs/Dirs, 3 Jun 93, subj: VSIP Extension (1 pg).
8. E-Mail, ROSENBEL to All Cdrs/Dirs, 25 Jun 93, subj: Important Stuff Update (1 pg).
9. E-Mail, ROSENBEL to All Cdrs/Dirs, subj: Major Changes (2 pgs).
10. E-Mail, ROSENBEL to All Cdrs/Dirs, subj: FY95 Bogey and Other Stuff (2 pgs).
11. E-Mail, ROSENBEL to All Cdrs/Dirs, subj: Draft for PROFS Msg to Cdrs/Dirs (1 pg).
12. Article, "Raise Set for Federal Workers As Clinton Signs Locality Pay", Washington Post, 2 Dec 93.

13. Article, "U.S. Helicopter Force Maintains 'Eyes Over Mogadishu'", Washington Post, 19 Oct 93.
14. Article, "Fears of Somalia Disaster Increase as Peace Force Dwindles", Los Angeles Times, 26 Jan 94.
15. Memo, Maj. Gen. John D. Robinson to distr, 4 Jan 94, subj: Commanding General's Policy on Sexual Harassment (1 pg).
16. Article, "Soldiers Receive Awards for Somali Efforts", Army Flier, 11 Feb 94.
17. Article, "Motor Vehicle Accidents on the Rise", Army Flier, 11 Feb 94.
18. Memo, Lynden H. Rosenberry to Performance Management and Recognition System Employees, 22 Oct 93, subj: Termination of the Performance Management and Recognition System (PMRS) (1 pg).
19. E-Mail, GARCIAF to XO/Ops Personnel, 6 Jan 93, subj: Quality Time Management (1 pg).
20. Memo, Maj. Gen. John D. Robinson to distr, 4 Jan 93, subj: Corrective Action of U.S. Army Audit Agency Tentative Finding and Recommendations (TFAR) A, Audit of Information Planning and Data Processing Activity (1 pg).
21. Memo, Col. Robert N. Seigle to distr, 4 Jan 93, subj: Installation Bio-Chemical Testing Program (1 pg).
22. Memo, Col. Robert N. Seigle to distr, 4 Jan 93, subj: News Media Activities at Accident Sites (2 pgs).
23. Memo, Col. Robert N. Seigle to distr, 4 Jan 93, subj: Installation Position for Staffing Manpower Staffing Standard Studies (2 pgs).
24. E-Mail, SWANKD to All Cdrs/Dirs, 14 Jan 93, subj: New Somalia Taskings (2 pgs).
25. E-Mail, ROBINSON to All Cdrs/Dirs, 21 Jan 93, subj: Call from Col. Dallas – Somalia (1 pg).
26. E-Mail, HARRISJ to All Cdrs/Dirs, 25 Jan 93, subj: Allegation of Sexual Harassment (1 pg).
27. Article, "CSS Officers' Career Field Approved", Army Flier, 29 Jan 93.
28. Article, "SCLC: Bias Claims Made at Fort Rucker", Army Flier, 31 Jan 93.
29. E-Mail, ROBINSON to All Cdrs/Dirs, 11 Feb 93, subj: Safety Update (1 pg).
30. Memo, Lynden H. Rosenberry to distr, 9 Feb 93, subj: High Grade Management (1 pg).
31. E-Mail, CLARKB to All Cdrs/Dirs, 12 Mar 93, subj: Mandatory EEO Meeting with CG (1 pg).
32. E-Mail, HELTOND to All Cdrs/Dirs, 19 Mar 93, subj: Senior Rater Comments (1 pg).
33. Memo, Col. Robert N. Seigle to distr, 8 Feb 93, subj: Complaints of Discrimination by Civilian Employees (1 pg).
34. Memo, Col. Robert N. Seigle to distr, 8 Feb 93, subj: Payments for Equal Employment Opportunity (EEO) Complaints Processing (1 pg).
35. Memo, Col. Robert N. Seigle to distr, 10 Mar 93, subj: Budgetary Procedures for the Fight Training Accounts (814741 and 814743) (4 pgs).
36. Article, "Two Helicopter Accidents at Rucker", Army Flier, 12 Feb 93.
37. Article, "Post Adopts New Living Concept", Army Flier, 26 Mar 93.
38. Memo, Peter C. Polivka to distr, 18 Mar 93, subj: Fiscal Year 1993 Procurement Cut-off Dates (5 pgs).

39. Information Paper, HSDS, 18 Feb 93, subj: Other Than Active Duty (OTAD) Dental Care Policy (1 pg).
40. Memo, Maj. Gen. John D. Robinson to distr, 2 Apr 93, subj: Commanding General's Equal Opportunity (EO) Program (1 pg).
41. Memo, Peter C. Polivka to distr, 8 Apr 93, subj: Fiscal Year 1993 Procurement Cut-Off Dates (5 pgs).
42. Memo, Col. Robert N. Seigle to distr, 26 Mar 93, subj: Hiring and Promotion Freeze (1 pg).
43. E-Mail, FERNANDO to All Cdrs/Dirs, 20 Apr 93, subj: Aviation Safety (2 pgs).
44. E-Mail, HELTOND to KITCHENJ, 9 Apr 93, subj: 3 Questions (1 pg).
45. Memo, John T. Persch to distr, 20 Apr 93, subj: Change to the Commanding General's Aviation Accident Prevention Plan (2 pgs).
46. Article, "Army Not Retaliating for Complaints of Bias, Fort Rucker Officers Say", Montgomery Advertiser, 2 May 93.
47. E-Mail, HARTG to All Cdrs/Dirs, 28 Apr 93, subj: Women in Combat (4 pgs).
48. E-Mail, POLIVKAP to All Cdrs/Dirs, 13 May 93, subj: Contract for Refueling/Defueling Service (1 pg).
49. Memo, Col. Thomas W. Garrett to distr, 28 Apr 93, subj: Moratorium on Telephone Moves and Relocations (1 pg).
50. Article, "Apache Accident", Army Flier, 12 May 93.
51. E-Mail, PERSCHJ to All Cdrs/Dirs, 10 Jun 93, subj: Memorandum of Instruction (MOI) for the United States Army Aviation Center (USAAVNC) Aviation Safety Day, 21 June 1993 (4 pgs).
52. Memo, Col. David W. Swank to distr, 10 Jun 93, subj: Memorandum of Instruction (MOI) for the United States Army Aviation Center (USAAVNC) Aviation Safety Standdown Day, 21 June 1993 (4 pgs).
53. Article, "1-212th Receives Bronze Safety Award", Army Flier, 10 Sep 93.
54. Article, "Aviation Branch Steps Up Recruiting of Minorities", Army Flier.
55. E-Mail, POLIVKAP to All Cdrs/Dirs, 24 Sep 93, subj: Aircraft Maintenance Contract (1 pg).
56. Article, "Chapel of Flags Closes, History Carries On", Army Flier, 1 Oct 93.
57. Article, "UNC Reaches Safety Milestone", Army Flier, 8 Oct 93.
58. Article, "Phone Switch, 56-Year Leap in Technology", Army Flier, 15 Oct 93.
59. Article, "New Phone System Ready to Ring Soon", Army Flier, 12 Nov 93.
60. Memo, Maj. Gen. John D. Robinson to distr, 4 Nov 93, subj: Aviation Safety in FY 94 (3 pgs).
61. E-Mail, LEAVISG to All Cdrs/Dirs, 16 Nov 93, subj: Closing of SSSC Store (1 pg).
62. E-Mail, GARRETTT to All Cdrs/Dirs, 30 Nov 93, subj: Major's Promotion List (1 pg).
63. Memo, Maj. Gen. John D. Robinson to distr, subj: Equal Employment Opportunity – Affirmative Employment (EEO-AE) (1 pg).
61. Article, "DynCorps Wins Pact Again for Army Aviation", Washington Times, 28 Sep 93.
62. Article, "CFC Closes Out in 1993", Army Flier, 10 Dec 93.

63. Memo, Maj. Gen. John D. Robinson to distr, 1 Dec 93, subj: Environmental Compliance Assessment System (1 pg).
64. E-Mail, GATLINR to All Cdrs/Dirs, 1 Dec 93, subj: Purchase of Hazardous Waste Minimization Equipment (1 pg).
65. E-Mail, ROSENBEL to All Cdrs/Dirs, 13 Jan 93, subj: TAPES Training (1 pg).
66. E-Mail, ROSENBEL to All Cdrs/Dirs, 27 Jan 93, subj: TAPES Train the Trainer Training (2 pgs).
67. E-Mail, DUFFYL to XO/Ops Personnel, 28 Jul 93, subj: TAPES Implementation (1 pg).
68. Memo, Col. Thomas W. Garrett to distr, 30 Nov 93, subj: FY 94 Civilian Incentive Awards Policy (3 pgs).
69. Article, "Highest Honor for Heroes in Somalia", Army Flier, 19 May 94.
70. Article, "Directorate of Civilian Personnel Examines QSIs", Army Flier, 17 Dec 93.
71. "Aviation Operations," manuscript prepared by Capt. Jeffrey Mowrey for Army Center for Lessons Learned, no date.

JJJ. APPENDIX FILE

1. Warrant Officer Career Center Operations and Function Manual (DRAFT) (4 pgs).
2. Article, "Initial Entry Student Coord. Returns in Wings", Army Flier, 30 Apr 93.
3. Article, " Director Moves on After 29 Years", Army Flier, 25 Jun 93.
4. Invitation, Change of Command Ceremony - 1st Aviation Brigade, 1 July 93.
5. E-Mail, AHERND to All Cdrs/Dirs, 9 Jul 93, subj: New TRADOC System Manager OH-58D Kiowa Warrior.
6. Program, Change of Command, School of the America's School Battalion, 9 Jul 93.
7. Article, "1st Aviation Brigade Salutes New Commander", Army Flier, 9 Jul 93.
8. E-Mail, SAYLESJ to XO/Ops Personnel, 2 Aug 93, subj: New Director of Evaluation and Standardization (1 pg).
9. Article, "Aviation Training Brigade Changes Command", Army Flier, 6 Aug 93.
10. Article, "Garrett to Pin on First Star", Army Flier, 22 Oct 93.
11. E-Mail, DUCKT to All Cdrs/Dirs, 30 Nov 93, subj: LTC Grant Promotion (1 pg).
12. E-Mail, HACKLEL to XO/Ops Personnel, 13 Dec 93, subj: Change of USAAVNC DCS (1 pg).
13. E-Mail, GATLINR to All Cdrs/Dirs, 5 Oct 93, subj: Directorate of Public Works (1 pg).
14. E-Mail, AHERND to All Cdrs/Dirs, 14 Sep 93, subj: Change of Office Symbol (1 pg).
15. E-Mail, ROUNDINB to All Cdrs/Dirs, 14 Oct 93, subj: BG Selection Board Results – Aviation (1 pg).

KKK. HISTORIAN NOTE FILE

1. Offsite Briefing Notes (Handwritten), 8 Oct 93, Cdr/Dirs Meeting (3 pgs).
2. Commanders and Staff Meeting Notes (Handwritten), 24 Mar 93 (4 pgs).

3. Commanders and Directors Meeting Notes (Handwritten) -- Commander's Update, 13 Dec 93 (4 pgs).
4. Review and Analysis Meeting Notes, 29 Nov 93 (2 pgs).
5. Third Quarter Review Meeting -- USAAVNC and Ft. Rucker, 8 Nov 93 (4 pgs).
6. Briefing Slides, "Aviation Branch Briefing" (18 pgs).
7. E-Mail, CLARKB to All Cdrs/Dirs, 14 Jun 93, subj: Bullets from CG's Staff Meeting (14 Jun 93) (1 pg).
8. Commanders/Directors Meeting Notes, 25 May 93 (5 pgs).
9. E-Mail, CLARKB to All Cdrs/Dirs, 18 May 93, sub: Commanders/Directors Meeting, 25 May (1 pg).
10. Notes, 25 May Commanders/Directors (Handwritten) (13 pgs).
11. MWR Overview (as of 30 Apr 93) (5 pgs).
12. E-Mail, CLARKB to All Cdrs/Dirs, 17 May 93, subj: Bullets from CG's Staff Meeting - 17 May 93 (2 pgs).
13. E-Mail, CLARKB to All Cdrs/Dirs, 7 Jun 93, subj: Bullets from CG's Staff Meeting, 7 Jun 93 (1 pg).
14. E-Mail, CLARKB to All Cdrs/Dirs, 24 May 93, subj: Bullets from CG's Staff Meeting - 05/24/93 (2 pgs).
15. Commanders/Directors Meeting Notes, Brigade Commander's Conference, 3 Dec 93 (2 pgs).
16. Aviation Overview Briefings, Various Subjects (no date) (14 pgs).

LLL. 1992 AVIATION BRIGADE COMMANDERS' CONFERENCE FILE

1. Briefing Slides, 1993 Aviation Brigade Commander's Conference (BCC '93), 30 Nov - 3 Dec, "Aviation . . . Advancing on the 21st Century" (7 pgs).
2. Briefing Slides, "Aviation Brigade Commander's Conference, 1-3 Dec 93" (22 pgs).
3. Briefing Slides, "Task Force Raven" (29 pgs).
4. Memo, Lt. Col. Richard A. Scales for 1993 Brigade Commander's Conference Attendees, 19 Nov 94, subj: Aviation Restructure Initiative (2 pgs).
5. Briefing Slides, "Enlisted Initiatives" (5 pgs).
6. Fact Sheet, ATZQ-ESF, 16 Nov 93, sub: Night Vision Goggles (NVG) Standardization (1 pgs).
7. Information Sheet, ATZQ-ATB-NS, 9 Nov 93, subj: Night Vision Device Branch (NVOS) Update (3 pgs).
8. Synopsis of Significant Items in Current NVS Messages, 20 Sep 93 (2 pgs).
9. "Nightfax" (Apr 93) (8 pgs).
10. Fact Sheet, ATZQ-ESF, 16 Nov 93, subj: Army Aviation Streamlining Efforts and Proposed Implementation (46 pgs).
11. Draft, "The Aviation Tactical Operations Center (AVTOC) Employment Concept" (9 pgs).
2. Information Paper, NGB-OSA, 19 Nov 93, sub: Army National Guard Assumption of the Operational Support Airlift Mission (3 pgs).

13. Briefing Slides, "Army Airspace Command and Control" (19 pgs).
14. Briefing Slides, "Aviation Warfighting" (24 pgs).
15. Briefing Slides, "Army Combat Search and Rescue" (14 pgs).
16. Briefing Slides, "Gunnery" (24 pgs).
17. "Warrant Officer Flight Training: Appreciation and Program Guide" (Fall 93) (60 pgs).
18. "Aviation Warfighting Treatise USAAVNC" (Aug 93) (24 pgs).
19. Handwritten Notes (Dr. Kitchens), 1993 Brigade Commanders Conference (7 pgs).
20. Warrant Officer Newsletter, May-Aug 93 (7 pgs).
22. Memo, Col. Albert L. Patterson III to distr, subj: Review of Final Draft, Field Manual (FM) 1-104, Tactics, Techniques, and Procedures for Forward Arming and Refueling Points (2 pgs).
23. Briefing Slides, "Operation and Maintenance Funding Posture" (19 pgs).
24. Field Manual (FM) 1-104, Final Draft, Tactics, Techniques, and Procedures for Forward Arming and Refueling Points (Nov 93) (178 pgs).
25. Fact Sheet, ATZQ-ATB-NS, 23 Nov 93, subj: Crew Coordination Exportable Training Package (2 pgs).
26. Memo, Maj. Gen. John D. Robinson to distr, subj: Air Combat Operations Concept Paper (5 pgs).
27. "Air Combat Operations Concept Paper", (Dec 93) USAAVNC (100 pgs).
28. USAAVNC, "LNO Handbook" (96 pgs).
29. Memo, Maj. Gen. John D. Robinson to distr, 29 Nov 93, subj: Draft FM 1-140, Helicopter Gunnery (5 pgs).
30. Field Manual (FM) 1-140, Coordinating Draft, Helicopter Gunnery (Dec 93) (520 pgs).
31. Briefing Slides, "U.S. Army Aviation and Troop Command (ATCOM)" (43 pgs).
32. Briefing Slides, "U.S. Army Safety Center" (32 pgs).
33. Memo, Lt. Col. Robert L. Thomson to distr, 12 Nov 93, subj: Army Airspace Command and Control Concept (3 pgs).
34. TRADOC PAM 525-XXX, "U.S. Army Operational Concept for Army Airspace Command and Control (A2C2)" (26 pgs).
35. Msg, CINCUSAREUR (AEACC) to CSA WASHDC (DACS-ZA), 292015Z Nov 93, subj: Helicopter Gunnery (8 pgs).
36. Briefing Slides, "PEO Aviation Briefing" (41 pgs).
37. Brigade Commanders Conference (93), Point of Contact Roster (24 pgs).
38. Briefing Slides, "Combat Maneuver Training Center – Falcon Team", Warfighting Issues (11 pgs).
39. Memo, Lt. Col. Richard A. Scales to 1993 Brigade Commander's Conference Attendees, 19 Nov 93, subj: Aviation Restructure Initiative (2 pgs).
40. Army Aviation Warfighting Bulletin, USAAVNC, Dec 93 (4 pgs).

APPENDIX VI

LIST OF ACRONYMS

AAAA	Army Aviation Association of America
AAFES	Army and Air Force Exchange Service
ABHO	Aviation Branch History Office
ABLST	Aviation Battle Lab Support Team
ABSO	Aviation Branch Safety Office
ACAP	Army Career and Alumni Program
ACH	annual command history
ADEM	Alabama Department of Environmental Management
AG	adjutant general
AGES	air-to-ground engagement simulation
AMC	Army Materiel Command
AMC LAO	Army Materiel Command Logistic Assistance Office
APO	Aviation Proponency Office
ARCSA	Aviation Requirements for the Combat Structure of the Army
ARI	Aviation Restructure Initiative
ARIARDA	U.S. Army Research Institute Aviation Research and Development
ARNG	U.S. Army National Guard
ASET	aircraft survivability equipment trainer
ATAWS	Airborne Target Acquisition and Weapon System
ATB	Aviation Training Brigade
ATC	air traffic control
ATCOM	U.S. Army Aviation and Troop Command
ATTC	U.S. Army Aviation Technical Test Center
BASOPS	base operations
CAC	U.S. Army Combined Arms Center
CASCOM	Combined Arms Support Command
CG	commanding general
COEA	cost and operational effectiveness analysis
CY	calendar year
DA	Department of the Army
DAHT	Department of Attack Helicopter Training
DAST	Department of Aviation Systems Training
DATT	Department of Aviation Trades Training
DCA	Directorate of Community Activities
DCD	Directorate of Combat Developments
DCP	Directorate of Civilian Personnel
DCSOPS	deputy chief of staff for operations
DCSPER	deputy chief of staff for personnel
DEH	Directorate of Engineering and Housing
DENTAC	U.S. Army Dental Activity
DES	Directorate of Evaluation and Standardization
DOC	Directorate of Contracting
DOD	Department of Defense
DOE	Department of Energy

DOES	Directorate of Evaluation and Standardization
DOIM	Directorate of Information Management
DOL	Directorate of Logistics
DOS	Directorate of Simulation
DOT	Directorate of Training
DOTD	Directorate of Training and Doctrine
DOTDS	Directorate of Training, Doctrine, and Simulation
DOTS	Department of Tactics and Simulation
DPTMSEC	Directorate of Plans, Training, Mobilization, and Security
DPW	Directorate of Public Works
DRM	Directorate of Resource Management
EEO	Equal Employment Opportunity
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FM	field manual
FORSCOM	U.S. Army Forces Command
FTS	Flying Training Squadron
FY	fiscal year
GSA	General Services Administration
HQDA	Headquarters, Department of the Army
HSB	Helicopter School Battalion
IG	Office of the Inspector General
IRAC	Internal Review and Audit Compliance
JRTC	Joint Readiness Training Center
LD/PPO	Leader Development/Personnel Proponency Office
MEDEVAC	medical evacuation
MILES	multiple integrated laser engagement system
MOS	military occupation specialty
MPA	Military Police Activity
NATO	North Atlantic Treaty Organization
NCO	noncommissioned officer
NCOA	Noncommissioned Officer Academy
NTC	National Training Center
ODCSOPS	Office of the Deputy Chief of Staff for Operations
OMP/AG	Office of Military Personnel/Adjutant General
OSJA	Office of the Staff Judge Advocate
PAO	Public Affairs Office
PEO	program executive office

PERSCOM	U.S. Army Total Personnel Command
PMO	Program Management Office
RAH	reconnaissance attack helicopter
ROTC	Reserve Officer Training Corps
SCLC	Southern Christian Leadership Conference
SOA	U.S. Army School of the Americas
STRATA	simulator training research advanced test bed
STRICOM	Simulation, Training, and Instrumentation Command
TAPES	Total Army Performance Evaluation System
TEXCOM	U.S. Army Test and Experimentation Command
TDA	table of distribution and allowances
TECOM	U.S. Army Test and Evaluation Command
TOE	table of organization and equipment
TPO	TRADOC Project Office
TRADOC	U.S. Army Training and Doctrine Command
TSM	TRADOC Systems Manager
UCMJ	Uniform Code of Military Justice
USAALS	U.S. Army Aviation Logistics School
USAAMC	U.S. Army Aeromedical Center
USAAMTA	U.S. Army Aviation Maintenance Training Activity
USAARL	U.S. Army Aeromedical Research Laboratory
USAATCA	U.S. Army Air Traffic Control Activity
USAAVNC	U.S. Army Aviation Center
USACAC	U.S. Army Combined Arms Center
USACASCOM	U.S. Army Combined Arms Support Command
USAOMMCS	U.S. Army Ordnance, Missile, and Munitions Center and School
USAR	U.S. Army Reserve
USAREC	U.S. Army Reserve Command
USAREUR	U.S. Army Europe
USASAM	U.S. Army School of Aviation Medicine
USASC	U.S. Army Safety Center
USATCFE	U.S. Army Transportation Center and Fort Eustis
VERA	voluntary early retirement authority
VSIP	voluntary separation incentive pay
WOCC	Warrant Officer Career Center

APPENDIX VII

INDEX

- 1-10th Aviation Regiment 139, 171
- 1-11th Aviation Regiment 34, 138, 172
- 1-13th Aviation Regiment 21, 34, 50, 171
- 1-14th Aviation Regiment 44, 172
- 1-145th Aviation Regiment 21, 159, 171
- 1-223rd Aviation Regiment 43, 172
- 1-303rd Aviation Regiment 75, 76
- 10th Mountain Division 165
- 2-229th Attack Helicopter Regiment 52, 80-82, 84, 86, 87, 93, 164, 171
- 212th Aviation Regiment 33, 34
- 256th Signal Company 193
- 4-17th Cavalry 82
- 46th Engineer Battalion 26, 34, 147, 161, 164, 171
- 701C engine 79
- 8th Transportation Brigade 16-18
- 98th Army Band 139

- Aberdeen Proving Ground, Maryland 93
- additional skill identifier 50, 59, 135
- adjutant general 160, 180
- advanced individual training 41, 45, 51, 59
- advanced rotary wing aircraft program 103-106
- aeroscout observer 5, 29
- African-Americans (see blacks)
- air-to-ground engagement simulation (AGES) 111, 112
- AH-1 Cobra 3, 41-43, 61, 65, 67, 77, 92, 123, 131
- AH-1F 60, 61
- AH-64A 72, 79-81, 92, 100, 152 (see Apache)
- AH-64C 68, 78, 80 (see Apache)
- AH-64D 72, 78-80 (see Apache)
- Air Assault School 52
- airborne target hand-over system 82
- air combat 29, 74, 77, 176
- aircraft survivability equipment trainer (ASET) 49, 109, 110
- aircrew integrated helmet 98, 99
- aircrew protective mask 99, 115
- Air Force 1-4, 25, 26, 36, 46, 52, 56, 74, 85, 91, 93, 94, 102, 108, 114, 163, 176, 192
- airland battle 6
- airspace command and control 76, 136, 137
- air-to-air combat 29, 77
- air-to-air Stinger 81, 95

air traffic control (ATC) 5, 28, 33, 34, 50, 75-77, 96, 112, 113, 119, 130,
 136-138, 143, 146, 164, 172
 air traffic services 76, 136, 137
 alcohol/drug abuse 156, 179
 Anniston Army Depot, Alabama 24
 Apache 4, 44, 59, 64, 68, 78-82, 94, 99, 100, 102, 105, 107-109, 140, 153,
 164, 181
 Apache Training Brigade 44, 82
 Arapaho 113
 armed reconnaissance 44, 84, 105, 107
 Army Audit Agency 119
 Army Aviation Association of America (AAAA) 30, 33, 34, 83, 172
 Army Aviation School 2, 159
 Army Career and Alumni Program (ACAP) 160, 179
 Army Education Center 161, 176
Army Flier 11, 26, 29-35, 50, 57, 58, 72, 79, 82, 87, 88, 94, 104, 109, 125,
 131, 132, 135, 136, 139, 148, 153, 157, 158, 161, 162, 165,
 180, 190
 Army of Excellence 66, 67
 Army Transportation Center Noncommissioned Officer Academy 60
 Artillery Branch 1
 aviation battle dress uniform 115
 Aviation Battle Lab Support Team (ABLST) 71-75, 168
 Aviation Branch History Office (ABHO) 5, 161
 Aviation Branch Safety Office (ABSO) 145, 152, 153, 155, 156, 173
 aviation combined arms tactical trainer 103, 105-107
Aviation Digest 4, 139, 174
 aviation logistics 5, 6, 10, 14-17, 19, 29, 39, 59-61, 69, 113, 119, 135, 144,
 185, 186
 Aviation Logistics Conference 29
 Aviation Logistics Officer Advanced Course 61
 Aviation Logistics School 5, 6, 10, 39, 69, 185
 aviation logistics training 5, 10, 14-16, 19, 59, 119
 aviation maintenance 10, 16, 17, 21, 61, 69, 114, 135
 aviation modernization 6, 7, 11, 29, 65, 66, 81, 84, 92, 103
 Aviation Modernization Plan 6, 7, 29, 66, 81, 84, 92, 103
 aviation operations 21, 166
 Aviation Personnel Plan 133
 Aviation Planning Group 168
 Aviation Propensity Office (APO) 28, 131-135, 176
 Aviation Restructure Initiative (ARI) 10, 11, 29, 65-71, 103, 133, 140, 168
 Aviation Test Bed 8, 29, 49, 55, 73, 77, 103-105
 Aviation Training Brigade (ATB) 7, 8, 21, 34, 41-44, 51, 54, 82, 87, 138,
 153, 155, 171-173
 aviation training sites 48

Aviator Qualification Course 43, 46
 avionics 60, 77, 89-91, 96, 101, 104, 105, 110, 111
 awards 28, 30, 32-35, 43, 118, 124, 125, 141, 172, 175, 176, 179, 189

 base operations (BASOPS) 18, 24-27, 39-41, 119, 137
 battle dress uniform 115, 116
 battle laboratories 7, 8, 10, 22, 71-75, 105, 168
 battle rostering 163
 Bendix Field Engineering Corp. 141
 Black Employment Program 129, 176
 blacks 126-129
 Blair, Col. William J. 14, 31
 Bodelson, Col. Patrick J. 10
 boresight equipment 114
 Brigade Commanders' Conference 28, 29, 69
 Burke, Col. Charles M. 12, 20, 22, 39, 47, 48, 57, 71, 75, 169, 190

 C-12 43, 44, 77, 92
 C-23B Sherpa 92
 C-XX 78, 91, 92
 Camp Shelby, Mississippi 6, 159
 career management fields 10, 17, 59, 60, 132, 186
 CASCOM reorganization 15-19
 Cavalry Board 71
 CH-47D Chinook 3, 78, 90, 91, 92, 98, 100, 111, 152
 chief of staff of the Army 6, 23, 32, 33, 35, 48, 65, 67-69, 79, 86, 104, 128,
 129, 130, 154, 155, 191
 combat mission simulator 44, 46, 108, 109
 combat training centers 47, 103, 112
 combined arms tactical trainer 103, 105-107
 combined arms team 47, 63-65, 72, 96, 104
 command and control console 88
 command, control, and communications 96
 Command Group 10, 12, 120, 127, 168
 crew coordination 29, 35, 48, 108, 143, 145, 154-156, 163
 Cribbins, Joseph E. 34

 data automated tower 50, 108
 Department of Attack Helicopter Training (DAHT) 186
 Department of Aviation Systems Training (DAST) 61, 144, 186
 Department of Aviation Trades Training (DATT) 186
 Department of Defense (DOD) 2, 3, 23, 24, 26, 63, 79, 85, 86, 119, 129,
 131, 136-138, 145, 160, 178

Department of the Army (DA) 4-7, 10, 19, 22, 23, 32, 39, 48, 55, 80, 85,
 91, 97, 107, 120-122, 124, 127, 128, 129, 134, 142, 143, 145,
 155, 174

deputy chief of staff for operations (DCSOPS) 67, 69, 80, 88
 deputy chief of staff for personnel 134, 135, 191
 Desert Shield/Storm 6, 12, 28, 30, 50, 58, 66, 89, 97, 114, 138, 151
 Directorate of Civilian Personnel (DCP) 24, 120-125, 177
 Directorate of Combat Developments (DCD) 49, 64-75, 77-80, 85, 88, 89,
 91-102, 113-116, 135, 168, 185
 Directorate of Community Activities (DCA) 139, 151, 157, 162, 179, 180
 Directorate of Contracting (DOC) 43, 44, 140, 141, 145, 146, 179
 Directorate of Engineering and Housing (DEH) 25, 149, 161, 177, 178
 Directorate of Evaluation and Standardization-USAALS (DOES) 143
 Directorate of Information Management (DOIM) 136, 177
 Directorate of Logistics (DOL) 32, 87, 140-142, 148, 178, 179
 Directorate of Plans, Training, Mobilization, and Security (DPTMSEC) 19,
 27, 28, 40, 41, 43, 53, 56, 58, 151, 161, 175, 176
 Directorate of Resource Management (DRM) 15-17, 19-25, 27, 45, 46, 54,
 55, 118-122, 124, 140, 145, 147, 171, 175
 Directorate of Simulation (DOS) 8, 10, 20, 21, 34, 50, 51, 55, 97, 103-112,
 170
 Directorate of Standardization and Evaluation (DES) 142-145, 169, 185
 Directorate of Training and Doctrine (DOTD) 8, 20, 21, 27, 29, 39, 51, 54,
 57, 60, 61, 69, 76, 77, 139, 165, 169, 170, 185, 186
 Directorate of Training, Doctrine, and Simulation (DOTDS) 12, 21, 109, 170
 distributed interactive simulation 102-107
 drug abuse 156, 157, 179, 191
 dual-track training 40, 42
 DynCorp 140, 141

Eglin Air Force Base, Florida 52, 94
 EH-60 helicopter 97
 electronic warfare 50-52, 93, 96, 110
 enlisted training 13, 14, 21, 27, 35, 50, 51
 Environmental Protection Agency (EPA) 149, 151
 equal employment opportunity (EEO) 30, 126-130, 176

Federal Aviation Administration (FAA) 86, 137, 138
 Federal Women's Program 176
 females 130-133, 171, 191
 field artillery 74, 139
 Field Artillery School 1
 field training exercise 59
 Finch, Jr., Cmd. Sgt. Maj. Fredy 13

fire control radar 79, 80
flight data recorder 101
flight records 143
Flight Safety International 44, 111
flight simulator 44, 155
flight training 3, 7, 21, 29, 34, 39-41, 43, 44, 118, 119, 131-133, 140, 146,
153, 154, 157, 172
FM 1-107 77
FM 1-140 76
FM 100-5 63, 64
force design 63, 66-69
Fort Belvoir, Virginia 49, 65, 73
Fort Benning, Georgia 25, 72, 155
Fort Bragg, North Carolina 81, 108, 143, 144
Fort Campbell, Kentucky 33, 52, 74, 108, 109, 131, 154
Fort Eustis, Virginia 2, 5, 6, 10, 14-19, 21, 27-29, 45, 46, 59, 145, 146, 185
Fort Hood, Texas 33, 44, 52, 82, 87, 102, 143, 144
Fort Huachuca, Arizona 5, 33, 110
Fort Irwin, California 47, 110, 112
Fort Leavenworth, Kansas 68, 72, 137
Fort McClellan, Alabama 193
Fort Polk, Louisiana 26, 31, 137, 143, 144
Fort Rucker, Alabama 2, 3, 5-7, 12, 14-17, 19, 21-36, 39-41, 45-49, 51-55,
58, 68, 71, 75, 80, 83, 86, 87, 93, 94, 100, 104, 119-131, 133,
136, 138, 139, 140, 142, 144-151, 153, 155, 157-162, 164,
165, 168, 176, 179-181, 185, 189, 190, 193
Fort Sill, Oklahoma 1, 2, 72, 74
forward support battalion 6
Franks, Jr., Gen. Frederick M. 35, 58, 59, 64, 78, 130, 132, 161, 181
fratricide 97
Fuertes Caminos 53
functional area assessment 65, 66

Garrett, Col. Thomas W. 12, 21, 25, 27, 33, 35, 36, 39, 49, 51, 68, 102,
122-126, 131, 136, 153
General Accounting Office (GAO) 119, 140, 141
General Services Administration (GSA) 141
global positioning system 78, 88, 98
Goodbary, Brig. Gen. (P) Robert A. 11, 35, 39, 56, 137
Guardrail Common Sensor 110, 111

Headquarters, Department of the Army (HQDA) 19, 39, 40, 42, 68, 91, 105,
118, 145, 153, 154
Helicopter School Battalion 45, 191
Hellfire missile 52, 72, 81, 83, 93, 94

Hellfire II missile 94
 high frequency radio 93, 96
 Hispanic Employment Program 176
 Hispanics 30, 127
 honor eagle 12, 30, 31
 Hunter Army Airfield, Georgia 32
 Hydra 70 rocket 81, 94, 95

 identification friend or foe 80
 improved cargo helicopter 91
 Individual Ready Reserve 59
 infrared radar 93, 97
 Inspector General (IG) 119, 120, 128, 129, 173
 Internal Review and Audit Compliance (IRAC) 119, 125, 130, 136, 141, 148,
 149, 162, 173
 Janus 49
 Joint Readiness Training Center (JRTC) 46, 47, 52, 137, 144
 joint training 10

 Lake Tholocco 32, 147, 161, 162
 lead-the-fleet program 92, 93
 leader development 7-9, 22, 23, 39, 55, 56, 58-60, 65, 134, 186
 leadership training 60
 Learning Center 8, 20, 139
 life support equipment 27, 59, 77, 115, 135
 light helicopter 86
 Light Helicopter Turbine Engine Company 86
 Logistics Officer Advanced Course 61, 135
 Longbow 68, 72, 78-81, 84, 94, 97, 99, 102, 105, 108, 140, 181
 Louisiana Maneuvers 7, 10, 102, 103, 105

 M-40 protective mask 163
 maintenance 2, 3, 5, 10, 16, 17, 19, 21, 23, 26, 29, 33, 40, 43-45, 52, 58,
 61, 68-71, 76, 85, 87, 101, 102, 107, 113, 114, 118, 135, 137,
 138, 140, 141, 143, 145-147, 158, 164, 166, 172, 178, 186
 Maintenance Test Pilot Course 19, 61
 Martin Marietta Corp. 59, 94
 Master Warrant Officer Training Course 57
 medical evacuation (MEDEVAC) 2, 3, 33, 46, 64, 71, 88, 89
 memoranda of agreement 6, 16-19, 28, 54, 57, 96
 MH-47E 90
 MH-60K 90
 Military Police Activity (MPA) 25, 157, 158, 177
 minorities 126-132
 Mobile District Engineers 147

Multiple Integrated Laser Engagement System (MILES) 47, 86, 109-112, 153
 multi-track 40, 42

nap-of-the-earth 96, 109
 National Training Center (NTC) 47, 52, 73, 82, 109-112
 new training helicopter 29, 43, 87, 88
 night vision goggles 163
 night vision imaging system 83, 88, 98, 143
 night vision pilotage 86, 98, 100
 noncommissioned officer (NCO) 5, 17, 21, 28, 29, 34, 35, 39, 41, 58, 60,
 119, 164, 178, 180, 181
 Noncommissioned Officer Academy (NCOA) 5, 21, 27
 noncommissioned officer courses 17, 58, 60, 180
 Noncommissioned Officer Symposium 29, 35
 noncommissioned officers 13, 29, 35, 51, 59, 135
 North Atlantic Treaty Organization (NATO) 29, 45

Office of the Deputy Chief of Staff for Operations (ODCSOPS) 69, 79, 134
 Office of Military Personnel/Adjutant General (OMP/AG) 126, 180
 Office of the Staff Judge Advocate (OSJA) 55, 141, 151, 158, 174
 Officer Advanced Course 49, 56, 57, 61, 134, 135, 155, 156
 Officer Basic Course 49, 56
 OH-58 Kiowa 3, 41, 42, 92, 100, 142, 152, 153, 172
 OH-58D Kiowa Warrior 4, 6, 39, 43, 44, 60, 61, 67, 72, 73, 77, 81-83, 97-
 99, 102, 105, 109, 111, 131, 152, 165, 181

Parker Award 6, 32, 33, 35, 169, 172
 personnel proponency 186
 pilot night vision system 59
 Precommand Course 12, 49, 55, 61
 President George Bush 84
 President William Clinton 84, 126
 Program Executive Office (PEO) 73, 88, 105
 Program Management Office (PMO) 67, 186, 187
 protective mask 99, 115, 163
 provost marshal 25, 157, 177
 Public Affairs Office (PAO) 174

radar frequency interferometer 79, 96, 97
 radar jammer 97, 101
 radio frequency countermeasures 101
 RAH-66 Comanche 6, 28, 29, 72, 78, 79, 81, 82, 84-87, 98, 105, 164, 181,
 183
 RC-12K 97, 110
 RC-12N 110, 111

reduction-in-force 121, 134
 reserve components 7, 9, 10, 13, 23, 46, 53, 57, 61, 70, 71, 138, 142, 144, 175
 Reserve Officer Training Corps (ROTC) 33, 53, 132, 133

 Riggs, Brig. Gen. (P) John M. 11, 15, 20-22, 26, 31, 39, 45-48, 64, 71, 75, 76, 80, 95, 137, 140, 166
 risk management 8, 29, 75, 143, 145, 152, 155, 156
 Robinson, Maj. Gen. John D. (Dave) 10, 11, 16-19, 22, 24-26, 29-32, 34, 45-48, 51, 54, 59, 64, 70, 72, 75, 76, 78-80, 85, 91, 92, 95, 96, 101, 105, 106, 112, 115, 119, 122, 124, 127-130, 132, 134-136, 144-146, 150-153, 155, 156, 157, 161, 165

 Schoffner, Lt. Gen. Wilson A. 11, 35, 36
 School Board 39, 49, 51
 School of the Americas 45, 61, 191
 Schulz, Rodney 14, 60, 114
 secretary of Defense 130
 secretary of the Army 5, 16, 36, 88, 91, 104
 Seigle, Col. Robert N. 12, 25, 30, 35, 40, 42, 50, 51, 121, 156
 Sikorsky Support Services 141
 simulation 7-9, 11, 20, 21, 29, 34, 35, 39, 47-50, 65, 66, 72-76, 78, 80, 102, 103-109, 111, 170, 171
 simulation network 73
 simulators 8, 44, 46, 48-50, 104, 107-109, 155, 163, 189
 Simulator Training Research Advanced Test Bed for Aviation (STRATA) 108, 109, 189
 small group instruction 57, 58
 Soldier Support Center 148
 Somalia 74, 164-166
 Southern Christian Leadership Conference (SCLC) 127, 128
 special electronic mission aircraft 96, 110
 special operations aircraft 90
 Sullivan, Gen. Gordon W. 28, 35, 84, 130, 154
 survivability equipment 44, 49-52, 77, 78, 90, 91, 104, 105, 109-111

 T-800 engine 84
 table of distribution and allowances (TDA) 21, 22, 33, 47, 61, 70, 76, 141, 172-174
 table of organization and equipment (TOE) 50, 69
 Technical Library 8, 20, 139
 technical training 60
 terminal control system 112
 Test and Experimentation Command (TEXCOM) 88, 98

test bed 8, 29, 49, 55, 73, 77, 93, 103-105, 108, 109, 189
 Total Army Analysis-2001 67
 Total Army Performance Evaluation System (TAPES) 123, 124
 Total Army Quality 54, 55
 total force integration 7, 11, 13, 20, 28, 70, 169
 Total Warrant Officer Study 7
 TRADOC commander 16, 27, 35, 75, 98
 TRADOC Project Office (TPO) 181
 TRADOC Systems Manager (TSM) 79-82, 84-86, 94, 97, 108, 181, 183
 Trainers' Conference 29
 training development 8, 11, 15, 17, 20, 21, 39, 40, 50, 103, 109, 170, 172
 TSM 79-82, 84-86, 94, 97, 108, 181, 183

U-21 4, 77, 92, 138
 UH-1 Iroquois (Huey) 3, 41, 42, 45, 46, 61, 65, 77, 87, 92, 138, 142, 152, 53
 UH-60 Black Hawk 4, 39, 41-43, 45, 46, 60, 61, 72-74, 88, 89, 92, 98-100, 109, 111, 123, 152
 UNC Aviation Services 35, 43, 140
 Uniform Code of Military Justice (UCMJ) 17, 18
 USAAVNC commander 11, 15-17, 24, 28, 34, 40, 54, 68, 74, 80, 101, 136, 170
 U.S. Army Aeromedical Center (USAAMC) 148, 158, 190
 U.S. Army Aeromedical Research Laboratory (USAARL) 163, 164, 190
 U.S. Army Air Traffic Control Activity (USAATCA) 5, 34, 75, 76, 112, 113, 137, 138, 143-145, 172, 173
 U.S. Army Aviation and Troop Command (ATCOM) 59, 89, 90, 92, 165, 193
 U.S. Army Aviation Logistics School (USAALS) 5-7, 10, 11, 14-17, 19, 27-29, 33, 35, 39, 40, 45, 46, 59-61, 69, 70, 113-115, 118, 135, 143-145, 185-187
 U.S. Army Aviation Maintenance Training Activity (USAAMTA) 16-19
 U.S. Army Aviation Technical Test Center (ATTC) 26, 80-84, 86, 88-90, 92, 93, 98-100, 114, 115, 189
 U.S. Army Combined Arms Center (USACAC) 7, 22, 35, 36, 47, 56, 77, 107, 110, 134, 136, 137, 191
 U.S. Army Combined Arms Support Command (CASCOM) 10, 15-19, 61, 69, 89, 113
 U.S. Army Dental Activity (DENTAC) 159, 192
 U.S. Army Europe (USAEUR) 47
 U.S. Army Forces Command (FORSCOM) 24, 26, 137, 144, 170, 171
 U.S. Army Health Services Command 159
 U.S. Army Information Systems Command 5, 138
 U.S. Army Materiel Command (AMC) 24, 102, 107
 U.S. Army Materiel Command Logistic Assistance Office (AMC LAO) 193

77

U.S. Army National Guard (ARNG) 7, 13, 14, 34, 48, 139, 144, 146, 193
U.S. Army National Guard Bureau 139, 144, 147, 193
U.S. Army Recruiting Command (USAREC) 132
U.S. Army Research Institute Aviation Research and Development Activity
(ARIARDA) 42, 108, 109, 154, 155, 163, 189, 190
U.S. Army Reserve (USAR) 7, 12-14, 34, 53, 67, 68, 144, 159, 173, 193
U.S. Army Safety Center (USASC) 152, 154-56, 192
U.S. Army Simulation, Training, and Instrumentation Command (STRICOM)
105, 106
U.S. Army Total Personnel Command (PERSCOM) 61, 132, 135
U.S. Army Training and Doctrine Command (TRADOC) 4-7, 10, 16, 20,
22-28, 32, 34, 35, 39, 40, 45, 46, 55, 59-61, 71, 72, 75, 76,
78-80, 85, 91, 92, 96-99, 101, 102, 104, 105, 107, 109,
112-115, 118-123, 129, 130, 135, 137, 142, 145, 146, 148,
150, 151, 153, 160, 162, 170, 171, 176, 179-181, 190, 191
U.S. Army Transportation Center and Fort Eustis (USATCFE) 6, 16, 18, 60
U.S. Army Transportation Corps (USATC) 2, 16
U.S. Coast Guard 25
U.S. Marine Corps 25, 91, 176
U.S. Navy 25, 26, 88, 91, 94-96, 108, 163, 178

visionics 96
voluntary early retirement authority (VERA) 121-123
voluntary separation incentive pay (VSIP) 121-123
Vuono, Gen. Carl E. 5

Walker, Col. Samuel 13, 171
War Breaker 49, 73
warrant officer 2, 7, 8, 21-23, 33, 39, 50, 51, 56, 57, 119, 126, 131, 133,
134, 191, 193
Warrant Officer Advanced Course 57
Warrant Officer Candidate School 7, 23, 56
warrant officer candidates 2, 133
Warrant Officer Career Center (WOCC) 7, 21, 22, 39, 56, 119, 191
Warrant Officer Leader Development Action Plan 7, 22, 56, 134
Warrant Officer Staff Course 57
Whiting Field, Florida 26
women 30, 126-132, 176

XVIII Airborne Corps 36

Zen Regard 73