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ANNUAL COMMAND HISTORY
1 January 1991 - 31 December 1991**

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**By
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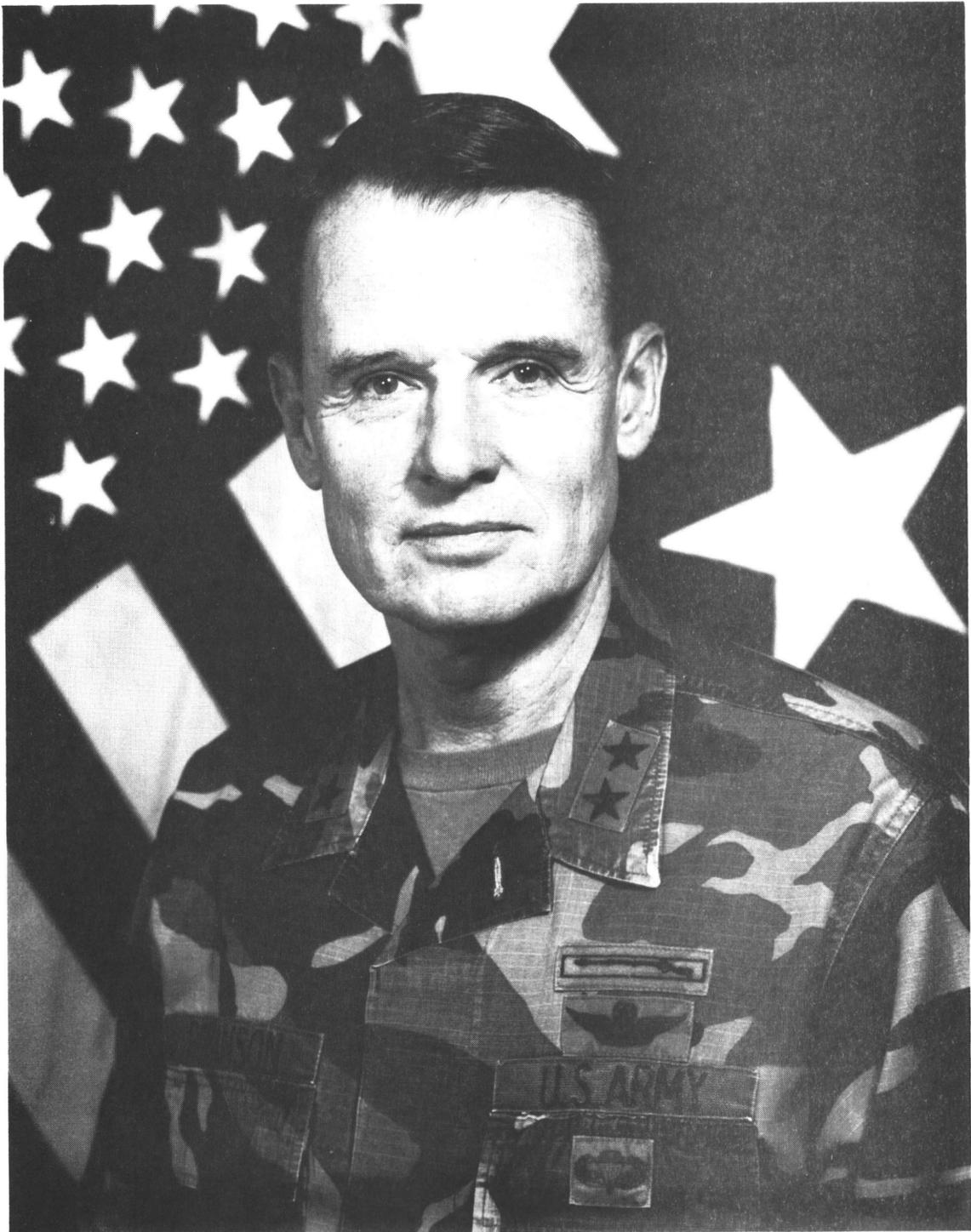
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MAJOR GENERAL RUDOLPH OSTOVICH III
COMMANDING GENERAL
3 October 1989 - 22 July 1991



MAJOR GENERAL JOHN D. ROBINSON
COMMANDING GENERAL
22 July 1991 -

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FOREWORD

In accordance with Center of Military History and U.S. Army Training and Doctrine Command (TRADOC) guidelines, the 1991 annual command history for the U.S. Army Aviation Center (USAAVNC) is organized topically. Also, the emphasis of the review is on the major missions and functions of the Aviation Center, i.e., on training and leader development, doctrine and combat developments, and mission support. These topics constitute the three major chapters of the history. The main body of the text is followed by three appendices, which deal respectively with the 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 the mission, function, organizational framework, leadership, and personnel strength, of the various organization and also provide some other information. Other appendices include a list of source documents, a list of acronyms, and an index.

In addition to the acronym list in the appendix, most acronyms are defined at least one time in each chapter in which they are used; very common or frequently used ones, however, may be defined only one or two times in the text. 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 during the year, but they concerned Operation Desert Storm and were not used in the preparation of this volume. Support of Operations Desert Shield and Desert Storm constituted a major activity of the USAAVNC during 1991. These operations are not covered in this volume because they have been described in detail, by the USAAVNC deputy command historian, Dr. Burton Wright III, in a work published under separate cover as an addendum to this command history.

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 histories of the individual subordinate units and tenant organizations was the responsibility of the historical officers appointed by the respective directors and commanders. The historical reports submitted by each organization, along with primary documents, transcripts of oral interviews, and other materials, were used as references in writing this historical review. 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.

The documents, staff historical reports, and other sources cited are located in the 1991 document file or, in the case of transcripts of interviews, in the oral history file, in the Aviation Branch History Office. The documents submitted by directorates, departments, and other USAAVNC and tenant organizations are filed according to provenance. Most other source materials are filed in the 1991 document file according to the chapter in which they are cited. Transcripts of oral interviews are in the oral history file. For documents cited in this history, the final notation in each citation (e.g., "DCD" or "Chapter I file") indicates the file or sub-file in which the cited document may be found. Documents in some large files have been assigned document numbers; these numbers are given in footnotes, following the name of the sub-file.

Considerable effort was expended to obtain documentary support for the feeder reports submitted to the History Office. Several organizations provided adequate documentation, and documents submitted to the historian or obtained by the historian through other means constitute the major sources for this narrative. When documents were unavailable, some essential statistical information was taken from feeder reports. In accordance with TRADOC History Office and Center of Military History guidance, however, reliance on feeder reports was kept to a minimum. Since these feeder 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 historian was not in a position to make significant contributions to the record without additional sources.

In the process of writing an annual historical review, 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 Branch History Office in the collection of valuable documentary materials to support the writing of this history and to build a document collection on the history of Army aviation.

Fort Rucker, 18 January 1993

John W. Kitchens
Command Historian

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CHAPTER I

INTRODUCTION

A. Historical Background

The United States Army Aviation Center (USAAVNC) originated as the Department of Air Training, established on 6 June 1942 as a department of the U.S. Army Field Artillery School. The Department of Air Training opened at Fort Sill, Oklahoma, for the purpose of training Army liaison pilots and mechanics. On 16 January 1953, as a result of the rapid increase in the need for trained aviators and aviation mechanics during the Korean War, the United States Army Aviation School (USAAVNS) was established as the successor to the World War II era Department of Air Training. 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 last three months of 1954. The following year, the Army Aviation Center was established at Rucker, and the post gained permanent status by becoming Fort Rucker.

Although some flight training continued to be conducted at other locations for many years following the establishment of the school and center in Alabama, the consolidation of flight training at Fort Rucker was essentially achieved by 1973. The following year, the school and the center were merged as the U.S. Army Aviation Center.¹

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. As a result of studies, surveys, and considerable formal and informal dialogue conducted from 1980 through 1982, the remaining opposition to a separate branch diminished considerably, and the Aviation Branch came into being by an

¹Richard K. Tierney, Forty Years of Army Aviation (Fort Rucker, Alabama: USAAVNC, 1982), pp. 9-20; Richard P. Weinert, History of Army Aviation: 1950-1962 (2 vols. Fort Monroe, Virginia: U.S. Army Continental Army Command, 1971 and TRADOC, 1976), I, 102-34, II, 184-209, passim.

order of Secretary of the Army John O. Marsh, Jr., with an effective date of 12 April 1983.²

From the mid 1970s, and especially after the creation of the Aviation Branch in 1983, there was a tendency toward the 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 Aviation Systems Command at Fort Huachuca, Arizona, to the USAAVNC at Fort Rucker.³ The Noncommissioned Officer Academy 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, Virginia, in 1988. This important development was the culmination of a long evolutionary process and of many studies and plans.

The Department of Aviation Maintenance, which conducted advanced aviation maintenance training, existed as a part of the USAAVNS at Fort Sill, Oklahoma, and was transferred to Camp Rucker in 1954.⁴ Although organizational maintenance training for enlisted personnel was conducted continuously at Fort Rucker from that time through 1991, aviation maintenance training also continued to be conducted at other locations.

After World War II, most Army mechanics for rotary wing as well as fixed wing aircraft were trained by the Air Force at Keesler Field, Mississippi, and Sheppard Air Force Base, Texas, and then, from early in 1951, at Gary Air Force Base.

²See, e.g., TRADOC Review of Army Aviation, 4 vols. Fort Monroe, Virginia: 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, USAAVNC History Office files; Transcription of interview by author with Maj Gen Ellis D Parker, 5 Jul-31 Aug 89, USAAVNC History Office, oral history files.

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.

⁴USAAVNC, U.S. Army Aviation Center, Fort Rucker, Alabama: History, 1954-1964 (USAAVNC: Fort Rucker, Alabama, 1965), p. 14. This publication constituted a composite historical supplement or review for the first decade of the USAAVNS/USAAVNC existence at Fort Rucker.

Aviation logistics training in the Transportation Corps and at Fort Eustis began during the Korean War era. On 11 August 1952, the responsibility for logistical support of Army Aviation was transferred from the Ordnance Corps to the Transportation Corps, and the Transportation School began the field maintenance training of aviation mechanics in June 1954. Then, after extended negotiations, the Air Force agreed in 1955 to transfer the depot support of Army Aviation to the Army; this function was assigned to the Transportation Corps and School at Fort Eustis. During the following years, aviation maintenance training at Fort Eustis expanded rapidly and became one of the most prominent parts of the mission of the Transportation School. Since maintenance training was provided at both Fort Rucker and Fort Eustis, several studies were conducted to determine the advantages of consolidation at one place or the other, but conflicting interests and anticipated costs of expansion of facilities at either location prevented any change.⁵

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 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 the 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.⁶ Most of the planned consolidation of the Aviation mission area was completed before 1988, 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.

⁵Weinert, History of Army Aviation..., I, 136, II, 2, 43-48; Emma-Jo L. Davis, History of the United States Army Transportation School, 1942-1962, Ft. Eustis: U.S. Army Transportation School, 1967, p. 292, passim; History of the Air Training Command for 1 January 1955 - 30 June 1955, 4 vols text and documents, Part III, Liaison and Helicopter Training for Army Aviation Personnel, Programs and Controversies, 1946-1955, Headquarters, Air Training Command, pp. 222-245.

⁶Ltr ATCG, Gen William R Richardson to distr, 11 Jul 83, sub: establishment of aviation proponency, 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, Virginia, Sept. 1989.

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."⁷ 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.⁸

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 1988.⁹

B. Mission

The primary mission of the USAAVNC during 1991 was the command, operation, and administration of the USAAVNC and other resources at Fort Rucker and of the USAALS at Fort Eustis. Specifically, the Aviation Center was responsible for the training and leader development of officers, warrant officers, warrant officer candidates, enlisted personnel, and assigned civilian personnel in various aspects and phases of aviation and aviation logistics. The USAAVNC was also the proponent for Army aviation and aviation logistics-related combat developments, doctrine, training devices and literature, occupational specialties and career management fields, air traffic control, and flight standardization. Finally, the center served as the TRADOC integrator for all actions pertaining to aviation materiel developments, supported operational and user

⁷Memo, Gen Arthur E Brown Jr for distr, sub: aviation logistics study--study directive, Tab D of Implementation Plan--Logistics.

⁸Msg, General Thurman to distr, 17 Jun 88, sub: command and control of the Aviation Logistics School, 1988 document file, USAALS; Implementation Plan--Logistics.

⁹Memo 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.

testing, ensured the total system integration of aircraft and equipment, and provided support to assigned, attached, and tenant activities at Fort Rucker, Alabama.¹⁰

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 proponent 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.¹¹

An additional major mission of USAAVNC organizations as well as of tenant agencies at Fort Rucker during the early part of 1991 was support of Operations Desert Shield and Desert Storm. Some functions in support of these operations continued throughout the year.

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. Rudolph Ostovich III served as the commanding general of the USAAVNC from 1 January until 22 July 1991. General Ostovich was succeeded by Maj. Gen. John D. Robinson, who came to the Aviation Center from the position of director of force structure, resource, and assessment, of the Joint Chiefs of Staff. General Ostovich left Fort Rucker to become vice director of the Joint Chiefs of Staff.¹²

The commanding general was responsible for the implementation of policies and directives of the Department of the Army (DA) and of TRADOC. He was also the

¹⁰Implementation Plan--Logistics; USAAVNC, Organization and Functions Manual: USAAVNC Regulation No. 10-1 (USAAVNC: Fort Rucker, Alabama, 1 March 1988), pp. 9-11.

¹¹"Army Aviation Logistics at Fort Eustis," (Ft. Eustis, Virginia, Sept 1989), passim; Historical report USAALS, CY 90.

¹²Program, "Change of Command Ceremony," 22 Jul 91; Army Flier, 25 Jul 91.

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.

The assistant commandant of the USAAVNC from January to October 1991 was Brig. Gen. Thomas J. Konitzer. Brig. Gen. Robert A. Goodbary, formerly the assistant division commander (support), 3rd Infantry Division (Mechanized), succeeded General Konitzer on 1 November.¹³ The assistant commandant of the USAAVNC served as principal assistant to the commanding general, assisted him as directed, and assumed command in his absence. The assistant commandant also directed all aspects of training conducted at Fort Rucker and played a major role in assisting the commander in directing combat developments, evaluation and standardization, and air traffic control. 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.

Col. Patrick J. Bodelson served as chief of staff of the USAAVNC throughout 1991. 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.

The deputy assistant commandant from January through April 1991 was Col. Malvin L. Handy. Col. James W. Beauchamp served as interim deputy assistant commandant from May through August; Col. Robert N. Seigle became deputy assistant commandant on 31 August and continued in the position for the remainder of the year. The deputy assistant commandant served as principal assistant to the assistant commandant in the accomplishment of administrative and management duties associated with assigned

¹³Army Flier, 31 Oct 91.

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, installations, and activities. He also reviewed and assigned taskings to training elements and advised and assisted the assistant commandant in directing the execution of various tasks and assignments.

The garrison commander from 1 January 1991 until his retirement in June was Col. Michael H. Abbott. Colonel Abbott's successor as garrison commander was Col. Richard N. Roy, who served the remainder of the 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 activity, and reserve component support. He also chaired boards and committees relating to various personnel and garrison activities.

Cmd. Sgt. Maj. Roy McCormes served as the USAAVNC and Aviation Branch command sergeant major from January until May 1991. McCormes was succeeded on 27 May by Cmd. Sgt. Maj. Freddy Finch, Jr. Cmd. Sgt. Maj. Finch's stated that one of his priorities as command sergeant major was strengthening the noncommissioned officer support channel so as to better prepare the leaders of the future. 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 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.¹⁴

The assistant commandant of the Aviation Logistics School throughout 1991 was Col. William J. Blair. Colonel Blair 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.

¹⁴The above description of the functions of various members of the command group was based in part on notes on interviews by the author with the members of the command group during the month of January and February 1991. Other sources included USAAVNC, Organization and Functions Manual, pp. 01.01-01.07; and Army Flier, 23 May, 25 Jul 91, passim.

Mr. Rodney J. Schulz served as deputy assistant commandant of the USAALS for all of 1991. Sgt. Maj. Jerry T. Pittman served as the USAALS sergeant major until his retirement on 28 February, and Sgt. Maj. Alan J. Gott served in that position for the remainder of the year.¹⁵

D. Organizational Changes in 1991

The Office of the Commanding General (Command Group) was expanded in 1991 by the creation of the positions of deputy assistant commandant U.S. Army Reserve (USAR) and deputy assistant commandant U.S. Army National Guard (ARNG). The positions of deputy assistant commandant (DAC)-R and DAC-NG were created in support of total force integration. The DAC-R position was authorized and filled in June 1991. Col. James H. Fitzgerald, the former USAR advisor held the position from that date until 3 November 1991, when he was succeeded by Col. Clifford L. Massengale, the former chief of the Directorate of Reserve Component Support. The DAC-R served as the principal assistant to the USAAVNC assistant commandant on total force integration efforts relating to the USAR. He also participated in the formulation, coordination, and administration of policies, plans, and programs affecting the USAR. Finally, he managed the USAR active guard/reserve program for the USAAVNC and USAALS, directed the operations of the Aviation Training Brigade (Augmentation) and provided assistance to USAR students attending courses of instruction at the USAAVNC.¹⁶

Effective 1 October 1991, the DAC-NG position was authorized and filled. Col. Mario Meola, the former ARNG flight standardization advisor, held the position for the remainder of the calendar year. In matters relating to the ARNG, the functions and responsibilities of the DAC-NG generally paralleled those of the DAC-R in matters relating to the USAR.¹⁷

On 23 July, the day following his assumption of command, General Robinson called a meeting of the commanders and staff to share his thoughts on the international

¹⁵Historical report, USAALS-PMO, CY 91.

¹⁶Historical report, DAC-R, CY 91.

¹⁷Historical report, DAC-N, CY 91.

and domestic environment and to describe his philosophy and goals, leadership style, expectations, and major concerns.¹⁸

A symbolically significant early change engineered by General Robinson was to change the sobriquet of the Aviation Center to "Army Aviation Warfighting Center." For many years, the U.S. Army Aviation Center used the sobriquet, "Home of Air Assault," but this was changed to "Army Aviation Warfighting Center" a far more accurate reflection both of the purpose of the USAAVNC and of the activities conducted there.

During the months of August, September, and October 1991, the USAAVNC conducted an organization and functions study to identify and streamline the functions and operating structures of the USAAVNC and USAALS. One problem was identified as the decentralization of aviation training in three different locations: viz, the Army Aviation Center, the Aviation Logistics School, and U.S. Army Signal Center and Fort Gordon. The USAAVNC management structure and functions were fragmented both geographically and organizationally, and this fragmentation generated inefficiency and duplication of effort.

It was generally agreed by USAAVNC analysts that optimum efficiency and effectiveness required the total consolidation of aviation training at Fort Rucker. Such an arrangement, it was affirmed, would allow for a smooth and orderly development of an Army aviation center of excellence with a single USAAVNC manager for each mission area. It would also offer the capability for true integration of vertical shared training (i.e., advanced officer, basic officer, warrant officer candidate, career management fields 67 (aircraft maintenance) and 93 (aviation operations), and branch noncommissioned officers. Additionally, it would return flyable aircraft to the warfighting inventory and constitute a positive impact on the area around Fort Rucker.

Disadvantages of consolidation were also recognized, however. First and foremost, there would be a one-time cost of possibly as much as \$140 million, and these funds were not readily available. Secondly, consolidation would extend communication and coordination with the Combined Arms Support Command and create the perception that aviation logistics was not linked to the logistics community. Finally, there would possibly be an adverse environmental impact on the Fort Rucker area, and there would definitely be an adverse economic impact on the Fort Eustis area.

¹⁸Memo for record, ATZQ-SGS, Capt Robert F Hein, 23 Jul 91, Chapter I file.

USAAVNC leaders also discussed plans for merging the USAALS with the USAAVNS in the short term without physically moving the USAALS. Most leaders agreed that merging the functions and leadership of USAALS directorates and departments with the counterpart directorates and departments at Fort Rucker would promote efficiency in the short term and pave the way for eventual total consolidation. There were several unresolved issues, however, with regard to short-term as well as long-term consolidation. The assistant commandant of USAALS, for example, had reservations about whether the subordination of almost all USAALS functions to directorates and departments at Fort Rucker would promote an improvement in the efficiency of operations.¹⁹

During a visit to Fort Rucker in October 1991, the TRADOC commander endorsed the USAAVNC consolidation with regard to the Fort Gordon portion. He directed that it be done immediately, and offered to referee if needed. With regard to total consolidation of USAALS and USAAVNC, however, General Franks noted two major problems: viz, the military construction, Army, projects cost of at least \$30 to \$40 million and the impact on the civilian work force. The USAAVNC response was to continue working on consolidation plans and refine costs and civilian work force impact.²⁰ The year ended, however, without further major decisions being made.

In 1990, the Department of Combined Arms Tactics and the Department of Gunnery and Flight Systems were merged to form the new Department of Tactics and Simulation. This reorganization provided some savings and also gave more emphasis to the rapidly growing role of simulation in aviation training.²¹ By August 1991, however, it was becoming apparent that the continuing rapid growth of simulation training was causing the existing organization to become out of date. A basic problem identified was that responsibility for flight training was divided between the Aviation Training Brigade and the Department of Tactics and Simulation. One recommended solution was to transfer all simulation equipment and training to the Aviation Training Brigade, thereby

¹⁹Copies of slides, "USAAVNC and School Organization and Functions Study," 20, Sep 91, 23 Sep 91, Chapter I file; Historian's notes on meetings of, 20, 23 Sep, 21, 28 Oct 91, Historian's notes file; notes on interview by author with Col William Blair, 3 Dec 1992, Oral History file.

²⁰E-mail note, Col Patrick J Bodelson to cdrs/dirs, 8 Oct 91, sub: taskers from General Franks' visit, Chapter I file.

²¹John W Kitchens and Burton Wright III, United States Army Aviation Center Annual Historical Review, 1 January 1990-31 December 1990, (Fort Rucker, AL, June 1991), p. 10.

consolidating flight training and academics under one organization. This recommendation was adopted in 1991 for implementation in 1992.²²

Under Maj. Gen. Robinson's leadership during the latter part of 1991, the USAAVNC also carefully studied the training and training support functions of the Directorate of Training and Doctrine (DOTD), of the new Department of Tactics and Simulation (DOTS), of the Department of Enlisted Training (DOET), the 1st Aviation Brigade, and the Aviation Training Brigade (ATB). The DOTD's involvement with doctrine was limited to publishing manuals, and it did very little actual training; rather, this directorate was engaged in training development (oversight of programs of instruction, task analyses, simulation, and training aids). A large portion of the teaching was under the auspices of the DOTS, but anyone from DOTS or from any other organization who attempted to put a course together had to deal with two or three different directors to accomplish the task. During the latter part of 1991, a great deal of study was devoted to a reorganization of the functions and responsibilities of DOTS and DOTD in order to establish a more logical and efficient system for training and training development.

The goal was to reorganize the USAAVNC directorates, departments, and commands involved in the training mission according to a model according to which some organizations would plan, some would execute, and some would support. The outlines of this concept were approved by the commanding general in September. Upon execution, the DOTS and the DOET would be discontinued. Elements from these departments would be realigned to the ATB and the DOTD. A new simulation directorate would be activated from assets of the existing DOTD. Only one significant change was actually made in 1991; on 1 October the worldwide simulation support function of DOTS was shifted to DOTD, which then had major responsibility for oversight of simulation. By the end of the year, however, a plan was in place for a general realignment of the functions of several USAAVNC organizations so as to achieve a more logical and efficient organizational framework.²³

²²Copies of briefing slides, Chapter I file; Historical report, ATB, CY 91; Staffing response, [DOTD to cmd historian, Jan 93], DOTD.

²³Historian's notes on organizational meetings of 20 and 24 Sep and 21 Oct 91, Historian's note file, CY 91; Transcription of interview with Col Michael K Mehaffey, 7 Apr 92; Historical report, DRM, CY 91.

Another important matter addressed during these organizational planning sessions was whether the small group instruction system used in the Aviation Officer Advanced course should be continued. Although the high cost and lack of TRADOC funding was recognized, the consensus was that the merits of the approach outweighed the costs and that small group instruction should be continued. It was also decided to leave the Aviation Officer Advanced course in the 1st Aviation Brigade rather than put it in a training department. During these organizational planning sessions, it was also decided that the DOET would be abolished and that enlisted training at Fort Rucker would be conducted under the auspices of an enlisted training battalion of the 1st Aviation Brigade. The functions of the other TRADOC battalions of the 1st Aviation Brigade would be modified so that the 1-10th would be responsible for staff and faculty; the 1-13th, for officers, and 1-145th for warrant officers. These plans were developed in 1991, but major reorganization was still pending at the end of the year.²⁴

On 1 June 1990, the Directorate of Aviation Proponency was disestablished; the Aviation Proponency Office (APO) was elevated to staff level, and the Aviation Digest Office and the new Aviation Planning Group were placed under the operational control of the APO. The Aviation Planning Group had been created in January 1990 and tasked with serving the commanding general by preparing speeches, briefings, articles, and correspondence; by coordinating overseas travel, special projects, and relations between the commander and other headquarters; and by reviewing and analyzing publications, briefings, key staff actions, and other events/developments of particular interest to the commander. The personnel proponency functions formerly performed by the APO continued to be performed by the same office and staff, but as an office subordinate to the new APO and with a different name: viz, Personnel Proponency Office.²⁵

On 26 July 1991, the APO was relieved of responsibility for administration of the Aviation Planning Group, which became a part of the Command Group under direct supervision of the commanding general and the chief of staff. The Personnel Proponency Office was replaced by the Aviation Proponency Office at that time, but the APO continued have staff-level status and also continued to exercise staff supervision over the

²⁴Historian's notes, organizational planning meetings of 15 Apr 20 and 24 Sep and 21 Oct 91, Historian's Notes file, CY 91; Historical report, 1st Aviation Brigade, CY 91.

²⁵Memos ATZQ-RFM (570-4g) Col Ernest F Estes for distr, 25 May 90, subs: disestablishment of DAP (Provisional), and Aviation Proponency Office, 1990 APO file; Kitchens, USAAVNC 1990 AHR, p. 9.

Aviation Digest Office until 23 December. At that time, the Aviation Digest was transferred from Aviation Proponency to the Public Affairs Office.²⁶

The organization of the Test and Evaluation Coordination Office (TECO) became effective on 6 March 1991 as a result of the disbandment and reorganization of the Test and Experimentation Command Aviation Board at Fort Hood, Texas. The Test and Evaluation Coordination Office at Fort Rucker became the principal liaison between the Operational Test and Evaluation Command and the USAAVNC for all aviation related testing.²⁷

At the end of 1991 the USAAVNC consisted of eleven directorates at Fort Rucker and three at Fort Eustis; there were three training departments (including the Noncommissioned Officer Academy) at Fort Rucker and four at Fort Eustis. 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. Also located at Fort Rucker were over two dozen tenant agencies, which were supported by the USAAVNC and which conducted activities closely related to the mission and functions of the Army Aviation Center. In addition to its directorates and training departments, the USAALS had two mission support offices under the assistant commandant.²⁸

During 1990 and 1991, steps were taken at the USAAVNC 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 in part by Operations Desert Shield and Desert Storm, this action had not been completed by the end of calendar year 1991.²⁹

²⁶E-mail note, Jeanine M Stancil to cdrs/dirs, 7 Jan 92, sub: realignment of the Aviation Digest; Historical report, APO, CY 91.

²⁷USAAVNC, "Weekly Bulletin" no. 12, 22 Mar 91.

²⁸See appendices I-III.

²⁹Memo, ATZQ-RCM, James H Woodard for distr, 25 Sep 92, sub: Organization and Functions Manual, USAAVNC Regulation 10-1, 1992 ACH Chapter I file.

E. Conferences, Ceremonies, Awards, and Visitors

The annual Aviation Brigade Commanders' Conference was held at Fort Rucker from 9 through 13 December 1991. The theme for the 1991 conference was "End State 1995--Shaping Army Aviation to be the Warfighting CINCS' Power Projection Force of Choice--Deployable, Lethal, Versatile." The conference addressed issues relevant to Army Aviation's expanded role in the total Army force as a result of the president's new defense strategy, focusing on regional contingencies, and the Army's response to that new strategy in light of force reductions. The aim was to receive input from participants to assist the branch chief toward the continuation, modification, and initiation of programs in doctrine, training, organizations, equipment, and leader development.³⁰

Aviation training strategy conferences were held on 22-24 July, 9 October (teleconference), and 13-15 November 1991. The first two drew upon ideas and methods from all participants, but the November conference was designed to focus on training strategies based on the combined arms training strategies and to develop capstone guidance for aviation training strategies for immediate use and for years to come.³¹

The 1991 Aviation Trainers' Conference was hosted at Fort Rucker by the Staff and Faculty Development Division of DOTD from 29 through 31 October. This conference was attended by sixty-four military personnel from various installations worldwide. The participants were provided an update on aviation doctrine and related issues.³²

The annual Aviation Noncommissioned Officer Symposium was held at Fort Rucker from 16 to 20 September 1991. Issues discussed included lessons learned from Operation Desert Shield/Storm; improvement of individual soldier training, doctrine,

³⁰Msg, 232300Z Jul 91, Michael K Mehaffey to distr, sub: 1991 aviation brigade commanders conference, CG file.

³¹Msg 310800Z Oct 91, cdr USAAVNC to distr, sub: aviation training strategy conference, CG file; Msg 051500Z Nov 91, cdr USAAVNC to distr, sub: aviation training strategy conference, CG file.

³²Msg, 101300Z Aug 91 RR, Col James W Beauchamp, for distr, sub: 1991 aviation trainers conference, CG file; Historical report, DOTD, CY 91.

equipment, and logistics; and modernization plans for Army aviation. The symposium was coordinated by the Department of Enlisted Training.³³

Plans began to be made in 1991 for the world helicopter championship competition scheduled to occur in England in August and September 1992. A team was formed at the USAAVNC and plans were made for economical transport of aircraft and equipment to England.³⁴

A major Fort Rucker Memorialization Committee action during 1991 consisted of renaming of numbered streets and the naming of two theretofore unnamed streets. A total of twenty-four streets were named with radio call signs of aviation units during the Vietnam Conflict. The purpose was to recognize the importance of the Vietnam Conflict in the evolution and maturing of Army aviation.³⁵

The USAAVNC received the TRADOC Commander's Award for the most improved safety record in TRADOC in 1991.³⁶

The 1991 Gen. Hamilton Howze Gunnery Competition at Fort Rucker ended on 6 December. The Apache "Top Gun" award went to Chief Warrant Officer Jarrett Brewer and Warrant Officer Kevin Smith of the 6th Cavalry Brigade Air Combat, Fort Hood, TX. The Cobra "Top Gun" award went to Warrant Officer Jose Tejada and Chief Warrant Officer John Kercheville, of the 1st Cavalry Division, Fort Hood.³⁷

The official recognition of the 1991 U.S. Army Air Traffic Control awards recipients was held on 5 December 1991. The awards were presented at a dinner hosted by the Army Aviation Association of America at the Fort Rucker Officers' Club. The Controller of the Year award went to Sgt. Kevin A. Lawson, the Manager of the Year award, to Mr. Joseph M. Wootten, and the Maintenance Technician of the Year award, to

³³Army Flier, 12 Sep 91; Historical report, DOET, CY 91.

³⁴Ltr, Maj Gen John D Robinson to Lt Gen John B Conaway, 4 Nov 91, CG file.

³⁵Dothan Eagle, 10 Jul 91; Army Flier, 18 Jul 91; Minutes of Fort Rucker Memorialization Committee, 25 Jul and 16 Oct 90, 9 May 91.

³⁶Historical report, ABSO, CY 91.

³⁷Army Flier, 12 Dec 91.

S.Sgt. Neal L. Apfelbeck. The Platoon of the Year was the 1st Platoon, Company A, 3rd Battalion, 58th Aviation; and the facility of the Year was the Guardian Control Flight Operations, Republic of Korea.³⁸

Prominent official visitors to the USAAVNC during 1991 included two TRADOC commanders, the sergeant major of the Army, and the treasurer of the United States. TRADOC commander, Gen. John W. Foss, visited Fort Rucker in May and was briefed on the aviation modernization plan and on Aviation Requirements for the Combat Structure of the Army (ARCSA) V options. He returned in July as the featured speaker at the change of command ceremony. Gen. Foss's successor as TRADOC commander, Gen. Frederick M. Franks, Jr., visited Fort Rucker in October and discussed several Aviation Center and Branch matters with Maj. Gen. Robinson. The sergeant major of the Army, Richard A. Kidd, visited the USAAVNC in September 1991 to address the NCO Symposium and talk with enlisted soldiers.³⁹ Treasurer of the United States Catalina Vasques Villalpando, visited Fort Rucker in June to participate in the savings bond awards ceremony.⁴⁰

Distinguished international visitors to Fort Rucker during 1991 included Admiral Dieter Wellershoff, Chief of Staff of the Federal Armed forces.⁴¹ From 8 to 17 July the commander of the Israeli Air Force, Maj. Gen. Avihu Ben-Nun visited the Aviation Center. During the visit General Ben-Nun discussed lessons learned from Operation Desert Storm weapon systems modernization, and future technologies. He was also given a red carpet tour of facilities.⁴² Brig. Gen. Hommod Ibrahim Al-Reshoodi, the commander of Royal Saudi Land Forces, Army Aviation Command, visited Fort Rucker from 24 to 26 November. General Al-Reshoodi was especially interested in UH-60 and AH-64 simulators, Simulation Network, and English language training.⁴³ Maj. Gen.

³⁸Msg 241525Z Oct 91, cdr USAAVNC to distr, sub: air traffic control awards presentation, CG file; Historical report, USAATCA, CY 91.

³⁹Army Flier, 19 Sep 91.

⁴⁰Army Flier, 20 Jun 91.

⁴¹Army Flier, 11 Jul 91.

⁴²Msg, 281743Z Jun 91, HQ USAF, Washington, to distr, sub: Visit of General Avihu Ben-Nun..., CG file.

⁴³Msg, R 101200Z Nov 91, Chusm, Riyadh SA to Cdr USAAVNC, sub: self-invited visit of cdr Royal Saudi Land Forces Army Aviation Command, CG file.

Janos Deak, Chief of General Staff, Hungarian Home Defense Forces, visited Fort Rucker on 5 and 6 December.⁴⁴

⁴⁴Msg, R 182030Z Oct 91, DA, Wash, DC, to Rufhbe, USPAO, Budapest, sub: U.S. visit of Maj Gen Deak,...., CG file.

CHAPTER II

TRAINING AND LEADER DEVELOPMENT

A. Initial Entry Rotary Wing Training

The total number of graduates from the Initial Entry Rotary Wing course at the USAAVNS during calendar year 1991 was 1,360, consisting of 713 officers and 647 warrant officer candidates. This total compared to 1,576 (606 officers and 970 warrant officer candidates) during calendar year 1990. According to aircraft track, the initial entry graduates were as follows: OH-58 track--193 officers and 207 candidates; UH-1 track--321 officers and 272 candidates; AH-1 track--142 officers and 108 candidates; UH-60 track--100 officers and 98 candidates.¹

The U.S. Army Flight Aptitude Selection Test battery was used to select applicants for the Initial Entry Rotary Wing training course. Two new forms of the battery, forms E and F, were developed to improve the selection process. Research conducted during 1991 evaluated the potential predictive validity of the new test forms. The results indicated that a subset of the experimental tests would significantly improve the effectiveness of the selection procedures. Plans were developed to begin using the new tests during the mid 1990s.²

Crew coordination was given considerable emphasis during 1991. In July the DA tasked the Night Vision Device Branch at the USAAVNC to develop a plan for incorporating crew coordination into flight school. Crew coordinated actions in an aircraft were those crew tasks requiring the interaction of the entire crew to ensure their safe and efficient execution. The important concepts of crew coordination had not been articulated until the completion of a study conducted by the U.S. Army Safety Center. An analysis of rotary wing accidents occurring over a six-year period revealed that a significant percentage of accidents resulted from a lack of crew coordination in the cockpit or from crew coordination errors. The testing of implementation plans for the incorporation of crew coordination into flight training was ongoing at the end of 1991.³

¹Academic records report, Chapter II file; Kitchens and Wright, 1990 AHR, p. 21.

²Report, "Information Pamphlet for the Flight Aptitude Selection Test Battery Forms E and F," Sep 91, ARIARDA; Historical report, ARIARDA, CY 91.

³Coordinating draft, "Crew Coordination for OH-58," USAAVNC, 21 Jan 92, ATB; Historical report, ATB, CY 91.

B. Graduate Flight Training

During 1991, 326 students completed fixed wing graduate and refresher courses and 215, from the fixed wing multi-engine course. The total of 541 graduates of fixed-wing courses compared to a total of 527 during 1990. In 1991, 241 students completed rotary wing graduate and refresher courses, 275 from rotary wing instructor pilot courses, 322 from rotary wing instructor training methods courses, and 1,271 from rotary wing aviator qualification courses. The total of 2,109 aviators who completed these rotary wing courses in 1991 compared to a total of 2,552 in 1990.⁴

A decision was made at the Aviation Center in 1991 to man the OH-58D with two aviators and to discontinue the OH-58D aeroscout observer and the OH-58D field artillery aerial observer training. This decision resulted in a temporary shortage of crew members qualified to perform OH-58D left-seat tasks. OH-58 aviators who graduated prior to 1 January 1990 were qualified to perform right-seat tasks only. They were required to return to the USAAVNC to receive training for left-seat qualification. Aviators graduating after 1 January 1990 qualified for both left and right-seat tasks, but they were also required to complete refresher training if more than 180 days had elapsed since graduation.⁵

The U.S. Army Research Institute Aviation Research and Development Activity (ARIARDA) conducted a training effectiveness evaluation during 1991 to determine the feasibility of contracting civilian instructors to accomplish the basic mission training for aviators assigned to the 160th Special Operations Aviation Regiment. The results indicated there was no significant difference between the training effectiveness of the contractor instructors and the military instructors.⁶

The Annual Aviation Written Examination, long a part of aviators' proficiency requirements, was discontinued at the end of fiscal year 1991.⁷

⁴Academic records report, Chapter II file; Kitchens and Wright, 1990 AHR, p. 23.

⁵Msg 091300Z Dec 91, cdr USAAVNC to distr, sub: OH-58D aviator left seat qualification training, CG file; Msg 011200Z Aug 91, cdr USAAVNC to cdr 5th Inf Div, sub: qualifying OH-58D aviators, CG file.

⁶Report, "Effectiveness of Contractor Mission Instructors in the 160th...", Dec 91, ARIARDA.

⁷Army Flier, 5 Sep 91.

C. Joint Helicopter Training

Fourteen U.S. Air Force students completed undergraduate helicopter pilot training during 1991, and no new students began training. The Air Force ordered that the training of Air Force helicopter pilots be reduced to ten students per year during fiscal years 1992 through 1994. During that period, the 3588th Flying Training Squadron was replaced at Fort Rucker by Detachment 1, 14th Flying Training Wing, and the number of permanent party Air Force training personnel was sharply reduced.⁸

The DOD completed a draft report for coordination in mid 1991 with the recommendation that Navy fixed wing undergraduate training for rotary wing pilots was not cost effective or justified. The report estimated that the elimination of the separate Navy training would save millions of dollars in training and aircraft costs. Furthermore, the report noted that resources to train Navy rotary wing pilots were not being effectively utilized, and that neither safety nor cost efficiency were being promoted.⁹

At the request of the chief of Naval education and training, the Interservice Training Review Organization agreed to study the potential for interservice undergraduate helicopter pilot training. Phases one and two of the study consisted of meetings and tours of the facilities at Fort Rucker from 26 through 30 August 1991. Service representatives were to discuss training requirements, student input by fiscal year, and facilities requirements/capacity.¹⁰ In a visit to Fort Rucker in August, Alabama Senator Richard Shelby stated that moving Naval helicopter training to Fort Rucker was a logical step and that it was not a question of whether it would happen but rather of when.¹¹

⁸Historical report, Det 1/14 FTW, CY 91; Special Order (G-2), 1 Oct 91, Department of the Air Force, Headquarters Air Training Command, Det 1/14 FTW; Msg R 122200Z Jul 91, HQ USAF to Randolph AFB, sub: AF representation at Ft. Rucker, AL, Det 1/14th FTW; Msg 151446Z May 91, HQ USAF, ATC Randolph AFB, sub: undergraduate helicopter flying training, DET 1/14th FTW.

⁹E-mail note, Mary E Brown to all cdrs/dirs, 31 May 91, sub: Navy consolidation update, Chapter II file.

¹⁰Msg R091300Z Jul 91, cdr TRADOC to distr, sub: ITRO study--undergraduate helicopter pilot training; Msg 131330Z Aug 91, cdr USAAVNC for distr, sub: SAB; Msg 131335Z Aug 91, cdr USAAVNC to distr, sub: SAB, all in CG file.

¹¹Army Flier, 29 Aug 91.

D. Simulator Training

The trend toward increased use of simulators for aviator training continued during 1991. Greater use of simulators was necessary because of decreasing training budgets, but operating and upgrading simulators so as to be able to train effectively also constituted considerable expenditure and investment.

In June 1991 the Aviation Center reported a need for a second combat mission simulator. The Center reported that it could not train the required 452 AH-64 aviators during the current year with only one combat mission simulator. Furthermore, even more AH-64 aviators were scheduled for training in subsequent years and Fort Rucker's existing combat mission simulator was also scheduled to undergo an update in 1992, which would make it inoperable for approximately five weeks. As a result of budget reductions, AH-64 training had been reduced from fourteen to ten weeks. At that time students received considerable additional training at the Apache Training Brigade. By 1991, however, fewer than one-half of the USAAVNC Apache graduates went to the Apache Training Brigade; the majority went directly to units to replace other pilots. Consequently, the USAAVNC submitted a request to TRADOC to increase training to twelve weeks. It was estimated that the twelve-week training, with only one combat mission simulator at Fort Rucker, would cost \$2,300,000 more than the twelve-week training with two simulators. Furthermore, with two simulators, the 2-229th Aviation and other Forces Command (FORSCOM) attack helicopter units could also train at Fort Rucker.¹²

In 1991, the AH-1 camera model, terrain board simulator system, used for training AH-1 aviators since the 1970s, was removed to make space for two much more modern simulators. The terrain board system was to be replaced by an AH-64 combat mission simulator and a UH-60 flight simulator.¹³

During 1991 the ARIARDA evaluated the effectiveness of the AH-64 combat mission simulator in sustaining crew gunnery proficiency. The results failed to indicate combat mission simulator gunnery training effectiveness; gunnery skill enhancement was not detected in the simulator group's performance, and gunnery skill decay was not found in the control group. The failure to demonstrate the training effectiveness of the combat

¹²Msg 1641600Z Jun 91, cdr USAAVNC to cdr TRADOC, sub: request for AH-64 combat mission simulator, CG file.

¹³Army Flier, 1 Aug 91.

mission simulator was judged to be because of the high skill levels of the aviators and the lack of skill decay in the control group during the short six-month period of the evaluation.¹⁴

Another ARIARDA experiment during 1991 evaluated the effectiveness of the AH-1 flight and weapons simulator for sustaining crew gunnery proficiency in the AH-1F helicopter. The results indicated that the flight and weapons simulator was moderately effective in sustaining crew gunnery proficiency. Compared to the control group, the groups using the simulator achieved improved first run performance, required fewer runs and engagements to qualify, and required fewer rockets to qualify. The results also indicated that quarterly training in the simulator was as effective as monthly training for sustaining aerial gunnery skills, but some questions remained about the effect of recency of training.¹⁵

The twenty-two UH-1 synthetic flight trainer systems used to provide initial instrument training and UH-1 specific training to aviators were becoming logistically insupportable because of the lack of repair parts to support the computers. A materiel change had been approved to upgrade the systems with new computers but had not been funded. The USAAVNC reported that failure to upgrade would result in a gradual shutdown of the systems and that, without simulators, training could not be accomplished or could only be accomplished by flying helicopter hours.¹⁶

It was announced in 1991 that the USAAVNC would acquire four data automated tower simulators for air traffic control training. These simulators were scheduled to be ready for use by January 1993 and were expected to improve effectiveness and reduce cost of air traffic control training.¹⁷

Using Army aviation assets to their full potential and accurately measuring their successes continued to be a challenge for the Army Aviation Branch during 1991. In

¹⁴Report, "Training Effectiveness of the AH-64A Combat Mission Simulator for Sustaining Gunnery Skills," Oct 91, ARIARDA.

¹⁵Report, "Effectiveness of the AH-1 Flight and Weapons Simulator for Sustaining Aerial Gunnery Skills," Dec 91, ARIARDA.

¹⁶Msg 051551Z Aug 91, Cdr USAAVNC to Cdr TSA Ft Lee, sub: operating and support cost reduction, CG file.

¹⁷Army Flier, 1 Aug 91.

October, FORSCOM headquarters hosted an air-ground engagement simulation II council of colonels meeting in Atlanta, GA. The council of colonels meeting was concerned with the progress of the program since August 1990 when the last general officer level executive steering group was conducted. Data from the last National Training Center rotation, which used the 4th Infantry Division aviation assets from Fort Carson, CO, were available at the Atlanta meeting. Another conference dealing with the concern about the lack of Army aviation participation at the Joint Readiness Training Center was held at Fort Leavenworth on 8 and 9 October 1991. The Fort Leavenworth meeting had the two-fold purpose of establishing a clear statement of the doctrinal requirements and related training objectives for aviation at the combat training centers and of discussing specifics and problems of aviation participation at the centers.¹⁸

In October 1991, the U.S. Army Combined Arms Center (USACAC) at Fort Leavenworth requested DA assistance in obtaining multiple integrated laser engagement simulation telescopic sight units for use by aviation units of the 101st and 82nd Airborne Divisions at the Joint Readiness Training Center. The AH-1 helicopters used by these units were not outfitted with a multiple integrated laser engagement simulation transmitter. Several options were suggested by USACAC as interim fixes until the problem could be permanently solved.¹⁹

E. Enlisted Training at Fort Rucker

A total of 1,350 enlisted soldiers completed advanced individual training at Fort Rucker during calendar year 1991. For fiscal year 1991, the total was 1,429. The numbers of students completing each class during the fiscal year were as follows: 67N10--411 students; 67V10--223; 93B10--168; 93C10--209; and 93P10--418. Forty-three percent fewer advanced individual training students graduated in fiscal year 1991 than in fiscal year 1990.²⁰

¹⁸Msg P 181700Z Sep 91, PEO Avn to distr, sub: announcement of AGES II council of colonels meeting 4 October 1991, CG file; Msg R 011630Z Oct 91, cdr USACAC to DA, sub: Army Aviation at the combat training centers, CG file.

¹⁹Msg R 25 1720Z Oct 91, cdr USACAC to DA, sub: AH-1 MILES TSU/threat radar target generator, CG file.

²⁰Academic records report, Chapter II file; Report, "Enlisted Courses, FY 91," DOET; Historical report, DOET, CY 91.

Enlisted aeroscout observer training began in 1984; the precise skills taught and the amount and type of training varied during the ensuing five years. In early 1991, the commanding general ordered an increase in hands-on flight training of enlisted aeroscout observers in order to achieve more proficient observers. Accordingly he issued instructions to increase hands-on flight training from 9.1 hours to 15 hours and to include flight evaluation to ensure that standards were fully met. The aircraft training manual, "Observation Helicopter, OH 58A/C" was changed accordingly. The increase in hands-on flight training was accomplished without additional resources.²¹

A critical task site selection board, coordinated by the Enlisted Training Branch of DOTD, was conducted at Fort Rucker from 9 through 13 December. Board members selected critical military occupational specialty tasks for resident and unit training for air traffic control equipment repairers.²²

In accordance with guidance from the Department of the Army and TRADOC, the USAAVNC began taking steps during the latter part of 1990 to replace the skill qualification test for enlisted soldiers with the self development test. A senior noncommissioned officer was sent to a conference/workshop on the new test, and work started on the development of tests for military occupational specialist 93P, 93C, and 93B during November 1990. All career management field 93 tests were completed by June 1991. The 68 series tests were developed at Fort Gordon.²³

F. Helicopter School of the Americas

On 28 May 1991, the TRADOC commander, the USAAVNC commander, and the commandant of the School of the Americas signed a memorandum of agreement establishing the Helicopter School Battalion as a an activity jointly operated at Fort Rucker by the School of the Americas and the USAAVNC. This memorandum assigned the USAAVNC and the School of the Americas the mission of training Latin American

²¹Ltr, Maj Gen Rudolph Ostovich III to Col Palmer J Penny III, 11 Feb 91, CG file.

²²Msg 121000Z Nov 91, cdr USAAVNC to cdr Signal Center, sub: MOS 93D air traffic control equipment repairer critical task and site selection board, CG file.

²³Msg R 031500Z Jul 90, CSA Wash DC to ALARACT, sub: soldier SQT and NCO self development test...,DOET; Msg P 282300Z Sep 90, cdr TRADOC, to distr, sub: self development test implementation conference, DOET; Memo (350-1d), Sgt Maj William F Broder for DOTD, 10 Jun 91, sub: 93B self development test, DOET; Historical report, DOET, CY 91.

students in aviation and maintenance specialties in their native language. The Helicopter School Battalion commander was to be rated by the commandant of the School of the Americas and senior rated by the commanding general of the USAAVNC. The Helicopter School Battalion was activated at Fort Rucker on 2 December 1991.²⁴

Also in 1991, Headquarters, TRADOC, recommended the transfer of all Spanish language helicopter training (including the maintenance training mission of the Inter-American Air Force Academy) to the Army. Consequently, plans were underway at the end of the year for the organization of a subunit of the Helicopter School Battalion at Fort Eustis for Spanish language maintenance training under the auspices of the USAALS. The goal was to integrate the Spanish language training mission at the USAALS similarly to the way it was being done at Fort Rucker. The training costs were to be reimbursable and the unit would be funded through the School of the Americas.²⁵ Preparations were also underway during 1991 to provide Spanish language maintenance instruction in the programs of instruction managed at Fort Rucker. These included the 67N10 and 67V10 courses.²⁶

G. Foreign Internal Defense Program

In 1991, the commander-in-chief of the Southern Command announced the intention to advance the Foreign Internal Defense program from the concept to the field implementation stage with requisite component personnel. The Aviation Center commander had been briefed more than a year earlier on a similar Air Force Southern Command proposal to develop an aviation wing to train Third World countries in both fixed and rotary wing aircraft. The USAAVNC supported the Southern Command fixed wing aviation concept as a potentially effective instrument for achieving U.S. global objectives. USAAVNC leaders expressed concern, however, that the emerging Southern

²⁴"Memorandum of Agreement between United States Army Aviation Center and United States Army School of the Americas," 28 May 91, Chapter II file; Program of activation ceremony, 2 Dec 91, Chapter II file.

²⁵Msg R 131321Z Jun 91, cdr TRADOC to HQ DA, sub: transfer of helicopter maintenance training mission..., CG file; Memo ATZQ-DPT-P, Maj Gen John D Robinson for Col William J Blair, 13 Nov 91, sub: Helicopter School Battalion training mission, CG file, also USAALS DCD.

²⁶Memo ATZQ-TDI-E (351e), Col James W Beauchamp, for DOET, 16 Aug 91, sub: preparation of course administrative data and program of instruction, DOET; Memo ATZQ-DPT, Col Ralph J W K Hiatt for DOTD, 8 Aug 91, sub: request for assistance in preparation of maintenance training CADs, DOET.

Command rotary wing training program and goals were in direct competition for the same scarce helicopter-qualified personnel resources needed to meet the USAAVNC mission-- especially the Spanish language helicopter training for Latin American nations.

The Aviation Center trained approximately 340 Latin American helicopter pilots between 1984 and 1991, and the program was still expanding rapidly in 1991. The Spanish language helicopter training battalion was organized in direct response to the Southern Command's needs. It was designed to continue the already existing flight training while offering additional maintenance test pilot, maintenance management, technical inspector, and advanced mechanic training programs. It was also intended to offer limited external support, surveys, and mobile training. The USAAVNC had the only concentration of personnel and equipment that met the Latin American portion of the foreign internal defense requirement. These resources were being consumed in meeting the existing mission of training Latin American helicopter personnel, and any near-term diversion for the foreign internal defense initiative would severely impact on the ongoing training program for Latin Americans and would also duplicate the established USAAVNC roles and missions.²⁷

Notwithstanding the reservations expressed by the USAAVNC, a joint foreign internal defense conference, held in August 1991, adopted plans and milestones which affected the Aviation Center and Branch. At the conference, it was agreed that Southern Command would take the lead on aviation development and that the initial supported region would be the Southern Command with eventual expansion to additional theaters. Areas examined at the conference included indirect support, direct support (not involving combat operations), roles, missions, tasks, areas of mutual support, coordination, and action milestones to be accomplished. The plan was to support the internal defense and development strategy of selected developing nations; and to train, advise, and assist host nation military, para-military, and other U.S. government agencies on the development, employment, and sustainment of the aviation resources of developing nations for the purpose of freeing and protecting their societies from subversion, lawlessness, and insurgency.

The initial country surveys were planned for October 1991 to define and quantify Southern Command foreign internal defense requirements. Southern Command's objective was to have a functioning limited operational capability no later than March 1992. Air Force Southern Command was to conduct fixed wing foreign internal defense

²⁷Msg 231500 Jul 91, cdr USAAVNC to distr, sub: foreign internal defense aviation, CG file.

operations, and the U.S. Southern Command would manage joint aviation development strategy.

The DA, effectively the USAAVNC, was to assist Southern Command by providing language qualified helicopter aircrew members and maintenance personnel to survey the foreign internal defense potential of selected countries in the Southern Command. The Army Southern Command was to establish an aviation foreign internal defense proponent office for U.S. Army aviation programs. The Army would also identify capabilities to conduct rotary wing foreign internal defense operations and mission support as required.²⁸

H. Other Training

During 1991, 120 students graduated from Spanish language courses and 72, from European/North Atlantic Treaty Organization aviation courses. Twenty-seven officers completed the Officer Air Traffic Control course.²⁹

The USAAVNC was scheduled to train more than 170 Individual Ready Reserve aviators during fiscal year 1991 and 300 during fiscal year 1992. The success of this program was demonstrated during Operation Desert Shield/Storm by the minimal post-mobilization training required by those aviators given prior training in the program. With the increasing numbers of students, there was a corresponding need for more instructors. The Aviation Center accordingly requested that twenty-eight additional instructor positions be created in the Aviation Training Brigade (Augmentation).³⁰

As a result of a lesson learned during Operations Desert Shield/Storm, the USAAVNC initiated plans for appointing aviation survival equipment/electronic warfare officers within aviation units and for developing a formal instruction program for these officers. As 1991 drew to a close, the Aviation Center was developing a two-week aviation survival equipment/electronic warfare training program and planned to obtain DA

²⁸Msg, R 231930Z Aug 91, USCINCSOC to distr, sub: summary of USCINC joint foreign internal defense...aviation development conference, CG file.

²⁹Academic records report, Chapter II file.

³⁰Memo ATZQ-CG, Maj Gen Rudolph Ostovich III thru cdr TRADOC for chief, Army Reserve, 19 Jun 91, sub: designation of drilling individual mobilization augmentee, CG file.

authorization to award graduates an additional skill identifier. The USAAVNC recommended that aviation units select officers for this duty forthwith. Pending the initiation of the training course, these officers could serve as unit subject matters experts and disseminate and upgrade survival equipment/electronic warfare information within their respective units.³¹

A training team from Fort Rucker, headed by Col. Michael K. Mehaffey spent a week in Peru and a week in Brazil during 1991 as part of the secretary of the Army's Latin American Cooperation program. The training team discussed aviation brigade operations, army airspace command and control, air assault operation, and aviation logistics during the training visit.³²

One of the training exercises of the 46th Engineers during 1991 consisted of a six-week project in Arizona. Company B of the 46th was a part of a joint task force assigned to improve roads along the border between Arizona and Mexico to permit more effective drug enforcement along that border.³³ Other training projects of the 46th Engineer Battalion included the construction of a handicap sidewalk at Camp Alaflo, a youth camp near Fort Rucker; demolition of a large obsolescent building on Fort Rucker and landscaping of the site; and construction of two security walls in the Tank Hill storage area.³⁴

The 2-229th Attack Helicopter Regiment deployed to Fort Benning, GA, in December for a field training and aerial gunnery exercise. The regiment deployed with approximately 350 soldiers, 18 AH-64 helicopters, 13 OH-58 helicopters, and ground support vehicles for the period of 3-9 December. The highly successful exercise culminated with an Air Force joint air attack.³⁵

³¹Memo ATZQ-CG (340d), Maj Gen John D Robinson for cdr 4th Brigade, 1st Armored Division, 20 Nov 91, sub: establishment of aviation unit aviation unit aviation survival equipment/electronic warfare officers, CG file.

³²Army Flier, 8 Aug 91.

³³Army Flier, 7 Nov 91.

³⁴Frag orders 92023, 91055, 91030 to 46th Engineer Battalion annual training plan, 05080L Dec 91, 03080L Oct 91, 120830L Aug 91, 1st Avn Bde.

³⁵Memo, ATZQ-DPT-P (310-1q), Col Ralph J W K Hiatt, for distr, 30 Oct 91, sub: installation support for the 2-229th Avn....., DPTMSEC; Historical report, 1st Avn Bde, CY 91.

Graduates from the advanced and initial entry aviator courses were encouraged to remain at Fort Rucker after graduation to obtain air assault training.³⁶ Eleven regular air assault classes, consisting of 1,120 soldiers, were conducted in 1991. Additionally, three critical leaders classes with 76 graduates, two rappelmaster classes with 10 graduates, and the first ever air assault challenge class, with 24 teams finishing the competition, were conducted in 1991.³⁷

I. Commissioned Officer Leader Development

The Aviation Officer Basic course was reorganized in 1990, and a new two-phase course was implemented on 12 September of that year. Phase one consisted of common core training and lasted four weeks, after which the lieutenants completed between thirty-six and forty weeks of initial entry rotary wing training. The new pilots then entered phase two of officer basic leadership training. This phase concentrated on leadership skills necessary for an aviation platoon leader. In early 1991, eighty-four officers graduated; they had begun the basic course as the last class before reorganization was implemented. A total of 416 officers completed phase I of the basic course, and the 114 officers who had completed phase I in 1990 completed the initial entry aviator training and phase II of the basic officer course during 1991. These numbers compared to 543 officers that completed the old officer basic course in 1990.³⁸

During 1991 there were 378 graduates from the Aviation Officer Advanced course and 83 from the Pre-Command course.³⁹

The small group instruction program for the advanced course was scrutinized in 1991 to determine whether it could be supported during a period of declining training budgets and also whether the program should be left in the 1st Aviation Brigade or transferred to a teaching department. There was general consensus that the program should be continued, notwithstanding the high cost, because it was deemed to be inherently valuable. It was conceded that the program would probably be more cost-

³⁶Memo, ATZQ-PAG-PT (340a), Col Patrick J Bodelson for distr, 8 Oct 91, sub: attendance at air assault training, Chapter II file.

³⁷Historical report, 1st Avn Bde, CY 91.

³⁸Academic records report, Chapter II file; Kitchens and Wright, AHR 1991, p. 43.

³⁹Academic records report, Chapter II file.

effective if it were transferred to a teaching department so that the small group instructors would be able to perform other teaching tasks. Other USAAVNC leaders argued persuasively, however, that the program was more effectively placed, as it was, in the 1st Aviation Brigade, where it was in a chain of command dedicated to advanced course instruction, which tended to promote total leader development. The decision was to leave the small group instruction program in the 1st Aviation Brigade.⁴⁰

During a visit to Fort Rucker in October of 1991, the TRADOC commander recommended that the small group instructors be sent to the National Training Center as part of their train-up program. As a follow-up General Robinson urged that all small group instructors get National Training Center experience during their training period if possible.⁴¹

J. Warrant Officer Leader Development

During 1991, 621 aviator candidates and 407 non-aviators completed the Warrant Officer Candidate School. The significantly higher corresponding figures for 1990 were 863 and 646 respectively. During 1991, 81 warrant officers completed the Master Warrant Officer Training course, and 130 aviation warrant officers graduated from the Senior Warrant Officer Training course.⁴²

Planning for the consolidation of warrant officer candidate initial entry rotary wing training was accomplished in 1991 and was scheduled to be implemented in 1992. Planning for the implementation of a Warrant Officer Basic course was also initiated in 1991. The course was modeled on phase III of the Aviation Officer Basic course, and was slated to begin in April 1992.⁴³

The Department of the Army and TRADOC initiated the Warrant Officer Leader Development Plan in 1990, but little progress was made until 1991. In April 1991, a leader development decision network, consisting of representatives from DA DCSOPS

⁴⁰Copies of slides, "SGI Decision Briefing," and historian's notes, 20 May 91, Chapter II file.

⁴¹E-mail note, Col Patrick J Bodelson to all cdrs/dirs, 8 Oct 91, sub: taskers from Gen Franks visit, Chap I file.

⁴²Academic records report, Chapter II file: Kitchens and Wright, 1990 AHR, p. 46.

⁴³Historical report, 1st Avn Bde, CY 91.

(proponent), DA DCSPER, TRADOC (action agency) PERSCOM, USASOC, USAREUR, FORSCOM, USAAVNC, and the Center for Army Leadership. In-process reviews were conducted at Fort Monroe on 29-30 May and 10-12 July and at Fort Lee on 31 July-2 August. A workshop was conducted on 27-29 August and a draft plan was developed in October and November for submission to the DA in November. Issues addressed included the leader development process, civilian education, accession and retention, duties and responsibilities, personnel management, warrant officer insignia, and training and professional development.

The following recommendations were made in the draft plan prepared for submission to the DA: (1) require military qualification standards and life cycle models for warrant officers; (2) adopt proponents review position coding to ensure progressive and sequential assignment opportunities; (3) require high school or equivalent upon accession and associate degree or equivalent as a goal prior to change to career status; (4) require an associate degree or equivalent by eighth year and a full degree or equivalent by fourteenth year of warrant officer service; (5) adopt five years of service as the average accession for aviators and eight years for other warrant officers; (6) adopt twenty-four years as the average retirement point for all warrant officers; (7) encourage education and incorporate warrant leadership responsibilities in appropriate publications; (8) pin-point assignments for master warrant officers and require assignment to a properly coded position with notice to DA when not properly coded; (9) conduct technical certification courses in lower stress environment; (10) establish a warrant officer career college; (11) change master warrant officer training to professional development for all warrant officers upon selection to chief warrant officer four and provide no special training for master warrant officers; and (12) implement appointment to warrant officer one upon completion of Warrant Officer Candidate School.⁴⁴

The draft Warrant Officer Leader Development Action Plan was staffed with proponent branches, major commands, and leader development decision network agencies during the latter part of 1991. The TRADOC commander proposed in September 1991 that a general officer steering committee meeting be held on 29-30 October 1991 to discuss the plan in preparation for presentation to the chief of staff of the Army in November or December.⁴⁵

⁴⁴Briefing papers, "Warrant Officer Leader Development Action Plan," AP

⁴⁵Msg 1911507 Sep 91, cdr TRADOC to distr, sub: WO LDDN general officer steering committee, CG file.

K. Noncommissioned Officer Leader Development at Fort Rucker

There were ninety-seven graduates from the Advanced Noncommissioned Officer course in 1991. Of this total, thirty-nine completed 68P40, ten completed 93D40, eighteen completed 93C40, and thirty completed 93P40. During the year, the Basic Noncommissioned Officer course graduated 298 students in the following courses: twelve in 68L30, thirty-eight in 68N30, nineteen in 68R30, thirty-six in 93D30, ninety-seven in 93D30, nineteen in 93B30, and fifty-five in 93P30. For comparative purposes, there were 83 advanced course and 301 basic course graduates in 1990.⁴⁶

During mid-1991, the Aviation Center NCOA was instructed to prepare to increase its student load by 50 percent. This expansion required additional space and personnel and also considerable planning. By October all preparations were completed and new plans of instruction were implemented. Also, a new field training exercise scenario was developed to bring more real-life experience to student training.⁴⁷

L. Aviation Logistics Training and Leader Development

During calendar year 1991, the USAALS trained 4,134 students. Of these, 559 were officers, 796 were noncommissioned officers (advanced and basic noncommissioned officers courses), 2,384 were enlisted, and 395 were officers and enlisted personnel given aviation life support equipment training. A total of 2,027 skill level 1 (advanced individual training) students were trained in career management field 67. Of these, 29 were trained in 67A10, 17 in 67H10, 256 in 67R10, 89 in 67S10, 386 in 67T10, 290 in 67U10, 125 in 67Y10, 200 in 68B10, 99 in 68D10, 94 in 68F10, 126 in 68G10, and 316 in 68J10. During 1991, USAALS also trained 675 additional skill identifier students, and 77 students were trained in the 67R2/30 (T) AH-64 Aircraft Maintenance Transition course.

In the area of leader development, 558 students completed Basic Noncommissioned Officer course training, and 238 students completed Advanced Noncommissioned Officer course training. The corresponding figures for 1990 were 614 basic and 269 advanced course graduates. The noncommissioned officers completed

⁴⁶Academic records report, Chapter II file; Kitchens and Wright, 1990 AHR, p. 47.

⁴⁷Historical report, NCOA, CY 91.

leadership training in the U.S. Army Transportation Center Noncommissioned Officer Academy before beginning their aviation logistics and technical training in the USAALS. Of basic course students, 8 were trained in 67H30, 111 in 67N30, 28 in 67R30, 7 in 67S30, 78 in 67T30, 63 in 67U30, 54 in 67V30, 47 in 67Y30, 27 in 68B30, 24 in 68D30, 15 in 68F30, 26 in 68G30, 6 in 68H30, 50 in 68J30 (AH-1), and 14 in 68J30 (AH-64) military occupational specialties. Of the advanced course students, 8 were trained in 67H40, 30 in 67R40, 74 in 67T40, 27 in 67U40, 55 in 67Y40, 25 in 68K40, 13 in 68J40, and 6 in 68J/X40 specialties. During 1991, 449 officers graduated from the Maintenance Management/Maintenance Test Pilot course; 19 from the Aviation Maintenance Technician course, and 91 from the Aircraft Armament Maintenance Technician course in 1990. For comparative purposes, 491 officers completed the Test Pilot course in 1990.⁴⁸

In April 1991 the DA approved the USAALS-proposed establishment of military occupational specialty 68X10 (armament/electrical systems repairer). The changes effected by the creation of the new specialty and the consequent revision of the standards of grade authorization of several other specialties were to be included in the October 1991 update of AR 611-201.⁴⁹ Another change in AR 611-201 approved by the DA in 1991 authorized the establishment of military occupational specialty 67B (certified general aircraft repairer). This change was approved with the stipulation that an analysis of the overall prototype evaluation results be submitted to DA no later than July 1992.⁵⁰ The USAALS submitted a course administrative data to TRADOC for the new AH-64 Armament/Electrical System Repairer course to begin on 1 October 1991. With TRADOC's approval, the new course replaced ASIX1-68F AH-64 Aircraft Electrical Repairer and ASIX1-68J AH-64 Aircraft Armament/Missile System Repairer courses. The length of the new 68X10 course was twenty-two weeks, four days.⁵¹

⁴⁸Historical report, USAALS DOTD, CY 91; Fax msg, AC USAALS to cmd historian, 13 Jan 93, USAALS; Kitchens and Wright, 1991 AHR, p.49.

⁴⁹Memo ATNC-MOS-C (611-1a), Darrell A Worstine for distr, 23 Apr 91, sub: approved change to AR611-201..., USAALS DOTD & USAALS LD/PP.

⁵⁰Memo ATNC-MOS-C (611-1a), Darrel A. Worstine for cmdt USAALS, 23 May 91, sub: approved change to AR 611-201..., USAALS LD/PP.

⁵¹1st end ATOM-P (ATSQ-LTD-M/16 May 91) (351e), Col Paul Treolo Jr for cmdt USAALS, 10 Jun 91, sub: course administrative data for 646-68X10..., USAALS DOTD; Historical report, USAALS DOTD, CY 91.

In 1991 the USAALS DOTD completed the coordinating draft of the "Individual Training Guide" for the newly created military occupational specialty 67A10, apprentice aircraft mechanic. The guide identified individual training requirements for apprentice aircraft mechanics and supported the commanders' evaluations and aircraft repairer and aircraft component repairer competency evaluations.⁵²

The USAALS DOTD completed and submitted to TRADOC phase II of its distributive training strategy in June 1991. This goal of the plan was to reduce training costs by adopting the following three strategies: (1) consolidate military occupational specialties and additional skill identifiers; (2) eliminate some courses; and (3) develop prerequisite exportable training programs for resident training. The USAALS planned to use existing multi-media products and those under development to distribute appropriate training packages. The plan was to reduce resident training by 41 percent during phase II.⁵³

The Aviation Apprentice Mechanic program was the cornerstone of the USAALS' efforts to reduce resident training and consolidate both resident and exportable training. The apprentice program grouped twelve separate career management field 67 military occupational specialties under the umbrella of one training program. The courses that supported those twelve specialties ranged from ten to twenty-three weeks, but the apprentice program consolidated resident training into one nine-week advanced individual training course and exported the remainder of the training to the field. It was planned for distributed training products to enhance or substitute for on-the-job training.⁵⁴

Negotiations in early 1991 between the USAAVNC/USAALS and the 5th Infantry Division resulted in an agreement to test the Aviation Apprentice Mechanic program in Company F, 5th Aviation Regiment, at Fort Polk, LA, and at Fort Eustis during 1991. This agreement was formalized in a memorandum of agreement later in the year. The agreement provided for groups of approximately twelve advanced individual training students to complete the short training course at Fort Eustis and then be sent to Fort Polk for the remainder of their training under the auspices of the test unit established there.

⁵²"Individual Training Guide, 67A10, MOS 67A Apprentice Aircraft Mechanic," coordinating draft, HQDA, Feb 91, USAALS DOTD.

⁵³Memo ATSQ-LTD-D (70-1a), Col William J Blair for cdr TRADOC, 5 Jun 91, sub: phase II distributed training strategy, also encl, USAALS DOTD.

⁵⁴Ibid; Memo ATSQ-LTD-D (70-1a), Col Robert B Terry Jr for cdr TRADOC, 17 Jun 91, sub: multimedia training proposal for Army Aviation Apprentice Mechanic program, USAALS DOTD.

The students were to arrive at Fort Polk at approximately eleven-week intervals. Early in 1991, several senior noncommissioned officers from USAALS were sent from Fort Eustis to Fort Polk to administer the apprentice program.⁵⁵

⁵⁵Memo ATSQ-LPN (611), Maj Gen Rudolph Ostovich III for distr, 28 Feb 91, sub: memorandum of agreement, also the encl consisting of an unsigned undated copy of the agreement, USAALS LD/PP; Historical report, USAALS DAHT.

CHAPTER III

DOCTRINE AND COMBAT DEVELOPMENTS

A. Doctrine and Force Design

The USAAVNC completed the first draft of the Aviation Branch operations concept describing the roles, missions, and functions of aviation under the air-land operations umbrella concept in January 1991. After being staffed at Fort Rucker and with the U.S. Army Aviation Logistics School (USAALS), the concept was briefed to the USAAVNC commanding general and assistant commandant in late January. The revised concept was briefed to the commanding general and assistant commandant in June and then to the new commanding general and assistant commandant in October 1991. It was then staffed worldwide in December in preparation for submission to the U.S. Army Combined Arms Center (USACAC) by February 1992.¹ The Aviation Branch concept was to accompany the TRADOC air-land operations concept published in 1991; it described how aviation would play in an air-land operations type environment and was designed to support whatever doctrine might eventually emerge on the subject.²

During 1991, the USAAVNC commander and staff reviewed a concept paper on armor forces prepared by the commandant of the U.S. Army Armor School. The USAAVNC comments focused on three issues, viz: deployability, fratricide, and cavalry. With regard to deployability, the USAAVNC conceded that lighter main battle tanks and smaller battalions to improve heavy force deployability were part of the answer but observed that improved deployability overshadowed the real contribution that heavy forces could offer. The USAAVNC suggested that plans to expand the size of other future weapons should also be reviewed by Armor in developing its own doctrine. With regard to fratricide, the USAAVNC observed that new systems like Longbow Apache, the Air Force F/A-16, and anti-helicopter tank rounds could well increase fratricide unless improvements were made in combat identification and close support procedures. Close cooperation would be necessary to ensure that close combat relationships with ground maneuver brigades and cavalry regiments be accomplished without friendly fire casualties. Finally, the USAAVNC expressed concern that Armor's concept paper did not discuss the contributions of aviation to the total cavalry force. The USAAVNC argued that integrated air and ground forces must be employed at all levels and that recent combat

¹Historical report, DCD, CY 91.

²Transcript of oral interview with Col Theodore Sendak, by author, 16 Apr 92, Oral History file.

experience and war gaming suggested that, in contradiction to the Armor concept, the light cavalry regiment needed at least two armed reconnaissance squadrons to ensure that corps and theater commanders could find and verify distant threats early in any contingency and turn them into targets.³

The Fort Rucker Directorate of Combat Developments (DCD) developed several enabling concepts for aviation; these related to the following: command, control, and communications; air traffic control; forward arming and refueling point; intra-theater cargo; aerial mine warfare; and identification of targets deep in enemy territory. It was expected that once the overall doctrine was developed, these concepts would become the doctrine for aviation. The aviation forward arming and refueling concept statement was researched, written, and staffed worldwide. This concept concerned the palletized load system and its revolutionary approach to future forward arming and refueling point operations. It was approved by the USAAVNC and forwarded to the USACAC for approval. The air traffic services concept was also researched, written and staffed worldwide. This concept provided a new conceptual approach to incorporating air traffic services across the operational continuum. It was briefed to the USAAVNC commander in 1991 and was scheduled to be submitted to the USACAC early in 1992. The command, control, and communication concept draft was developed to describe the required capabilities for Army aviation command and control. The concept statement was released for worldwide staffing in December 1991.⁴

The air-to-air combat test number two began in 1991 with initial approved funding of \$5.1 million. The test was delayed when the designated test unit was deployed to support Operation Desert Storm. The USAAVNC commander then decided to complete the testing using the Air Network/Simulator Network warfighting simulator located at Fort Rucker.⁵ According to the USAAVNC director of Combat Development, "air combat" would possibly be a better term for the concept than air-to-air combat since the Army aviation mission was to support the ground commander. Furthermore, air combat was to be a capability and not a mission, but if engaged by an air threat, self defense ability would be essential. There was no intended challenge to the Air Force, which had

³Memo ATZQ-CG (5), Maj Gen John D Robinson, for Maj Gen Thomas Foley, 19 Aug 91, sub: branch operational concept for the total armor force, CG file; Transcript of oral interview with Col Theodore Sendak, 16 Apr 92, Oral History file.

⁴Transcript of oral interview with Col Theodore Sendak, by author, 16 Apr 92, Oral Interview file; Historical report, DCD, CY 91.

⁵Historical report, DCD, CY 91.

responsibility for air-to-air combat. A similar guideline applied to close-air-support. While fast moving aircraft were essential for some types of close-air-support, there were nevertheless situations in which helicopters would be more appropriate; the Army therefore needed to be prepared to provide close-air-support when required.⁶

On 15 October 1991, the vice chief of staff of the Army reaffirmed that the Army would conduct functional area assessments and that each branch proponent would be required to conduct one. Future assessments would remain branch oriented and focus on restructure of the Army while maintaining total force readiness. The principal focus would be on program years 1992-99. The purpose of the assessments was to examine the impact of the restructuring of specific functional areas and promote well coordinated, comprehensive, and cost-effective transition to a smaller force while maintaining emphasis on wartime readiness, maximizing combat power and accomplishing force modernization.⁷

The USAAVNC contracted the rewriting of the aviation mission planning system operational requirement document. The in-process reviews for the document were scheduled for October and November 1991. The document was to be staffed and returned to the contractor within five working days of the in-process review.⁸

During his visit to Fort Rucker in October, the TRADOC commander admonished the USAAVNC tactics and doctrine personnel to be certain that tactics and doctrine kept up with the AH-64. He observed that the advanced attack aircraft was being used mostly for missions that only required single function capabilities. He further observed that there was a need to think outside of this single function to the old cavalry concepts of movement to contact, screen, etc.⁹

⁶Transcript of oral interview with Col Theodore Sendak, by author, 16 Apr 92, Oral History file.

⁷Msg P R 041230Z Nov 91, cdr TRADOC to distr, sub: focus and conduct for future FAA (S: 13 Nov 91), CG file.

⁸Msg 220800 Oct 91, cdr USAAVNC to distr, sub: aviation mission planning system operational requirement document, CG file.

⁹E-Mail note, Col Bodelson to cdrs/dirs, 8 Oct 91, sub: taskers from General Franks' visit, Chapter I file.

Aviation System Program Review

The fourth meeting of the Council of Colonels and the second meeting of the General Officer Steering Committee of the Aviation System Program Review follow-up were held at Fort Rucker in August 1991. At that time recruiting was in progress for an echo company for the AH-64 battalion. The General Officer Steering Committee supported the following three concepts for resourcing in the total Army analysis: command aviation battalion; forward support battalion; and two pilots for the Kiowa Warrior. The committee supported the aviation brigade enhancement and the assistant crew chief (door gunner) issues for resourcing only as incremental change packages in the total Army analysis.¹⁰ An action officer review was held on 30 October 1991 at Forces Command (FORSCOM) headquarters on the activation of echo companies in the USAR AH-64 battalions.¹¹

The vice chief of staff of the Army approved both the aviation forward support battalion and the aviation brigade enhancements as advocated by the Aviation Branch and directed that these issues compete in the total Army analysis force structure. Both issues were also supported by the major command commanders present during the Aviation System Program Review in July. The TRADOC commander, however, decided not to support these two issues; the USAAVNC took issue with the TRADOC decision.¹²

Aviation Requirements for the Combat Structure of the Army (ARCSA) V

The Aviation Systems Program Review led to ARCSA V--a DA directed and TRADOC conducted effort to closely examine all the mission requirements for aviation and to determine what kinds of units would support these requirements. The study aimed at addressing the issue of building down the Army while providing air-land operations organizational designs. Phase one of the review, conducted primarily at Fort Leavenworth, identified the roles, missions, and functions of Army aviation in air-land operations. The phase one study group also developed an operational concept statement

¹⁰Memo ATZQ-CDI-C (5), cdr USAAVNC for VCSA, 30 Sep 91, sub: Aviation System Program Review, follow-up quarterly report, CG file.

¹¹Msg P 2318557 Oct 91, cdr FORSCOM to distr, sub: activation of USAR echo companies, AH-64 battalion, TSM ATAWS.

¹²Msg, cdr USAAVNC to cdr TRADOC (personal for Maj Gen Silvasy), sub: TAA 99 force structure issues, CG file.

for Army aviation. The USAAVNC assisted in analysis, development of alternative structures, creation of automated unit reference sheets, and other matters. Phase two of the study began to address the organizational requirements.¹³

One aspect of the ARCSA V review was the development of the appropriate scout/attack helicopter mix for an attack helicopter company. The recommended number of Apaches was derived from a mathematically-based estimate of the number of AH-64s that would be required to reduce a tank regiment to 30 percent of its strength in a one-time mass engagement. The number of scout aircraft was determined by fulfilling the command and control requirements of the AH-64s assigned to a company. The conclusion was that the deployment requirement for each attack helicopter company consisted of four RAH-66 Comanches and seven AH-64 Apaches.¹⁴

The commander of the Combined Arms Support Command (CASCOM) notified the USAAVNC commander in July 1991 that adequate support for aviation was available in Army corps on an area support basis, but that lessons learned from Desert Shield/Desert Storm clearly pointed to a combat service support force structure shortfall. Air-land operations support concepts were being independently developed, he observed, but there was not a clear alternative for both air-land operations and the plans being developed under auspices of ARCSA V. Therefore, he recommended that the air-land operations clear alternative aviation support structure, when approved, become the ARCSA V baseline. This approach, he concluded, would avoid conceptual and structural disconnects. The Aviation Center questioned both the premises and the recommendations of the CASCOM commander.¹⁵

Another ARCSA V issue that surfaced as a result of Operation Desert Storm was the determination of the proper mix, size, and physical location of aviation medical evacuation units on the battlefield. In November 1991, the commander of CASCOM tasked the Army Medical Department to reassess the medical evacuation doctrine for a force projection Army and to ensure that the aeromedical evacuation issue was addressed in the ARCSA V review. A major medical evacuation problem addressed during 1991

¹³Transcript of oral interview with Col Theodore Sendak by author, 16 Apr 92, Oral History file; Historical report, DCD, CY 91.

¹⁴Historical report, DCD, CY 89.

¹⁵Msg P 011200Z Jul 91, cdr CASCOM to cdr USAAVNC, sub: design of ARCSA V and air-land operations aviation support structure, also marginal notes on document, CG file.

was whether the then current organization and location of air evacuation units provided the necessary support.¹⁶

The ARCSA V study was put on hold in 1991 because the TRADOC commander determined that it was being conducted without adequate doctrinal base. According to the USAAVNC director of Combat Developments, however, many of the ideas that came out of the study were worthwhile, regardless of what doctrine would ultimately be developed. It called attention to and offered solutions to the problem of under-structured units in the Army of Excellence, and the aviation community continued trying to implement some of the ideas that were developed in the study even after the study was discontinued.¹⁷ Late in the year, the vice chief of staff of the Army approved suspension of the study until doctrine solidified and the Army determined its end-state force structure.¹⁸

Simultaneously with ARCSA V, the USAAVNC DCD conducted a parallel study called "Aviation 21." In this study, the DCD developed a force structure for Army aviation of the twenty-first century. This plan called for air cavalry to be structured with twelve aircraft per troop; this part of the plan had the support of the Armor branch. The plan also called for fifteen Black Hawks to replace the twenty-three Hueys in transporting an infantry company and for a Chinook company of twelve aircraft. For the attack battalion, it was decided that an affordable and very effective mix would be eighteen Apaches and twelve Comanches. The guidance the DCD used in building aviation units, with regard to both aircraft and personnel, was to build fightable units with adequate aircraft, pilots, staff, and maintainers. The idea was to use personnel and aircraft resources available to build fightable units even if some divisions or corps were left without aviation support. It was determined that sixteen divisions and three corps could be supplied with adequate supported aviation units with the expected aviation resources--leaving four divisions and one corps without aviation units.¹⁹

¹⁶Msg P 212200 7 Nov 91, cdr CASCOM to distr, sub: 5 Nov 91 CSS SPR update, CG file; Historical report, DCD, CY 91.

¹⁷Transcript of oral interview with Col Theodore Sendak by author, 16 Apr 92, Oral History file; Historical report, DCD, CY 91.

¹⁸Historical report, DCD, CY 91.

¹⁹Transcript of oral interview with Col Theodore Sendak by author, 16 Apr 92, Oral History file.

Total Force Integration

Throughout 1991, the Aviation Center and Aviation Branch worked diligently toward integrating Army aviation in the Army National Guard (ARNG) with total Army requirement. Maximum cooperation and effectiveness were sought in part by moving toward changing the policies and procedures that inhibited the early commitment of ARNG units.²⁰ The TRADOC commander commended the USAAVNC's emphasis on total force integration but added that much work remained to be done.²¹

In 1991, the chief of staff of the Army tasked FORSCOM to develop a reserve component enhancement action plan tailored to the reserve component environment and to available training time. Initial focus was on round-out/round-up brigades, subsequently expanded to all reserve component units. The fiscal year 1992 pilot program was to focus on round-out/round-up brigades and thirty crisis response force units. TRADOC agreed to support FORSCOM in training development and training support aspects of the program. The USAAVNC was tasked to provide assistance to a FORSCOM-led team that would develop strategies for the thirty crisis response force units. The 1-130th Attack Battalion and the 158th Aviation Regiment were the aviation units scheduled to be involved in the training program.²²

During the Aviation Systems Program Review of 1990, the vice chief of the Army approved the concept of an echo company in USAR units without equipment and directed that the concept be tested. The USACAC had the responsibility for evaluating the echo company concept and committed funds for the evaluation. As a result of several interruptions, however, the evaluation process was behind schedule in late 1991.²³

²⁰See, e.g., Ltr Maj Gen Rudolph Ostovich III to Col Arthur W Ries II, 18 Jun 91, CG file.

²¹E-Mail, Col Bodelson to cdrs/dirs, 8 Oct 91, sub: taskers from Gen Franks' visit, Chapter I file.

²²Msg P 182000Z, Nov 91, cdr TRADOC to cdr USAAVNC, sub: reserve component enhancement action plan (Bold Shift), CG file.

²³Msg R122140Z Sep 91, cdr USACAC to distr, sub: echo co (USAR) augmentation assessment, CG file.

Doctrinal Publications

During 1991 the Department of Tactics and Simulation published initial drafts of Field Manual 1-108 ("Tactics, Techniques, and Procedures for Arming and Refueling Points") and of air crew training manuals for utility, attack, cargo, and observation rotary-wing and utility fixed-wing aircraft. The Department also published coordinating drafts of Field Manual 1-114 ("Tactics, Techniques, and Procedures for the Regimental Aviation Squadron"), and Field Manual 1-116 ("Tactics, Techniques, and Procedures for Flight Operations and Airfield Management"). Although extensive research was conducted on Field Manual 1-300 ("Army Air Traffic Services Contingency and Combat Zone Operations"), the publication process was delayed pending final concept approval. At the end of the year, white papers in progress concerned aviation in low intensity conflicts and contingency operations.²⁴

Work on Field Manual 1-300, "Procedures for Flight Operations and Airfield Management," was discontinued during Operation Desert Storm but resumed following the cessation of hostilities. Input was solicited from all aviation units in the revision of this manual. It was necessary to expand the chapter on unit operations to provide aviation units with a broader spectrum of tactical operations information since nothing had been published outlining the responsibilities of aviation operations specialists assigned to higher echelons. The chapter dealing with flight records also underwent considerable change to reflect the ongoing process of automating flight records.²⁵

B. Army Aviation Modernization Plan

From the time of its initial publication in 1983, the Army Aviation Modernization Plan was the basis for the Army aviation portions of the successive editions of the DA Long Range Research, Development, and Acquisition Plan as well as the periodic program objective memoranda and associated extended planning annexes. Many changes occurred after 1983, however, that influenced the planning process. In addition to the notable increase in the sophistication and capabilities of the threat, the increasing capabilities of U.S. technologies, and the refining of the Army's force designs and force structure, the overall defense budget became increasingly constrained after 1988. Also,

²⁴Historical report, DOTS, CY 91.

²⁵Army Flier, 5 Sep 91.

the 1990 Aviation Systems Program Review and the shift in threat emphasis from a most likely European conflict to a most likely Third World conflict were reflected in the 1991 edition of the Army Aviation Modernization Plan.

The 1991 edition also reflected the decision of the secretary of Defense of 23 August 1990 to continue planning for the development of a new light helicopter. The overall thrust of the modernization plan was to field a fully sustainable combat force capable of rapid deployment and maximum lethality within budgetary and life-cycle management goals. Army aviation units were designed to be rapidly deployable organizations, streamlined to function more effectively and efficiently across the spectrum of conflict in joint and combined operations throughout the world. Through the application of the concept of continuous modernization, through reduction of the size of the fleet to ensure that advantage be taken of technology and that an affordable force structure be maintained, and through the replacement of over-age and obsolete aircraft with new or modified technologically superior systems, the Army aviation fleet was to maintain the needed war-fighting capabilities into the future. The 1991 modernization plan provided for reducing the Army rotary wing fleet from an inventory of approximately 8,600 to approximately 5,600 aircraft.²⁶

At the end of 1991, however, the Army aviation vision for the future of five basic airframes (Comanche, Apache, Black Hawk, CH-47, and OH-58D) was not particularly bright. The Comanche had been delayed and there was a question of selecting either the Comanche or of continuing with the Longbow upgrade of the Apache; the required number of Black Hawks was not being purchased; and there were no funds for the replacement of the CH-47D. Only the Apache program was going strong, but there was not adequate scout support for that aircraft.²⁷

C. Equipment Requirements

Army aviation technology base development was managed by the U.S. Army Aviation Systems Command (AVSCOM) with the USAAVNC Directorate of Combat Development (DCD) providing input concerning the priority of the users' needs in the area of research and development. The priorities established by the combat developers

²⁶"Army Aviation Modernization Plan, 1991, AVSCOM and USAAVNC, DCD, doc # A-I-40; Transcript of oral interview with Col Theodore Sendak, by author, 16 Apr 92, Oral History file.

²⁷Transcript of oral interview with Col Theodore Sendak, by author, 16 Apr 92.

were based on assessments of which research and development projects would have the most potential impact on future operational requirements of Army aviation. The following projects were given high priorities in the FY 1991 program prioritization memorandum submitted by the DCD to AVSCOM: air-to-air weapons, infrared expendables, helicopter battle damage repair, damaged aircraft recovery kit, advanced bore-sight equipment, improved high frequency radios, enhanced airborne target hand-over system, air-to-air Stinger missile recurring maintenance program test, multiple integrated laser engagement simulation with air-to-ground engagement system for air-to-air Stinger, M43 chemical/biological mask P31, laser protective device, Longbow Apache, Longbow engine development, T-800 engine, Hellfire production improvements, aviation combined arms tactical trainer, and OH-58D combat mission simulator. Army aviation research and development projects not managed by AVSCOM that were given high priority by the USAAVNC DCD included the following: advanced pilotage system, obstacle avoidance system, high performance armament system, Army combined arms weapon system, adhesive bonding/composite repair, and air crew/soldier integrated protective ensemble.²⁸

TRADOC conducted a TRADOC systems manager review in 1991 to generate recommendations on systems management in accordance with the DA mandate to reduce force size by 25 percent. The changes affecting the USAAVNC consisted of the following systems manager name changes: Army Helicopter Improvement Program to Kiowa Warrior, Light Helicopter to Comanche, and Simulator Networking Technology to Combined Arms Tactical Trainer.²⁹

AH-64 Apache

The AH-64 Apache, the Army's primary attack helicopter, was built to respond quickly to the heaviest enemy concentration and destroy, disrupt, or delay an attack long enough for friendly armor and troops to reach the area. The Apache's armament included Hellfire missiles, Hydra 70 rockets, and an M230 chain gun.

²⁸Memo ATZQ-CDI-P (70.1i), Col Theodore T Sendak for cdr AVSCOM, sub: Army aviation 6.3A, 6.3B, and 6.4 programs prioritization list, encls consist of two lists, DCD, doc # A-I-41; Memo ATZQ-CDP (870-5) Col Stephen S MacWillie for cmd historian, 16 Dec 92, sub: 1991 annual command history--staffing, DCD.

²⁹Msg P R 291710Z Oct 91, cdr TRADOC to distr, sub: FY 92/93 TRADOC System Manager Review, CG file.

The Apache helicopter gained a reputation for logistical problems that the Army and industry had been addressing for several years. According to Secretary of the Army Michael P.W. Stone, the Apache was put into production too soon during the Reagan administration's rapid defense buildup in the 1980s. By 1990, many of the problems that had plagued the Apache program had been resolved, and both Israel and Egypt purchased Apaches that year. In some circles, however, there was still considerable doubt about the Apache's effectiveness in combat when Operation Desert Storm began in early 1991. During the Gulf War, however, the Apaches used their night-fighting and standoff capabilities and dominated the battlefield; the aircraft proved itself to all but its most determined critics.³⁰

The principal problem that continued to plague AH-64 operations during 1991 were repeated failures of the shaft driven compressor. Although no serious accidents had resulted from this design problem, a corrective solution was made the number one priority of the newly established Apache readiness improvement program in 1991. The Aviation Center experienced forty-five failures of the latest model of the shaft driven compressor, and there were eighty-eight failures Army wide. At Fort Rucker sample data collection demonstrated a 184-hour mean time between failures. The USAAVNC, the AVSCOM, McDonnell Douglas Helicopter Company, and Allied Signal Company all investigated potential solutions to the problem.³¹ During 1991, however, the problem eluded resolution.

By the end of 1991, 132 of 194 Apache readiness deficiencies had been corrected, and, of the 16 top priority issues, only 8 continued to create problems. In addition to the shaft driven compressor failures, these consisted of the following: main rotor blade debonding; main rotor strap pack failures; field repair of lead lag links; 701c engine integration; APX-100 transponder mode 4; very high frequency radio problems; and pylon pivot wear/cracking. Of these eight issues, three had been resolved by the end of

³⁰See, e.g., Newsweek, 4 Mar 91, p. 34; Washington Post, 20 Feb 91; Army Flier, 7 Feb 91, and Burton Wright III, The United States Army Aviation Center and Fort Rucker during Operations Desert Shield and Desert Storm (Fort Rucker, AL: USAAVNC, 1992), pp. 17-41; Newsletter, "Apache: After the Storm," (McDonnell Douglas, Oct 91), TSM ATAWS; Memo ATZQ-CPD (870-5), Col Stephen S MacWillie for cmd historian, 16 Dec 92, sub: 1991 annual command history--staffing, DCD.

³¹Memo ATZQ-TPO-A, cdr USAAVNC for cdr AVSCOM, 25 Apr 91, sub: AH-64 shaft driven compressor failures, CG file; Memo ATZQ-TPO-A (70-1i), cdr USAAVNC for Col Donald L Adkison, sub: AH-64 shaft driven compressor failures, CG file.

1991, but, since replacements were on an attrition basis, the effect of the solutions was slow in materializing.³²

The TRADOC Project Office for Apache and the AH-64 Program Manager's Office hosted the 1991 world wide AH-64 User Conference at Fort Rucker from 5 to 8 August. The major issues addressed at the conference included the following: risks involved in pure Apache operations and the consequent requirement for a true scout helicopter; difficulties involved in joint operations with Air Force A-10s in Operation Desert Storm; identification friend or foe performance; manpower shortages; extended range fuel tank; Hellfire weapon system tester; reliability and availability of aircraft survivability equipment; modernization of ground support equipment; and the mobile training system. The Apache Project Office, AVSCOM, and industry expressed determination to resolve these and other problem issues as quickly as possible.³³

During 1991 combat developers at Fort Rucker developed Apache modernization plans for two new Apache models, the AH-64B and AH-64C. These changes were designed to increase the combat effectiveness of the Apache by incorporating capability improvements identified during Operation Desert Storm along with other proven upgrades. The changes planned for the B model consisted of the following improvements over the existing A model: avionics integration on a 1553B bus consisting of global positioning system, airborne target handover system, single channel ground/airborne radio system, high frequency radio, remote automatic direction finder, identification friend or foe and nap-of-the earth fixes; alternate laser coding, 30 mm gun fixes, target acquisition and detection system and pilot night vision system improvements, and a new battery. The C model would have all the improvements of the B model plus the following: integrated cockpit, electromagnetic interference hardening, vapor cycle cooling, new generators, two weapons processors, two pylon interface units, air-to-air missile capability, new airborne target handover system processor, global positioning system, inertial navigation, new doppler, alternate laser coding, and radio frequency missile capability.³⁴

³²Historical report, TSM ATAWS, CY 91; Memo ATZQ-CDP (870-5), Col Stephen MacWillie to cmd historian, 16 Dec 92, sub: 1991 annual command history--staffing, DCD.

³³Msg P 182130Z Jul 91, PEO Avn to AIG, sub: the AH-64 Apache users and commander's conference agenda, TSM ATAWS; Fact sheet ATZQ-TPO-A (70-1i) Lt Col Johnston, 30 Sep 91, sub: AH-64 Apache commanders' conference 6 Aug 91; Fact sheet ATZQ-TPO-A (70-li), Maj Hassel, 30 Sep 91, sub: AH-64 Apache user conference 5-8 Aug 91, TSM ATAWS.

³⁴Briefing papers and fact sheets, "AH-64 Modernization, B and C Series," 1 Aug 91, DCD, doc # A-I-6.

OH-58D Kiowa and Kiowa Warrior

The contract with Bell Helicopter Textron for the armed OH-58D Kiowa Warrior was signed in May 1991. DCD continued to work with TRADOC Systems Manager (TSM) OH-58D to prepare the test support plan for the force development test and experimentation phases one and two.³⁵

Several TSM-OH-58D teams visited aviation units during 1991 to collect data on the performance of the OH-58D and related systems during Operations Desert Shield/Desert Storm that would be relevant to the fielding of the Kiowa Warrior. A considerable quantity of useful data was gathered by these teams. For example, close coordination and management of both materiel and personnel should take place in the fielding of the aircraft. Also, air crew members and other personnel should arrive on station with adequate time for training prior to the arrival of the aircraft³⁶

Early in 1991, seven OH-58Ds were delivered to Bell Helicopter Textron for retrofit. The first production model of the armed OH-58D Kiowa Warrior was accepted by the Army from Bell Helicopter Textron in May 1991.³⁷

Aircraft preproduction quality tests were completed at Yuma Proving Ground, AZ, and validation/verification for the OH-58D technical manuals was accomplished in July and August. Numerous discrepancies in the manuals were not noted until this verification occurred, and considerable revision was required. A maintenance manual review was held at Fort Eustis, VA, in November. A total of approximately 4,800 pages were reviewed, resulting in 261 new publication change requests. It was reported that a credible maintenance manual for the OH-58D, which had not been available up to that time, resulted from the review.³⁸

³⁵Historical report, DCD, CY 91; Memo ATZQ-TSM-S (70-1i), Col Ted D Cordrey for cmd historian, 8 Dec 92, sub: review of command history excerpt..., TSM OH-58D.

³⁶Memo ATZQ-TSM-S (70-1i), Maj Donald K Saxon Jr for TSM OH-58D, sub: trip report...., TSM OH-58D; Memo ATZQ-TSM-S ((70-1i) Col Ted D Cordrey for commanding general, sub: USAREUR trip report, 28 Oct-1 Nov 91, TSM OH-58D.

³⁷Historical report, TSM OH-58D, CY 91.

³⁸Ibid; Memo ATZQ-TSM-S (70-1i), Sfc Thomas W Tompkins for TSM OH-58D, sub: trip report for validation verification..., TSM OH-58D; ATZQ-TSM-S (70-1i), Sfc Thomas W Tompkins for TSM OH-58D, 22 Nov 91, sub: after action report..., TSM OH-58D.

At a joint working group on helicopter forward air controller at Langley Air Force Base, TSM OH-58D personnel highlighted the fact that Congress had funded only 279 OH-58D helicopters against a requirement of 507 of these aircraft. It was generally recognized that the OH-58D was technologically the aircraft of choice for the forward air controller mission but that the shortage of aircraft would create a problem. The joint working group recommended one or more of the following: (a) Air Force funding of additional OH-58D helicopters to serve as helicopter forward air controller aircraft; (b) use of other rotary wing aircraft for these missions; (c) use of unmanned aerial vehicles; (d) use of some other type of support.³⁹

The upgrading and arming of the OH-58 created the requirement for a crew of two pilots to manage the increased workload, systems sophistication, and shift of mission emphasis to cavalry operations. The additional positions were resourced by a vice chief of the Army decision in 1991 as a part of Total Army Analysis 99.⁴⁰

In 1991 the DA approved plans for Kiowa Warrior unit fielding and training using the Apache single unit fielding and training concept as a model. Company-level training was to be conducted at home station, after which unit personnel were to deploy to the Fort Hood for battalion-level training, gunnery, and combat certification.⁴¹

UH-60 Black Hawk

Combat developers at Fort Rucker hosted a joint working group to totally review the UH-60 materiel need document and refine the changes resulting from worldwide staffing.⁴² An operational and organizational plan for the UH-60 ballistic armor

³⁹Memo ATZQ-TSM-S, Maj Donald K Saxon Jr for TSM OH-58D, sub: trip report of TSM OH-58D participation in helicopter forward air controller..., TSM OH-58D; Memo ATZQ-TSM-S (70-1i), Col Ted D Cordrey for cmd historian, 8 Dec 92, sub: review of command history excerpt..., TSM OH-58D.

⁴⁰Historical report, DCD, CY 91; Memo ATZQ-TSM-S (70-1i), Col Ted D. Cordrey for cmd historian, 8 Dec 92, sub: review of command history excerpt..., TSM OH-58D.

⁴¹Msg R051905Z Nov 91, DA to distr, sub: Kiowa Warrior unit fielding and training, USAALS DCD.

⁴²Historical report, DCD, CY 91.

subsystem was approved by the TRADOC commander in 1991.⁴³ Fort Rucker personnel also prepared a package of DA form 2028 changes and a draft materiel need document. The materiel need document was prepared to address the requirement for product improvements for the UH-60A aircraft to meet its expanding role under air-land operations. During the late 1980s and early 1990s, the UH-60A gradually experienced performance degradation due to weight growth of the airframe and of the mission equipment package. Also, the weight of infantry and artillery equipment had increased by 1991 so that it exceeded the external lifting capabilities of the UH-60A. The first draft of the materiel need document was completed in August, but failed to receive TRADOC approval. A second draft, designed to meet TRADOC approval, was completed in October.⁴⁴

Program progress reviews of the UH-60 were held in April and October 1991. The UH-60 performed extremely well during Operations Desert Shield/Storm, but sustained heavy damage to engines and auxiliary power units due to sand erosion.⁴⁵

Combat developers at Fort Rucker prepared a briefing on the Utility Fleet Modernization Plan for Army leaders. The briefings began with the TRADOC commander (General Franks) on 8 October and ended with the Army acquisition executive (Mr. Conner) on 17 October with the decision on whether to brief the Office of the Secretary of Defense and Congress deferred to the DA. Other associated developments referred to in the briefing included planned Army reductions, the 1991 Army Aviation Modernization Plan, the Utility Aircraft Requirement study, the ARCSA V study, and Desert Storm observations. Options presented included a pure utility fleet of UH-60s, a combination of UH-60s and modernized UH-1s, and the recommended option of an expanded fleet of UH-60s with a smaller fleet of new light utility helicopters to assume many of the courier and liaison missions currently performed by UH-1s.⁴⁶

⁴³Memo ATCD-MV (70), Bettie B Gonser for distr, 19 Nov 91, sub: operational and organizational plan for the UH-60 ballistic armor subsystem, DCD, doc. no. A-I-11.

⁴⁴"UH-60 Black Hawk Materiel Need, Production Update: Recommended Changes and Rational," 15 Aug 91, DCD, doc # A-I-14; "UH-60 Black Hawk Materiel Need, Production, Updated," Oct 91, DCD doc # A-I-15.

⁴⁵Historical report, DCD, CY 91.

⁴⁶Briefing papers, "Utility Fleet Modernization Plan," DCD, doc # A-I-16; Historical report, DCD, CY 91.

RAH-66 Comanche

The requirement document used in the acquisition process for the Army's new light helicopter was completed in December 1990. It called for a "rapidly deployable, versatile, and lethal multi-mission capable, armed, reconnaissance/attack helicopter with air combat capabilities to operate as an integral part of the joint and combined team to fight and survive across the operational continuum." It was to be self-deployable and also deployable by ground, sea, or air (to include C-130). With regard to versatility, it was to be capable of operating and detecting and recognizing targets during day, night, and adverse weather and to incorporate the latest technology in its communication, navigation, and mission management systems. Additionally, the light helicopter was to be employed to incorporate existing and planned rockets, anti-tank missiles, and air-to-air missiles and to be capable of concurrent operations and of short and long-range engagement of moving and stationary ground and air targets. Survivability characteristics were to be designed to minimize detection and acquisition and to maneuver so as to deter engagement. It was to have the system and crew hardening and redundancy required to continue controlled flight if engaged and the crashworthiness required to protect the crew if unable to continue flight. With regard to sustainability, the light helicopter was to be able to sustain a wartime operational availability rate of at least 75 percent. It was to cost significantly less to support and operate than the OH-58D/AH-64 scout/attack helicopter systems. The aircraft would be maintained using two levels of maintenance; its assemblies were to be removable and replaceable with a minimum number of tools; and it was to incorporate a self-diagnostic system capable of identifying faults to the level of individual component or module.⁴⁷

The Source Selection Evaluation Board for the light helicopter met from September 1990 until May 1991. Fort Rucker combat developers participated in the selection process as well as the manpower and personnel integration process, the demonstration/validation prototype contract planning, and the development and revision of the system manpower and personnel integration process management plan. The system manpower and personnel integration process management plan established the groundwork for ensuring that each of the major areas of concern were systematically considered throughout the process of aircraft development and fielding. The overall objective of the

⁴⁷"Light Helicopter Required Operational Capability," 11 Dec 90, DCD.

plan was to promote the optimization of aircraft design and engineering at each stage of its development to conform with Army policies.⁴⁸

The U.S. Army Aviation Technical Test Center (ATTC) provided simulation assessment test teams to evaluate the designs (as represented by their flight station/systems simulators) of the two teams competing for the contract for the new light helicopter. The assessments covered the areas of control law design, systems integration, human factors engineering design, and system safety. The results of the assessment were briefed, and reports were forwarded to the Light Helicopter Source Selection and Evaluation Board and the Army Materiel Systems Analysis Activity for use during the final selection process.⁴⁹

The chief of staff of the Army, Gen. Carl E. Vuono, announced in April 1991 that the developmental helicopter theretofore known as "Light Helicopter" would be the Reconnaissance Attack Helicopter (RAH)-66 Comanche. On 5 April, it was announced that the winning contractors for the Army's new light helicopter was the consortium consisting of Boeing Helicopter Company and Sikorsky Aircraft, a division of United Technologies. The losing team was McDonnell Douglas Helicopter Company and the Bell Division of Textron Inc. A contract was signed with the winning team on 12 April to enter a fifty-two-month demonstration/validation prototype phase. During this phase, four prototype Comanche aircraft were scheduled to be built and tested, after which full scale development would begin during fiscal year 1995. The purchase by the Army of 1,292 of these new aircraft was approved, and tentative approval was provided to buy as many as 1,681, pending the outcome of the Army force structure analyses. The Comanche would eventually replace the aging fleet of about 3,000 AH-1, OH-58D, and OH-6 light attack and scout helicopters. The total cost of the Comanche program was estimated to be \$34 billion.⁵⁰

Plans made prior to 1991 called for the integration of the Longbow millimeter radar weapons system into the weapons system of one-third of the Comanche fleet

⁴⁸Historical report, DCD CY 91; "RAH-66 Comanche Armed Reconnaissance Helicopter System MANPRINT Management Plan," DCD, 9 Jul 91, DCD doc # A-I-31.

⁴⁹Historical report, ATTC, CY 91; 1st end STEAT-MP-R (ATZQ-MH/1 Dec 92), Maj Patrick G Forrester for cmd historian, sub: 1991 annual command history--staffing, ATTC.

⁵⁰E-Mail note, Col Stephen S MacWillie, 17 Apr 91, sub: RAH-66 Comanche; Chapter III file; Army Flier, 11,18 Apr 91; Historical report, ATTC, CY 91; Memo ATZQ-TSM-C (70-1i), Col Theodore A Duck for cmd historian, 7 Dec 91, sub: 1991 annual command history, TSM-Comanche.

beginning with lot five of the acquisitions process. In April 1991, however, Army leaders began considering the option of integrating the Longbow system into the Comanche aircraft with the first lot produced. It was decided to modify the Comanche production contract to accommodate this change.⁵¹ By the end of 1991, the plan concerning Longbow on the Comanche was that the fire control radar would be installed on 431 aircraft (one-third of the fleet) and would be field-installable so as to allow the movement of the fire control radar from aircraft to aircraft without returning them to the depot. Additionally, each Comanche would be capable of firing radio frequency Hellfire missiles regardless of the presence of the Longbow fire control radar. Each Comanche would therefore have "fire-and-forget" capability.⁵²

Mr. John Swain of the General Accounting Office visited the Aviation Center on 29-31 May to gain a better understanding of the helicopter attack and reconnaissance missions. During an out-brief, Mr. Swain indicated that he did not believe the General Accounting Office would pursue the issue of Comanche mission requirements; but rather, the agency's future audit work would be concentrated in the areas of cost, acquisition strategy, reliability, availability, and maintainability, most of which would be at the AVSCOM level.⁵³

The first Comanche preliminary design review was conducted at the Boeing Sikorsky Joint Program Office, Trumbull, CT, in October 1991. This review focused on the Comanche drive system and afforded Army experts the opportunity to offer positive and/or negative input to the designers. Another preliminary design review was held during December in Philadelphia--this one on airframe, armament, and propulsion. Also in December, Boeing Sikorsky held the first scheduled maintainability assessment to determine how effectively maintenance tasks could be performed on the Comanche and Comanche systems.⁵⁴

⁵¹Historical report, TSM-Comanche, CY 91; Memo ATZQ-TSM-C (70-1i), Col Theodore A Duck for cmd historian, 7 Dec 92, sub: 1991 annual command history, TSM-Comanche.

⁵²Memo ATZQ-TSM-C (70-1i) Col Theodore A Duck for cmd historian, 7 Dec 92, sub: 1991 annual command history, TSM-Comanche.

⁵³E-Mail note, Woodrow J Farrington to Ostovich, 3 Jun 91, sub: GAO review of the Army's light helicopter program, Chapter III file.

⁵⁴Historical report, TSM-Comanche, CY 91.

During 1991, the TSM-Comanche Office assigned four "operational personnel to the contractor's manufacturing facility. These personnel were to add warfighting insight into the design, man-machine-integration, and supportability issues. Their participation in the process was to ensure that operational effectiveness considerations were not ignored in favor of weight, cost, and schedule issues.⁵⁵

The Aviation Center took steps in 1991 to ensure that the Comanche program would support the USAAVNC goal of the eventual consolidation of Army Aviation at Fort Rucker. The USAAVNC accordingly directed his staff to plan to conduct all Comanche aviator and helicopter armament/electrical, structures, and avionics repairer training at the Army Aviation Warfighting Center, Fort Rucker, AL.⁵⁶

CH-47 Chinook

During the latter part of 1991, combat developers at Fort Rucker prepared briefings on the status of the medium cargo fleet, including options for sustaining cargo fleet capability. The recommended solution was to begin the development of an improved Chinook (CH-47F) in fiscal year 1994, with a line for production established and funded in 1999 and deliveries scheduled for 2001. The major improvements in the CH-47 would consist of an advanced four-blade rotor system, more powerful engines, extended range fuel tanks, provisions for aerial refueling, integrated avionics, and forward looking infrared systems. The useful life of the CH-47 could thereby be extended for twenty years, and the development of a new cargo helicopter could be delayed until 2012. The briefing progressed to the DA level with favorable results.⁵⁷

The Fort Rucker Army Research Institute, Aviation Research and Development Activity (ARIARDA) coordinated research during 1991 to develop a computer model of the workload of crewmembers on the special operations aircraft MH-47E. The predicted workload for the MH-47E pilot and copilot was compared to that of the CH-47D baseline to determine the impact of advanced technology on the MH-47E. The comparison

⁵⁵Memo ATZQ-TSM (70-1i), Col Theodore A Duck for cmd historian, 7 Dec 92, TSM-Comanche.

⁵⁶Ltr, Maj Gen John D Robinson to Gen Frederick M Franks Jr, [Sep 91], TSM-Comanche.

⁵⁷Briefing papers, "Medium Cargo NDI," DCD, doc # A-I-18, DCD; Historical report, DCD CY 91; Memo ATZQ-CDP (870-5), Col Stephen S MacWillie for cmd historian, sub: 1991 annual command history--staffing, DCD.

indicated little difference in the predicted workload for the pilot and indicated lower predicted workload for the copilot of the MH-47E.⁵⁸

Special Electronic Mission Aircraft

During the Fixed Wing and Special Electronic Mission Aircraft Systems Program Review held in January 1991, it was determined that a comprehensive memorandum of agreement between the USAAVNC and the U.S. Army Intelligence Center and School (USAICS) was needed. This memorandum of agreement was developed and staffed during 1991 and signed in early November.⁵⁹

A fixed wing and special electronic mission aircraft council of colonels teleconference was conducted on 23 August 1991. Between that date and the next scheduled teleconference on 23 January 1992, each agency worked on issues raised on 23 August. A status update was scheduled for 6 December 1991. Issues scheduled to be worked on and then addressed at the next meeting included aircraft replacement/retirement, cargo fixed wing aircraft, tables of organization and equipment, initial entry fixed wing course, C-12 qualification course, fixed wing maintenance test pilot course, RC-12 K training strategy, international flight operations, contracted logistic support for OV-1 aircraft, support platoon for OV-1, memorandum of understanding between the USAAVNC and the USAICS, and the cargo aircrew training manual.⁶⁰

The fiscal year 1991 National Defense Authorization Act prohibited the funding of OV-1D aircraft beyond 30 September 1996 and directed the retirement of at least 20 percent of the OV-1s by the end of fiscal year 1991. Accordingly, eighteen aircraft were to be retired during 1991. Eleven aircraft were turned over to Aviation Systems Command prior to 20 November 1991. At that time, the DA ordered that the National Guard Bureau release five aircraft and that TRADOC release one to Aviation Systems

⁵⁸Research report 1584, "Task Analysis and Workload Prediction for the MH-47E Mission...", Mar 91, ARIARDA.

⁵⁹Memo ATZQ-AP (5-8a), Lt Col Robert L Johnson Jr for CG, 14 Oct 91, sub: special electronic mission aircraft and SEMA training--action memorandum, CG file; Memorandum of agreement, cdr USAAVNC and cdr USAICS, 1 Nov 91, sub: special electronic mission aircraft and SEMA training, CG file.

⁶⁰Msg 3100800Z, cdr USAAVNC to distr, sub: the fixed wing/special electronic mission aircraft systems, CG file.

Command to help meet the required reduction. Both organizations were cautioned to make every effort to retire aircraft with minimum service life remaining.⁶¹

Unmanned Aerial Vehicles

In mid 1991, the USAAVNC began drafting an operational concept reflecting the need for unmanned aerial vehicles for target acquisition/designation and radio relay missions. The assistance of the USAICS, the Army proponent for unmanned aerial vehicles, was sought--specifically with regard to copies of documents relating to unmanned aerial vehicles developed by the USAICS.⁶²

Later in 1991 the USAAVNC began revising requirement documents for close range unmanned aerial vehicles. The existing documents reflected the needs of linear close combat in the 1980s rather than the nonlinear extended battlefield of the 1990s and were therefore obsolete. For example, the stationary ground control station with a fifty kilometer range was inadequate to support air-land operations and the type of mobile contingency warfare the Army and Marine Corps conducted in Desert Storm; the stationary ground control system could not support brigades advancing 70-100 kilometers to fight decisive operations. Although a mobile control system and a remote video monitor in the command post would solve a portion of the problem, battalion information needs could often differ from the brigade's needs. Therefore, key battalions/squadrons were thought to require control of their own unmanned aerial vehicles using portable control stations located inside the battalions or squadrons.⁶³

⁶¹Msg P 201320Z Nov 91, HQDA Wash DC to cdr AVSCOM St Louis MO, sub: Mohawk retirement, CG file.

⁶²Msg 161200Z July 91, cdr USAAVNC to cdr USAICS, sub; Army aviation use of unmanned aerial vehicles, CG file.

⁶³Msg 111500Z Oct 91, cdr USAAVNC for distr, sub: modification of close range unmanned aerial vehicle requirements based on future warfare, CG file.

Other Aircraft

A study conducted during the latter part of 1991 determined that the AH-1 Cobra could serve as a replacement for the OH-58A/C in the scout mission. The study was put on hold pending further guidance on the future size of the Army.⁶⁴

Fort Rucker combat developers were involved with U.S. Army Special Operations Command (USASOC) during 1990 and 1991 in planning meetings at Fort Bragg, Fort Campbell, and MacDill Air Force Base. One of the results of this USAAVNC involvement was a memorandum of understanding between TRADOC and USASOC which identified the Aviation Center's role in special operations aircraft.⁶⁵

The first draft of the request for proposal for leasing a new training helicopter was released to industry in October 1991. In 1991, however, Congress directed the Army to purchase the new training helicopter instead of leasing it. Consequently, an amended request for proposal was released in December.⁶⁶

Weapons Systems

The Directorate of Combat Developments at Fort Rucker updated the mission needs statement for weapons systems in 1991 to partially resolve deficiencies from the 94-08 Battlefield Development Plan's analysis of the following projected problems: defense against enemy helicopters, enemy air defenses, air-to-air combat, and combined arms air defense. According to the mission needs statement, either all existing weapon systems would have to be significantly improved or new systems adopted. The selected system or systems would have to be able to operate in all battlefield environments (day or night, adverse weather, obscurant, and countermeasure). They would have to be hardened to the same level as the host aircraft, and be able to survive nuclear, biological, and chemical contamination and decontamination.⁶⁷

⁶⁴Historical report, DCD, CY 91

⁶⁵Historical report, DCD, CY 91; "Memorandum of Understanding between Commander USASOC and TRADOC," from draft, DCD, doc # A-I-12.

⁶⁶Historical report, DCD, CY 91.

⁶⁷"Mission Needs Statement for a Multirole Self-Defense Weapon System (Quick Draw)," DCD.

An urgent weapons system requirement highlighted by the Gulf War was a laser aiming device for helicopter door guns and the AH-1 20mm gun. When operating under night vision goggles, it was virtually impossible to obtain an accurate initial aim point due to lack of gun sight reference. In the AH-1, especially, night vision goggles prevented the gunner from placing the helmet sight system gunsight into its operating position. Air crews engaged by pointing the gun in the approximate direction of the threat and adjusting tracers on target. A laser aiming device was tested and procured by the Marine Corps and by the special operations community. The growing emphasis on low intensity conflict, air assault, counterinsurgency, and counter-air operations increased the Army's requirement for testing and acquiring such systems on a wider basis for both the AH-1 and the UH-60 aircraft.⁶⁸

In October 1991, the TRADOC commander urged the Aviation Branch to give more consideration to the potential of the .30mm gun. According to General Franks, this weapon could open new horizons for the Apache, which, he asserted, was a very versatile aircraft that was not being used to its full potential.⁶⁹

Air-to-Air Stinger

Early in 1991, the USAAVNC commander signed safety risk assessments for five aspects of the air-to-air Stinger missile which had been considered possible hazards, but which had been tested and/or improved so as to eliminate or sharply reduce any hazard. These five formerly identified possible hazards consisted of coolant bottle rupture, warhead, motor temperature exposure, flight motor deflagration, and aft bumper cover.⁷⁰

The air-to-air Stinger weapon system was originally scheduled to be mounted on 202 OH-58C helicopters. A complete weapon system consisted of the airframe kit, the pilot display unit, the pilot display unit mount, pylon assembly/ejector rack, and the

⁶⁸Historical report, DCD, CY 91; Memo AFZC-AB-OT, Col Penny J Palmer to HQDA (DAMO-FDR), 19 Nov 90, sub: operational need statement for a laser aiming device for AH-1 20mm and UH-1/UH-60 door gun weapons, DCD, doc. # A-I-10.

⁶⁹E-Mail note, Col Bodelson to cdrs/dirs, 8 Oct 91, sub: taskers from Gen Franks visit, Chapter I file.

⁷⁰Memo, ATZQ-CD (70-11), Col Theodore Sendak for CG, 13 Jun 91, sub: system safety risk assessment for the air-to-air Stinger hazards--action memo, with five enclosures signed by Maj Gen Rudolph Ostovich III, CG file.

electronics unit. During 1991, over 160 air-to-air Stinger weapons were fielded to attack battalions on OH-58C aircraft. Also, an additional 102 OH-58Cs (for a total of 304) were scheduled to be modified to accept the missile system.⁷¹

During 1991 the Army Aviation Technical Test Center (ATTC) conducted a preproduction qualification test of the AH-64A air-to-air Stinger system. This system allowed AH-64As to carry four Stinger missiles with crew members in either seat having ability to acquire, track, and engage enemy aircraft. The launchers were located on each wingtip with target acquisition and sighting functions integrated into the existing target acquisition and designation sight and integrated helmet and display sight system. According to the tests, the integration of the system into the AH-64A was excellent and exceeded the requirements contained in the systems specifications. The system was compatible with the AH-64A weapons, sensors, and aircraft survivability equipment suite, and no significant problems were detected. Only a limited reliability assessment was performed because of the short time span of the test.⁷²

Longbow

The Longbow program was a complete weapon system, initially being developed for the AH-64 Apache attack helicopter. The system consisted of the following elements: (1) target acquisition and fire control radar; (2) Longbow Hellfire modular missile system; (3) a Hellfire launcher subsystem; (4) a radio frequency interferometer; and (5) fire control radar and associated avionics systems interfaces. The Longbow was intended to be maintained using a two level maintenance concept. At the aviation unit maintenance level, an onboard built-in test was to be used for fault detection and isolation. Faulty line replaceable units and line replaceable modules would be removed and replaced. These units would then be shipped to a depot for repair and returned to the supply system.

As of 1991, plans called for 227 Longbow Apaches to be deployed in eleven battalions. In order for the Longbow systems to be integrated into the AH-64A aircraft, several modifications were required. The engines would be upgraded to 701C with an increase of 200 horsepower each. Both the cooling and electrical systems would be

⁷¹Fact sheet AMCPM-LOH, Mr Mike Haragan, 15 Nov 91, TSM ATAWS; Historical report, TSM ATAWS, CY 91.

⁷²Draft of final report "Preproduction Qualification Test of Air-to-Air Stinger for AH-64A," ATTC, Aug 91, TSM ATAWS.

significantly upgraded along with the addition of three 1553B data busses. The cockpit was to be modified, and numerous reliability enhancements would be incorporated.⁷³

Following the successful completion of the Longbow initial design phase in 1990, a transitional readiness review was held at Orlando, FL, from 7-9 January 1991. The recommendation from the review was to move the Longbow program to the full scale development phase with an effective date of 12 January 1991. The full scale development contract No. DAAJ09-91-C-0175, reflecting \$314,904,021 dollars, had been signed on 21 December 1990. Other recommendations resulting from the transitional readiness review included the submission of a Longbow prioritization scheme by 14 February 1991 and an investigation of the mast mounted assembly wire strike protection test requirement by 31 January 1991. These issues proved to be much more complicated than initially envisioned, however, and were not resolved during the calendar year. Other major issues which drove the full scale development tempo during 1991 consisted of system performance parameters including the probability of detection for stationary and moving targets, probability of correct classification for moving and stationary targets, and false alarm rate of manmade structures appearing as threat vehicles to the fire control radar.⁷⁴

A Longbow fire control radar hardware critical design review was held on 21 November 1991. A major accomplishment of the review consisted of the contractor-user community agreement on the fire control radar scan for the ground targets mode. A new term, "scanburst," which implied multiple scans, was introduced. The fire control radar scanburst implementation directly affected system performance, measured in terms of probability of detection and probability of correct classification of targets. There was a complete laydown of the fire control radar contractor design at the critical design review in November. The government representative endorsed the design as presented, but some issues that would not require a design change remained open.⁷⁵

The mast mounted assembly design characteristics came under close scrutiny during 1991. During early-on flight test of the asymmetric mast mounted assembly severe vibrations were encountered when the Longbow Apache was in a backward flight

⁷³Historical report, TSM ATAWS, CY 91.

⁷⁴Agenda and briefing papers, "Longbow Transition Readiness Review," 7-9 Jan 91, TSM ATAWS; Historical report, TSM ATAWS, CY 91.

⁷⁵Agenda and briefing notes, "Longbow Fire Control Radar, Hardware Critical Design Review," 21 Nov 91, TSM ATAWS; Historical report, TSM ATAWS, CY 91.

mode with a quartering tail wind. This was unacceptable to the user community because a flight envelope restriction would be required. Engineering investigation into the manufacturing process of the symmetric mast mounted assembly dome found that the strict tolerances between the fire control radar and mast mounted assembly dome could be maintained during the production manufacturing process precluding degradation of the fire control radar performance. The decision was made at the Longbow Apache critical design review that the symmetric mast mounted assembly design would go forward. The Longbow Apache critical design review was conducted on 22-24 October 1991.⁷⁶

A joint working group convened at the USAAVNC in June of 1990 to begin developing a draft operational and organizational plan for the enhanced airborne target handover system. The plan, as developed, supported the target distribution for the Longbow equipped Apache. The operational testing program was designed to evaluate the enhanced airborne target handover system's effectiveness and suitability in an operational environment. Operational test data were to be gathered under day, night, adverse weather, and active electronic warfare conditions. Test criteria were to cover hardware, software, personnel, doctrine, organization, and training.⁷⁷

Because of rapid changes in world events, defense structure drawdowns, and increasing national concern with large budget deficits, the Longbow Apache experienced a rash of justification exercises during the fourth quarter of 1991 at the instigation of the Office of Secretary of Defense. The year ended with the Longbow Apache competing with the RAH-66 Comanche for developmental and procurement dollars.⁷⁸

Avionics

The USAAVNC announced in 1991 that it supported the continued development of the frequency hopping multiplexer. The multiplexer was thought to have potential application to the efficient operation of the aviation developmental tactical operations center. The projected aviation brigade tactical operations center would have four single channel ground and air radio systems in addition to ultra high frequency and high

⁷⁶Historical report, TSM ATAWS, CY 91.

⁷⁷Memo CDM-A (70-li), cdr USAAVNC for cdr TRADOC, 25 Jun 91, sub: draft operational and organizational plan for enhanced airborne target handover system, CG file.

⁷⁸Historical report, TSM ATAWS, CY 91.

frequency radios. The multiplexer would reduce or eliminate various problems associated with multiple antennae on ground vehicles and could possibly also have application for use on Army aircraft.⁷⁹

The USAAVNC announced the requirement in 1991 for a radio that would give air crews the capability to communicate while flying nap-of-the-earth. Demonstrations of a modified aircraft radio produced promising results in that pilots were able to communicate with air traffic control ground station while flying nap-of-the-earth by using a high frequency radio coupled to a frequency switching device which provided automatic link establishment. A reliable nap-of-the-earth communications radio would eliminate the costly requirement to launch helicopters, whose only purpose was to act as flying radio transmitters. The USAAVNC consulted with the AVSCOM and the Program Executive Office, Aviation, both of which supported a test mission. The Fort Rucker training area was offered as an evaluation site to test and develop the required radio system.⁸⁰ The USAAVNC contracted the preparation of a change to the approved nap-of-the-earth communications required operational capability. The required system was to provide reliable extended range communications between tactical aircraft and ground commanders. It was to interface with existing and future Army communications systems to satisfy both internal and external net requirements. The contractor completed the project in December 1991.⁸¹

During 1991 the USAAVNC developed and TRADOC approved a required operational capability document for a new Army airborne command and control console. The AN/ASC-15 in use in 1991 was not secure or compatible with the new command and control systems. Problems noted in the Battlefield Development Plan 1994-2008 would be partially addressed by the new command and control console. The new console was to be authorized in command aviation companies and assault helicopter companies at corps and division level and within air cavalry squadrons of the armored cavalry regiments. The maneuver commander would have secure, compatible voice and data communications with standard displays for tactical and operational command and control in the airborne

⁷⁹Msg 120830 Z Sep 91, cdr USAAVNC to distr, sub: frequency hopping multiplexer, CG file.

⁸⁰Memo ATZQ-ATB-TO (95), cdr USAAVNC for deputy chief of staff for operations, force development and integration, sub: operational needs statement for nap-of-the-earth flight-following communications, CG file.

⁸¹Historical report, DCD, CY 91; "Operational Requirements Document for the Nap-of-the-Earth Communications System," DCD, doc # A-I-24.

and ground dismounted configurations.⁸² A reliability, availability, and maintainability rationale report was completed in October 1991. The DCD then contracted the preparation of an operational requirements document for the command and control console. The project was completed in December 1991.⁸³

In June 1991, combat developers at Fort Rucker submitted to TRADOC an operational and organizational plan for an enhanced airborne target handover system for the Longbow equipped Apache. The operational testing program was to evaluate the system's effectiveness and suitability in an operational environment. At the end of 1991, the plan was undergoing a format change at TRADOC Headquarters.⁸⁴

During 1991, the USAAVNC DCD submitted an operational and organizational plan for Army aviation ultra high frequency radios. Army aviation units had an essential requirement to communicate using state of the art, secure, anti-jam ultra high frequency radios providing communications connectivity with other Army and joint service elements. The requirement addressed deficiency number 94 of the Battlefield Development Plan, 1994-2008. The operational and organization plan was approved by the TRADOC commander in October 1991.⁸⁵

The Fort Rucker-based Test and Evaluation Coordination Office (TECO) of the Operational Test and Evaluation Command assisted the USAAVNC DCD in preparing the concept evaluation program for the evaluation of the communications, processing, control, and display requirements for providing an air-picture situation display for command and attack aircraft pilots. The objectives were to determine whether the air picture could be effectively processed and displayed and whether the current Army communications systems were adequate for transmitting video data, and to evaluate the Apache airborne

⁸²"Required Operational Capability for the Army Airborne Command and Control Console," DCD, doc # A-I-19; Historical report, DCD, CY 91.

⁸³"Reliability, Availability, and Maintainability Rational Report..., DCD doc # A-I-32; Historical report, DCD, CY 91; "Operational Requirements Document for the Army Airborne Command and Control Console, DCD, doc # A-I-21.

⁸⁴Memo ATZQ-CDM-A (70-1i) cdr USAAVNC for cdr TRADOC, 25 Jun 91, sub: draft operational and organizational plan for enhanced airborne target handover system, encl consists of the operational and organizational plan, DCD, doc # A-I-22; Historical report, DCD, CY 91.

⁸⁵Memo ATCD-MV (70) Bettie B Gonser for distr, 1 Nov 91, "Operational and Organizational Plan for the Army Aviation Ultra High Frequency Radios," is encl, DCD, doc # A-I-23; Historical report, DCD, CY 91.

target handoff system as an acceptable control and display for the picture. Planning for the concept evaluation program was completed in August 1991.⁸⁶

Training Aids

Fort Rucker combat developers began an update of the required operational capability for the OH-58D in August 1991 to redefine the need for an OH-58D combat mission simulator. A revised training device requirement was sent to TRADOC for approval in September. The new appendix argued that a combat mission simulator was required to provide training in combat skills, gunnery, and procedures that could not be taught safely or that were prohibitively expensive using aircraft. The simulator was needed by the third quarter of fiscal year 1992, when the OH-58D was to be fielded to combat units. It would be used both at Fort Rucker and in the field.⁸⁷

The ARIARDA at Fort Rucker conducted the first two of four phases of acceptance testing for the integration of the simulator complexity testbed research device for the Simulator Training Research Advanced Testbed for Aviation program during 1991. The tool was being constructed under a joint cost sharing agreement between the United States and Canada. Two major demonstrations were held at the contractor's factory in Montreal, Quebec, during March and September, and around a dozen briefings of the Simulator Training Research Advanced Testbed for Aviation research program were delivered during the year.⁸⁸

In 1991 the USAAVNC and the USAALS developed an Aviation Branch basis of issue plan for electronic information delivery system interactive video disc hardware and software. According to the plan, a total of 774 additional machines were required. They were to be distributed as follows: 56 for resident instruction at USAALS, 130 for resident instruction at the USAAVNC, 490 student stations for aviation units, and 98 developer stations for aviation units. This total compared with 1700 machines called for in separate reports previously submitted by the two schools. The school resident

⁸⁶Report, "Concept Evaluation Program," 29 Aug 91, TECO.

⁸⁷Historical report, DCD, CY 91; Enclosure 1 in a memo from the USAAVNC to TRADOC, sent in Sep 1991 (memo not available), DCD, doc. # A-I-7.

⁸⁸Historical report, ARIARDA, CY 91; Information paper, PERI-IR, Dr Dennis C Wightman, 1 Jul 91, sub: simulator complexity testbed, ARIARDA.

requirements were in addition to the 40 machines already located at the USAALS and 125 at the USAAVNC. The USAALS requirement was based on the expected implementation of the Aviation Apprentice Mechanic Program; if this program were not implemented, USAALS would require over 200 additional units for resident training.⁸⁹

Other Equipment Requirements

In April 1991, the USAAVNC submitted an operational and organizational plan for a maneuver control system for the Army Aviation Mission Planning System to TRADOC Headquarters for approval. It was not approved at that time because of a change in DOD regulation. The DCD convened three joint working groups to ensure that the requirements in the revised plan were in accordance with the operational requirement document for the Army Aviation Mission Planning System. The revised document was completed and sent to TRADOC in December 1991. The new maneuver control subordinate system for the Aviation Mission Planning System would reduce the time and increase the accuracy and objectivity of mission planning.⁹⁰

The commander of the Aviation Center and the commandant of the U.S. Army Chemical School (USACMLS) negotiated and signed an update of the agreement between the two organizations in 1991. The changes established the M43 protective mask, the aircrew uniform integrated battlefield aircrew microclimate conditioning system, and aviation smoke rounds as unique aviation nuclear biological, and chemical items.⁹¹

The commander of the Aviation Center issued an urgent need requirement in August 1991 for 9,915 M43A1 chemical/biological protective masks. These masks were to be issued immediately to active duty Army units to meet short term requirements. The consequences of not procuring the masks immediately, the commander insisted, would be degraded combat and combat support aviation capabilities within the Army because the

⁸⁹Memo ATSQ-LTD-D (70-1a), Col Robert B Terry Jr for cdr USAAVNC, 30 Aug 91, sub: Aviation Branch basis of issue plan..., USAALS DOTD; Memo ATSQ-TDI-D (70-1a), cdr USAAVNC for cdr TRADOC, sub: Aviation Branch basis of issue plan..., CG file.

⁹⁰Memo ATZQ-CDM-A (70-1i), cdr USAAVNC for cdr TRADOC, sub: draft operational requirement document for the Aviation Mission Planning System, encl consists of the operational requirement document, DCD, doc # A-I-20.

⁹¹Historical report, DCD, CY 91; "Memorandum of Agreement between Commander, USAAVNC and USACMLS, Brig Gen Robert D Orton and Maj Gen John D Robinson, DCD, doc # A-I-36.

possible requirement to operate under nuclear, biological, and chemical conditions could not be met effectively using the older M24 masks available at that time.⁹²

A working group at Fort Rucker addressed the aviation battle dress uniform issue in May 1991. Arrangements were made to send 1,000 desert tan versions of the new uniform to Task Force Bravo in Iraq. By the end of 1991, the desert camouflage aviation battle dress uniform was in production at the Defense Personnel Support Center.⁹³ The production contract for the battle dress uniform flight suit was signed in December 1991. The 82nd Airborne Division would be the first unit to receive the new uniforms expected to be available in September 1992.⁹⁴

USAAVNC combat developers updated the air combat crew annex to the Soldier Modernization plan and briefed it to a council of colonels at TSM-Soldier. Significant changes included a far-term goal of completely integrated aircrew clothing and equipment and the development of a common helmet for all aviators. This integrated aircrew ensemble constituted an aviation version of the soldier integrated protective ensemble then under development. The common helmet concept arose from the recognition of the need for standardization. The plan was to ensure that the helmet being developed for the RAH-66 would be compatible with all other aircraft.⁹⁵

A joint surveillance target acquisition radar system summit held on 15 November 1991 provided the Army and Air Force chiefs of staff with an in-depth program review and ensured that system requirements were relevant to present and future battlefields and that they were technically achievable. The joint service operational requirements documents were to be revised to reflect both requirements in more operational terms.⁹⁶

⁹²Memo ATZQ-CDM-S (70-li), cdr USAAVNC for cdr AMCCOM, 21 Aug 91, sub: procurement justification for acquisition of the M43A1 chemical-biological protective mask, DCD, doc # A-I-25a.

⁹³Memo ATZQ-CDM (70.li), Col Theodore T Sendak for distr, 22 May 91, encl consists of minutes of the 22 May 91 meeting of an aviation life support equipment/nuclear, biological, chemical working group, DCD, doc # A-I-26. Historical report, DCD, CY 91.

⁹⁴E-Mail note, Col Theodore T Sendak to cdrs/dirs, 11 Dec 91, Chapter III file.

⁹⁵Historical report, DCD, CY 91; Report, "Annex C, Combat Crews (Air)...," DCD, doc # A-I-27,

⁹⁶Msg, R 192300Z Nov 91, cdr TRADOC to distr, sub: Joint STARS four-star summit outcome, CG file.

In May 1991 the contractor completed the final report of the flight data recorder study. This was a major landmark in the Army's process of acquiring a solid state flight data recorder begun as a result of a directive from the chief of staff of the Army in 1986. The study completed in 1991 provided the analysis process and finding regarding the optimum configuration for flight data recorders to be installed on various Army aircraft. It also served as an information baseline for continued requirements documentation. The cost of the installation on some or all of the Army aircraft for which it was designed would be between \$200 and \$450 million. Funding for the data recorder was deleted at the Combined Arms Center, and the decision on whether to fund it was pending at DA at the end of 1991.⁹⁷

Headquarters, TRADOC, approved the required operational capability for the ultra-lightweight camouflage net system in October 1991. A successful milestone I/II in progress review was conducted in November.⁹⁸

Combat developers at Fort Rucker participated in the electromagnetic environmental effects requirements from the beginning of the program through December of 1991. Electromagnetic environmental effects plans for the AH-64A, AH-64B, Longbow, OH-58D, UH-60, and MH-47 were developed and released, each based on guidelines endorsed by the Office of the Secretary of the Army. These guidelines established policies and goals of the Army electromagnetic environmental effects program, assigned responsibilities, and provided criteria for testing and evaluation.⁹⁹

The evidence presented during 1990 of a potential safety hazard in the planned use of an integrated symbology display for the AN/AVS-6 aviator night vision goggles was reviewed during 1991. The specific problem was that the integrated display was thought potentially to induce attentional fixation, thus reducing the pilot's ability to detect and avoid on-coming obstacles during nap-of-earth flight operations. Although considerable

⁹⁷"Flight Data Recorder Study, Final Report," May 91, DCD, doc # A-I-28; Historical report, DCD, CY 91; Memo for record SAFAE-AV-S, Robert V Hutson, et al, 17 Jul 91, DCD, doc # A-I-29; Memo ATZQ-CDM-S (70-li), Col Theodore T Sendak for CG, 17 Jul 91, sub: flight data recorder decision memorandum--action memo, USAALS DCD.

⁹⁸Memo ATCD-SL (70-1f), Bettie B Gonser for distr, 30 Oct 91, sub: abbreviated required operational capability..., DCD, doc # A-I-30; Historical report, DCD, CY 91.

⁹⁹Historical report, DCD, CY 91; Memo, M P W Stone for distr, 5 Mar 90, sub: Army electromagnetic environmental effects program implementation, encl consists of guidelines, DCD, doc # A-I-42.

data were collected during 1991, the experiment was temporarily suspended until 1992 due to delays in awarding a new support contract.¹⁰⁰

During 1991 the USAAVNC implemented a much-needed consolidation and clarification of instructions and procedures for maintenance of night vision goggles. Aviation Systems Command, Army Communications-Electronics Command, and Project Manager Night Vision Electro-Optics also participated in the consolidation of maintenance requirements. The end result was a far more understandable and useful set of instructions and procedures than had existed prior to the consolidation.¹⁰¹

The Combined Arms Center requested that the USAAVNC re-evaluate its position navigation requirements and evaluate global positioning system types. This evaluation was to include non-development items, lightweight Army users equipment, and capability to meet those requirements. The commander of the USAAVNC hosted a meeting at Fort Rucker on 19 September to define Army Aviation global positioning system requirements, to determine if lightweight Army user equipment capabilities would satisfy some Army aviation global positioning system requirements, and to determine the degree and cost of integration into aircraft.¹⁰²

Headquarters, TRADOC, approved the operational and organizational plan for air traffic navigation, integration, and coordinations system in October 1991. A surveillance and precision approach system with aircraft departure and landing capability in nearly all weather conditions was required to facilitate the safe handling of air traffic to and from Army terminal airfields in remote areas. The air traffic services ground controlled approach that was in use was bulky, required excessive installation time, utilized outdated technology, and had become extremely difficult to maintain.¹⁰³

¹⁰⁰Historical report, ARIARDA, CY 91; Report, "A Review of Factors Affecting Rotary Wing Aviator Performance with Night Vision Helmet-Mounted Display," Dec 91, ARIARDA.

¹⁰¹Msg 221530Z Mar 91 (PMNVEO), sub: aviation night vision goggle maintenance, ATB; "Flightfax: Report of Army Aircraft Accidents, Vol 19 No 12 (Jun 91), pp. 1-4; Msg 281309Z Aug 91 (DA), sub: night vision goggle training message 91-2, ATB; Historical report, ATB, CY 91.

¹⁰²Msg 2531600Z, Col Theodore Sendak to distr, sub: Army aviation global positioning system requirements, CG file.

¹⁰³ATCD-GI (70-1i), Bettie B Gonser for cdr USAAVNC, 22 Oct 91, sub: operational and organizational plan for air traffic navigation..., encl consists of a copy of the plan, DCD, doc # A-I-25.

D. Aviation Logistics

The experiences of Operation Desert Storm and subsequent analyses of lessons learned clearly demonstrated that the existing spare parts supply system was inadequate to support aviation. According to VII Corps commander in Desert Storm (and subsequently the commander of TRADOC), Gen. Frederick M. Franks, Jr., the concept of supporting an AH-64 through the same supply system used to support a 5-ton truck was unsound; the system needed to be changed.¹⁰⁴

The USAAVNC and CASCOM hosted a planning group meeting at CASCOM headquarters, Ft. Lee, VA, on 16 July 1991 to initiate an intra-theater logistics resupply requirements study. The purpose of the meeting was to review and brief the following concepts: (1) the Army intra-theater logistics resupply study plan; (2) the tactical operations scenario being developed by the USAAVNC; and (3) the requirement for a logistics scenario overlay consistent with the tactical scenario. The study also investigated the concern expressed at the Fixed Wing Special Electronics Mission Aircraft Conference regarding an apparent shortfall in fixed wing assets for intra-theater movement of Army high priority, high demand, critical cargo. Preliminary indications were that the shortfall was not necessarily altogether a result of a shortfall in aviation assets, but rather an effect of a combination of inefficiencies.¹⁰⁵

The USAAVNC continued evaluating the two forward support battalions fielded in 1990. Both units participated in Operation Desert Shield, thus providing valuable information supporting the requirement. The USAAVNC continued to favor the forward support battalion concept for all heavy divisions and to develop a forward support battalion concept for light divisions. Uncertainty concerning force reductions and emerging doctrine, however, delayed progress.¹⁰⁶

As a result of an issue identified during the ARCSA-V study, the USAALS DCD developed a concept for class III and V support for aviation forward arming and refueling points on the non-linear battlefield. The plan was to create a forward support battalion

¹⁰⁴E-Mail note, Col Bodelson to cdrs/dirs, 8 Oct 91, subject: taskers from Gen Franks visit., Chapter I file.

¹⁰⁵Msg 021500Z Jul 91, cdr USAAVNC to distr, sub: planning group meeting for Army intra-theater logistics resupply requirements study, CG file.

¹⁰⁶Historical report, DCD, CY 91.

for each separate aviation brigade or regiment/group assigned to either the corps or the division. The concept developed at the USAALS provided for either a forward-arming-and-refueling-point company or platoon within the battalion.¹⁰⁷

The Arapaho program was a modular shipborne aviation intermediate maintenance facility adaptable to land-based use. As a result of the Army's shifting emphasis to contingency operations, the program was reactivated in 1988, but few resources were available for it in 1989 and 1990.¹⁰⁸ In 1991 the Arapaho abbreviated analysis was completed and approved. The final report supported the feasibility of employing a seaborne maintenance capability in a developing theater and in contingency operations, with costs comparing favorably to the cost of establishing a ground-based aviation intermediate maintenance facility in a contingency theater. Due to lack of funding, however, work on the project was suspended before the end of the year.¹⁰⁹

During 1991 the USAALS DCD developed and published the Battlefield Maintenance System for Aviation, 2000 concept describing operational requirements for the design and development of aviation logistics support for the year 2006 and beyond. The concept was based on doctrinal changes essential to support the Airland Operations concept and the design requirements for the RAH-66 Comanche helicopter. At the end of the year, appendices were being developed to complete the document and to incorporate all emerging aviation sustainment concepts.¹¹⁰

¹⁰⁷"Appendix J, Class II/V Support," draft, USAALS DCD; Historical report, USAALS DCD CY 91; Fax msg, AC USAALS to cmd historian, 13 Jan 93, USAALS.

¹⁰⁸Kitchens, 1989 AHR, p. 77; Kitchens and Wright, 1990 AHR, p. 88.

¹⁰⁹"Arapaho Abbreviated Analysis," final report, Fort Eustis, VA, USAALS, 1991; USAALS DCD; Historical report, USAALS DCD, CY 91; Transcript of oral interview, Col William J Blair with author, 3 Dec 92.

¹¹⁰"Battlefield Maintenance System for Aviation-2000," draft, TRADOC Pam 525-XXX, USAALS DCD; Historical report, USAALS DCD.

CHAPTER IV

MISSION SUPPORT

A. Resource Management

In December 1990, TRADOC provided guidance for the preparation of the final budget update for fiscal year 1991. This document authorized an increase of \$2.1 million above the September 1990 TRADOC budget update. Total operations and maintenance, Army, funding for fiscal year 1991 was \$282.2 million (\$252.6 million direct funds, \$29.1 million automatic reimbursement funds, and \$.6 million funded reimbursement funds). With a requirement of \$332.5 million, there was an unfinanced requirement of \$50.3 million. The increase of funds authorized by TRADOC was for the civilian pay raise and other miscellaneous adjustments.¹

Total fiscal year 1991 expenditure of TRADOC operations and maintenance, Army, funds was \$337.3 million, of which \$298.3 million were direct funds; \$38.4 million, automatic reimbursement funds; and \$.6 million, funded reimbursement dollars. For comparison, the USAAVNC's fiscal year 1990 TRADOC actual obligations were \$295.5 million.²

TRADOC guidance for the fiscal year 1992 command operating budget was received in April 1991. According to this guidance, the USAAVNC would receive a total of \$240.0 million, of which \$211.4 million would be direct dollars; \$28.8 million, automatic reimbursable dollars; and \$.4 million, funded reimbursement dollars. Requirements totaled \$328.2 million, leaving an unfinanced requirement of \$87.5 million.³

In October 1991, TRADOC provided guidance for a budget update called "FY 92 Operation Crosslevel." The USAAVNC and other TRADOC installations were directed to develop a balanced and executable program. The TRADOC guidance further required installations to assume from a 3 percent reduction to a 5 percent increase in funding levels

¹Memo ATRM-BF (1-1b), Maj Gen Henry M Hagwood Jr for distr, 21 Dec 90, sub: FY 91 appropriation budget and manpower guidance, also encl, DRM; Historical report DRM, CY 91.

²Historical report, DRM, CY 91; Kitchens, USAAVNC 1990 AHR, p. 99.

³Memo ATRM-BF (37), Col Edward B English for distr, 19 Apr 91, sub: FY 92 command operating budget, DRM; Commander's statement FY 92 command operating budget, Maj Gen Rudolph Ostovich III, to TRADOC, 7 Jun 91, DRM.

and to submit those missions the installation could not accomplish within available funding. The USAAVNC submitted to TRADOC a list of tasks totaling \$19.155 million in costs, which could not be accomplished without additional funding (above the projected \$240 million). In December 1991, TRADOC accepted all tasks that the USAAVNC proposed not to accomplish except for some flight training reductions. At the end of the year, the USAAVNC DRM was continuing to work with TRADOC staff on means of funding the flight training. In December, TRADOC also advised the USAAVNC that an additional 1 percent (\$811,000) of the current funded program less flight training would be provided to USAAVNC with the fiscal year 1992 appropriation budget guidance, scheduled for publication in late January 1992.⁴

In accordance with a defense management review decision, PBD 945N, most budgeting functions of the USAAVNC were consolidated in the Directorate of Resource Management during 1991. As of 1 October 1991, budget functions for all organizations of the USAAVNC except DCD and DOIM were assumed by the DRM. This initiative reduced the number of budget personnel authorizations by 32 percent (twelve authorizations).⁵

The Office of the Inspector General provided the commanding general with a continuing assessment of the operational and administrative effectiveness of directorates, commands, and activities at Fort Rucker. During 1991, the inspector general conducted general inspections of the Installation Chaplain Fund and the War Trophy Accountability and a follow-up inspection of Internal Controls. Systemic inspections conducted during 1991 included mobilization, reduction-in-force, family housing, and dining facilities. Quick look inspections were conducted of pay inquiries, identification card procedures, barracks conditions, craft shops, text issue, the Physical Fitness Center, and Central Issue. During 1991, 72 informal inquiries were completed and 404 action requests were processed. Quarterly analyses of these actions were provided to the commanding general and to brigade commanders.⁶

⁴E-mail note, LewisG to RodgersF, 10 Oct 91, sub: FY 92 Operation Crosslevel, DRM; "Rucker--Schedule 50 Transaction File," 6 Nov 92 (sent to TRADOC), DRM; E-mail note, LewisG to RodgersF, 4 Dec 91, sub: results of Operation Crosslevel, DRM.

⁵TRADOC Budget-Manpower Guidance FY 92, Volume 1: Narrative FY 92 Formulation Year, April 1991, DRM; Historical report, DRM CY 91.

⁶Historical report, Office of Inspector General, CY 91

The USAALS annual funding program and obligation total for fiscal year 1991 was \$9.8 million, approximately \$.7 million more than for 1990. Of the total obligations for fiscal year 91, \$7.7 million was for civilian pay, \$73,200 for incentive awards, and \$1.5 million for class IX supplies. During fiscal year 1991, 1280 temporary duty orders were funded.⁷

The total disbursements of the Finance and Accounting Division of the DRM in 1991 was \$428.9 million. A finance support office was operated at Camp Shelby, MS, from April through August in support of Army reserve components annual field training.

The DRM implemented two automation systems during 1991-- Joint Service Software and phase I of Standard Finance System Redesign. Implementation occurred during mobilization operations and effected major changes in office operations.⁸

During 1991, the Internal Review and Audit Compliance (IRAC) Office made a total of forty-seven audit recommendations. These recommendations were reportedly expected to translate into cost savings exceeding \$3.7 million.⁹

B. Personnel Management

In March 1991, the USAAVNC received its budget manpower guidance from Headquarters, TRADOC, for fiscal years 1992 and 1993. For 1992 there was to be a reduction of 260 civilian, 6 officer, 2 warrant officer, and 49 enlisted authorizations. TRADOC also directed an additional cut of 102 civilian, 52 officer, 11 warrant officer, and 70 enlisted authorizations for fiscal year 1993. These actions were implemented in August 1991 on the tables of distribution and allowances for both years.¹⁰

⁷Historical report, USAALS-PMO, CY 91.

⁸Historical report, DRM, CY 91.

⁹Historical report, IRAC, CY 91; 1st end ATZQ-IRO (ATZQ-MH/30 Dec 92), Woodrow J Faarrington for cmd historian, 11 Jan 91, IRAC.

¹⁰Historical report, DRM, CY 91.

A reduction-in-force was implemented in October 1991, coinciding with the contracting out of the functions of the Training Services Center.¹¹ Seventy-seven employees were initially scheduled for separation, but because of prior planning no permanent employees were involuntarily separated from federal service during the 1991 reduction-in-force and contracting action.¹² In addition to the DOD imposed restrictions on hiring (a maximum of two civilians from outside DOD for every five losses), further restrictions had been imposed locally.¹³ For example, a local hiring and promotion freeze, beginning in April 1991, prohibited internal and external hiring, except for Desert Storm purposes, and also prohibited most permanent promotions.¹⁴

The impact of the reduction-in-force was also mitigated by the fact that the government was the low bidder when the bids were opened on 3 May 1991 for conducting the functions of the Directorate of Logistics. Since these functions were not to be contracted out, the DOL was able to hire many employees who would otherwise have been affected by the reduction to fill vacant positions or positions that had been filled by temporary employees.¹⁵

At the beginning of fiscal year 1992, in preparation for additional manpower reductions a year later, new restrictions on the hiring and promotion of civilians were implemented. Full-time permanent positions and new temporary positions were to be filled only when required for health, welfare, and safety; to the maximum extent possible, selections would be limited to the existing Fort Rucker work force with tentative selections from outside the current work force to be approved by the chief of staff prior to commitment; and permanent promotions were to be governed by the same restrictions as hiring.¹⁶

¹¹Memo ATZQ-DCP (10-1a), Majorie P White for garrison cdr, 30 May 91, sub: authority to RIF, CPO; Memo ATZQ-DCP (690-300t), Col Michael H Abbott, for cdr PERSCOM, 7 Jun 91, DCP.

¹²Historical report, DRM, CY 91; Historical report, DCP, CY 91.

¹³Msg P131835Z Apr 91, DA to AIG 9181, sub: prohibition on hiring civilian personnel during remainder of fiscal year 1991, CPO.

¹⁴Memo, ATZQ-R (570-4g), Col Patrick J Bodelson for distr, 8 Apr 91, sub: hiring and promotion freeze, CPO.

¹⁵Historical report, DOL, CY 91.

¹⁶Memo ATZQ-RFM (570-4g), Col Patrick J Bodelson for distr, 31 Oct 91, sub: USAAVNC civilian hiring and promotion policy for FY 92, CPO.

The continuation of constrained resources dictated the development at Fort Rucker of alternative strategies to meet employee training needs. Alternatives utilized included on-the-job training, correspondence courses, courses through the Education Center, and tuition assistance. Also, video-tape managerial courses were purchased from the Career Track Corporation. These courses were conducted with a Fort Rucker satellite from the Army Logistics Management College, Fort Lee, VA.

The average monthly civilian strength for 1991 was 3,112, compared to 3,188 the previous year. Although the USAAVNC experienced larger personnel reductions than these figures might indicate, the overall reduction was partially offset when the dependent school employees were converted into the Excepted Service, effective 1 October 1991. During 1991, fifty-two employees elected voluntary retirement, twelve retired due to disability, and sixteen elected to leave to leave federal service when their positions were abolished. There were three civilian deaths during the year.¹⁷

During 1991, manpower resources at the USAALS decreased from 942 at the beginning of the year to 805 at the end of the year. At the beginning of the year, the total number consisted of 26 officers, 65 warrant officers, 629 enlisted, and 222 civilians. The total number at the end of the year consisted of 38 officers, 57 warrant officers, 533 enlisted, and 177 civilians.¹⁸

On 18 March 1991, the Department of the Army deputy chief of staff for personnel announced the activation of "Civilian Integration into the Personnel Proponent System. Fort Rucker had previously been chosen as one of the six pilot installations for this program. The program was designed to manage classification, training, development, and separation for certain civilian employees in much the same way as proponent offices were doing for enlisted soldiers, warrant officers, and commissioned officers in their military specialties. The Aviation Branch had two civilian career fields under this program; viz, aviation career management fields 64 and 93. The former consisted of instructor pilots and air traffic controllers. The latter consisted of aircraft maintenance technicians--mostly at the USAALS at Fort Eustis, VA. Late in 1991, the USAAVNC Proponency Office completed the review of the draft of Army Regulation 600-3, "The Army Personnel Proponent System." The purpose of the regulation was to integrate the

¹⁷Historical report, DCP, CY 91.

¹⁸Historical report, USAALS-PMO, CY 91.

proponent offices into the personnel management system, including adding civilian personnel managers to proponency offices.¹⁹

In 1991 the Aviation Branch renewed efforts to recruit females and minorities into Army aviation. This was done in part by a communication from the branch chief to aviation assistant professors of military science at colleges and universities urging them to give special emphasis to promoting Army aviation to minority and female cadets. The services of the USAAVNC APO were offered to assist in providing additional information needed in these efforts.²⁰

The USAAVNC Directorate of Enlisted Training proposed in 1991 that military occupational specialties 93C and 93P be consolidated. The Aviation Proponency Office and other organizations studied the proposal during the year. By the end of the year, the APO had developed a modification of the proposal, calling for the merging of the two specialties at the sergeant major level only. Consolidation at that level would bring the number of 93P positions closer to the DA average grade distribution pyramid and would also allow 93C master sergeants better upward mobility.²¹

The Aviation Proponency Office at Fort Rucker completed a proposal to U.S. Total Army Personnel Command late in 1991 for the elimination of aviation officer area of concentration 15E, tactical communications aviation or air traffic control. The rationale was that 15E officers followed a career pattern identical to 15B officers, combined arms aviation, except for the four-week air traffic services training course taken by 15E officers. Since all 15B officers had the basic skills required for air traffic services assignments, those selected for such assignments could attend the four week air traffic services course immediately prior to such assignments. Few aviators ever had repetitive air traffic services assignments; almost all returned to other aviation, staff, or nominative assignments after a single air traffic services assignment. Finally, long-term career opportunities for company grade 15E officers were limited as there were few requirements for flag grade air traffic services officers. A 15B track for officers with air traffic services experience would give these officers opportunities for advancement

¹⁹Historical report, APO, CY 91.

²⁰Memo ATZQ-AP (360) Maj Gen John D Robinson for aviation assistant professors of military science, 12 Dec 91, sub: minorities and females, APO.

²¹Memo ATZQ-AP-P, Lt Col Michael C Pascoe for AC, 5 Feb 91, sub: DOET Idea of 93C/93P consolidation, APO; Information paper, ATZQ-AP, M Sgt Maurice, sub: military occupational specialties 93P and 93C consolidation at the sergeant major level, APO.

comparable to other 15B aviators and would also create a larger pool of officers from which to fill air traffic services positions.²²

The USAAVNC received the fiscal year 1992 officer distribution plan in November 1991. The plan called for a reduction of fifty-six aviation captains from 1990.

Officer promotions for Fort Rucker during 1992 were as follows: 21 lieutenant colonels considered for colonel with one selected; fifty-six majors considered for lieutenant colonel with thirteen selected; forty-four 1st lieutenants considered for captain with forty selected; thirty chief warrant officer threes considered for chief warrant officer four with fourteen selected; seventy-two chief warrant officer twos considered for chief warrant officer three with thirty eight selected; and six master warrant officers were designated. There was no major promotion board release in 1991.

Senior enlisted promotions for Fort Rucker in 1991 were as follows: 34 master sergeants were considered for sergeant major with 9 selected; 135 sergeants 1st class were considered for master sergeant with 34 selected, and 386 staff sergeants were considered for sergeant first class with 101 selected.

During 1991, TRADOC elements at Fort Rucker reenlisted forty-eight initial term soldiers with an objective of forty. Eighty-four mid-career soldiers reenlisted with an objective of eighty-four. There was no objective for the career category, but a total of ninety-three career soldiers reenlisted. The reserve components enlisted eight soldiers out of fifty-nine who were eligible.²³

In March 1991, the DA approved a request for seven additional flying positions for the USAALS. All positions required aviation officers, and coding them with operational flying status was deemed necessary to ensure that qualified officers could be attracted to fill the key positions.²⁴

²²Memo ATZQ-AP (310), Lt Col Robert L Johnson for cdr PERSCOM, 4 Dec 91, sub: recommended change to AR 611-101..., APO; Memo ATZQ-AP (310), Lt Col Robert L Johnson for cdr PERSCOM, 17 Dec 91, sub: recommended change to AR 611-101..., APO.

²³Historical report, Adjutant General Division, CY 91; Memos, ATZQ-PAG-PM 9600-200c), Lt Col John J Planchon for distr, 19 Feb, 22 May, 21 Oct 1991, for distr, sub: ...selection list..., Adjutant General Division, CY 91.

²⁴Memo ATSQ-LAC-P (614), Col William J Blair for HDDA, 3 Feb 91; 2nd end DAPE-MBI-CO (ATSQ-LAC-P/9 Oct 90) (570-4g), Maj Meyer/aiy/AV 227-0575, both in USAALS-PMO.

Fort Rucker experienced an increase in the number of informal complaints of discrimination in fiscal year 1991--eighty-five compared to sixty in fiscal year 1990. According to the Equal Employment Opportunity (EEO) Office, the increase in complaints was probably related to the anticipation of and the actual reduction in the work force. The EEO Office successfully resolved 85% of complaints in the informal/contact stages. The number of formal complaints filed in fiscal year 1991 was thirty-four. In 1991, the commanding general delegated down to the garrison commander many of the day-to-day equal employment responsibilities in order to expedite the filing and processing of complaints. According to analyses conducted of Fort Rucker's Federal Women's Program and Hispanic Employment Program, both programs had proven to be highly successful, and progress had been made in almost all categories during recent years.²⁵

C. Information Management

The installation of a patch and test facility at the Data Processing Installation was completed on 13 June 1991. This equipment facilitated the testing and trouble-shooting of all communication media supported by the Fort Rucker Data Processing Installation. The patch and test facility consolidated several networks into a central location with capability of testing and monitoring with minimal interruption of service. It also permitted spare equipment to be patched in for quick replacement of field equipment.²⁶

During 1991, the USAAVNC DOIM continued the implementation plan for improved data communications on the Aviation Local Area Network. Subnets were installed for the following organizations during the year: DRM, DCD, DPL, and ATB. One of the purposes of subnetting was to relieve saturation of the parent system by shifting users to subnets. The installation of subnets permitted twenty-eight users to be removed from the parent system and for that system to be extended to fifty-seven additional users.²⁷

²⁵Historical report, EEO Office, CY 91; Memo ATZQ-DEH-CA, Kathryn W Cooper for Federal Women's Program manager, 11 Jan 91, sub: analysis of women in the work force..., EEO Office; Report, "USAAVNC Hispanic Employment Program Evaluation," by Miriam Ray, for calendar year 1991, EEO Office.

²⁶Historical report, DOIM, CY 91; Technical acceptance recommendation summary, Patch and Test Facility, contract no. 11A-801-88, DOIM.

²⁷Historical report, DOIM, CY 91.

The Command Information Section of the Public Affairs Office was responsible for all internal information disseminated on Fort Rucker. The Army Flier, the post newspaper was one of the major tools for accomplishing the command information mission. A major focus of coverage for much of 1991 was Operations Desert Shield/Desert Storm. Beginning with the first issue in February 1991, the contract for publishing the Army Flier changed from QST Publications to the Enterprise Ledger. Under the contract with the Enterprise Ledger, the contractor provided film and film developing and computer software and hardware. Under the new contract, the Army Flier was able to use more color photographs than in the past.²⁸

The U.S. Army Aviation Digest, was edited by Ms. Patricia S. Kitchell. Throughout most of 1991, the Aviation Digest Office was aligned under the Office of Aviation Proponency, but it was transferred to the Public Affairs Office on 23 December. The Aviation Digest was an official DA professional bulletin published bimonthly. It was used for the official dissemination of material designed to keep individuals within the Aviation Branch knowledgeable of current developments in Army aviation and to enhance their professional development.

The Public Information Section of the Public Affairs Office managed the installation public information program, provided coverage of on-post news for release to external news media, provided public affairs support for reserve components, provided liaison with local media, responded to queries for information about the Aviation Branch and Fort Rucker, and managed Army hometown news release program. Both the Public Information Section of the PAO and the post newspaper responded to guidance from the secretary of defense issued in September 1991 to publicize the continued involvement of the DOD in counter-drug operations. The guidance was to attempt to enlighten the public and clarify the role of the department in the fight against illicit drugs within the border of the U.S., in source countries, and in transit to the U.S.²⁹

D. Air Traffic Control

During the latter part of 1991 the U.S. Army Air Traffic Control Activity developed a redistribution plan for the air Traffic control equipment returned from

²⁸Historical report, PAO, CY 91.

²⁹Ibid; Msg R 131433Z Sep 91, secretary of Defense to distr, sub: media guidance concerning DOD counter-drug support, CG file.

Southwest Asia. The plan placed the majority of the equipment within the U.S. Forces Command with the exception of the two AN/GRC-206 units in the U.S. Army South.³⁰

The USAATCA also worked on an operational requirements document for the tactical terminal control system, a mobile air traffic services communications system. The tactical terminal control system would allow the operator to provide air traffic services at remote landing zones, drop zones, pick-up zones, and temporary helicopter operating areas. It would also provide the capability for ground-to-air communications between an air traffic services unit and aircraft and ground-to-ground communication as well. Units equipped with the system would provide air traffic services for aviation units conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield. The lack of the capability for secure and jam-resistant radio communications between air traffic services and supported aircraft caused the development of the tactical terminal control system to be highly desirable.³¹

Other accomplishments of the USAATCA during 1991 included conducting worldwide inspections and assistance visits to more than forty Army air traffic control and navigational facilities; the development, design, and installation of a flight following facility at Fort Chaffee, AR; completing a draft version of the air traffic control section of the Army Aviation Modernization Plan; making considerable progress on the U.S. Army South Air Traffic Services Action Plan, and continuing to cooperate with the Federal Aviation Administration and other agencies on the long-range Capital Investment Program for upgrading the whole national airspace system.³²

During 1991 a new airport surveillance radar system was installed and tested at Cairns Army Airport. Fort Rucker was the second Department of Defense installation to be equipped with this modern digitized system. The system was capable of processing weather through a separate weather channel which could detect six levels of weather, each calibrated to National Weather Service standards. The system was expected to enhance

³⁰Memo ATZQ-DS (95), Lt Col Robert M Stewart for DAMO-FDV, 17 Jan 92, sub: Southwest Asia equipment redistribution plan, USAATCA.

³¹"Draft Operational Requirements Document for Tactical Terminal Control System," USAATCA, 14 Jan 92, USAATCA.

³²Historical report, USAATCA, CY 91; Transcription of oral interview by author with Lt Col Robert M Stewart, 22 Apr 92, Oral Interview file.

the ability to provide safer and more efficient aircraft handling services to all aviation elements using the Cairns Army radar approach control.³³

E. Library, Museum, and Training Support

The Aviation Technical Library completed the first complete inventory in the library's thirty-five year history in 1991. Also in 1991, the library staff provided reference and research service to 40,000 customers, answered 13,282 reference questions, conducted 732 interlibrary loans, and bar-coded the complete book collection and many other items in preparation for automating all library functions.

In 1991, funds were temporarily withdrawn from a previously funded project for an integrated online catalog system for the Fort Rucker libraries. It was expected that the funds would be restored early in 1992.³⁴

The Aviation Learning Center provided assistance/service to 44,768 customers, issued 3,556 Smart Troop courses, and acquired a Lycoming L-13 turbine engine for use as a hands-on trainer in 1991. The Learning Center expanded operation to seven days per week in May 1991.³⁵

In accordance with guidance from TRADOC Headquarters, the USAAVNC Army Education Center was transferred to the Directorate of Training, Mobilization, and Security in 1991. The transfer was necessary to fully coordinate the efforts and resources of education and training to meet challenges faced in maintaining high quality level of the force into the 21st century. Priority in continuing education programs was to be given to those that directly supported military occupational specialty and noncommissioned officer skills.³⁶

³³Historical report, ATB, CY 91.

³⁴E-mail note, BurgengD to JoinerB, 31 May 91, sub: funding W/D, DRM; Historical report, DRM, CY 91.

³⁵Historical report, DOTD, CY 91.

³⁶Memo ATTG-IE (621-5a), Maj Gen Craig A Hagan for distr, 29 Apr 91, sub: transfer of Army continuing education system to training, DPTMSEC; Historical report, DPTMSEC, CY 91.

During 1991, the USAAVNC Army Education Center gave high priority to leader development, which was established by the chief of staff of the Army as the Army's top priority. One example of the stress on leader development was the use of the career maps prepared by the Army to be used as counseling tools to advise soldiers on self-development activities and on course/degree goals. The "Read-to-Lead" program was another example of the emphasis given by the Army Education Center to self-development, especially of noncommissioned officers during 1991. Noncommissioned officers and other soldiers were encouraged to participate in the Read-to-Lead program through the Army Education Center.³⁷

In July 1991 the U.S. Army Aviation Museum was granted certification as a part of the Army Museum system. Significant acquisitions of the museum during the year included two Soviet-made helicopters (an MI-17 and an MI-25) captured during Operation Desert Storm. The museum also accepted delivery of a CH-54 Tarhee helicopter, which was put on display on the museum grounds.³⁸

During 1991, there was a marked increase in the use of museum facilities and exhibits in the USAAVNC educational program. The museum auditorium was used in support of the military history education program for showing a forty-two minute video on the history of Army aviation produced under the direction of the command historian. The film was shown to officers, warrant officers, and noncommissioned officers and was followed by tours of museum exhibits, usually conducted by museum personnel.

F. Logistics Support

Funds were temporarily withdrawn for a previously funded project for a rotor blade and component repair facility in May 1991 because of Desert Storm. The funds for this project were expected to be restored early in 1992.³⁹

³⁷Memo ATTG-IE (621-51), Maj Gen Dennis P. Malcor for distr, 25 Oct 91, sub: career maps, DPTMSEC; Memo ATZQ-DPT-E (621-5), Cmd Sgt Maj Fredy Finch Jr for distr, 20 Aug 91, sub: post level NCO professional development class..., DPTMSEC; Information Paper TAPC-PDE, Ms Allison, 30 Apr 91, sub: Read-to-Lead, DPTMSEC; Historical report, DPTMSEC, CY 91.

³⁸Historical report, DPCA, CY 91.

³⁹E-mail note, BurgengD to JoinerB, 31 May 91, sub: funding W/D, DRM; Memo ATZQ-RCA (5-4b), Lt Col John A Whitson for DOL, sub: funding for...project PCOC3, DRM; Historical report, DRM, CY 91.

An Office of the Secretary of Defense Productivity Investment Fund project for the construction of a fuel storage and hot refueling facility for the Molinelli Aerial Gunnery Range on Fort Rucker was approved in 1991. This \$3.1 million project was projected to return over \$92.6 million in savings during its economic life.⁴⁰

A FORSCOM tasking to support the Port of Mobile during the deployment of cargo to Exercise Team Spirit 91 to the Republic of Korea in January 1991 was complicated by Fort Rucker's ongoing support of Operation Desert Shield. Since the 46th Engineer Battalion had already been deployed to Southwest Asia, the USAAVNC requested that the 2nd U.S. Army provide eight wheeled vehicle drivers. These drivers assembled at Fort Rucker and were then used by the USAAVNC to support the servicing and ship-boarding operations at the Port of Mobile.⁴¹

In June 1991, the USAAVNC supported Port of Mobile in the unloading, servicing and movement to home station of approximately 400 pieces of cargo being returned to the United States after being used in Exercise Fuertes Caminos 91-Honduras. Personnel and equipment were provided by the USAAVNC 1st Aviation Brigade and DOL for this support operation. This process was reversed in December, when Fort Rucker was tasked to support the loading and deployment at the Port of Mobile of equipment for Fuertes Caminos 92-Honduras.⁴²

From mid-September through early November 1991, the USAAVNC supported Operation Alliance, on the Mexican-U.S. border. Operation Bravo consisted of Fort Rucker's 46th Engineer Battalion deployed to Arizona in September for road repair and construction along the international border for the purpose of enhancing U.S. drug interdiction efforts. The mission was funded by Headquarters FORSCOM; the

⁴⁰Condition 'B' report for FY 92 military construction, army, program with Fort Rucker, 7 Jan 91, DRM; Documentation for productivity capital investment programs, DA form 5108-R, dated 1 May 89, DRM; Historical report, DRM, CY 91.

⁴¹Memo ATZQ-DPT-P (500-5c), Col Ralph J W K Hiatt for cdr 2nd U S Army, 3 Jan 91, sub: personnel support for port support activity..., DPTMSEC; Memo ATZQ-DPT-P (550-5c), Col Ralph J W K Hiatt for distr, 3 Jan 91, sub: execute order port support activity..., DPTMSEC.

⁴²Memo ATZQ-DPT-P, Col Ralph J W K Hiatt for distr, 4 Jun 91, sub: execute order, port support activity..., DPTMSEC; Memo ATZQ-DPT-P (310-1q), Col J W K Hiatt for distr, 11 Dec 91, sub: Fuertes Caminos 92 Honduras..., DPTMSEC.

USAAVNC supported the preparation of the task force and deployed the task force to Operation Alliance.⁴³

The Army Materiel Command Logistic Assistance Office (AMC LAO) provided vital logistics support to the USAAVNC and Fort Rucker on several occasions during 1991. The following are typical examples of the activities of the office. In July the LAO coordinated the visit to Fort Rucker of two Anniston Army Depot technicians to repair three AH-1F M65 telescopic sight units. Two of the units were repaired on site, saving costs of packaging and transport to depot for repair. On another occasion, the AMC LAO in coordination with the USAAVNC DOL obtained necessary components for aircraft radios that had been grounded because of lack of replacement parts. Personnel from the LAO also discovered that three boxes containing Apache repair parts had been mistakenly declared excess, leading to significance cost avoidance.⁴⁴

G. Evaluation and Standardization

In September 1991, a long-standing Army Aviation tradition, the Army Aviation Annual Written Examination, came to an end. The program, which had required all Army aviators to be retested on an annual basis, was discontinued because of funding constraints and redundancy with the aviation commanders' air crew training programs.

The air crew training program was a three-part program, consisting of risk assessment, crew coordination, and battle rostering, aimed at ensuring that Army Aviation was "the most warfighting-focused organization that [it could] be, as a member of the combined arms team, to accomplish the mission" given it. Battle rostering consisted of teaming relatively inexperienced aviators with experienced aviators to form a crew. Crew coordination consisted of the development of a baseline set of documents for all Army aviation soldiers so that they would know "everything as a crew that [was] required to be performed in the aircraft." Risk assessment or risk management consisted of the incorporation into aviation training "the ability to assess where areas may exist that

⁴³Memo ATZQ-DPT-P (3-10-1q), Col Ralph J W K Hiatt for distr, 22 Aug 91, sub: installation support to Operation Alliance..., DPTMSEC. See also historical report, DOL, CY 91.

⁴⁴Historical report, AMC LAO; E-mail messages, 24 May 19 Jul 26 Jul 91, sub: wsar, AMC LAO

[would] lead to the potential for an accident." The air crew training program began in 1991 and was continuing to be refined when the year ended.⁴⁵

There was a continued shift in evaluation and standardization emphasis away from inspections and toward assessment and assistance in 1991. There was a corresponding shift in focus from quantitative goals to qualitative goals in the day-to-day operations of the Evaluation Division of the USAAVNC DES.⁴⁶

In 1991, the USAAVNC DES planned to deploy survey teams from the Aviation Center to conduct structured questionnaires with selected aviation brigades. The purpose was to obtain unit assistance in the exploration of the safety environment and command lessons learned for incorporation into the emerging doctrine and training methodology of the Aviation Branch.⁴⁷

The USAAVNC DES conducted 101 worldwide evaluations and completed 4,802 flight evaluations in 1991. Also, for the first time, a formal relationship was established between the USAAVNC DES and the ARNG. In August and September, The DES conducted pilot tests of the TRADOC reserve forces affiliation program at both the Eastern and Western Army National Guard Training Sites.⁴⁸

The USAALS Directorate of Evaluation and Standardization (DOES) conducted four internal course evaluations, four branch liaison team visits, four program evaluations, five reserve component visits, two course evaluations, and a job analysis for an exportable course. The organization also supported numerous DA standardization visits, mission visits, and evaluations.⁴⁹

⁴⁵Transcript of interview by author with Col Donovan R Cumbie, 6 Apr 92, Oral History file.

⁴⁶Ibid; Historical report, DES, CY 91.

⁴⁷Memo ATZQ-ES, Lt Col Immanuel C Sieving III for CG, 3 Jul 91, sub: safe leader development, DES.

⁴⁸Historical report, DES, CY 91.

⁴⁹Historical report, USAALS DOES, CY 91.

H. Commercial Activities and Contracting

During 1991, the commercial activities cost study for the USAAVNC Training Services Center was completed. In January, a cost comparison was conducted resulting in a decision to contract the training services functions. The contract (no. DABT01-91-C-0051) was awarded to Diversified Technology and Services of Virginia, Inc., Newport News, VA. Contract operation commenced on 1 October 1991, with Mr. Clarence N. O'Rear serving as the contracting officer's representative.⁵⁰

A cost comparison was also conducted for the USAAVNC Directorate of Logistics (DOL) in May 91. This study led to a decision to cancel the solicitations for contract for the DOL function and to permit the USAAVNC DOL to continue operations with government employees. The DOL was scheduled to transition to the most efficient organization in 1992. Fort Rucker's DOL was the only large TRADOC logistics directorate function to remain in-house.⁵¹

The commercial activities cost study for the Directorate of Engineering and Housing was canceled in February 1991 to comply with the DOD fiscal year 1991 Appropriations Act and Defense Resource Management Decision 967 (Public Works concept).⁵²

The total fiscal year 1991 contracting funds handled by the Directorate of Contracting was \$177,714,041, an increase over the \$172,037,774 handled during fiscal year 1990. During 1991, 95% of the funds were awarded competitively, compared to 94% during 1990.⁵³

No new contracts in direct support of the USAAVNC's flight training mission were awarded in 1991, but options were exercised on several previously awarded

⁵⁰Msg 241550Z Jun 91, DA to cdr TRADOC, sub: notification to proceed with a contract... Cost Study No. A7734, DRM; Historical report, DRM, CY 91; Memo ATZQ-CC (715k), Diana F Davis for Clarence N O'Rear, 10 Sep 91, sub: designation of contracting officer's representative..., DPTMSEC.

⁵¹Msg 101728Z Jan 92, DA to cdr TRADOC, sub: clearance to cancel solicitation for the DOL functions at Ft. Rucker, AI, DRM; Historical report, DRM.

⁵²Msg 061600Z Feb 91, cdr TRADOC to distr, sub: cancellation of TRADOC commercial activities studies, DRM.

⁵³Historical report, DOC, CY 91.

contracts. The contract extensions, with the names of contractors, time periods, and services rendered are as follows: DynCorp, fiscal year 1992--aircraft maintenance; Burnside-Ott Aviation Training, through 31 January 1992--initial entry rotary wing training; Flight Safety International, fiscal year 1992--C-12 initial qualification training; Flight Safety International, fiscal year 1992--fixed wing multi-engine qualification; Sikorsky Support Services, fiscal year 1992--refuel/defuel services; and Bendix Field Engineering Corp., fiscal year 1992--operation, maintenance, and repair of the aerial gunnery range⁵⁴

I. Construction and Physical Plant Improvements

Following its return from Southwest Asia in April and the return of its equipment in July, the 46th Engineer Battalion resumed its involvement in construction-related projects on and around Fort Rucker in support of training and quality of life. Projects completed by the 46th Engineers during the latter part of 1991 included the construction of headwalls for drainage repair, erosion control measures at Molinelli Aerial Gunnery Range, installation of a chain link fence, building a sidewalk, construction of a twelve-mile road march course, construction of a new latrine, filling in and closing of abandoned bunkers, and repair of potholes in the motor pool parking lot.⁵⁵

The construction of the Service Member Support Complex, consisting of a chapel, a family life/religious education facility, and a child care facility, was a major project during 1991. The project was within a month of completion at the end of the year⁵⁶

Major construction projects contracted by the Mobile District Engineers and completed during 1991 with the final cost of each are as follows: additions to officers quarters for students--\$1,672,791; repairs to physical fitness building--\$264,094; aircraft moorings--\$478,584; repairs at Knox and Lowe airfields and Ech Stagefield--\$559,231;

⁵⁴Modifications of contracts, dated 20 Sep 91 to 1 Dec 91, all in Historian Office files, DOC; Historical report, DOC, CY 91.

⁵⁵Memoranda ATZQ-DEH-OP (415-35a), Barney L. O'Field for cdr 46th Engr Bn, 12, 30 Jul, 6, 22 Aug, 5, 27 Sep 1991, sub: construction directive, 1st Avn Bde.

⁵⁶Historical report, Chaplain, CY 91: Historical report, DEH, CY 91.

replacement of swimming pool equipment and improvements of building 1012A--\$611,518.⁵⁷

During 1991 the USAAVNC Engineer Plans and Services Division submitted 159 individual projects to either the Directorate of Contracting or the Mobile District Engineers for bid advertisements. The total estimated cost of these projects was \$9,510,810. Projects costing an additional \$3,888,435 were handled by the Job Order Contracting Branch.⁵⁸

The major environmental issue during 1991 was leaking underground fuel storage tanks. Other environmental projects included the dam of Lake Tholocco. Plans were developed during 1991 for resolving these problems in 1992.⁵⁹

J. Safety, Security, and Legal Services

During 1991, the number of class A aircraft accidents Armywide increased from thirty-one in fiscal year 1990 to forty-nine in fiscal year 1991. The total number of class A aircraft accidents had been between thirty and forty from 1986 through 1990. The class-A accident rate increased from 1.83 per 100,000 flying hours in fiscal year 1990 to 3.77 per 100,000 in fiscal year 1991. Fort Rucker, however, experienced only two class A accidents with 357,954 flying hours (.56 per 100,000 hours) during fiscal year 1991. There had been three class A accidents at Fort Rucker during 1990. The decrease in aircraft accidents at Fort Rucker during 1991, combined with a remarkable safety record in Army motor vehicle accidents, military disabling injuries, and civilian injuries, to enable the USAAVNC to be awarded the TRADOC Commander's Award for the most improved safety record in TRADOC in 1991.⁶⁰ Accidents in Southwest Asia during

⁵⁷Report on status of construction projects, 12 Feb 92; DEH; Historical report, DEH, CY 91.

⁵⁸Historical report, DEH, CY 91; List of projects contracted with estimated cost, 5 Dec 91, DEH; Status report, Job Order Contracting Branch, 4 Feb 92, DEH.

⁵⁹E-Mail note, Col Bodelson to cdrs/dirs, 8 Oct 91, sub: taskers from Gen Franks' visit, Chapter I file.

⁶⁰Charts, "Class A Aircraft Accident Rates," "Fort Rucker Army Civilian Disabling Injuries, 4th Quarter FY 91," "On and Off Duty Fort Rucker Military Disabling Injuries, 4th Quarter FY 91," "Fort Rucker Motor Vehicle Accidents, 4th Quarter FY 91," all in ABSO; Historical report, ABSO, CY 91.

Operations Desert Shield/Desert Storm accounted for the marked increase in Army-wide class A aircraft accidents during fiscal year 1991.

During 1991, the U.S. Army Safety Center addressed the problem of night aviation accidents. Data gathered about night accidents in Southwest Asia during Operations Desert Shield and Desert Storm were used to develop an Army plan to provide short and long term training, materiel, and policies to aid in prevention of night accidents.⁶¹

Prior to 1991, Fort Rucker had a Youth Assistance Program to address acts of juvenile delinquency occurring on Fort Rucker. This program was designed to aid military family members by providing counseling assistance in coping with family, social, and/or mental health problems. It also provided for supervised work details for juveniles who committed minor offenses. The coordinator of the program had a wide variety of courses of action available to him; referral to civilian authorities was a final option if less severe options failed or were determined not to be applicable because of the severity of the offense or for some other reason. In case of referral to civilian authorities, a juvenile court judge determined punishment. It was decided in 1991 that a memorandum of agreement between Fort Rucker and Dale County Youth Authorities would be appropriate. Accordingly, an agreement was drawn up and signed on 4 November by the Fort Rucker garrison commander and the Dale County district attorney providing for Fort Rucker authorities to turn juvenile offenders over to Dale County authorities whenever Fort Rucker authorities deemed that to be the best course of action.⁶²

The security guard contract services for Fort Rucker were provided by Remtech Corporation of Daleville, AL, from 1 January through 8 February 1991. From 8 February through the remainder of the year, these services were provided by Stay, Inc. of Jacksonville, FL.⁶³

⁶¹Historical report, USASC, CY 91.

⁶²Memorandum of understanding, Col Richard N Roy and District Attorney David Emory, 4 Nov 91, SJA; Memo ATZQ-JA (27-10), Lt Col Philip L Kennerly for CG, 23 Oct 91, SJA.

⁶³Historical report, MPA, CY 91.

The Fort Rucker Military Police Activity began a drug abuse prevention program in the Fort Rucker Elementary School in 1991. This program was conducted by a police officer and directed at fifth-grade children.⁶⁴

The Fort Rucker SJA Office operated a tax center at Fort Rucker from 4 February to 15 April 1991. Forty-nine unit tax advisors were trained to work with soldiers in their respective units. SJA personnel provided assistance in preparing tax forms to about 1,200 persons, and the SJA-trained tax advisors provided assistance to around 200. Over 2,000 additional persons were assisted by having their questions answered by SJA personnel or by the tax advisors. The Fort Rucker SJA Office also filed 783 federal tax returns electronically⁶⁵

Other accomplishments of the SJA Office during 1991 included the following actions. The Administrative Law Division provided 296 written opinions regarding interpretation of laws and regulations affecting installation operations, defended the agency in approximately 13 fact finding conferences, 72 grievance proceedings, 16 investigations of unfair labor practice charges, 13 removals, 12 suspensions, 13 reprimands, and 85 equal employment opportunity complaints. The Contract Law Section reviewed and processed 257 contract actions involving approximately \$107 million. The Claims Division processed 1,428 personal property claims in fiscal year 1991 amounting to \$658,136. The division also processed 60 tort claims amounting to \$37,609. The Legal Assistance Division provided legal assistance to approximately 8,415 clients. The Military Justice Division successfully tried seven courts-martial and prosecuted all traffic offenses and misdemeanors committed on Fort Rucker through the Federal Magistrate Court system.⁶⁶

K. Medical and Dental Support

The Alcohol and Drug Abuse Division of the USAAVNC DPCA provided rehabilitative services for 240 military and civilian personnel during 1991. Preventive or

⁶⁴Historical report, MPA, CY 91.

⁶⁵Memo ATZQ-JA-LA, Maj Craig L Reinold for DAJA-LA, 10 Jun 91, sub: Army tax assistance program after action report, SJA; 1st end ATZQ-JA (ATZQ-MH\30 Dec 92), CWO2 Richard A Redding for Aviation Branch History Office, 7 Jan 93, SJA.

⁶⁶Historical report, SJA, CY 91; Memorandum for record, sub: FY 91 year end report, SJA.

remedial education concerning alcohol/drug abuse was provided to 3,302 persons. The division also processed 12,342 urinalysis specimens, representing a 1.5 per person penetration rate of persons available to be tested. On the specimens tested, there was one positive out of each 617. A bio-chemical testing assistance team was employed for drug and alcohol testing at Fort Rucker for eight months of 1991, but the procedure was decentralized before the end of the year.⁶⁷

In October 1991, Fort Rucker's Lyster Army Hospital inaugurated a program called "Third Party Collection," by which the hospital billed the insurance companies of patients for medical treatment received by outpatients. The money collected from this program was used to purchase medications for the pharmacy and to improve hospital service.

Also in October, ground-breaking ceremonies were held at the Aeromedical Center for a new ambulance service building. The \$130,000 project was to be comprised of a dispatch communications room, a classroom/training area, an administrative office, and two sleeping quarters. The responsiveness of ambulance service would be improved, and space in the emergency room would be made available for expanded trauma care procedures.⁶⁸

According to the U.S. Army Dental Activity (DENTAC) at Fort Rucker, approximately 92 percent of the soldiers at Fort Rucker were in dental category 1 and 2; i.e., capable of being deployed with the expectation of no duty time lost due to dental emergencies within one year. Only 1 percent were in category 3, i.e., soldiers who might experience a dental emergency within one year. The remaining soldiers, category 4, had no record of dental examination within the last two years or had no confirmation of receipt of a duplicate panograph. During 1991, the Fort Rucker Dental Activity provided services as follows: 78 percent to active duty personnel; 20 percent to active duty family members; and 2 percent to retirees.⁶⁹

⁶⁷Historical report, DPCA, CY 91.

⁶⁸Historical report, USAAMC, CY 91, Army Flier, 10 Oct 21 Nov 91.

⁶⁹Historical report, DENTAC, CY 91.

APPENDIX I

USAAVNC ORGANIZATIONS AT FORT RUCKER

A. Directorate of Combat Developments (DCD)

The mission of the DCD remained the same as in 1990. Col. Theodore T. Sendak served as director of DCD throughout 1991. Lt. Col. Neil R. Buthorne was deputy director for January and February, Lt. Col. Joseph S. Bowen from March through June, and Lt. Col. Harold J. Brecher for the remainder of the year. Mr. Richard S. Maccabe served as technical advisor. During 1991, the DCD consisted of five divisions. These divisions, with their respective chiefs, were as follows: Concepts and Studies--Lt. Col. Homer W. Worrell from January until July, Maj. Larry L. Purinton (interim) during July and August, and Lt. Col. Patrick F. Link for the remainder of the year; Systems Integration and Prioritization--Albert E. Easterling from January through June and Lt. Col. Steven L. Remley for the remainder of the year; Materiel and Logistics Systems--Col. Edwin E. Whitehead through January, Maj. Peter M. Bartosch from February through June, and Lt. Col.(P) Robert J.H. Anderson from July through December; Organization and Force Development--Lt. Col. Charles J. Lowman for the entire year; and the Program Management Office-- Mrs. Maxine S. Dowling for the entire year. The Threat Support Office assumed control over the Special Security Office in October 1991 and was managed by Lt. Col. Delma C. Hendricks for the entire year. As a result of reductions-in-force, DCD lost approximately twenty civilian positions in 1991. The directorate strength at the beginning of the year was eighty-four civilians and sixty-two military, and at the end of the year, sixty-five civilians and sixty-three military.⁷⁰

B. 1st Aviation Brigade (Air Assault) (1st Brigade)

The mission of the 1st Brigade remained the same as in 1990. The brigade commander in 1991 was Col. Brian P. Mullady from 1 January through 27 June and Col. Robert B. Bailey from 28 June through 31 December. The deputy commanders were Lt. Col. Terry C. Gannon from 1 January through 23 June and Lt. Col. James M. Diamond from 24 June through December; and the brigade sergeant majors were Cmd. Sgt. Maj. Marvin D. Bryan from 1 January through 21 July and Cmd. Sgt. Maj. Gary L. Wright

⁷⁰Historical report, DCD, CY 91; Phoncon, Debbie Cain to cmd historian, 14 Jan 93.

from 22 July through December. The 1st Aviation Brigade consisted of three training battalions and two FORSCOM battalions. The training battalions and their commanders were as follows: 1st Battalion, 10th Aviation Regiment--Lt. Col. Burt L. Lennon; 1st Battalion, 13th Aviation Regiment--Lt. Col. Paul B. Hay; and 1st Battalion, 145th Aviation Regiment--Lt. Col. James M. Diamond from 1 January through 23 June and Lt. Col. Mark S. Wentlent from 24 June through 31 December. The FORSCOM battalions and their commanders were as follows: 46th Engineer Battalion (Combat) (Heavy)--Lt. Col. William F. Reyers; and the 2nd Battalion, 229th Attack Helicopter Regiment--Lt. Col. William M. Bryan. The five battalions consisted of twenty-seven companies, two detachments, and the 98th Army Band. The permanent party personnel at the beginning of the year totaled 2,400, of which 55 were civilians, and 2,380 at the end of the year, with no change in civilian strength.

On 16 October 1991, the 10th Aviation Group, the first AH-64 attack helicopter group was activated at Fort Bragg, NC. Fort Rucker's 2-229th, which was previously assigned to the 101st Airborne Division (Air Assault), 18th Airborne Corps, was reassigned to the new 10th Aviation Group, along with other battalions of the 229th Aviation.⁷¹

C. Aviation Training Brigade (ATB)

The missions of the ATB remained essentially the same as in 1990. The brigade commander during 1991 was Col. James C. Hardister from January through July and Col. Thomas M. Roy from August through December. The command sergeant major was Cmd. Sgt. Maj. Richard L. Jacobs. The four training battalions of the ATB in 1991 and their respective commanders were as follows: 1st Battalion, 11th Aviation Regiment--Lt. Col. Charles H. Dove; 1st Battalion, 14th Aviation Regiment--Lt. Col. Charles L. Gant from January through June and Lt. Col. Steven T. Cronin for the remainder of the year; 1st Battalion, 212th Aviation Regiment--Lt. Col. Harold S. Barrett; 1st Battalion, 223d Aviation--Lt. Col. Donovan R. Cumbie from January through June and Lt. Col. Julius S. Scott for the remainder of the year. The total strength of the brigade at the beginning of 1991 was 1,377 and at the end of the year, 1,348.

⁷¹Historical report, 1st Brigade, CY 91; Msg O 192104Z Sep 91, cdr XVIII ABN Corps to DA, sub: regimental designation of the 10th aviation group, CG file.

A major organizational change within the ATB during 1991 was that Company E of the 1-223rd became a separate battalion (provisional), the Helicopter School Battalion, School of the Americas, on 2 December 1991. The Helicopter School Battalion was organized into four companies. Its function was to handle all maintenance and flight training for Spanish speaking international students.⁷²

D. Aviation Proponency Office (APO)

The evolving mission and functions of the APO are described under "Organizational Changes in 1991," in Chapter I. The chief of Aviation Proponency from 1 January through 25 July 1991 was Lt. Col Michael C. Pascoe. His office maintained operational responsibility for the Aviation Digest Office and for the Aviation Planning Group as well as for the Personnel Proponency Office. When Lt. Col. Robert L. Johnson, Jr. became chief of Aviation Proponency on 26 July 1991, the Aviation Planning Group under Maj (P) Davis Tindall was detached from the APO and placed under the supervision of the chief of staff. The Aviation Digest Office, under the leadership of Ms. Patricia S. Kitchell, remained under the APO until 23 December 1991, when it was transferred to the Public Affairs Office.⁷³

E. Directorate of Plans, Training, Mobilization, and Security (DPTMSEC)

The mission of the DPTMSEC remained essentially the same as in 1990. The director of DPTMSEC in 1991 was Col. Ralph J.W.K. Hiatt, and the deputy director was Mr. Clyde S. Tullos. The directorate was composed of eight divisions from January until July, at which time the Army Education Center was realigned from DPCA to DPTMSEC. Two other major organizational changes occurred on 1 October. First, the Resource Management Division was abolished, and resource management functions were transferred to DRM. Secondly, the Directorate of Reserve Component Support was realigned as a division of DPTMSEC. Another realignment occurring in 1991 consisted of the transfer of the Graduation Support Office from the Command Group to the Plans, Operations, and Mobilization Division of DPTMSEC, where it became the Master Planning Support Branch. The divisions of DPTMSEC with their respective heads in

⁷²Historical report, ATB, CY 91.

⁷³Historical report, APO, CY 91.

1991 were as follows: Resource Management--Mr. Charles A. Welch; Aviation--Maj. Gary S. Mulrooney; Resident Training Management--Ms. Mary Brown; Plans, Operations, and Mobilization--Maj. Douglas M. Taylor; Range--Maj. Clint W. Hall from January through March and Maj. Ronnie D. Matthews from April through December; Security--Mr. Rodney D. Logan; Training Service Center--Mr. Clarence N. O'Rear; Education--Mr. John W. Bush; and 9th Detachment, 5th Weather Squadron--Lt. Col. Douglas C. Pearson; Reserve Component Support--Col William E. Miller. The total strength of DPTMSEC at the beginning of the year was 71 military personnel and 128 civilians. The strength figures for the end of the year were 67 soldiers and 93 civilians.⁷⁴

F. Directorate of Evaluation and Standardization (DES)

The mission of the DES did not change in 1991. The directors of DES in 1991 were Lt. Col. Immanuel C. Sieving III from January through 4 August and Col. Donovan R. Cumbie from 5 August through December. The deputy directors were Lt. Col. Mario Meola through 4 August and Lt. Col. Immanuel C. Sieving III from 5 August through December. The three divisions of DES and their respective heads were as follows: Operations and Administration--Maj. Deborah K. Ridout until 9 October and Lt. Col. Patrick A Schado from 1 November through December; Flight Standardization--Maj. Walton C. Carroll; and Evaluation--Maj. Stephen F. Koach. The DES began the year with twenty-eight civilians and fifty-six soldiers and ended the year with twenty-one civilians and sixty-eight military personnel.⁷⁵

G. Directorate of Logistics (DOL)

The mission of the DOL remained the same as in 1990. The director of DOL in 1991 was Mr. G. J. Leavis and the deputy director was Mr. Perry S. Grantham. The noncommissioned officer in charge was Sfc. Anthony Rhoda. The six divisions into which DOL was divided and the chief of each division in 1990 were as follows: Resource Management--Mr. Archie Fondren; Aircraft Logistics Management--Lt. Col. Wayne L. Dandridge from January to October, Maj Keith L. West (acting) October to

⁷⁴Historical report, DPTMSEC, CY 91; Memo ATTG-IE (621-5a), Maj Gen Craig A Hagan for distr, 29 Apr 91, sub: transfer of Army Continuing Education System to Training, DPTMSEC.

⁷⁵Historical report, DES, CY 91.

November, and Maj (P) Carson R. Francis November through December; Plans and Operations--Capt. Kathy K. Reynolds, Mr. Charles While (acting), and Mr. Donal Fricks; Maintenance--Mr. Carl Swanstrom; Supply and Services--Mr. Paul Treadaway; and Transportation--Mr. Benjamin C. Peoples. The DOL began the year with 320 civilians and 56 military personnel and ended the year with 306 civilians and 57 soldiers.

Mr. John R. Pate, Fort Rucker's oldest employee, retired from the Supply Surveillance Branch of DOL on 30 November 1991. Mr. Pate was eighty years old at the time of his retirement and had worked at the same job for his entire thirty-five years at Fort Rucker.⁷⁶

H. Directorate of Engineering and Housing (DEH)

The mission of the DEH remained the same as in 1990. During 1991, the director of DEH was Lt. Col. William E. Norton, and the deputy director was Mr. Julian F. Botts. The six divisions of the directorate and the respective division heads in 1991 were as follows: Engineering Plans and Services--Mr. Delmer O. Owens, Engineer Resources Management--Mr. Charles A. Spencer; Operations and Maintenance--Mr. Ronald E. Leatherwood; Fire Prevention and Protection--Mr. Jerry B. Grammont; Housing--Miss Patricia Sales; and Supply and Storage--Mr. Paul C. Wheeler.⁷⁷

I. Directorate of Training and Doctrine (DOTD)

The mission of DOTD remained essentially the same in 1991 as it had been in 1990. The director during 1991 was Col. James W. Beauchamp. The deputy director was Mr. Donald L. Teague. The three major divisions of DOTD with their respective chiefs during 1991 were as follows: Simulator Development, Management, and Research--Lt. Col. Michael W. Cupples; Individual and Unit Training--Maj. Ronnie L. Foxx; Staff and Faculty Development--Mr. Charles A. Thomley. The chief of the Aviation Technical Library, aligned under the Staff and Faculty Development Division, was Ms. Beverly Hall. At the beginning of the year, the DOTD had a total strength of

⁷⁶Historical report, DOL, CY 91.

⁷⁷Historical report, DEH, FY 91.

160 (79 military and 81 civilians). The total strength at the end of the year was 102 military personnel and 113 civilians.⁷⁸

J. Directorate of Personnel and Community Activities (DPCA)

The mission of the DPCA remained the same during 1991 as 1990 except as noted below. The director was Col. Clarence L. Belinge for the entire year. The subordinate offices, divisions, and units in DPCA and their respective heads in 1990 were as follows: Equal Opportunity Office--Sfc. Perelez and Sfc. Sterling; Army Aviation Museum--Mr. R. S. Maxham; Office of Community and Family Activities--Mr. Evan E. Smith, Jr.; Community Recreation--Mr. J. Wade Henderson; Alcohol and Drug Control Office--Mr. Ronald R. Sorrells; Community Operations--Mr. Robert Duff; Services--Ms. Jane W. Andrews; Fort Rucker Dependent Schools--Dr. Linda C. Godsey; Family Support--Ms. JoAnne Blanks; and Military Personnel/Adjutant General Division--Lt. Col. John T. Planchon from January through September and Mr. M. J. Wesley for the remainder of the year. The DPCA noncommissioned officer in charge from January through July was Sgt. Maj. Ronnie K. Inman. The strength figures at the beginning of the year were 563 civilians and 60 soldiers. In July 1991 the Resource Management Division of DPCA was disbanded, and its functions were assumed by the DRM; also the Education Division was transferred to the DPTMSEC. During 1991, the Military Personnel/Adjutant Division received the 1990 Army Community of Excellence Award as the best military personnel center on a medium size installation in TRADOC⁷⁹

K. Department of Tactics and Simulation (DOTS)

In June of 1990 the Departments of Combined Arms Tactics and Gunnery and Flight Systems were combined to form the new Department of Tactics and Simulation. The mission of DOTS in 1991 remained essentially the same as it was after the merger in 1990. The departmental director from January through June was Lt. Col. Harold G. Thomas, and from July through December, Col. Michael K. Mehaffey. The four divisions of DOTS and their respective chiefs during 1991 were as follows: Combined Arms Division--Maj. Cecil Talbot from January through October and Maj. Ronald Flick

⁷⁸Historical report, DOTD, CY 91; Staffing response, [DOTD to cmd historian, Jan 93].

⁷⁹Historical report, DPCA, CY 91; Army Flier 5 Sep 91; Historical report, Military Personnel/Adjutant General Div, CY 91.

from November through December; Doctrine Division--Maj. Thomas Burton from January to June, Lt. Col. William Voth in June and July, and Maj. Bradford Bock from July through December; Attack/Scout Division--Maj. Terry Teeter; Cargo/Utility Division--Capt. Michael Corbin from January to December, and Maj. Mik Mikkelsen for the remainder of the year. The department began the year with an assigned strength of 198 military personnel and 133 civilians. At the end of the year there were 163 military personnel and 116 civilians assigned.⁸⁰

L. Department of Enlisted Training (DOET)

The mission of the DOET did not change in 1991. The department director was Cmd. Sgt. Maj. William F. Broder from 1 January through 13 November and Cmd. Sgt. Maj. Bobby E. Shackelford for the remainder of the year. The assistant director position was vacant during 1991. The operations chiefs were M. Sgt. Wayne D. Kemp from January through September, Sfc. Gregory C. Brooks during part of October, and M. Sgt. Gene R. Lawrence for the remainder of the year. The chiefs of the Maintenance Training Division were M. Sgt. Scott F. Rockwell from January through June, Sgt. Maj. Bobby E. Shackelford from July to November, and M. Sgt. James J. Yaun for the remainder of the year. The chief of Air Operations Training Division was M. Sgt. Judith A. Casey from January through August, Sgt. Maj. John M. Morrison from September to November and Sgt. Maj. Gabriel T. Imperial for the remainder of the year. At the beginning of the year, the strength figures of DOET were 139 military and 51 civilians. At the end of the year, there were 109 military and 63 civilians. In January 1991, Ms. Theresa M. Simmons of DOET was selected as USAAVNC civilian instructor-of-the-year, and, on 4 October, Mr. William Reynolds of DOET completed fifty years of federal service.⁸¹

M. Noncommissioned Officer Academy (NCOA)

The mission of the NCOA remained the same in 1991 as in 1990. The commandant of the academy was Cmd. Sgt. Maj. Melvin P. Taylor, and the assistant commandant/first sergeant was 1st Sgt. William L. McGee from January through May and 1st Sgt. Leon M. Holland from June through December. The two training branches

⁸⁰Historical report, DOTS, CY 90; Historical report, DOTS, CY 91.

⁸¹Historical report, DOET, CY 91.

and their respective chiefs were as follows: Advanced Course--Sfc. Joseph Kelly; Basic Course--Sfc. Devin Burbank from January through April and M. Sgt. Robert L. Prueter from July through December. At the beginning of the year, there were twenty-seven military personnel and two civilians on the staff of the NCOA, and at the end of the year, there were thirty-four military personnel and five civilians. During 1991, the Academy instigated a "Commandant's Run," which was to take place during each class cycle.⁸²

N. Directorate of Civilian Personnel (DCP)

The mission of the DCP remained the same in 1991 as it was in 1990. Mrs. Marjorie P. White continued as director from January through 9 August, and Mr. Lynden H. Rosenberry assumed the position on 3 November. The divisions of the directorate and their respective chiefs during 1991 were as follows: NAF Personnel--Mr. John Arnold; Position Management and Classification--Mr. Wayne Griffin; Management and Employee Relations--Mrs. Dorothy Parrish; Technical Services--Mr. George M. Brawley; Training and Development--Mr. Fred Smith; and Recruitment and Placement--Mrs. Gennie Weiss.

Mrs. Marjorie White retired on 9 August 1991 with forty-six and one-half years of continuous employment at Fort Rucker--an employment record for the post. She began as a GS-1 in 1945, at the age of nineteen, and completed her career as a GM-14.⁸³

O. Directorate of Reserve Component Support (DRCS)

The mission of the DRCS remained essentially the same as in 1990. The director of DRCS in 1990 was Col. Clifford L. Massengale from January through October and Col. William E. Miller during November and December. The deputy director was Mr. Archie L. Roberts. In accordance with 1991 budget manpower guidance, the DRCS was realigned as the Reserve Component Support Division of DPTMSEC, effective 1 October.⁸⁴

⁸²Historical report, NCOA, CY 91.

⁸³Historical report, DCP, CY 91; Army Flier, 9 Aug 91.

⁸⁴Historical report, DRCS, CY 91.

P. Office of the Inspector General (IG)

The mission of the Office of the IG did not change in 1991. Lt. Col. Ronald P. Dale served as the IG from January until July, and Lt. Col. Charles L Gant, for the remainder of the year. Capt. (P) Irene G. Mauss was chief of the Assistance/Investigations Branch from January until July, and Maj. David N. Pruitt, for the remainder of the year. The position of chief of the Inspections Branch was restructured from military to civilian. The position remained vacant from January through June and was filled by Mr. Keith Jack from July through December. The strength figures for the Office of the IG at the beginning and end of the year were six military and three civilians.⁸⁵

Q. Staff Chaplain Office

The mission of the Chaplain Office remained the same as in 1990. The installation staff chaplain during 1991 was Chaplain (Col.) Marvin K. Vickers, Jr., and Chaplain (Lt. Col.) Ervin L. Shirey, Jr., served as operations and support chaplain. Sister Mary Kavanaugh was the Catholic religious education director, Mr. Louie Reynolds was the Protestant religious director, and Sfc. Terry Floyd was the NCOIC for the activity. There were thirteen chaplains and thirteen chaplain assistants assigned during the year.⁸⁶

R. Office of the Staff Judge Advocate (SJA)

The mission of the SJA Office remained the same as in 1990. The office was directed by Lt. Col. Everett M. Urech from January through 20 June and by Lt. Col. Phillip L. Kennerly for the remainder of the year. The deputy director was Maj. Craig L. Reinold from January through 25 July and Maj. Milton C. Spaulding for the remainder of the year. The SJA was organized in the following five divisions: Administrative, Military Justice, Legal Assistance, Claims, and Administrative Law. The office personnel strength was thirty, both at the beginning and at the end of the year.

⁸⁵Historical report, Office of IG, CY 91.

⁸⁶Historical report, Chaplain, CY 91.

The USAAVNC SJA Office was the recipient of the TRADOC Communities of Excellence Award for Legal Assistance in 1991. Also in 1991, the Claims Division received a Certificate of Excellence from the U.S. Army Claims Service for exceptional performance in affirmative claims processing during 1990.⁸⁷

S. Public Affairs Office (PAO)

The mission of the PAO remained basically the same in 1991 as in 1990. The public affairs officer was Lt. Col. G. Eric Jowers from January until July and Maj. (P) (promoted to lieutenant colonel in September) Gerard J. Hart for the remainder of the year. The deputy public affairs officer was Mr. Kenneth L. Holder, and the noncommissioned officer in charge was M.Sgt. David L. Malone from January to July and M.Sgt Daniel L. Coberly from October through December. The Aviation Digest Office was realigned from the Aviation Proponency Office to the PAO on 23 December 1991. At the end of 1991, the PAO consisted of four sections; these sections, with their respective chiefs, were as follows: Aviation Digest Office--Ms. Patricia S. Kitchell; Public Information--Mr. William J. Hayes; Command Information--Ms. Cynthia Nason; and Community Relations--Ms. Sheryl W. Milum. The PAO began the year with seven military personnel and eight civilians and ended the year with seven soldiers and thirteen civilians.⁸⁸

T. Aviation Branch Safety Office (ABSO)

The mission of the Safety Office was the same in 1991 as in 1990. Mr. John T. Persch continued as safety manager, and Mr. Ronald Cox, as president of the Aircraft Accident Investigation Board. Two Safety Office personnel authorizations were lost during the 1991 reduction-in-force.⁸⁹

⁸⁷Historical report, SJA, CY 91.

⁸⁸Historical report, PAO, CY 91.

⁸⁹Historical report, ABSO, CY 91.

U. Internal Review and Audit Compliance (IRAC) Office

The mission of the IRAC Office remained the same in 1991 as it had been in 1990. The internal review officer in 1991 was Mr. Woodrow J. Farington. Mr. Don W. Phillips served as chief of the Audit Compliance Branch, and Mr. Howard Vance Haney served as chief of the Internal Review Branch. The IRAC Office was staffed with ten civilians at the beginning of the year and with eight civilians at the end of the year.⁹⁰

V. Equal Employment Opportunity (EEO) Office

The mission of the EEO Office did not change in 1991. The acting EEO officer, Mr. James W. Harris, became EEO officer in June. Other key EEO Office personnel included the following: Affirmative Employment Program manager and Black Employment Program manager--Mr. Lawrence DeRamus; Federal Women's Program manager--Ms. Nancy T. Patterson from January to October and Ms. Johnnie Early from October through December; Hispanic Employment Program manager (collateral duty)--Ms. Miriam Ray; equal employment opportunity specialist--Ms. Ruby J. Warren; and information systems management specialist--Ms. Marcia Smith. There were five permanent civilian employees at the beginning and at the end of the year.⁹¹

W. Directorate of Contracting (DOC)

The mission of the DOC remained the same as in 1990. The director in 1991 was Mr. Peter C. Polivka. The directorate was organized into four divisions, which, with their respective chiefs during 1991 were as follows: Contracting--Mrs. Gloria G. Wheeler; Contract Administration--Mr. Allen Wagstaff; Purchasing--Mrs. Nelda B. Livesay; and Support--Ms. Carol Wrinn. The DOC began and ended the year with a total personnel strength of forty-two.⁹²

⁹⁰Historical report, IRAC Office, CY 91.

⁹¹Historical report, EEO Office, CY 91.

⁹²Historical report, DOC, CY 91.

X. Directorate of Resource Management (DRM)

There was no change in the mission of DRM in 1991. Lt. Col. John A. Whitson served as director of Resource Management, and Mr. Hugh M. Weeks was deputy director. At the end of 1991, the DRM consisted of five divisions. These divisions, with their respective chiefs, were as follows: Finance and Accounting--Maj Robert J. Miks; Cost and Management Analysis--Mr. James H. Woodard; Force Management--Mr. Howell Flowers; Program and Budget--Mr. Floyd Rogers; Total Quality Management Resource--Mrs. Hazel Odom. In November 1991, the DRM provisionally established the Total Quality Management Resource Division. This division was formed by drawing resources from the existing Cost Analysis and Management Analysis divisions. Subsequently, the remaining assets of these two divisions were combined to form the Cost and Management Analysis Division.

The DRM began 1991 with 179 appropriated-fund and 12 nonappropriated-fund employees assigned and ended the year with 187 appropriated-fund and 11 nonappropriated-fund employees. The increase resulted from the consolidation of all USAAVNC budget functions, except for DCD and DOIM, into the DRM.

The DRM supervised the 1991 U.S. Savings Bonds Campaign, which resulted in the highest recorded percentage of savings bonds participation at Fort Rucker. This achievement was recognized by the treasurer of the United States.⁹³

Y. Aviation Branch Historian Office

The mission of the Branch Historian Office remained the same as in 1990. Dr. John W. Kitchens served as Aviation Branch command historian for the entire year. and Dr. Burton Wright III, as deputy command historian. The office strength was two civilians at the beginning of the year and three civilians and one military at the end of the year.

⁹³Historical report, DRM, CY 91. See also the section on resource management in Chapter IV, above.

Z. U.S. Army Air Traffic Control Activity (USAATCA)

Except for the transfer of some of the functions of two of its major divisions, the overall mission of the USAATCA did not change in 1991. The director of the activity during the latter part of 1991 was Lt. Col. (P) Robert M. Stewart. The acting director prior to the arrival of Colonel Stewart in July and deputy director for the remainder of the year was Mr. Francis N. Anderson. Sgt. Maj. Terry Wilkins continued as the activity sergeant major. In January 1991, the Aeronautical Services Office, which had been a part of the USAATCA organization but had operated from Cameron Station, was transferred to the DCSOPS at the DA. This caused a loss of some forty-two authorized spaces for the USAATCA. Internal reorganization during 1991 resulted in the merging of the Operations and Procedures Division and the Systems Evaluation Division to form the Air Traffic Control Management Office. Also in 1991, the Programs Division was moved to St. Louis, MO, and made part of the Army Materiel Command, and the name of the Development Office Systems Integration Division was changed to Systems and Plans Division. At the end of 1991, the USAATCA was divided into three principal offices, viz, Air Traffic Control Management Office, Air Traffic Control Development Office, and Area Maintenance Supply Facility. The strength figures for the USAATCA were forty-three soldiers and fifty-seven civilians at the beginning of the year and twenty-two soldiers and thirty-three civilians at the end of the year.⁹⁴

AA. Directorate of Information Management (DOIM)

The mission of the DOIM remained the same as in 1990. The director in 1991 was Lt. Col. Alan R. Levy, and the deputy information systems manager was Mr. James E. Clements. The four divisions of DOIM and their respective chiefs during 1991 were as follows: Operations and Systems Integration--Mr. Louis E. Boothe; Resource Management & Plans--Mr. John G. Dyess; Information Center--Mr. J. L. Weeks; and Logistic Support--vacant. The DOIM began the year with an assigned strength of 24 military personnel and 143 civilians; it ended the year with 21 soldiers and 127 civilians.⁹⁵

⁹⁴Historical report, USAATCA, CY 91; Transcription of interview by author with Lt Col Robert M Stewart, 22 Apr 92, Oral Interview file; 1st end ATZQ-ATC-A (ATZQ-MH/29 Dec 92) sub: 1991 annual command history - staffing, USAATCA.

⁹⁵Historical report, DOIM, CY 91.

BB. TRADOC Systems Manager (TSM), Light Helicopter/Comanche

Although there was a name change from TSM Light Helicopter to TSM-Comanche, the function of this organization remained essentially the same as in 1990. The TSM Comanche in 1991 was Col. Stephen S. MacWillie. His senior assistants were Mr. Glenn Harrison, Lt. Col. James M. Delashaw, and Maj. Steven L. Ochsner. Nine military personnel and two civilians served in the TSM Comanche office during 1991. Four additional "operational personnel" under TSM-Comanche direction were assigned to the manufacturing contractor's facility.⁹⁶

CC. TSM, Airborne Target Acquisition and Weapon System (ATAWS)

There were no changes in the mission of the TSM ATAWS in 1991. Col. David F. Sale, served as TSM ATAWS throughout the year. His senior assistants were Mr. Paul Revels, Maj. David J.L. Blankinsop, and Maj. Howard T. Bramblett.⁹⁷

DD. TSM OH-58D Helicopter

The mission of the TSM OH-58D remained the same in 1991 as it had been in 1990. The manager in 1991 was Col. Ted D. Cordrey, and his principal assistants were Capt. (P) Christopher C. Romig, Maj. Donald K. Saxon, Maj. Versal Spalding III, and CWO4 Donald A. Price.⁹⁸

EE. TRADOC Project Office (TPO) Apache

The TPO Apache continued during 1991 with the same mission it had during 1990. The TRADOC projects officer position was vacant from January through May 1991; Lt. Col. Skip Johnston and Maj. Michael E. Hassel respectively served from June

⁹⁶Historical report, TSM-Comanche, CY 91; Memo ATZQ-TSM-C (70-1i), Col Theodore A Duck for cmd historian, 7 Dec 92, sub: 1991 annual command history, TSM-Comanche.

⁹⁷Historical report, TSM ATAWS, CY 91.

⁹⁸Historical Report, TSM OH-58D, CY 91.

through December. The TPO Apache was under the supervision of the TSM ATAWS during 1991.⁹⁹

FF. Military Police Activity (MPA)

The mission of the A Company, MPA, remained essentially the same in 1991 as in 1990. The company was directly under the control of the provost marshal. The provost marshal in 1990 was Lt. Col. Paul E. Goldsmith until 29 August and Lt. Col. Thomas N. Copeland for the remainder of the year. The deputy provost marshal was Mr. Allison Hutcheson. Capt. Jeniphr G. Kistler served as commander of A Company, MPA, and the 1st sergeant was Sfc. Lanice A. Bonds.¹⁰⁰

⁹⁹Historical report, TSM ATAWS, CY 91; Memo ATZQ-TSM-ATAWS, Col David F Sale for cmd historian, 17 Dec 92, sub: 1991 annual command history staffing, TSM ATAWS.

¹⁰⁰Historical report, MPA, CY 91.

APPENDIX II

USAAVNC ORGANIZATIONS AT FORT EUSTIS

A. U.S. Army Aviation Logistics School (USAALS)

Col. William J. Blair served as assistant commandant and Mr. Rodney Schulz, as deputy assistant commandant of the USAALS throughout the year. Sgt. Maj. Jerry T. Pittman served as school sergeant major during January and February and Sgt. Maj. Alan J. Gott, for the remainder of the year. CWO4 James R. Garrett, Jr., was the safety officer, and Mr. Michael Walsh served as the threat advisor for the entire year. Mrs. Phyllis Schultz coordinated protocol activities and Mrs. Linda Mitchell coordinated historical and public affairs assignments throughout the year.

The USAALS organizational structure remained unchanged in 1991, with three directorates, four training departments, and two support offices. In January 1991, the USAALS's authorized military and civilian strength was 859, with 942 assigned personnel. Two reductions in force were conducted during the year. By December, the authorized strength had increased to 886, and the number of assigned personnel had been reduced to 805. The USAALS was able to meet all mission essential requirements during 1991, but some initiatives had to be scrapped because of lack of funding and shortage of personnel.¹⁰¹

B. Program Management Office (PMO)

The mission of the USAALS PMO remained essentially the same as it had been in 1991. Capt. (P) Richard K. Eissler served as chief of the office from January through May, and Maj. Frank J. Stashak, for the remainder of the year. Other key personnel included M. Sgt. Chris H. Stainbrook, M. Sgt. Randy M. Horsley, Mrs. Billie L. Summerford, and Mrs. Linda A. Mitchell. The total strength of the office was 16 at the beginning of the year and 17 at the end of the year.¹⁰²

¹⁰¹Historical report, USAALS PMO, CY 91.

¹⁰²Ibid.

C. Department of Aviation Trades Training (DATT)

The USAALS DATT's mission remained the same as in 1990. During 1991, Lt. Col. Scott R. Wilcox was department head, and the department sergeant major was Sgt. Maj. Jimmy Tatum. The four academic divisions and their respective chiefs during 1990 were as follows: Propulsion and Powertrain--Sgt. Maj. James Carrol; Electrical and Electronics--M. Sgt. Thomas Sackett from January through June and Sfc. (P) Willie C. Lucas for the remainder of the year; Structural and Pneudraulics--Sgt. Maj. Jimmy D. Kinzer; and Aircraft Armament--CWO4 Graham Stevens. M. Sgt. Pascual Gonzales served as acting chief of the Propulsion and Powertrain Division while Sgt. Maj. James Carrol was on temporary duty in Southwest Asia. The assigned strength of USAALS DATT was 243 on 1 January 1991 and 179 on 31 December. The authorized strength on 31 December was 208. The DATT trained 2677 students during 1991.¹⁰³

D. Department of Advanced Aviation Logistics Training (DAALT)

The mission of the USAALS DAALT did not change in 1991. Sgt. Maj. Edward A. Wall served as director for the entire year. During 1991, 253 Advanced Noncommissioned Officer Course students and 603 Basic Noncommissioned Officer Course students received training in the DAALT.¹⁰⁴

E. Department of Attack Helicopter Training (DAHT)

The mission of the USAALS DAHT in 1991 was the same as it was in 1990. The department director during January was Maj. (P) Mark S. Jones, who was promoted to lieutenant colonel on 1 February and continued serving as director for the remainder of the year. The department sergeant major was Sgt. Maj. Gary Freeman, and the training administrator was Mr. Tom Hall. The three training divisions of the department, with their respective chiefs, were as follows: Advanced Attack Helicopter (maintenance training for AH-64)--Maj. J. Bogema; Attack Helicopter (maintenance training for AH-1) Sgt. Maj. Jesse J. Thigpen; Scout Helicopter (maintenance training for OH-58)--Sgt. Maj. Irwin Privott. During 1991, 976 students were trained in the Advanced Attack Helicopter

¹⁰³Historical report, USAALS DATT, CY 91.

¹⁰⁴Historical report, USAALS DAALT, CY 91

Division, 203 in the Attack Helicopter Division, and 255 in the Scout Helicopter Division.¹⁰⁵

F. Directorate of Evaluation and Standardization (DOES)

The mission of the USAALS DOES was essentially the same in 1991 as it had been in 1990. Lt. Col. Douglas A. Cahill served as director for the entire year. The chief of the Evaluation Division was CWO4 George S. Hrichak, and the chief of the Maintenance Test Flight and Standardization Division was Maj. James Fitzpatrick. The DOES strength was twenty-three at the end of the year.¹⁰⁶

G. Leader Development/Personnel Proponency Office (LD/PPO)

The mission of the USAALS LD/PPO remained the same as in 1990 except that functions of the project manager for the Aviation Apprentice Mechanic program were transferred from the Proponency Office to the USAALS DOTD, effective 3 October 1991. Maj. Guy A. Wills was chief of the Proponency Office throughout the year, and the sergeant major was Sgt. Maj. Rufus L. Stills.¹⁰⁷

H. Department of Aviation Systems Training (DAST)

The mission of USAALS DAST did not change in 1991. Lt. Col. Dennis W. Healy, Maj. James L. Brook, Maj. Amparo T. McKissck, Maj. Alan D. McKeag served successively as department director during the year. The department sergeant major was Sgt. Maj. Alan A. Gott. The five divisions and their respective chiefs were as follows: Maintenance Management Division--Maj. James L. Brooks until 6 January and Capt. Robert W. Kline for the remainder of the year; Officer Professional Development Division--Maj. Lawrence E. Dawson until 13 January and Maj. Joseph H. Stribrny for the remainder of the year; Fixed Wing Division--CWO4 John F. Hyman from 1 January

¹⁰⁵Historical report, USAALS DATT, CY 91.

¹⁰⁶Historical report, USAALS DOES, CY 91.

¹⁰⁷Ltr, Maj Guy A Wills to Mr Ben Morris, 16 Oct 91, USAALS LD/PP); Historical report, USAALS DOTD, CY 91.

until 1 May; Cargo Helicopter Division--Sgt. Maj. Eugene Rossner until 27 February and M. Sgt. Jack M. Johnson for the remainder of the year; Utility Helicopter Division--M. Sgt. Bobby E. Shackelford until 31 May and M. Sgt. Larry L. Watson for the remainder of the year. The department strength at the beginning of the year was 265, and the strength at the end of the year was 242. The department trained 2,336 students in 1991; during 1990, it trained 2,394.¹⁰⁸

I. Directorate of Training and Doctrine (DOTD)

The mission of the USAALS DOTD was essentially the same in 1991 as in 1990. Col. Robert Terry served as director from January to mid September, and Col. Dennis W. Healy, for the remainder of the year. Sgt. Maj. Thomas G. Graves served as sergeant major of the directorate from January through June, and Sgt. Maj. Willie E. Robertson, for the remainder of the year. The deputy director was Mr. David A. Lamb. The chief of the Distributive Training Division was Mr. William H. Zinn, and the chief of the Training Analysis Division was Mr. David A. Lamb from January through mid September, and Maj. Amparo T. McKissck for the remainder of the year. The chief of the Resident Training Division was Mr. Walter V. Robbins from January to mid December and Maj. Tommy F. Orr for the remainder of the year.¹⁰⁹

J. Directorate of Combat Developments (DCD)

The mission of the USAALS DCD was the same in 1991 as in 1990. Col. Robert B. Kean and Mr. Robert E. Howard served as director and deputy director respectively throughout the year. The four subordinate divisions of the directorate, with their respective chiefs, were as follows: Concepts and Studies--Maj. Merle Converse from January through July and Capt. (P) John Kane for the remainder of the year; Materiel Logistics Systems--Maj. John Tryon; and Organization and Personnel Systems--Mr. Tom Reichert (acting chief); Test and Evaluation Division--vacant from January through July and Maj. Al Yeske from August through the remainder of the year. The Threat Office was staffed by Mr. Mike Walsh.¹¹⁰

¹⁰⁸Historical report, USAALS-DAST, CY 91.

¹⁰⁹Historical report, USAALS DOTD, CY 91.

¹¹⁰Historical report, USAALS DCD, CY 91

APPENDIX III

TENANT ORGANIZATIONS

A. U.S. Army Aviation Technical Test Center (ATTC)

The mission of the ATTC remained the same in 1991 as it had become following the reorganization which became effective on 1 October 1990. The commander from 1 January through 8 July was Col. Troy E. Burrow, and the commander for the remainder of the year was Col. John F. Hagen. The technical director was Mr. Jim McCrory and the directorate/division heads were as follows: Airworthiness Qualification--Lt. Col. Marvin L. Hanks; Flight Systems--Lt. Col. Daniel Adee; Management, Plans and Operations--Maj. Wade H. Brinson; and Technical Test Support and Logistics--Maj. Robert L. Waters. The manpower authorizations at the end of fiscal year 1991 were 44 officers, 12 warrant officers, 74 enlisted, and 182 civilians. The workforce of the ATTC was augmented by 273 contractor personnel during fiscal year 1991. The annual operating budget for fiscal year 1991 was \$34.9 million. This was an increase of \$8.6 million over the fiscal year 1990 budget. The increase resulted from funds transferred to ATTC because of the consolidation and reorganization that occurred on 1 October 1990.¹¹¹

B. U.S. Army Research Institute Aviation Research and Development Activity (ARIARDA)

The mission of the ARIARDA remained the same in 1991 as it had been in 1990. The ARIARDA chief in 1990 was Mr. Charles A. Gainer. Other key personnel included Dr. Robert H. Wright, Mr. Gabriel P. Intano, Dr. David R. Hunter, Dr. Dennis K. Leedom, Dr. Dennis C. Wightman, Dr. John A. Dohme, Dr. Michael E. Benedict, and Capt. Dale S. Weiler. The total strength of the organization was twenty-two persons on 1 January and twenty-three persons on 31 December 1991.¹¹²

¹¹¹Historical report, ATTC, CY 91; Permanent Order 9-1, 31 Jan 91, U.S. Army Aviation Technical Test Center, XM (W376AA), Fort Rucker, AL 36362-5276, action: unit reorganized, ATTC.

¹¹²Historical report, ARIARDA, CY 91.

C. U.S. Army Aeromedical Center (USAAMC)

During 1991, in accordance with Permanent Order 119-1, U.S. Army Health Services Command, the U.S. Army School of Aviation Medicine was placed under the operational control of the USAAMC. Otherwise the mission of the USAAMC remained essentially the same as during 1990. Col. Robert J Kreutzmann was the Aviation Medical Center commander throughout the year. The deputy commander for clinical services was Col. Roland J. Weisser from January through May, Lt. Col. Joseph A. Fernandez from 2 June to 21 August, and Lt. Col. Jerry W. Hope for the remainder of the year. The deputy commander for administration was Col. Otha G. Miles, and the Dean of the School of Aviation Medicine was Lt. Col. David J. Wehrly. Lt. Col. Kevin Mason was director of the U.S. Army Aeromedical Activity, and Maj. Carol A Black served as chief of preventive medicine. The deputy commander for veterinary services was Maj. Randale H. Levins from 1 January to 9 June, Maj. Mark E. Gants from 10 June to 13 August, and Col. William B. Smith for the remainder of the year. In October 1991, a TRADOC team rated Fort Rucker's Lyster Army hospital as the best facility in TRADOC for medical patient health care.¹¹³

E. 3588th Flying Training Squadron (FTS)/Detachment 1, 14th Flying Training Wing (Det 1/14 FTW), Air Training Command

On 18 October 1991, the 3588th FTS was inactivated and replaced as the Air Training Command unit at Fort Rucker by Det 1/14 FTW. The reason for this change was that new undergraduate Air Force helicopter pilots to be trained from fiscal years 1992 through 1994 was to be limited to ten per year. In 1995, training of new helicopter pilots was to be increased to around fifty per year. With the exception of conducting the Air Force service unique phase of undergraduate helicopter training, the mission of Det 1/14 FTW remained essentially the same as that of the 3588th FTS. Lt. Col. Douglas W. Chown relinquished command of the 3588th on 18 October, and Capt. Joseph Torsani III assumed command of Det 1/14 FTW during the same ceremony. Sixteen military personnel were assigned to the 3588th FTS at the beginning of the year. At the end of

¹¹³Historical report, USAAMC, CY 91, Army Flier, 27 Nov 91.

the year, seven military personnel were assigned, but five of these were awaiting reassignment, as the authorized strength of the new organization was only two.¹¹⁴

F. Test and Evaluation Coordination Office (TECO)

The Test Evaluation and Coordination Office was established at Fort Rucker on 6 March 1991 to serve as the U.S. Army Operational Test and Evaluation Command (OPTEC) representative at the USAAVNC. The TECO was formed after the Test and Experimentation Command Aviation Test Directorate was relocated to West Fort Hood, TX. The TECO mission was to provide on-site coordination between the OPTEC and the TRADOC proponent center and to provide operational test and evaluation assistance to the TRADOC proponent activity. The TECO was also responsible for continuous improvement of processes for the purpose of optimizing resources and improving products. During 1991, Lt. Col. Lawrence A Tessier was the chief of TECO. Mr. Danny Curry was the test and evaluation specialist and M.Sgt. Ronald Thayer was operations noncommissioned officer.¹¹⁵

H. U.S. Army Dental Activity (DENTAC)

The mission of DENTAC remained the same in 1991 as in 1990. The commander of the activity was Col. Robert L. Childress, and the deputy commander and chief of Dental Clinic Number Five was Col. Lawrence H. Shire. Lt. Col. Joseph R. Osmond was commander of Dental Clinic Number Two, and Lt. Col. James Woodson was chief of Brown Dental Clinic. At the beginning of the year, there were thirty-four permanent party military personnel, twenty-nine civilians, and an additional eighteen reserve military personnel assigned. At the end of the year there were thirty permanent party military personnel and twenty-eight civilians.¹¹⁶

¹¹⁴Historical report, Det 1/14 FTW, CY 91; Special Order (G-2), 1 Oct 91, Department of the Air Force, Headquarters Air Training Command, Det 1/14 FTW; Msg R 122200Z Jul 91, HQ USAF to Randolph AFB, sub: AF representation at Fort Rucker, AL, Det 1/14th FTW; Msg 151446Z May 91, HQ USAF, ATC Randolph AFB, sub: undergraduate helicopter flying training, DET 1/14th FTW.

¹¹⁵Historical report, TECO, CY 91; Memorandum of understanding between OPTEC, TECO and USAAVNC, 12 Mar 91; Memo CSTE-OPM (70-1), Maj Gen William H Forster for distr, 20 Dec 91, sub: memorandum of instruction, TECO.

¹¹⁶Historical report, DENTAC, CY 91.

I. Multi Media Branch, Army Aviation Division, National Guard Bureau

The mission of the Multi Media Branch did not change in 1991. The chief of the branch was Lt. Col William W. Shawn, and the assigned strength for 1991 was five ARNG military technicians and one civilian employee.¹¹⁷

J. U.S. Army Aeromedical Research Laboratory (USAARL)

Although some functional realignment was effected by TDA MDWO3YAA, dated 2 October 1991, the mission of the USAARL remained essentially the same as it had been prior to that date. The commander of the USAARL in 1991 was Col. David H. Karney. Col. J. D. LaMothe served as special assistant to the commander during January, as executive assistant from February through August, and as assistant commandant for the remainder of the year. Dr. Roger W. Wiley was the general health advisor (scientific research). The personnel strength of USAARL in 1991 consisted of sixty-four military and seventy-five civilians.¹¹⁸

K. U.S. Army Safety Center (USASC)

The mission of the USASC was the same as in 1990. Brig. Gen. Lou Hennies served as commanding general of the Safety Center from January until his retirement in October, and Brig. Gen. Dennis Kerr assumed command in December. The deputy commander was Col. James Pongonis from January through July and Col. William Stolarcek for the remainder of the year. The sergeant major was Sgt. Maj. David Kuhns.

The major subordinate elements of the Safety Center with their respective directors were as follows: Directorate of Systems Management--Col. Herman S. Heath; Directorate of Media Management and Production--Mrs. Mary Windham; Directorate of Investigations and Operations--Col. William G. Stolarcek from January through August and Lt. Col (P) Brock Wells from September through December; Directorate of Information Technology--Mr. Harold M. Myers from January until September and Mr.

¹¹⁷Historical report, Multi-Media Branch, CY 91.

¹¹⁸Historical report, USAARL, CY 91.

Willard F. Darrow for the remainder of the year; and Directorate of Doctrine, Training, and Evaluations--Mr. James T. Lopez.¹¹⁹

L. Army Materiel Command Logistic Assistance Office (AMC LAO)

The mission of the AMC LAO remained the same as in 1990. Assigned strength of the office was fifteen. The total office strength was reduced by half during the operations in Southwest Asia, but all personnel had returned before the end of the year. The AMC LAO chief during 1991 was Mr. Bernard James.¹²⁰

¹¹⁹Historical report, USASC, CY 91.

¹²⁰Historical report, AMC LAO, CY 90.

APPENDIX IV

LIST OF APPENDED DOCUMENTS

This list of documents relates to the Aviation Center and Branch during calendar year 1991. The documents were collected by Aviation Branch Historian Office personnel and are located in the branch archives. Both the documents in the archives and this list are organized, for the most part, according to provenance, i.e. the directorate/office from which the documents were obtained. Some documents were collected by the historians individually and from various sources. These are organized by the chapter of the 1991 history to which they relate. The list was prepared by casual officers assigned to the historian before the command history was written, and some of the documents are not cited in the history. Other documents were collected after the list was compiled; some of these have not been incorporated into the list.

A. OFFICE OF COMMANDING GENERAL

1. Ltr, CG USAAVNC to GEN Franks, 14 Feb 92, subj: nuggets from Operations Desert Shield and Desert Storm. (7 pgs)
2. Ltr, CG USAAVNC to COL Penny, 11 Feb 91, subj: Enlisted Aeroscout Observer (EAO). (2 pgs)
3. Memo, CG USAAVNC to Vice CofS Wash DC, 30 Sep 91, subj: Aviation Systems Program Review (ASPR) Follow-Up Fourth Quarterly Report. (4 pgs)
4. Memo, CG USAAVNC to Cdr FORSCOM, 4 Jun 91, subj: Report of Department of the Army Flight standardization Evaluation/Assistance Visit - Fort Polk, Louisiana. (3 pgs)
5. Msg, Cdr TRADOC to Cmnt USAAVNC, 182000Z Nov 91, subj: Reserve component (RC) enhancement action plan. (6 pgs)
6. Msg, to Cdr USAAVNC, subj: Multispectral imagery (MSI) Product support for joint operations, training, and evaluation. (2 pgs)
7. Msg, Cdr TRADOC to Cdr USAAVNC, 192300Z Nov 91, subj: Joint stars four-star summit outcome. (2 pgs)
8. Memo, CG USAAVNC to GEN Franks, 21 Oct 91, subj: Aviation Branch Basis of Issue Plan (BOIP) for Electronic Information Delivery System (EIDS) Interactive Videodisc (IVD) Hardware and Courseware. (2 pgs)
9. Memo, CG USAAVNC to ADCSO Wash DC, 13 May 91, subj: Operational Needs Statement (ONS) for Nap-of-the-Earth (NOE) Flight-Following Communications. (2 pgs)
10. Memo, CG USAAVNC to Cdr USAIC, 14 Oct 91, subj: Special Electronic Mission Aircraft (SEMA) and SEMA Training. (9 pgs)

11. Memo, CG USAAVNC to Cmdt US Army Armor School, 19 Aug 91, subj: Branch Operational Concept for the Total Armor Force.
12. Msg, DA Wash DC to Cdr USAAVNC, 161450Z Sep 91, subj: CSA-sponsored conference update - Nov 91-Dec 92.
13. Msg, Cdr ATZQ, MG Rudolph Ostovich III, to Cdr TRADOC, MG Silvasy, May 91, subj: TAA 99 Force Structure Issues.
14. Msg, Cdr Fifth USAAVN Div Ft Sam Houston, TX (AFKB-TR-A) to Cdr Fourth USA Avn Div Ft Sheridan, IL (AFKE-TR-AD) 310800Z Oct 91, subj: Aviation Training Strategy (ATS) Conference.
15. Memo, Cdr Headquarters USA Aviation Center and Fort Rucker (ATZQ-CG) to all mobilized personnel, 31 Jan 91, subj: Welcome Letter.
16. Msg, Cdr US AARMC Ft. Knox, KY (ATZK-PIR-O) to Cdr USAAVNC, Ft Rucker, AL, 191300Z Sep 91, subj: info letter (pg 2 missing).
17. Msg, Cdr TRADOC Ft Monroe, VA (ATTG-ZA) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG) 191150Z Sep 91, subj: WO LDDN General Officer Steering Committee.
18. Msg, COM US NAV CENT, 012, to US CINC CENT MacDill AFB, FL (CCPA) 202245Z Sep 91, subj: US Army OH-58D (Armed) helo crash presrel.
19. Msg, Cdr USACFSC Alexandria, VA (CFSC-CR) to AIG 7406, 161345Z Sep 91, subj: Army Recreation Summer Workstudy Program.
20. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-DPT) to Cdr TRADOC Ft Monroe, VA (ATRM-M) 121300Z Jun 91, subj: Restationing Element of 6-159 Aviation regiment.
21. Memo, Dir DPTMS (ATZQ-DPT-P) to Aviation Branch Historian, 27 Jan 92, subj: Staff Historical Reports for 1991 Annual Historical Review.
22. Msg, Cdr TRADOC Ft Monroe, VA (ATTG-ZA) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG) 131321Z Jun 91, subj: Transfer of Helicopter Maintenance Training Mission from the US Air Force to the US Army.
23. Msg, USCINCSOC MacDill AFB, FL (SODC), to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG/CS/DPT) 231930Z Aug 91, subj: Summary of USCINCSOC Joint Foreign Internal Defense (FTO) Aviation Development Conference.
24. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-DPT-P) to CNET Pensacola, FL (D11, Mr. Brown), N5, 131330Z Aug 91, subj: ITRO Study Undergraduate Helicopter Pilot Training (UHPT).
25. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-DPT-P) to C Randolph AFB, TX (TTIP, Dr Shipp), 131335Z Aug 91, subj: ITRO Study-Helicopter Maintenance Training.
26. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-DPT) to HQDA Wash DC (DAMO-FDV/DAMO-TR), 020730Z Aug 91, subj: UH-60 Synthetic Flight Training Simulator (SFTS).

27. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-DPT) to Cdr 5TH INF DIV (MECH) Ft Polk, LA (AFZX-CG) 011200Z Aug 91, subj: Qualifying OH-58D Aviators.
28. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CS) to MacDill AFB (SOJ5/7), 231500 Jul 91, subj: Foreign Internal Defense (FID) Aviation.
29. Ltr (1st End), Cdr USAAVNC Ft Rucker, AL (ATZQ-PAG-PA) to Cdr TRADOC, ATTN: ATBO-BHS, Ft Monroe, VA, 30 May 91, subj: Recommendation for the Army Superior Unit Award.
30. Memo, Cdr USAAVNC Ft Rucker, AL (ATZQ-DPT-P) to COL Blair, AC USAALS Ft Eustis, VA, 13 Nov 91, subj: Helicopter School Battalion (HSB) Training Mission.
31. Ltr (1st End), Cdr USAAVNC Ft Rucker, AL (ATZQ-PAG-PA) to Cdr TRADOC, ATTN: ATBO-BHS, Ft Monroe, VA, 30 May 91, subj: Recommendation for the Army Superior Unit Award
32. Memo, Cdr USAAVNC Ft Rucker, AL (ATZQ-CG) to Cdr FORSCOM Ft McPherson, GA (FCJ3-OV), 091300Z Dec 91, subj: OH-58D Aviator Left Seat Qualification Training.
33. Memo, Cdr USAAVNC Ft Rucker, AL (ATZQ-CG) to Cdr 4th Brigade, 1st AD, 20 Nov 91, subj: Establishment of Aviation Unit Aviation Survival Equipment (ASE)/Electronic Warfare (EW) Officers.
34. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-TDI-E) to Cdr SIGCEN Ft Gordon, GA (ATZH-DT), 121000Z Nov 91, subj: MOS 93D Air Traffic Control Equipment Repairer Critical Task and Site Selection Board.
35. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-AC) to Cdr TRADOC Ft Monroe, (ATTG-A), Jun 91, subj: Request for AH-64 Combat Mission Simulator (CMS).
36. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-TDF) to COMDT ADSCH Ft Bliss, TX (ATSA-TAC), 201300Z Aug 91, subj: 1991 Aviation Trainers' Conference, 29-31 Oct 91 (ATC-91).
37. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CG) to Cdr 18th AVNBDE XVIII ABN CORPS Ft Bragg, NC, 232300Z Jul 91, subj: 1991 Aviation Brigade Commanders' Conference (AVCOM 91).
38. Msg, Cdr TRADOC Ft Monroe, VA (ATTG-ITRO) to Cdr USAAVNC Ft Rucker, AL, 091300Z Jul 91, subj: ITRO Study - Undergraduate Helicopter Pilot Training.
39. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CG) to DA Wash DC (DAMO-ZA), 061945Z May 91, subj: Elimination of the Army Aviation Annual Written Examination (AAAWE).
40. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-ESO) to Cdr USA 8 Seoul Korea, 221500Z Aug 91, subj: Eighth Army's DA Flight Standardization Evaluation (14 Oct-1 Nov 91).
41. Msg, DA Washington DC (DAMO-TRO) to Cdr Ft Rucker, AL (ATZQ-CG/ATZQ-ES/ATZQ-DPT), 281956Z Jun 91, subj: Elimination of the Army Aviation Annual Written Examination.
42. Memo, Cdr USAAVNC Ft Rucker, AL (ATZQ-TPO-A) to MG Williamson, Cdr AVSCOM, St Louis, MO, 25 Apr 91, subj: AH-64 Shaft Driven Compressor (SDC) Failures.

43. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to Cdr TSA Ft Lee VA (ATCL-MRO), 051551Z Aug 91, subj: Operating and Support Cost Reduction (OSCR). (2 pgs)
44. Msg, Cdr USACASCOMFL Ft Lee, VA (ATZL-DCD) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG), 011200Z Jul 91, subj: Design of ARCSA V and Airland Operations Aviation Support Structure.
45. Memo, Director of Combat Developments (ATZQ-CDM-S) to CG USAAVNC Ft Rucker, AL, 5 Nov 91, subj: Memorandum of Agreement (MOA) --Action Memorandum. (4 pgs)
46. Msg, USAAVNC (ATZQ-CD) to Cdr JFKSWCS Ft Bragg, NC (AOJK-CD-CS/MLA), Jun 91, subj: Long Range Army Materiel Requirements Plan (LRAMRP) Aviation Branch Review. (2 pgs)
47. Memo, Dir Cbt Dev (ATZQ-CD) to CG USAAVNC Ft Rucker, AL, 13 Jun 91, subj: System Safety Risk Assessment of the Air-to-Air Stinger Hazards Action Memo. (6 pgs)
48. Memo, Cdr USAAVNC Ft Rucker, AL (ATZQ-CDM-A) to GEN Foss, Cdr TRADOC Ft Monroe, VA, 25 Jun 91, subj: Draft Operational and Organizational Plan (O&O) for Enhanced Airborne Target Handover System (EATHS).
49. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to Cdr USAICS Ft Huachuca, AZ (ATSI-CDU), 161200Z Jul 91, subj: Army Aviation use of Unmanned Aerial Vehicles (UAV).
50. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to Cdr USAAVNSCOM St Louis, MO (AMCPM-FW/SFAE-AV-CH-T), 021500Z Jul 91, subj: Planning Group Meeting for Army Intratheater Logistics Resupply Requirements Study. (2 pgs)
51. Msg (incomplete, page 2), from: (unknown) for Army Aviation Center, subj: Discussion Topics - (1) Comanche Overview (2) Apache Modernization (3) Long Bow (4) Desert Storm Lessons Learned (5) Night Operations.
52. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to Cdr TRADOC Ft Monroe, VA (ATCD-ET), Sep 91, subj: Hardware Versus Manpower (HARDMAN) III, Proposed Beta Test. (2 pgs)
53. Msg, Cdr TRADOC Ft Monroe, VA (ATCD-ET) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG), 291710Z Oct 91, subj: FY92/93 TRADOC System Manager (TSM) Review. (2 pgs)
54. Msg, Cdr USACAC Ft Leavenworth, KS (ATZ-CDF) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG), 122140Z Sep 91, subj: Echo CO (USAR) Augmentation Assessment. (2 pgs)
55. Msg, HQ US SPACECOM Peterson AFB, CO (SP J3OS) to USCINCLANT Norfolk, VA (J3/J5), 182000Z Sep 91, subj: GPS Instructional Concepts Seminar. (2 pgs)
56. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to Cdr USASOC Ft Bragg, NC (AOOP-AV), 180815Z Sep 91, subj: 1992 Industry Day Coordination meeting. (2 pgs)
57. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to PEO AVN St Louis, MO (SFAE-CAS/PM-AVIONICS), 220800 Oct 91, subj: Aviation Mission Planning System (AMPS) Operational Requirement Document (ORD).

58. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to DA Wash DC (DAMO-FDI/SARD-SA/DAMI-ZA), 111500Z Oct 91, subj: Modification of Close Range Unmanned Aerial Vehicle (UAV-CR) Requirements Based on Future Warfare. (5 pgs)

59. Msg, Cdr TRADOC Ft Monroe, VA (ATCD-ET) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CD), 041230Z Nov 91, subj: Focus and Conduct for Future FAA. (3 pgs)

60. Msg, Cdr US CASCOMREL Ft Lee, VA (ATCL-O) to Cdr ORDCENSCH Aberdeen Proving Ground, MD (ATSL-CD-MS), 21220Z Nov 91, subj: 5 Nov 91, CSS SPR Update. (4 pgs)

61. Msg, HQ DA Wash DC (DAMO-FDI/DAMO-FDV/SARD-SA) to Cdr USAAVNC Ft Rucker, AL (ATZQ-CG/ATZQ-CMD-A), 211320Z Nov 91, subj: Mohawk Retirement (U). (2 pgs)

62. Msg, Cdr USAAVNC Ft Rucker, AL (ATZQ-CD) to Cdr USACAC Ft Leavenworth, KS (ATZL-CD/ATZL-CDT-A), 101600Z Aug 91, subj: Army Aviation Global Positioning System (GPS) Requirements.

63. Msg, Cdr 3RD MI BN AE Pyongtaek Korea (IABDK-AE) to Cdr 15TH MI BN AE Ft Hood, TX (AFVQ-AF-E), 3100800Z (no date), subj: The Fixed Wing/Special Electronic Mission Aircraft Systems Program Review (FW/SEMA SPR) Council of Colonels (COC). (3 pgs)

64. Ltr, CG Ft Rucker, AL to Chief, National Guard Bureau, 4 Nov 91, subj: Effort to save money with the United States Precision Helicopter Team (USPHT). (3 pgs)

65. Memo, CG Ft Rucker, AL to Army Reserve, Wash DC, 19 Jun 91, subj: Designation of Drilling Individual Mobilization Augmentee (DIMA) Positions. (2 pgs)

66. Ltr, CG Ft Rucker, AL to CO Western Army National Guard Aviation Training Site Marana, AZ, 18 Jun 91, subj: thank you letter.

67. Ltr, CG Ft Rucker, AL to Cdr Aviation Brigade 101st Airborne Division (Air Assault), (no date), subj: safe training. (2 pgs)

68. Msg, Cdr TRADOC to Cdr USAAVNC, 031600Z Oct 91, subj: Trip Itinerary/Tasking for Israeli Defense Forces (IDF)/TRADOC Future Battlefield Conference, 10-20 Nov 91. (8 pgs)

69. Msg, DA Wash DC to Cdr USAAVNC, 182030Z Oct 91, subj: U.S. Visit of Major General Deak, Chief of General Staff, Hungarian Home Defense Forces, CSA Counterpart Visit- Hungary. (6 pgs)

70. Msg, Chusm M Riyadh SA to Cdr USAAVNC, 101200Z Nov 91, subj: SNF-Invited Visit of Cdr Royal Saudi Land Forces Army Aviation Command. (2 pgs)

71. Msg, HW USAF Wash DC to Cdr USAAVNC, 281743Z Jun 91, subj: Visit of General Avihd Ben-Nun. Commander, Israeli Air Force, USAF Visit Authorization No. I5-004V-1.

B. DIRECTORATE OF COMBAT DEVELOPMENTS

1. Annual Historical Report 1991, Director of Combat Developments, 25 Feb 92. (37 pgs)

2. Personnel listing, Systems Integration and Prioritization Division, (no date). (3 pgs)
3. Document, Light Helicopter (LH) Required Operational Capability (ROC), 11 Dec 90. (2 pgs)
4. Mission Needs Statement (MNS), Multirole Self-Defense Weapon System (Quick Draw), (no date). (3 pgs)
5. DA form 2028, Recommended Changes to Publications and Blank Forms, Cdr USAAVNC to Cdr TRADOC, Jun 90, subj: Change 14 to Advanced Attack Helicopter Material Need. (3 pgs)
6. Briefing slides, AH-64 Modernization B Series, 1 Aug 91. (26 pgs)
7. Document, OH-58D Combat Mission Simulator (CMS), (no date). (7 pgs)
8. Document, The Army Counter Air Weapon System-Future (TACAWS-F), (no date). (2 pgs)
9. Memo, COL Penny Cdr AFZC-AB-OT to HQDA (DAMO-FDR), 19 Nov 90, subj: Operational need statement (ONS) for a laser aiming device for AH-1 20MM and UH-1/UH-60 door gun weapons. (2 pgs)
10. Memo, Mail Management Branch to dist, 19 Nov 91, subj: Operational and organizational plan for the UH-60 ballistic armor subsystem (BASS). (3 pgs)
11. Memo, Cdr US Army Special Operations Command to Cdr TRADOC, 3 Jan 91, subj: Responsibilities and relationships of the US Army Special Operations Command (USASOC) and the US Army Training and Doctrine Command (TRADOC). (7 pgs)
12. Document, UH-60 Black Hawk Materiel Need, Production, Updated (MN) (P), Dec 89. (60 pgs)
13. Document, UH-60 Black Hawk Materiel Need, Production Updated (MN) (P), Recommended Changes and Rationale, 15 Aug 91. (82 pgs)
14. Document, UH-60 Black Hawk Materiel Need, Production, Updated (MN) (P) (U), ACN: 10705, Oct 91. (200+ pgs)
15. Briefing slides, Army Aviation Warfighting Center, Utility Fleet Modernization Plan, (no date). (31 pgs)
16. Memo, Cdr US Army Intelligence Center and Ft Huachuca to Cdr USAAVNC, 081501 Jan 92, subj: Special Electronic Mission Aircraft (SEMA) and SEMA Training. (8 pgs)
17. Briefing slides, Medium Cargo ND1, "The Road To Washington", (no date). (15 pgs)
18. Required Operational Capability (ROC) for the Army Airborne command and Control Console (AACCC), (no date). (11 pgs)
19. Operational Requirements Document for Maneuver Control System (MCS) - Aviation Mission Planning System (AMPS), 23 Apr 91. (51 pgs)

20. Operational Requirements Document for the Army Airborne Command and Control Console (A²C³). (34 pgs)
21. Operational and Organizational Plan for Enhanced Airborne Target Handover System (EATHS), 25 Jun 91. (10 pgs)
22. Memo, Chief, Mail Management Branch to dist, 1 Nov 91, subj: Operational and Organizational Plan for the Army aviation Ultra High Frequency (UHF) Radios. (180+ pgs)
23. Operational Requirements Document for the Nap-of-the-Earth Communications (NOE COMM) System, (no date). (32 pgs)
24. Operational and Organizational Plan for Air Traffic Navigation, Integration & Coordination System (ATNAVICS), 25 Nov 91. (28 pgs)
25. Memo, Cdr USAAVNC to Cdr AMCCOM, 21 Aug 91, subj: Procurement Justification for Acquisition of the M43A1 Chemical-Biological (CB) Protective Mask.
26. Memo, Director of Combat Developments to dist, 22 May 91, subj: Minutes of the ALSE/NBC Working Group. (6 pgs)
27. Annex C, Combat Crews (Air) for Soldier Modernization Plan, HQ USAAVNC, (no date). (6 pgs)
28. Flight Data Recorder Study, Final Report, Volume I, May 91. (210 pgs)
29. Flight Data Recorder Study, Final Report, Volume II, May 91. (81 pgs)
30. Memo, for record, 17 Jul 91, subj: Flight Data Recorder --Decision Memorandum. (6 pgs)
31. Memo, Chief, Mail Management Branch to dist, 30 Oct 91, subj: Abbreviated Required Operational Capability (AROC) for the Ultra-Lightweight Camouflage Net System (ULCANS) (10 pgs)
32. RAH-66 Comanche Armed Reconnaissance Helicopter, System MANPRINT Management Plan (SMMP), Directorate of Combat Developments, USAAVNC, 9 Jul 91. (83 pgs)
33. Reliability, Availability, and Maintainability (RAM) Rationale Report for the Army Airborne Command and Control Console, AN/ASC-15B, Oct 91. (50 pgs)
34. Reliability, Availability, and Maintainability (RAM) Rationale Report for the Externally Mounted Rescue Hoist (EMRH), Jul 91. (54 pgs)
35. Reliability, Availability, and Maintainability (RAM) Rationale Report for the Inflatable Body and Head Restraint System (IBAHRS), Jul 91. (68 pgs)
36. Reliability, Availability, and Maintainability (RAM) Rationale Report for the Aviator's Night Vision Imaging System/Heads Up Display (ANVIS/HUD), May 91. (109 pgs)

37. Memo, Cdr USAAVNC to Cmdt USACMLS, (no date), purpose: a formal agreement between the Cdr, USAAVNC, and the Cmdt, USACMLS, for the delineation of responsibilities and relationships for aviation nuclear, biological, and chemical matters. (4 pgs)

38. Final Letter Report Comparison Operational Test SRU-37/P, Vee Bottom Life Raft & Containier Assembly (BACKPACK), 17 Aug 91, Criss-Cross Harness vs. Metal Buckle Harness. (30 pgs)

39. Memo, Director of Combat Developments to dist, 17 Jan 91, subj: Approved Critical Operational Issues and Criteria (COIC) for the Tactical Terminal Control System (TTCS) in Support of the Milestone I/II Decision. (7 pgs)

40. Memo, Assistant Deputy Chief of Staff for Operations and Plans, Force Development to Chairman, Mobile Microwave Landing System (MMLS) Test Integration Working Group (TWIG), 30 Jan 91, subj: Critical Operational Issues and Criteria (COIC) for the MMLS. (5 pgs)

41. Army Aviation Modernization Plan 1991, DA Office of the Deputy Chief of Staff for Operations and Plans. (41 pgs)

42. Memo, Director of Combat Developments to Cdr HQ AVSCOM, 25 Jan 91, subj: Army Aviation 6.3A, 6.3B and 6.5 Programs Prioritization List. (12 pgs)

43. Memo, Army Acquisition Executive to dist, 5 Mar 90, subj: Army Electromagnetic Environmental Effects (E3) Program Implementation. (16 pgs)

C. DIRECTORATE OF EVALUATION AND STANDARDIZATION

1. Memo, Director of Evaluation and Standardization to CG USAAVNC, 3 Jul 91, subj: Safe Leader Development --Action Memorandum.

2. Annual Historical Report 1991, DES, 14 Jan 92. (4 pgs)

3. Annual Historical Report 1991 (staff), DES, 14 Jan 92. (2 pgs)

4. Annual Historical Report 1991 (staff), DES, 13 Jan 92. (6 pgs)

D. DEPARTMENT OF TACTICS AND SIMULATION

1. Msg, Cdr USACAC Ft Leavenworth, KS to USAAVNC Ft Rucker, AL, 101630Z Oct 91, subj: Army Aviation at the Combat Training Centers.

2. Msg, Cdr JFK SPWAR CENSCH FT to Cdr USAAVNC Ft Rucker, AL, 011200 Sep 91, subj: Army Special Operations Forces (ARSOF) Integration into the Army School and Training Establishment.

3. Msg, HQ ATC Randolph AFB, TX to Cdr USAAVNC Ft Rucker, AL, 301800Z Sep 91, subj: USAF Instructor Pilot Assignments to United States Army Aviation Center (USAAVNC). (2 pgs)

4. Annual Historical Report 1991, DOTS, 10 Feb 92. (13 pgs)

E. 1ST AVIATION BRIGADE

1. Annual Historical Report 1991, 1st Aviation Brigade (Air Assault), no date (1991). (2 pgs)
2. Msg, Cdr XVIII ABN CORPS Ft Bragg, NC (AFZA-CG) to RUE AD WO/DA Wash DC (DAMH-HSO), 192104Z Sep 91, subj: Regimental Designation of the 10TH Aviation Group (Attack) (Airborne). (2 pgs)
3. Annual Historical Report 1991, 1-10th Aviation Regiment, (no date). (11 pgs)
4. Memo, TNG NCO (ATZQ-BDE-A) to Cdr, C Co, 509 IN, 27 Mar 91, subj: Support for Boy Scouts of America - Camp Alaflo.
5. Memo, S-3 Opns NCOIC (ATZQ-BDE-T) to Cdr, 1-10th Avn Regt, ATTN: S-3, 5 Mar 91, subj: Support for Boy Scouts of America - Camp Alaflo.
6. Ltr, Richard Johnson, Camp Director to COL Brian P. Mullady, Cdr 1st Avn Bde, 12 Dec 90, subj: Boy Scout summer camping season at Camp Alaflo. (3 pgs)
7. Annual Historical Report, 1st Qtr 1991, 1st Bn, 13th Avn Rgt, 1st Avn Bde (AA), (no date) (3 pgs)
8. Annual Historical Report, 2nd Qtr 1991, 1st Bn, 13th Avn Rgt, 1st Avn Bde (AA), (no date) (3 pgs)
9. Annual Historical Report, 3rd Qtr 1991, 1st Bn, 13th Avn Rgt, 1st Avn Bde (AA), (no date) (3 pgs)
10. Annual Historical Report, 4th Qtr 1991, 1st Bn, 13th Avn Rgt, 1st Avn Bde (AA), (no date) (3 pgs)
11. Annual Historical Report, March Input 1991, 1st Bn, 13th Avn Rgt, 1st Avn Bde (AA), (no date) (3 pgs)
12. Annual Historical Review 1991, A-F Company, 1st Bn, 145th Aviation Regiment, (no date). (12 pgs)
13. Annual Historical Report for 1991, 46th Engineer Battalion Annual Historical Report, 8 Feb 92. (57 pgs)
14. Memo, Ops Officer DEH (ATZQ-DEH-OP) to Cdr 46th Engr Bn, ATTN: S-3, 12 Jul 91, subj: Construction Directive, (re. PN F805027-9J, Tac-X Drainage Repair.) (2 pgs)
15. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Eng Bn, ATTN: S-3, 5 Sep 91, subj: Construction Directive, (re. PN BB00032-1P, 12 Mile Road March Course.) (2 pgs)
16. FRAGO 91030 (for training), to 46th Engineer Battalion, 120830L Aug 91, subj: B Company installs two security walls at the Tank Hill Storage area to increase the battalion's storage capacity. (2 pgs)

17. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Eng Bn, ATTN: S-3, 22 Aug 91, subj: Construction Directive, (re. PN TT00022-1, Building 40141 sidewalk.) (2 pgs)
18. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Eng Bn, ATTN: S-3, 30 Jul 91, subj: Construction Directive, (re. PN EJ00130-0J, Molinelli Erosion Control.) (2 pgs)
19. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Engr Bn, ATTN: S-3, 5 Sep 91, subj: Construction Directive, (re. PN FU00048-O, Close abandoned bunkers.) (2 pgs)
20. FRAGO 91056 (for training), to 46th Engineer Battalion, 030830L Oct 91, subj: A Company executes its demolition plan for Bldg 110 with some clarifications on the finished product desired by DEH. (2 pgs)
21. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Eng Bn, ATTN: S-3, 6 Aug 91, subj: Construction Directive, (re. PN FS00071-P, Install chainlink fence.) (2 pgs)
22. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Eng Bn, ATTN: S-3, 27 Sep 91, subj: Construction Directive, (re. PN BE00024-1, 46th Engineer Battalion Parking Lot.) (2 pgs)
23. Memo, Operations Officer DEH (ATZQ-DEH-OP) to Cdr 46th Eng Bn, ATTN: S-3, 5 Sep 91, subj: Construction Directive, (re. PN CD00024-9P, DCD Latrine.) (2 pgs)
24. FRAGO 91023 (for training), to 46th Engineer Battalion, 050830L Dec 91, subj: B Company executes the construction of the Handicap side walk at Camp Alaflo vic. FK 755760 and finishes NLT 20 Dec 91. (2 pgs)
25. Annual Historical Review 1991, 2nd Battalion, 229th Attack Helicopter Regiment (AFFR-BAH-CDR), 5 Feb 92. (8 pgs)

F. AVIATION TRAINING BRIGADE

1. Annual Historical Report, Aviation Training Brigade Ft Rucker, AL, (no date). (7 pgs)
2. Report, (no date), subj: ATB personnel deployed to Saudi Arabia - Operation Desert Shield/Storm
3. Msg, Aviation Night Vision Goggle (NVG) Maintenance, 221530Z Mar 91. (18 pgs)
4. Flightfax, Vol 19, No 12, Jun 91, U.S. Army Safety Center Ft Rucker, AL.
5. Msg, Night Vision Goggle Training Message 91-2, 281309Z Aug 91. (14 pgs)
6. Flightfax, Vol 19, No 16, Oct 91, U.S. Army Safety Center Ft Rucker, AL.
7. Msg, Aviation Safety Action Message, 192230Z Dec 91, subj: updated information on Night Vision Goggle Messages. (9 pgs)
8. Coordinating Draft, USAAVNC ATB (Night Vision Device Branch) Ft Rucker, AL, 21 Jan 92, subj: Crew Coordination for OH-58. (45 pgs)

G. US ARMY AIR TRAFFIC CONTROL ACTIVITY

1. Msg, Cdr USAAVNC to Cdr 3d Bn 58th Avn Regt, 241525Z Oct 91, subj: Air Traffic Control (ATC) awards presentation. (2 pgs)
2. Annual Historical Report 1991, ATC, 6 Feb 92. (68 pgs)

H. DIRECTORATE OF COMBAT DEVELOPMENTS, USAALS

1. Annual Historical Report 1991, DCD, 10 Jan 92. (9 pgs)
2. Final Report, Abbreviated Analysis, May 91, subj: ARAPAHO; Seaborne AVIM Support Facility; FAMF; Corpus Christi Bay. (152 pgs, and 2 draft annexes)
3. Memo, CG USAAVNC to AC US Army Aviation Logistics School, 13 Nov 91, subj: Helicopter School Battalion (HSB) Training Mission. (2 pgs)
4. Msg, HQ DA Wash DC to Cdr USAAVNC, 262900Z Nov 91, subj: Apache/Longbow Apache modernization program strategy council. (2 pgs)
5. Memo, DCD to CG USAAVNC, 18 Jul 91, subj: Flight data recorder decision memorandum - action memo. (7 pgs)
6. Msg, DA Wash DC to Cdr USAAVNC, 061905Z Nov 91, subj: Kiowa warrior unit fielding and training. (2 pgs)

I. DIRECTORATE OF EVALUATION AND STANDARDIZATION, USAALS

1. Annual Historical Report, DES, (no date).

J. DIRECTORATE OF TRAINING AND DOCTRINE, USAALS

1. Memo, Dir, DOTD to Cdr, PMO, 1 Jan 91 - 31 Dec 91, subj: USAALS Annual Historical Report (AHR) for calendar year 1991. (8 pgs)
2. Memo, Director Military Occupational Development to dist, 23 Apr 91, subj: Approved change to AR 611-201, E-9110-13, Career Management Field (CMF) 67 (Aviation Maintenance). (30 pgs)
3. Coordinating Draft of Individual Training Guide 67A10, Feb 91, subj: MOS 67A Apprentice Aircraft Mechanic. (44 pgs)
4. Memo, Dir DOTD to Cdr USAAVNC, 30 Aug 91, subj: Aviation Branch Basis of Issue Plan (BOIP) for Electronic Information Delivery System (EIDS) Interactive Videodisc (IVD) Hardware and Software. (26 pgs)
5. Memo, AC USAAVNC to Cdr TRADOC, 5 Jun 91, subj: Phase II Distributed Training Strategy. (17 pgs)

6. Memo, Dir DOTD to Cdr TRADOC, 17 Jun 91, subj: Multimedia Training Proposal for the Army Aviation Apprentice Mechanic Program (AAMP). (3 pgs)

7. Msg, PEO to Cdr USAAVNC, 181700Z Sep 91, subj: Announcement of AGES II Council of Colonels (COC) Meeting for October 1991. (2 pgs)

8. Msg, Cdr USACAC Ft Leavenworth, KS to Cdr USAAVNC Ft Rucker, AL, 251720Z Oct 91, subj: AH-1 MILES TSU/Threat Radar Target Generator (TRTG).

9. Msg, Cdr USAAVNC to DA Wash DC, 051500Z Nov 91, subj: Aviation Training Strategy (ATS) Conference. (4 pgs)

J. LEADER DEVELOPMENT/PERSONNEL PROPONENCY OFFICE, USAALS

1. Memo, CG USAAVNC to Cdr TRADOC, 28 Feb 91, subj: US Army Aviation Logistics School Test for The Army Apprentice Aircraft Mechanic Program. (7 pgs)

2. Memo, Director, Military Occupational Development to dist, 23 Apr 91, subj: Approved change to AR 600-201, E-9110-13, Career Management Field (CMF) 67 (Aviation Maintenance). (3 pgs)

3. Memo, Director, Military Occupational Development to Cmdt US Army Aviation logistics School, 23 May 91, subj: Approved change to AR 611-201, Career Management Field (CMF) 67, Aircraft Maintenance.

4. U.S. Army Soldier Support Center Personnel Proponent Monthly Bulletin #91-08, (no date), re: Revision of MOS 68B (Aircraft Powerplant Repairer) and 68D (Aircraft Powertrain Repairer).

5. U.S. Army Soldier Support Center Personnel Proponent Monthly Bulletin #91-08, (no date), re: Revision of MOS 68J (Aircraft Armament/Missile Systems Repairer).

6. Letter, Chief, Leader Development/Personnel Proponency Office to Mr. Ben Morris, 16 Oct 91, subj: Change of Program Manager for the Aviation Apprentice Mechanic Program.

K. DEPARTMENT OF AVIATION TRADES TRAINING, USAALS

1. Annual Historical Report 1991, DATT, (no date). (4 pgs)

L. DEPARTMENT OF AVIATION SYSTEMS TRAINING, USAALS

1. Annual Historical Report 1991, DAST, 13 Jan 92.

M. PROGRAM MANAGEMENT OFFICE, USAALS

1. Memo, AC USAAVNC to HQDA Wash DC, 5 Feb 91, subj: Request for Aviation Operational Flying Positions. (4 pgs)

2. Memo, AC USAAVNC to HQDA Wash DC, 9 Oct 91, subj: Request for Aviation Operational Flying Positions. (4 pgs)

N. DEPARTMENT OF ADVANCED AVIATION LOGISTICS TRAINING, USAALS

1. Annual Historical Report 1991, DAALT, 10 Jan 92. (5 pgs)

O. DEPARTMENT OF ATTACK HELICOPTER TRAINING, USAALS

1. Annual Historical Report 1991, DAHT, 08 Jan 92, subj: Staff Historical Report for CY 1991. (41 pgs)

P. AVIATION BRANCH SAFETY OFFICE

1. Annual Historical Report 1991, Safety Office, 14 Jan 92. (6 pgs)

2. Memo, CG USAAVNC to Aviation Branch Safety Office, 12 Apr 91, subj: Results of the Aviation Resource Management Survey.

Q. INSPECTOR GENERAL

3. Historical Report 1991, IG to Command Historian, 14 Jan 92. (2 pgs)

R. INTERNAL REVIEW AND AUDIT COMPLIANCE OFFICE

1. Historical Report 1991, IRAC office to Command Historian, 14 Jan 92. (2 pgs)

S. CHAPLAIN

1. Annual Historical Report 1991, Chaplain Activity Office, 30 Jan 92.

T. OFFICE OF THE STAFF JUDGE ADVOCATE

1. Memo, CG USAAVNC to HQDA, 15 Jan 91, subj: Fort Rucker's Submission for Chief of Staff's Excellence in Legal Assistance Award. (3 pgs)

2. Annual Historical Report 1991, Staff Judge Advocate, 5 Feb 92, subj: 1991 Staff Judge Advocate Historical Report. (16 pgs)

U. PUBLIC AFFAIRS OFFICE

1. Msg, SECDEF Wash DC to dist, 171911Z Sep 91, subj: Media Guidance Concerning DOD Counterdrug Support. (3 pgs)

2. Historical Report 1991, PAO , 14 Feb 92. (10 pgs)

V. DIRECTORATE OF RESOURCE MANAGEMENT

1. Msg, Cdr FORSCOM Ft McPherson, GA to AIG, 182210Z Sep 91, subj: FY 91 Budget Execution. (2 pgs)
2. Memo, Director, Resource Management to Aviation Branch Historian, 6 Feb 92, subj: Staff Historical Reports for 1991 Annual Historical Review. (9 pgs)
3. Memo, Deputy Chief of Staff for Resource Management to dist, 21 Dec 90, subj: FY 91 Appropriation Budget and Manpower Guidance (BMG). (40 pgs)
4. Memo, Budget Director to dist, 19 Apr 91, subj: FY 92 Command Operating Budget (COB), RCS ATRM-105 (R2). (22 pgs)
5. TRADOC Budget-Manpower Guidance FY 92, Volume 1: Narrative FY 92 Formulation Year, TRADOC, Apr 91. (76 pgs)
6. PROFFS Note, Gary Lewis to RODGERSF--RUC1, 101602 Oct 91, subj: FY 92 Operation Crosslevel. (13 pgs)
7. PROFFS Note, Dan Burgenger to JOINERB--RUC1, 311042 May 91, subj: Funding W/D.
8. Fund Cite, Chief, HQ Activities Division Budget Directorate, ODCSR, HQ TRADOC to Cdr USAAVNC (ATTN: Bill Joiner), 26 Jan 90, subj: OPA - PCIP/QRIP Fund Citation.
9. Fund Cite, Chief, HQ Activities Division Budget Directorate, ODCSR, HQ TRADOC to Cdr USAAVNC (ATTN: Bill Joiner), 2 Jan 91, subj: Productivity Capital Investment Program.
10. Memo, Director, Resource Management to DOL (ATTN: Mr Fondren), 31 Jan 91, subj: Funding for Productivity Enhancing Capital Investment Program (PEICIP) Project PCOC3. (9 pgs)
11. Condition 'B' Report for FY 92 Military Construction, Army Program with Ft Rucker, 041411 Feb 92. (2 pgs)
12. Documentation for Productivity Capital Investment Programs, Cdr USAAVNC to HQ TRADOC, 1 May 89. (17 pgs)
13. Document, 4th Quarter FY 91, Review and Analysis Presentation, 2 Dec 91. (202 pgs)
14. Monthly Operation Desert Storm Report, Dec 91. (3 pgs)
15. Historical Report (October 1991), 7 Feb 91. (3 pgs)
16. Memo, Deputy Director Directorate of Resource Management, 14 Nov 91, subj: Appointment of Historical Officer.
17. Historical Report (November 1991), 9 Dec 91, subj: Program and Budget Division. (10 pgs)

18. Historical Report 1991, 4th Quarter, Family Support Division, 7 Feb 91. (18 pgs)
19. Historical Report, September 1991, 7 Feb 91, subj: support of Operation Desert Storm. (2 pgs)
20. Memo, Operations and Plans to dist, 12 Feb 91, subj: 1991 Historical Report. (2 pgs)
21. Memo, ADAD, 25 Oct 91, subj: Alcohol/Drug Abuse Division. (3 pgs)
22. Annual Historical Report 1991, Finance & Accounting Division, 13 Feb 9. (10 pgs)
23. Review and Analysis Presentation 2d QTR FY 91. (209 pgs)
24. Review and Analysis Presentation 3d QTR FY 91. (101 pgs)

W. DIRECTORATE OF PLANS, TRAINING, MOBILIZATION, AND SECURITY

1. Annual Historical Report 1991, DPTMS, 18 Feb 92. (14 pgs)
2. Memo, DPTMS to dist, 3 Jan 91, subj: Execute Order Port Support Activity (PSA) Exercise Team Spirit 91 - Deployment, Port of Mobile, Mobile, AL. (8 pgs)
3. Memo, DPTMS to Cdr 2nd US Army Ft Gillem, GA, 3 Jan 91, subj: Personnel Support for the Port Support Activity (PSA) Mobile, AL, 13-26 Jan 91, Exercise Team Spirit 91. (2 pgs)
4. Memo, DPTMS to dist, 4 Jun 91, subj: Execute Order, Port Support Activity (PSA), Fuertes Caminos 91 (FC 91) Redeployment, Port of Mobile, 12-30 Jun 91. (10 pgs)
5. Memo, DPTMS to dist, 22 Aug 91, subj: Installation Support of OPERATION ALLIANCE; AKA, JTF-6 Mission 19-91, Engineer Support to DLEA. (20 pgs)
6. Memo, DPTMS to dist, 30 Oct 91, subj: Installation Support for the 2/229th Avn Regiment Joint Training Opportunity, Ft Benning, GA, 3-9 Dec 91. (5 pgs)
7. Memo, DPTMS to dist, 11 Dec 91, subj: FUERTES CAMINOS 92 Honduras PSA Execute Order. Task Organization Annex A. (9 pgs)
8. Memo, Contracting Officer to Clarence N. O'Rear, Chief, Training Service Center, Ft Rucker, AL, 10 Sep 91, subj: Designation of Contracting Officer's Representative (COR) for Contract No. DABT01-01-C-0051. (3 pgs)
9. Memo, Deputy Chief of Staff for Training to dist, 29 Apr 91, subj: Transfer of Army Continuing Education System.(ACES) to Training. (2 pgs)
10. Msg, Cdr TRADOC Ft Monroe, VA to AIG 7432, 021235Z Apr 91, subj: Transfer of ACES to Training.
11. Msg, Cdr TRADOC to DA Wash DC, 081000Z Jul 91, subj: Organizational Placement of the Army Continuing Education System (ACES).

12. Ltr, Director, Army Continuing Education System to Cdr USAAVNC (ATTN: Mr John Bush), 8 Nov 90, subj: Congratulations on selection to Army Management Staff College.
13. Memo, Deputy Chief of Staff for Training to Cdrs TRADOC Installations (except Carlisle Barracks and Ft Monroe) and Cdr New York Area Command and Ft Hamilton, 25 Oct 91, subj: Career Maps. (39 pgs)
14. Info paper, TAPC-PDE, 30 Apr 91, subj: Read-to-Lead.
15. Memo, CSM USAAVNC to dist, 20 Aug 91, subj: Post Level NCO Professional Development Class (Read-to-Lead).
16. Msg, Cdr TRADOC Ft Monroe, VA to AIG, 151200Z Oct 90, subj: TRADOC ACES Funding Policy for FY 91. (2 pgs)
17. Memo, DPCA to Cdr TRADOC, 17 Dec 90, subj: Refocusing Army Continuing Education System (ACES).
18. Msg, Cdr TRADOC to AIG, 151200Z Oct 90, subj: TRADOC ACES Funding Policy for FY 91. (2 pgs)
19. Msg, Cdr USPERSCOM to dist, 301000Z Sep 91, subj: ACES Counselors Selected for AUSA. (3 pgs)
20. Memo, Education Division Co-chairman to dist, 11 Jul 91, subj: Learning Center Advisory Board (LCAB) Meeting, 31 Jul 1991.
21. Memo, Education Division Acting Chairperson, 12 Jun 1991, subj: Learning Center Advisory Board (LCAB) Minutes, 23 May 1991. (12 pgs)

X. AVIATION PROPONENCY OFFICE

1. Msg, Cdr TRADOC Ft Monroe, VA (ATTG) to COMDT USAAVNC Ft Rucker, AL (ATZQ), 1616217 Sep 91, subj: Combat Badges.
2. Annual Historical Report 1991, Aviation Proponency (ATZQ-AP), 14 Jan 92. (57 pgs)

Y. EQUAL EMPLOYMENT OPPORTUNITY OFFICE

1. Mission Support, 14 Jan 92, subj: Mission statement for Equal Employment Opportunity Office. (8 pgs)
2. Work Force Profile by Grade/Pay Levels, 3 Oct 91. (7 pgs)
3. Work Force Profile by Grade/Pay Levels Non-Appropriated Fund Employees, 4 Oct 91. (8 pgs)
4. Memo, Chief of Staff to Commanders, Directors, Heads of Separate Offices, and Civilian Employees, 3 Jan 91, subj: Equal Employment Opportunity-Affirmative Employment (EEO-AE).

5. Memo, Chief of Staff to dist, 3 Jan 91, subj: Commanding General's Policy on Sexual Harassment.
6. Affirmative Employment Program Report on Special Emphasis Program, 30 Apr 91. (6 pgs)
7. Affirmative Employment Program Report on Special Emphasis Program, 22 Jul 91. (9 pgs)
8. Affirmative Employment Program Report on Special Emphasis Program, 16 Oct 91. (12 pgs)
9. Affirmative Employment Program Report on Special Emphasis Program, 31 Dec 91. (8 pgs)
10. Memo, Statistical Sub-Committee Federal Women's Program Committee to Federal Women's Program Manager, 11 Jan 91; subj: Analysis of Women in the Work Force 1985 vs 1990. (26 pgs)
11. Hispanic Employment Program Evaluation, (no date), period: 1 Jan thru 31 Dec 1991. (4 pgs)

Z. DIRECTOR OF CIVILIAN PERSONNEL

1. Annual Historical Report 1991, DCP, 7 Feb 92. (6 pgs)
2. "Civil Service Employee 'Job happy'", by Kathy Morrow, Army Flier, 9 Aug 91. (2 pgs)
3. Memo, Asst Dep Chief of Staff to dist, 10 May 91, subj: Prohibition on Hiring Civilian Personnel During the Remainder of Fiscal Year 1991. (5 pgs)
4. Memo, Chief of Staff to dist, 1 May 91, subj: Hiring and Promotion Freeze. (4 pgs)
5. Memo, DCP to Garrison Cdr Ft Rucker, AL, 30 May 91, subj: Authority to RIF -- ACTION MEMO. (3 pgs)
6. Memo, DCP to MACOM Civilian Personnel Directors and Operating Civilian Personnel Offices, 19 Apr 91, subj: Status of Nonappropriated Fund (NAF)/Appropriated Fund (APF) Portability - Appendix F. (15 pgs)
7. Memo, Director for Operations and Support to dist, 15 Oct 90, subj: Revised Instructions for Army-Wide Implementation of Managing Civilians to Budget (MCB). (24 pgs)

AA. MILITARY POLICE ACTIVITY

1. Msg, Cdr TRADOC to Cdr USAAVNC, 191903Z Sep 91, subj: Explosive Detector Dog Support.
2. Historical Report 1991, Deputy Provost Marshal, 14 Jan 92. (3 pgs)

BB. DIRECTORATE OF INFORMATION MANAGEMENT

1. Annual Historical Report 1991, DOIM, 7 Feb 92. (28 pgs)

CC. DIRECTORATE OF ENGINEERING AND HOUSING

1. Annual Historical Report, Directorate of Engineering and Housing, 13 Feb 92. (6 pgs)
2. Basic Statistics list, Ft Rucker, AL, 31 Dec 91.
3. Status of Construction Projects Between 90-110 percent complete, 12 Feb 92.
4. Projects list (with cost estimate), 5 Dec 91. (3 pgs)
5. Monthly Status Report, DEH-JOC Branch, 4 Feb 92.
6. Appendix 1 (Building/Area Assignment Plan) to Annex N (Engineer) to Ft Rucker Mobilization Plan, (no date). (6 pgs)
7. Personnel Providing Information list, (no date).
8. Memo, Installation Planning Board Steering Committee to CG, 4 Oct 91, subj: MCA Decision Briefing. (3 pgs)

DD. DIRECTORATE OF LOGISTICS

1. Msg, PFO AVN St Louis, MO to Cdr FORSCOM, 192045Z Jul 91, subj: AH-64A Apache Aircraft Transfer.
2. Annual Historical Report 1991, DOL, 5 Feb 92. (4 pgs)
3. Historical Workload Data for Calendar Year 1991, DOL, 5 Feb 92. (9 pgs)
4. Annual Historical Report 1991 (glossary), DOL, 5 Feb 92.

EE. DIRECTORATE OF CONTRACTING

1. Annual Historical Report 1991, Directorate of Contracting, 6 Feb 92. (23 pgs)

FF. DIRECTORATE OF PERSONNEL AND COMMUNITY ACTIVITIES

1. Annual Historical Report 1991, DPCA, 19 Feb 92. (10 pgs)
2. Historical Review for Dependent Schools, Superintendent, Ft Rucker Dependent Schools, 7 Feb 92. (3 pgs)
3. Quarterly Historical Report, Chief, ADAD, 9 Jan 92, subj: Alcohol/Drug Abuse Division. (2 pgs)
4. First Quarter Historical Report 1991, Installation Family Action Plan (IFAP), 16 Jan 92. (21 pgs)

GG. ADJUTANT GENERAL

1. Annual Historical Report 1991, Military Personnel Division/Adjutant General Division, 5 Feb 91. (5 pgs)
2. Memo, Chief, Officer Management Branch to dist, 6 Aug 91, subj: Selection board for USAAVNC Company Command, FY92. (3 pgs)
3. Ft Rucker 1992-93 Command Slate, 12 Nov 91, subj: CPT's Command. (4 pgs)
4. Memo, Adjutant General to dist, 19 Feb 91, subj: Sergeant First Class Selection List--Information Memorandum. (10 pgs)
5. Memo, Adjutant General to dist, 22 May 91, subj: Command Sergeant Major (CSM) and Sergeant Major (SGM) Selection List--Information Memorandum. (4 pgs)
6. Memo, Adjutant General to dist, 21 Oct 91, subj: Master Sergeant Selection List--Information Memorandum. (5 pgs)
7. MOS/Medical Retention Board Activity Report 1991, Adjutant General, (no date), subj: Summaries of MOS/Medical Retention Board (MMRB) Proceedings--Action Memoranda. (17 pgs)
8. Memoranda, Adjutant General to dist, (1991 monthly reports), subj: SIDPERS Performance Reports, monthly (except Aug 91). (36 pgs)

HH. DIRECTORATE OF RESERVE COMPONENT SUPPORT

1. Annual Historical Review 1991, DRCS, (no date).

II. NONCOMMISSIONED OFFICER ACADEMY

1. Historical Report 1991, NCO Academy, 29 Jan 92. (3 pgs)

JJ. DEPARTMENT OF ENLISTED TRAINING

1. Fact Sheet, Department of Enlisted Training (DOET), 18 Feb 92, subj: Historical Data. (6 pgs)
2. Service School Training Report Summary Sheet for Enlisted Courses, Sep 91. (7 pgs)
3. Msg, CSA Wash DC (DACS-ZA) to all US Army Reps and Activities, 031500Z Jul 90, subj: Soldier SQT and NCO Self-Development Test (SDT). (2 pgs)
4. Msg, Cdr TRADOC Ft Monroe, VA (ATTG-I) to Cdr USAAVNC Ft Rucker, AL (ATZQ-TD), 282300Z Sep 90, subj: Self-Development Test (SDT) Implementation Conference. (3 pgs)
5. Milestone Schedule for SDT/SQT Products for FY 91-92, 7 Jan 91. (2 pgs)

6. Memo, Director of Training and Doctrine to Director of Enlisted Training, 3 Sep 91, subj: Preparation of Course Administrative Data (CAD) and Program of Instruction (POI). (2 pgs)
7. Memo, Director for Training and Doctrine to Director of Enlisted Training, 3 Sep 91, subj: Preparation of Course Administrative Data (CAD) and Program of Instruction (POI). 6 pgs)
8. Disposition Form, Dean USASAM to Asst Cmdt, USAAVNC, 16 Mar 87, subj: To obtain the Assistant Commandant's approval to provide instructional assistance to the U.S. Army School of Aviation Medicine (USASAM).
9. Memo, Chief, Cargo/Utility Branch to Chief, UHB, MTD, DOET, 22 Aug 91, subj: UH-1 IERW General Description classes.
10. Proposal, Department of Enlisted Training Maintenance Training Division, (no date), subj: Proposed Aviation Officer Basic Course On-site Training. (2 pgs)
11. Ltr, Director of Enlisted Training, 14 Feb 91, subj: Annual Historical Report 1991. (3 pgs)
12. Course Administrative Data, Director of Enlisted Training, 2 Aug 91, subj: 67N10, Utility Helicopter Repairer (UH-1). (4 pgs)
13. Memo, Director of Enlisted Training to Cdr US Army Aviation Logistics School, 27 Aug 91, subj: 600-67N10 and 600-67V10 POIs, CADs and ICH Sheets. (2 pgs)
14. Memo, Director of Training and Doctrine to dist, 25 Jan 91, subj: Announcement of 4th Quarter CY 90 USAAVNC Academic Instructor of the Quarter (October-December 1990) and 1990 USAAVNC Academic Instructors of the Year. (2 pgs)
15. Certificate of Recognition, 4 Oct 91, subj: For William Reynolds in recognition of fifty years of government service
16. Memo, Management Assistant to Chief, Development Cell, 25 Jan 92, subj: Staff Historical Reports.
17. Memo, CSM USAAVNC to dist, 2 Jul 91, subj: 1991 Aviation Noncommissioned Officer Symposium (AVNCOS 91) Invitation. (2 pgs)
18. Memo, Director of Enlisted Training to DOTD, ATTN: Mr. Wolfington, 19 Dec 91, subj: Course Administrative Data (CAD) for MOS 93B10, 93C10, and 93P10. (5 pgs)

KK. TSM FOR AIRBORNE TARGET ACQUISITION AND WEAPON SYSTEMS

1. Msg, Cdr USACAC to Cdr USAAVNC, 191230Z Sep 91, subj: Air-to-air missile strategy group - requirements analysis.
2. Msg, Cdr FORSCOM to Cdr USAAVNC, 231855Z Oct 91, subj: Activation of USAR Echo Companies, AH-64 Battalion.
3. Appointment orders, 7 Jan 91, subj: COL Sale appointed as the TRADOC System Manager for Airborne Target Acquisition and Weapons System.

4. Briefing slides, 7-9 Jan 91, subj: LongBow Transition Readiness Review (TRR) (U). (184 pgs)
5. Briefing slides, 21 Nov 91, subj: LongBow Fire Control Radar Hardware Critical Design Review. (125 pgs)
6. Msg, PEO Avn St Louis, MO to AIG, 182130Z Jul 91, subj: The AH-64 Apache users and commander's conference agenda, 5-8 August 1991, Ft. Rucker, Alabama. (12 pgs)
7. Apache, After the Storm, The U.S. Army's No. 1 Attack Helicopter, Oct 91. (29 pgs)
8. Final Report, U.S. Army Test and Evaluation Command to Cdr U.S. Army Aviation Systems Command, Aug 91, subj: Preproduction Qualification Test (PPQT) (Phase 3) of Air-To-Air Stinger (ATAS) for the AH-64A. (7 pgs)
9. Test Report, US. Army Operational Test and Evaluation Command, Oct 91, subj: Initial Operational Test and Evaluation Ap[ache Air-To-Air Stinger (ATAS). (8 pgs)
10. Article, OH-58C Air-To-Air Stinger (ATAS) Fielding, 15 Nov 91.

LL. TSM FOR OH-58D HELICOPTER

1. Annual Historical Report 1991, (no date). (2 pgs)
2. Memo, Asst TSM OH-58D to TSM OH-58D, 6 Jun 91, subj: Trip report of TSM OH-58D Visit to 4/17th Cavalry and 18th Aviation Brigade. (2 pgs)
3. Memo, Asst TSM OH-58D to TSM OH-58D, 22 Jul 91, subj: Trip report of TSM OH-58D Visit to Fort Riley, KS. (5 pgs)
4. Memo, Asst TSM OH-58D to TSM OH-58D, 16 Jul 91, subj: Trip report of TSM OH-58D Visit to TARP, D Co., 227th Avn, 1st CD Avn Bde. (2 pgs)
5. Memo, Asst TSM OH-58D to TSM OH-58D, 29 Jul 91, subj: Trip report of TSM OH-58D Visit to Ft Campbell, KY. (2 pgs)
6. Memo, Asst TSM OH-58D to TSM OH-58D, 25 Apr 91, subj: Trip report of TSM OH-58D Visit to 3/24 Aviation. (2 pgs)
7. Memo, TRADOC System Manager OH-58D Helicopter to CG USAAVNC, 9 Jan 92, subj: USAREUR Trip Report, 28 Oct - 1 Nov 91. (2 pgs)
8. Memo, Spec Asst TSM OH-58D to TRADOC System Manager OH-58D Helicopter, 31 Jan 92, subj: Technical Review of Maintenance Allocation Charts (MAC) for OH-58D Aircraft After Action Report. (3 pgs)
9. Memo, Spec Asst TSM OH-58D to TRADOC System Manager OH-58D, 5 Sep 91, subj: Trip Report for Validation/Verification of Technical Manuals and Logistic Demonstration for Engineering Change Proposals 1078, 1098, and 1100. (2 pgs)

10. Memo, Spec Asst TSM OH-58D to TRADOC System Manager OH-58D Helicopter, 22 Nov 91, subj: After Action Report following the Maintenance Manual Review held at Ft. Eustis, VA. (2 pgs)

11. Memo, TRADOC System Manager OH-58D Helicopter to dist, 3 Jan 91, subj: Kiowa Warrior Program Review. (2 pgs)

12. Memo, Asst TSM OH-58D to TSM OH-58D, 21-22 May 91, subj: Trip report of TSM OH-58D participation in the Helicopter Forward Air Controller (H-FAC) Phase II Joint Working Group (JWG II) at Langley AFB. (2 pgs)

13. Memo, CG USAAVNC to Spec Asst TSM OH-58D, 5 Nov 91, subj: Expression of Appreciation.

MM. TSM - RAH-66 COMANCHE

1. Annual Historical Report and slides, TRADOC System Manager-Comanche, 21 Feb 92. (32 pgs)

NN. US ARMY SAFETY CENTER

1. Annual Historical Report 1991, Safety Center, 14 Jan 92. (8 pgs)

OO. OPERATIONAL TEST AND EVALUATION COORDINATION OFFICE

1. Concept Evaluation Program Resume Sheet, 3 Sep 91, test title: Aviation Tactical Operations Center - Software Integration (ATOC-SI). (8 pgs)

2. Concept Evaluation Program Resume Sheet, 2 Sep 91, test title: Aviation Tactical Operations Center - Hardware Integration (ATOC-HI). (7 pgs)

3. Concept Evaluation Program Resume Sheet, 29 Aug 91, test title: Communications and Display for Aviation Air Picture (CDAAP). (11 pgs)

4. Memorandum of Understanding (MOU) between The Operational Test and Evaluation Command (OPTEC) Test and Evaluation Coordination Office (TECO) and The U.S. Army Aviation Technical Test Center (USAATTC), (no date), subj: formal agreement between USAATTC and the OPTEC TECO. (5 pgs)

5. Memo, Civilian Personnel to Cdr, US Army Operational Test and Evaluation Agency, 13 Nov 90, subj: Master Civilian Personnel and Equal Employment Opportunity Servicing Agreement. (3 pgs)

6. Memorandum of Understanding (MOU) between the Operational Test and Evaluation Command Test and Evaluation Coordination Office and USAAVNC, (no date), subj: Interrelationships of the Operational Test and Evaluation Command (OPTEC) Test and Evaluation Coordination Office (TECO) and the USAAVNC. (10 pgs)

7. Memo, Cdr US Army Operational Test and Evaluation Command to dist, 20 Dec 91, subj: Memorandum of Instruction. (4 pgs)

8. Job Description form, USAAVNC Test and Evaluation Coordination Office, 1 Nov 91. (7 pgs)

9. Officer Evaluation Report Support Form, (67-8-1), 3 Oct 91, LTC Lawrence A. Tessier.

10. TECO Operations NCO Job Description, (no date).

11. TECO Planning Calendar, 6 Feb 92, FY92 thru FY 94 Chart.

PP. US ARMY AVIATION TECHNICAL TEST CENTER

1. Annual Historical Report 1991, HQ Company, 16 Mar 92. (32 pgs)

QQ. US ARMY AEROMEDICAL CENTER

1. Army Flier, "Lyster Wins Award", 27 Nov 91, subj: Medical patient health care.

2. Army Flier, "Fort Rucker Receives Prestigious Awards", 10 Jan 92, subj: Better Opportunities for Single Soldiers awards."

3. Army Flier, "Private Insurance Buys Medicine At Lyster", 21 Nov 91, subj: Third Party Collection Program.

4. Army Flier, "Ambulance Service Gets Building", 10 Oct 91, subj: Groundbreaking announcement.

5. Army Flier, "Sick call hours extended at Lyster Army Hospital", 24 Jan 92, subj: sick call throughout day. (5 pgs)

6. Aviation Medicine Report, "Hyperbarics enhance the healing process", July/August 91, subj: Body heals faster with hyperbaric treatment. (4 pgs)

RR. 3588TH FLIGHT TRAINING SQUADRON

1. Unit Historical Data Report, Detachment 1, 14th Flying Training Wing Ft Rucker, AL to 14 FTW/HO Columbus AFB, MS, 31 Dec 91. (11 pgs)

SS. DENTAL ACTIVITY

1. Narrative, Annual Historical Report 1991, US Army Dental Activity, 5 Feb 92.

2. Synopsis of complete operations of US Army Dental Activity Ft Rucker, Annual Historical Report 1991, US Army Dental Activity, 5 Feb 92. (35 pgs)

3. Dentac Operations Order, Annual Historical Report 1991, US Army Dental Activity Ft Rucker, 5 Feb 92. (3 pgs)

4. Memo, US Army Dental Activity to dist, 15 May 91, subj: After Action Report (Narrative) for Operation Desert Shield/Storm - Phase I - 9 Aug 90 to 28 Feb 91. (11 pgs)

5. Info Sheet, US Army Dental Activity, 1 Jul 91, subj: To define the status of family member dental care in the Ft. Rucker Community. (2 pgs)

TT. AMC LOGISTIC ASSISTANCE OFFICE

1. Annual Historical Report 1991, AMC LAO, 20 Mar 92. (27 pgs)

TT. USAMC LOGISTIC ASSISTANCE OFFICE

1. Annual Historical Report 1991, AMC LAO, 20 Mar 92 (27 pgs)

UU. ARMY RESEARCH INSTITUTE AVIATION RESEARCH AND DEVELOPMENT ACTIVITY

1. Research Report 1584, ARI Aviation R & D Activity at Fort Rucker, AL, Mar 91, subj: Task analysis and workload prediction for the MH-47E mission and a comparison with CH-47D workload predictions. (3 pgs)

2. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Dec '91, subj: Effectiveness of contractor mission instructors in the 160th special operations aviation regiment basic mission qualification course. (3 pgs)

3. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, (no date), subj: Task analysis/workload (TAWL) user's guide - version 4.0. (3 pgs)

4. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, Sep 91, subj: Information pamphlet for the flight aptitude selection test (FAST) Battery Forms E and F. (3 pgs)

5. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Aug 91, subj: Scoring manual for the flight aptitude selection test (FAST) battery forms E and F. (3 pgs)

6. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Aug 90, subj: Validation of an experimental battery of Army aviator ability tests. (3 pgs)

7. Working Paper, Aviation R&D Activity, 31 Dec 91, subj: A summary of structured interviews concerning the OH-58D Warrior crew composition.

8. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Sep 90, subj: An evaluation of networked aviation simulators for training navigation and mission tasks. (2 pgs)
9. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Nov 91, subj: Assessment of army aviators' ability to perform individual and collective tasks in airmet. (3 pgs)
10. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Jun 91, subj: An evaluation of crew coordination and performance during a simulated UH-60 helicopter mission. (3 pgs)
11. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, (no date), subj: The basic map interpretation and terrain analysis course (MITAC) narrative. (2 pgs)
12. Working Paper, US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Oct 91, subj: Aircrew coordination training problems.
13. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, (no date), subj: Initial validation of the army aviator classification process. (2 pgs)
14. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, (no date), subj: The selection of an experimental test battery for aviator cognitive, psychomotor abilities and personal traits. (2 pgs)
15. Research Report (final), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, 15 Dec 90, subj: Optimal aircrew task allocation method. (2 pgs)
16. Research Report (final), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Sep 91, subj: Computer simulation model of cockpit crew coordination: A crew-level error model for the US Army's Black Hawk helicopter. (2 pgs)
17. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Oct 91, subj: Training effectiveness of the AH-64A combat mission simulator for sustaining gunnery skills. (3 pgs)
18. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, (30 Oct 90), subj: Observing team coordination within Army rotary-wing aircraft crews.
19. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Nov 91, subj: AH-64A gunnery performance implications for gunnery standards. (2 pgs)
20. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Jun 91, subj: Human factors research in aircrew performance and training: 1990 annual summary report. (2 pgs)

21. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Dec 91, subj: Effectiveness of the AH-1 flight and weapons simulator for sustaining aerial gunnery skills. (3 pgs)
22. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Dec 91, subj: A review of factors affecting rotary wing aviator performance with the night vision goggle helmet-mounted display. (2 pgs)
23. Research Report (interim), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, Apr 91, subj: Night vision imager workload and error causes, and their minimization. (3 pgs)
24. "A New Approach Toward Diagnosing Military Aircraft Accidents", Military Psychology, 6 May 91. (8 pgs)
25. Research Report (final), US Army Research Institute Aviation Research and Development Activity Ft Rucker, AL, 18 Dec 91, subj: Attention factors associated with HUD and HMD systems. (2 pgs)
26. Information Paper, Dr. Wrightman, 1 Jul 91, subj: Simulator complexity testbed (SCTB)
27. "How Complex Should Simulator Visuals Be?" Kathleen Kocks, Rotor & Wing International, Dec 91. (4 pgs)
28. Briefing slides, (no date), subj: Simulator training research advanced testbed for aviation. (24 pgs)
29. Letter, Technical Team Leader Aircrew Performance and Safety to Dr. Ruck AL/HRT, 5 Dec 91, subj: error taxonomies. (2 pgs)
30. Memo, ARI Aviation R&D Activity to Command Historian Office, 16 Jan 92, subj: Appointment of Activity Historian.

VV. 256TH SIGNAL SUPPORT COMPANY

1. Letter, CPT Pangallo to Post Historian, 10 Feb 92, subj: Annual Historical Report 1991.

WW. US ARMY AEROMEDICAL RESEARCH LABORATORY (USAARL)

1. Annual Progress Report Calendar Year 1991, US Army Aeromedical Research Laboratory, Mar 1992. (41 pgs)

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1. Program, National Women's History Month Luncheon, 19 Mar 91.

2. Program, Change of Command Ceremony, MG John D. Robinson assumes command from MG Rudolph Ostovich III, 22 July 1991.
3. Program, Farewell Dinner Honoring MG & Mrs. Ostovich III, 19 July 1991.
4. Program, Honor Eagle Ceremony, 3 October 1991.
5. MFR, Commanders and Staff Meeting, 23 July 1991. (4 pgs)
6. Study, Army Aviation Warfighting Center, USAAVNC and School Organization and Functions Study (Version I), 20 Sept 1991. (28 pgs)
7. Study, Army Aviation Warfighting Center, USAAVNC and School Organization and Functions Study (Version II), 20 Sept 1991. (40 pgs)
8. Note, from: Col Blair, subj: CSSSPR AAR, 8 Nov 1991.
(2 pgs)
9. Note, from: Col Bodelson, subj: Taskers From Gen Franks Visit, 8 Oct 1991. (5 pgs)
10. Note, from: Theresa V. Gunter, DCP; subj: Hire Freeze, 16 Oct 1991.
11. Note, from: Theresa V. Gunter, DCP; subj: RIF Statistics, 10 Oct 1991
12. Note, from: Jeanine M. Stancil, Secretary, PAO; subj: Realignment of the Aviation Digest, 7 Jan 1992.
13. Memo, Commander's Aviation Accident Plan, 3 Oct 1991.
(16 pgs)
14. Memo, MOI for the USASC Retirement/Change of Command Ceremony for BG Hennies, 18 Oct 1991.
15. Note, from: MG Robinson, subj: Notes From MLTC (22-23 Oct, Grafenwoehr, GE), 28 Oct 1991. (2 pgs)
16. Memo, from: MG Robinson, subj: FY 92 Safety Goals and Objectives, 1 Nov 1991.
17. Itinerary, GEN Foss's (TRADOC Cmdr) visit on 28 May 1991, 15 May 1991.
18. News Paper Clippings, Various clippings on organizational changes, conferences, ceremonies, awards visitors, and local events on Ft. Rucker.

YY. CHAPTER II FILE

1. Memo, from: Col Bodelson, Chief of Staff; subj: Attendance at Air Assault Training, 8 Oct 1991.
2. Note, from: Geneva Roberts, subj: Air Assault Challenge (19-21 Nov 91), 9 Nov 1991.

3. Note, from: Mary E. Brown, subj: Navy Consolidation Update, 31 May 1991.

4. Program, Activation Ceremony and Assumption of Command Ceremony of the School Of The Americas Helicopter School Battalion, 2 Dec 1991.

5. Memo, Memorandum of Agreement Between United States Army Aviation Center and United States Army School of the Americas, subj: Operating Procedures for School of the Americas Helicopter School Battalion. (17 pgs)

6. List, CY 91 Graduates from Various Courses, 30 Jan 1992.

7. Brief, Decision Brief, ATB issue #1, Responsibility For Flight Training Simulation. (9 pgs)

8. News Paper Clippings, various clippings on training and training events.

9. Brief, SGI Decision Briefing. (10 pgs)

ZZ. CHAPTER III FILE

1. Article, "Update on Aviation Operations", Army Flier, 5 Sept 1991.

2. Memo, Memorandum of Agreement Between Commander, United States Army Intelligence Center and Fort Huachuca and Commander, United States Army Aviation Center; subj: Special Electronic Mission Aircraft (SEMA) and SEMA Training. (6 pgs)

3. Packet, Fixed-Wing/SEMA Systems Program Review from conference held 7-11 Jan 1991. (172 pgs)

4. Note, from: Col MacWillie, subj: RAH-66 Comanche, 17 April 1991.

5. Note, from: Woodrow J. Farrington, subj: GAO Review of the Army's Light Helicopter Program, 03 June 1991.

6. Note, from: MG Robinson, subj: Commanding General's Trip Report - Ft. Leavenworth (2-3 Oct 91), 16 Oct 1991. (3 pgs)

7. Note, from: MG Robinson, subj: BDU Flightsuit, 11 Dec 1991.

8. Msg, Phone Conversation Between LTC Boots and Mr. John Wilson, Center For Military History, subj: Regimental Designation of the 10TH Aviation Group, 01 Sept 1991.

9. Pamphlet, U.S. Army Material Command. (10 pgs)

10 News Paper Clippings/Articles, AH-64 Performance in the Dessert, LH Contracting, Hellfire Missiles, and Budget (R&D versus procurement).

AAA. CHAPTER IV FILE

1. Note, from: Dorothy B. Parrish, CH, MGT Empl Rel, Dcp; subj: WMTC Agreement, 20 Feb 1991.
2. Memo, from: Pers Svcs Br, MPD/AG Div; subj: Announcement of DA Selection Board for Promotion to MSG and QMP Screen for SFC and SGT, 01 April 1991. (8 pgs)
3. Memo, from: Commander, USAAVNC and FT. Rucker; subj: FY 91 Officer Voluntary Early Release/Retirement Program, 15 April 1991. (8 pgs)
4. Memo, from: COL Abbott, Garrison Commander; subj: Sick Leave for Adoptive Parents, 03 May 1991. (2 pgs)
5. Note, from: Bill Joiner, Project Spirit Coordinator; subj: Elimination of Project Spirit, 17 May 1991.
6. Note, from: LTC Sieving, III, Director, DES; subj: Revised Schedule for Briefing on Unit Level Logistics System for Aviation, 11 June 1991.
7. Ltr, LTC (Ret) Metcalf to MG Ostovich, III, 14 June 1991, subj: Farewell Letter.
8. Agenda, Command and Staff Meeting, 15 Aug 1991; includes Pamphlet and Material from the Resource, Recovery, Recycling Program on Ft. Rucker.
9. Brief, Total Force Integration, Col Fitzgerald, 20 May 1991. (20 pgs)
10. Brief, FSD Significant Activities Report. (24 pgs)
11. News Paper Clippings, Related to Mission Support Subjects.

BBB. APPENDICES FILE

1. Program, Change of Command, 1ST Aviation Brigade, 28 June 1991.
2. News Paper Clippings, Clippings on Tenant Organizations.

CCC. HISTORIAN'S NOTE FILE

1. Consists of a spiral notebook with conference and meeting notes in chronological order. (approx. 200 pgs)

DDD. 1991 AVIATION BRIGADE COMMANDERS' CONFERENCE FILE

1. Admin Notes, Agenda, Fact Book Index. (6 pgs)
2. TAB A, Doctrinal Status. (5 pgs)
3. TAB B, Definition of Maneuver. (2 pgs)

4. TAB C, Deep Attack. (44 pgs)
5. TAB D, AVSCOM Info Papers. (25 pgs)
6. TAB E, Armor Conference Bullets. (3 pgs)
7. TAB F, MQS Briefing. (44 pgs)
8. TAB G, Ia Drang Valley Article. (15 pgs)
9. TAB H, Future of the Armed Helicopter. (16 pgs)
10. TAB I, Legal Obligation Toward Civilian Property. (5 pgs)
11. TAB J, Turning Templates into Targets. (46 pgs)
12. TAB K, Fratricide. (Document Not Found)
13. TAB L, IP, United States Air Force Air Ground Operations School. (2 pgs)
14. TAB M, IP, Combat Aviation Training Brigade.
15. TAB N, IP, OH-58D Aviator Left Seat Qualification.
16. TAB O, Combined Arms Training Strategy (CATS) Unit Training Strategy For Aviation Units. (Document Not Found)
17. IP, Proposed Changes in Aviation Digest.
18. Brief, Sustainment Operations, 4TH Brigade, 3D Infantry Division, Operation Provide Comfort. (22pgs) (2 copies)
19. Brief, FY91 Armywide Safety Performance. (38 pgs) (2 copies)
20. Fact Sheet, subj: Development of the Warrant Officer Basic Course. (2 pgs)
21. Brief, Semi-Annual Training Brief (1st 2nd Qtr, FY '92), for 18th Aviation Brigade (Corps) (Airborne) (23 pgs)
22. Brief, 12TH Aviation Brigade. (40 pgs)
23. IP, Flight Simulator Scenarios. (5 pgs)
24. Brief, U.S. Air Force Reorganization and Composite Wings. (13 pgs)
25. Brief, Fighting by Col Tackaberry. (16 pgs)
26. Welcome Packet for Conference.

APPENDIX V

LIST OF ACRONYMS

ABSO	Aviation Branch Safety Office
AMC LAO	Army Materiel Command Logistic Assistance Office
APO	Aviation Proponency Office
ARCSA	Aviation Requirements for the Combat Structure of the Army
ARIARDA	U.S. Army Research Institute Aviation Research and Development
ARNG	U.S. Army National Guard
ATAWS	Airborne Target Acquisition and Weapon System
ATB	Aviation Training Brigade
ATTC	U.S. Army Aviation Technical Test Center
AVSCOM	U.S. Army Aviation Systems Command
CASCOM	Combined Arms Support Command
CY	Calendar year
DA	Department of the Army
DAALT	Department of Advanced Aviation Logistics Training
DAC	Deputy assistant commandant
DAHT	Department of Attack Helicopter Training
DAST	Department of Aviation Systems Training
DATT	Department of Aviation Trades Training
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
DOES	Directorate of Evaluation and Standardization
DOET	Department of Enlisted Training
DOIM	Directorate of Information Management
DOL	Directorate of Logistics
DOTD	Directorate of Training and Doctrine
DOTS	Department of Tactics and Simulation
DPCA	Directorate of Personnel and Community Activities
DPTMSEC	Directorate of Plans, Training, Mobilization, and Security
DRCS	Directorate of Reserve Component Support
DRM	Directorate of Resource Management
EEO	Equal Employment Opportunity
FORSCOM	U.S. Army Forces Command
FTS	Flying Training Squadron
FY	Fiscal year
HQDA	Headquarters, Department of the Army
IG	Office of the Inspector General
IRAC	Internal Review and Audit Compliance

MPA	Military Police Activity
NCOA	Noncommissioned Officer Academy
OPTEC	U.S. Army Operational Test and Evaluation Command
PAO	Public Affairs Office
PERSCOM	U.S. Army Personnel Command
PMO	Program Management Office
RAH	reconnaissance attack helicopter
SJA	Office of the Staff Judge Advocate
TECO	Test and Evaluation Coordination Office
TPO	TRADOC Project Office
TRADOC	U.S. Army Training and Doctrine Command
TSM	TRADOC Systems Manager
USAALS	U.S. Army Aviation Logistics School
USAAMC	U.S. Army Aeromedical Center
USAARL	U.S. Army Aeromedical Research Laboratory
USAATCA	U.S. Army Air Traffic Control Activity
USAAVNC	U.S. Army Aviation Center
USAAVNS	U.S. Army Aviation School
USACAC	U.S. Army Combined Arms Center
USACMLS	U.S. Army Chemical School
USAICS	U.S. Army Intelligence Center and School
USAR	U.S. Army Reserve
USAREUR	U.S. Army Europe
USASC	U.S. Army Safety Center
USASOC	U.S. Army Special Operations Command

APPENDIX VI

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Page numbers in the Index refer to footnotes as well as the text. All parts of the history are indexed with the exception of the Foreword, Table of Contents, and Appendices IV and V.

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